



C. ARTICLES OF AGREEMENT

C1. DEPARTMENTAL REPRESENTATIVE

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DRAFT

Supply Arrangement

Between

Her Majesty the Queen in right of Canada
(referred to herein as "Her Majesty") represented
by the Minister of Foreign Affairs (referred to
herein as the "Minister")

and
(INSERT FULL LEGAL NAME OF
CONTRACTOR)
(INSERT ADDRESS OF CONTRACTOR)
(referred to herein as the "Contractor")

for

Performance of the Work described in
Appendix "A" – Description of Services on an
"as and when requested basis". Any resulting
Statement of Work will be based on the
Description of Services contained in the
Supply Arrangement but may not be identical.

C2. TITLE Supply Agreement Terms and Conditions Seismic Program -Europe, Africa, Middle East - Group C		C3. DATE INSERT DATE
C4. SUPPLY ARRANGEMENT PERIOD Start: INSERT DATE End: INSERT DATE		
C5. SUPPLY ARRANGEMENT NUMBER ARL-EAMGRPC-SEISMIC-12054/00x	C6. PROJECT NUMBER N/A	
C7. SUPPLY ARRANGEMENT DOCUMENTS <ol style="list-style-type: none"> 1. Supply Arrangement Terms and Conditions 2. Supply Arrangement Particulars (Section "I") 3. General Conditions (Section "II") 4. The Request for Supply Arrangement Proposal 5. The Proponent's Proposal in response to the RFSAP 6. Description of Services (Appendix "A") 7. Undertaking of Confidentiality (Appendix "C") 8. Example Level of Effort Form for Individual (Appendix "B") <p>In the event of discrepancies, inconsistencies or ambiguities of the wording of these documents, the document that appears first on the above list shall prevail.</p>		
FOR THE PROPONENT _____ Signature _____ Date _____ Print Name and Capacity		Corporate Seal
FOR THE MINISTER _____ Signature _____ Date _____ Print Name and Capacity		

SECTION "I" – SUPPLY ARRANGEMENT PARTICULARS

SP1 SUPPLY ARRANGEMENT (SA)

A Supply arrangement is not a contract and does not represent the commitment of funds by Her Majesty or the commitment to use any organization on the SA List;

A contractual obligation will come into force if and when there is Work authorized against the SA by the issuance of an Individual Supply Contract (Contract) against the SA and only to the extent designated in the Contract;

Her Majesty's liability has no liability; under this SA.

The provisions set out herein will form part of, and shall be incorporated into, any and all the resulting Contracts.

SP2 SUPPLY ARRANGEMENT CONTRACT AWARD PROCESS

- a. Where Individual Supply Contracts are issued, they will be to the Qualified Suppliers on an as-and-when-requested basis for the required Services. Once a Services requirement has been determined, a Level of Effort form along with the individual Statement of Work (SOW), based on the Description of Services (DoS), will be provided to the Qualified Suppliers by the Departmental Representative for a Proposal for the specific requirement. For Phases 1 and 3, a Level of Effort form will be issued to all Qualified Suppliers. The Qualified Supplier shall present the Departmental Representative with a completed Level of Effort form. The Proposal for Phase 1 must quote a fixed price while the Level of Effort forms for Phases 2 through 4 must quote fixed *per diem* rates only and must not exceed the ceiling *per diem* rates as set out in the Supply Arrangement.
- b. The Qualified Suppliers will have up to fourteen (14) business days to respond to the Departmental Level of Effort request unless otherwise directed by the Departmental Representative. No response within the specified period, will be considered as a refusal to proceed to a resulting Individual Supply Contract. **Should Her Majesty deem the completed Level of Effort form unreasonable, She reserves the right to ask the Qualified Supplier for a further, detailed breakdown of the Level of Effort.**
- c. At that point, Her Majesty may award an Individual Supply Contract(s) to the Qualified Supplier(s) as per the applicable Phase: (a) the **lowest proposed price** (Phases 1 and 3) or (b) on a Opportunity of First Offer basis to the successful Suppliers of Phases 1 and 3, respectively (Phases 2 and 4). Each Individual Supply Contract issued in accordance with the resulting SA shall be subject to the Terms and Conditions stated in the SA. Individual Supply Contracts issued for Phase 1 will group multiple Missions; for Phase 2, Individual Supply Contracts will be for individual Missions (except where criteria is identical, an Individual Supply Contract may be issued for groups of two Missions). Individual Supply Contracts for Phases 3 and 4 will be for individual Missions only.
- d. The Qualified Supplier for Phase 1 will have Opportunity of First Offer for Phase 2, and the Qualified Supplier for Phase 3 will have Opportunity of First Offer for Phase 4. The proposed firm per diem rates shall apply to all subsequent phases (if applicable).

SP3 EXTENSION OPTIONS

Her Majesty may, at Her sole discretion, extend the period of this Supply Arrangement by two (2) periods of one (1) year. During the extended period the *Per Diem* rates will be in accordance with SP4. The remaining Supply Arrangement Amount, if any, from the original Supply Arrangement period shall be carried forward to the option year(s).

SP4 BASIS OF PAYMENT – CEILING PER DIEM RATES (PHASES 2-4 ONLY)

Per Diem Rates are in CAD and exclusive of taxes
(To be filled in on award of Supply Arrangement)

Personnel Type	Supply Arrangement Initial Two (2) Year Term	Option Year 1	Option Year 2
Senior Structural Engineer – Licensed Professional Engineer			
Intermediate Structural Engineer			
Junior Structural Engineer			
Structural Technical Support			
Geotechnical Engineer			
Seismologist			
Architect			
Mechanical Engineer			
Electrical Engineer			
CAD Operator/Draftsman			
Site Engineer/Technician			

Surcharge _____ % for Subcontracted work. (To be filled in on award of Supply Arrangement.)

Definition of a Day/Proration:

A day is defined as 8 hours exclusive of meal breaks. Payment shall be for days actually worked with no provision for annual leave, statutory holidays and sick leave. Time worked which is more or less than a day shall be prorated to reflect actual time worked in accordance with the following formula:

$$\frac{\text{Hours worked} \times \text{firm fixed per diem rate}}{8 \text{ hours}}$$

SP5 RIGHTS OF HER MAJESTY

DFATD reserves the right to delete, substitute or add a Mission or asset to this Supply Arrangement, within this geographic region. Price adjustments for deletions will be based on the amount quoted in the Proponent's Price Proposal. Price adjustments for substitutions and additions will be based on a cost proposal submitted by the Proponent to the DFATD Representative for approval. The basis for the costs shall be reasonable assumptions as to work of similar scope.

SP6 MINIMUM WORK GUARANTEE – ALL THE WORK – AUTHORIZED INDIVIDUAL SUPPLY CONTRACTS

Her Majesty will call up the Qualified Suppliers in accordance with the terms and conditions of this Supply Arrangement on an as and when required basis as described in any resulting Contract during the period of the Supply Arrangement. In consideration of such obligation, the Consultant agrees to stand in readiness throughout the Supply Arrangement period to perform the Work described in the Contract. Her Majesty's maximum liability for Work performed under any resulting Contract must not exceed the Maximum Contract Amount, unless an increase is authorized in writing by the Departmental Representative.

SP7 PRICE BREAKDOWN

Her Majesty reserves the right to request a breakdown of the components of the proposed Per Diem Rate should She believe that the price is unreasonable. Failure to provide an adequate breakdown, describing the rationale and assumptions used to determine the price of each component of the Work, will lead to disqualification.

SP8 TRAVEL AND LIVING EXPENSES

Travel and living expenses will be in accordance to the rates and conditions that are specified in the Treasury Board Travel Directives found at:

[HTTP://WWW.NJC-CNM.GC.CA/DIRECTIVE/TRAVEL-VOYAGE/S-TD-DV-A4-ENG.PHP](http://www.njc-cnm.gc.ca/directive/travel-voilage/s-TD-DV-A4-ENG.PHP)

SECTION "II" – GENERAL CONDITIONS

GC1 INTERPRETATION

In the present Supply Arrangement,

- GC1.1** "Supply arrangement (SA)": A Supply Arrangement (SA) is not a Contract. It is an Offer made by an Offeror (a Supplier or a Service Provider) for the provision of certain Services to clients at prearranged prices or a prearranged pricing basis, under set terms and conditions, that is open for acceptance by authorized user(s) on behalf of the Minister during a specified period of time. A separate Contract is formed each time a Contract for the provision of goods and/or services is made against a Supply Arrangement;
- GC1.2** "Contract" means an order issued under the authority of a duly authorized user against a particular Supply Arrangement. Communication of a Contract against a Supply Arrangement to the Offeror constitutes acceptance of the Supply arrangement to the extent of the Goods, Services, or both, being ordered and causes a Contract to come into effect;
- GC1.3** "Invention" means any new and useful art, process, machine, manufacture or composition of matter, or any new and useful improvement in any art, process, machine, manufacture or composition of matter;
- GC1.4** "Minister" means Minister of Foreign Affairs and any person duly authorized to act on behalf of the Minister;
- GC1.5** "Work", unless otherwise expressed in the Supply Arrangement, means everything that is necessary to be done, furnished or delivered by the Contractor to perform the Contractor's obligations under the Contract;
- GC1.6** "Departmental Representative" means the officer or employee of Her Majesty who is designated by the Articles of Agreement and includes a person authorized by the Departmental Representative to perform any of the Departmental Representative's functions under the Supply arrangement. A Departmental Representative may from time to time act as a Technical Authority;
- GC1.7** "Technical Authority" (also sometimes referred to as "Project Authority"): Her Majesty's agent in charge of inspecting the accuracy of any aspects of the Work as described in the Statement of Work;
- GC1.8** "Days" means continuous calendar days, including weekends and statutory public holidays;
- GC1.9** The headings used in these General Conditions are inserted for convenience of reference only and shall not affect their interpretation;
- GC1.10** In the Supply Arrangement, words importing the singular number include the plural and vice versa, and words importing the masculine gender include the feminine gender and the neuter.

GC2 BID SOLICITATION AND RESULTING CONTRACTS

- GC2.1** The Supplier understands that identified users are allowed under a Supply Arrangement to solicit bids and award contracts to pre-qualified suppliers only. Suppliers must be pre-qualified and issued a Supply Arrangement to meet the requirements of a bid solicitation and/or be awarded a contract under a Supply Arrangement. If the Supply Arrangement includes ceiling prices or rates, suppliers will be allowed to lower their prices or rates based on the actual requirement or statement of work described in the bid solicitation. For competitive requirements, bid solicitations will be issued in accordance with the process established in the Supply Arrangement. Bids will be evaluated and contracts will be awarded in accordance with the process described in each bid solicitation. Each contract awarded will be considered to be a separate binding contract

established between the contracting department or agency and the Supplier.

The Supplier understands and agrees that:

- issuance of a supply arrangement to the Supplier does not oblige Canada to authorize or order all or any of the goods or services described in the Supply Arrangement or to spend any monies whatsoever;
- a contract will exist only if there is an authorized contract awarded under the Supply Arrangement and only for those goods, services, or both which are described in the contract;
- Canada's liability is limited to that which arises from contracts awarded under the Supply Arrangement;
- Canada has the right to procure the goods and services specified in the Supply Arrangement by means of any other contract, standing offer or contracting method;
- Neither the Supply Arrangement nor any bid in response to a bid solicitation issued in accordance with it can be assigned or transferred in whole or in part.

GC3 SUPPLY ARRANGEMENT PERIOD

- GC3.1** The Supply Arrangement may be issued for a specific period as set out in the Supply Arrangement or until such time as Canada no longer considers it to be advantageous to use the Supply Arrangement to award contracts under the Supply Arrangement framework.

GC4 MODIFICATIONS

- GC4.1** From time to time, Canada may modify the conditions of the Supply Arrangement. Canada will advise all suppliers of any proposed modification to the supply arrangement and will provide suppliers with an opportunity to either withdraw or confirm their consent to the modification. The Supplier may withdraw if it no longer wishes to be considered for future contracts as a result of the modification. If the Supplier does not withdraw, the Supplier must confirm its consent to the modification and confirm that it meets any qualification requirement that may be affected by the modification. The Supplier must provide any information or evidence the Supply Arrangement Authority may require to verify that the Supplier continues to be a qualified supplier.
- GC4.2** Canada may also, from time to time, update the conditions of the bid solicitation and resulting contract clauses included in the Supply Arrangement. Canada will then publish the updates no less than ten (10) working days before including them in any individual bid solicitation. Canada may also modify the requirement described in the Supply Arrangement or, if the Supply Arrangement includes categories, modify the requirements associated with categories. If Canada adds a new category, the Supplier may submit an application to qualify for that category. Upon successful qualification, that category will simply be added to the Supplier's existing Supply Arrangement. In the event of a modification to the requirement, the Supplier may either be required to qualify in respect to the modification only or to submit another arrangement, depending on the extent of the modification.
- GC4.3** Modifications will not affect contracts that are already in place before the date of the modification.

GC5 CONFIRMATION OF QUALIFICATION

<p>GC5.1 The Supplier must continue to meet all the qualification requirements related to the Supply Arrangement during the entire period of the Supply Arrangement. Any certification provided by the Supplier must be true on the date of the Supply Arrangement and remain true throughout the period of the Supply Arrangement. The Supplier must immediately notify the Supply Arrangement Authority if it no longer meets any of the qualification requirements of the Supply Arrangement.</p> <p>GC5.2 The Supply Arrangement Authority may require the Supplier to confirm its qualification at any time and provide evidence to support its confirmation. If the Supplier no longer meets any of the requirements for qualification, Canada may, at its option:</p> <ul style="list-style-type: none"> a. suspend the Supply Arrangement until the Supplier has demonstrated, to the satisfaction of Canada, that it meets the requirements in respect of which it has been found deficient. During this time, the Supplier will not be eligible to bid on bid solicitations issued under the Supply Arrangement; b. suspend the Supplier's qualification under specific categories of the Supply Arrangement until the Supplier has demonstrated, to the satisfaction of Canada, that it meets the requirements in respect of which it has been found deficient. During this time, the Supplier will not be eligible to bid on bid solicitations issued under Supply Arrangement for those categories; c. cancel the Supply Arrangement or the Supplier's qualification for specific categories, in which case, the Supplier will not be allowed to submit a new arrangement for a period of six (6) months following the cancellation. <p>GC6 ON-GOING OPPORTUNITY FOR QUALIFICATION</p> <p>GC6.1 The Supplier understands that either through a notice posted on the Government Electronic Tendering Service (GETS) or through a process set out in the Supply Arrangement, new suppliers may submit arrangements to pre-qualify and be added to the list of suppliers pre-qualified to provide the goods and services described in the Supply Arrangement. This process will also permit pre-qualified suppliers to qualify for requirements for which they are not already qualified. The Supplier acknowledges that Canada may issue an unlimited number of supply arrangements and may continue to issue supply arrangements to pre-qualified suppliers throughout the Supply Arrangement period.</p> <p>GC7 WITHDRAWAL BY SUPPLIER</p> <p>GC7.1 If the Supplier wishes to withdraw from the Supply Arrangement or only from any specific category, the Supplier must advise Canada by providing no less than thirty (30) days written notice to the Supply Arrangement Authority, unless provided otherwise in the Supply Arrangement.</p> <p>GC7.2 Upon receipt of the notice, the Supply Arrangement Authority will remove the Supplier from the list of pre-qualified suppliers and the Supplier will not be eligible to bid on bid solicitations issued under the Supply Arrangement anymore. The Supplier will be required to qualify again to become a pre-qualified supplier.</p> <p>GC7.3 The Supplier acknowledges that its withdrawal will not affect any contract entered into before the receipt by the Supply Arrangement Authority of the notice. Canada may at its discretion advise the Supplier that the Supplier will not be allowed to submit a new arrangement to re-qualify for a period of time as determined by Canada.</p>	<p>GC8 SUSPENSION OR CANCELLATION OF QUALIFICATION BY CANADA</p> <p>GC8.1 Canada may, by sending written notice to the Supplier, suspend or cancel the Supply Arrangement under any of the following circumstances:</p> <ul style="list-style-type: none"> a. the Supplier no longer meets any of the required qualifications of the Supply Arrangement as provided in section 6; b. the Supplier is in default in carrying out any of its obligations under any resulting contract and Canada has exercised its contractual right to terminate the contract for default; c. Canada has imposed measures on the Supplier under the Vendor Performance Corrective Measure Policy (or such similar policy that may be in place from time to time). <p>GC8.2 Suspension or cancellation of the Supply Arrangement will not affect the right of Canada to pursue other remedies or measures that may be available. It will not, on its own, affect any contract entered into before the issuance of the notice. The Supply Arrangement Authority will however remove the Supplier from the list of pre-qualified suppliers and the Supplier will not be eligible to bid on bid solicitations issued under the Supply Arrangement. The Supplier will not be allowed to submit another arrangement for a period to be determined by Canada.</p> <p>GC9 TERMINATION OF CONTRACTS MADE UNDER THE SUPPLY ARRANGEMENT</p> <p>GC9.1 If a contract made under the Supply Arrangement is terminated for default or otherwise, such termination does not terminate the Supply Arrangement. The Supplier acknowledges, however, that a default under any contract made under the Supply Arrangement may result in the suspension or cancellation of the Supply Arrangement.</p> <p>GC10 JOINT VENTURE</p> <p>GC10.1 If the Supplier is a joint venture, the Supplier agrees that all members of the joint venture are jointly and severally or solidarily liable for the performance of any contract awarded under the Supply Arrangement. If the membership of a joint venture changes, the Supply Arrangement will be cancelled and members who wish to qualify separately or as part of a different joint venture must submit a new arrangement by following the qualification process established by Canada.</p> <p>GC11 PUBLICATION OF SUPPLY ARRANGEMENT INFORMATION</p> <p>GC11.1 The Supplier agrees that Canada may publish certain information related to the Supply Arrangement or a supply arrangement catalogue. The Supplier agrees to the disclosure of the following information included in the Supply Arrangement:</p> <ul style="list-style-type: none"> a. the conditions of the Supply Arrangement; b. the Supplier's procurement business number, its name, the name, address, telephone number, fax number and e-mail address of its representative; c. the Supplier's profile and its level of security clearance; d. the Supplier's qualified domains of expertise or the categories for which the Supplier has qualified. <p>GC11.2 Canada will not be liable for any errors, inconsistencies or omissions in any published information. If the Supplier identifies any error, inconsistency or omission, the Supplier agrees to notify the Supply Arrangement Authority immediately.</p>
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GC12 APPLICATION OF TRADE AGREEMENTS

GC12.1 The Supplier understands that even if the qualification process established for the issuance of the Supply Arrangement was subject to the *World Trade Organization Agreement on Government Procurement*, the *North American Free Trade Agreement*, and the *Agreement on Internal Trade*, not all three agreements will necessarily apply to individual bid solicitations under the Supply Arrangement. The trade agreements applicable to individual bid solicitations will be identified on a case-by-case basis.

GC13 COSTS

GC13.1 The Supplier will not be reimbursed for any costs incurred before the award of a contract and no costs incurred before the award of a contract can be charged to the Supply Arrangement or any contract entered into under the Supply Arrangement.

GC14 DISCLOSURE OF INFORMATION

GC14.1 The Supplier agrees to the disclosure of its supply arrangement unit prices or rates by Canada, and further agrees that it will have no right to claim against Canada, the Identified User, their employees, agents or servants in relation to such disclosure.

GC15 CODE OF CONDUCT AND CERTIFICATIONS - CONTRACT

GC15.1 The Supplier agrees to comply with the *Code of Conduct for Procurement* and to be bound by its terms. In addition to complying with the *Code of Conduct for Procurement*, the Supplier must also comply with the terms set out in this section.

GC15.2 The Supplier further understands that, to ensure fairness, openness and transparency in the procurement process, the commission of certain acts or offences may result in the Supply Arrangement being cancelled and terminating for default any resulting contracts. If the Supplier made a false declaration in its arrangement, makes a false declaration under the Contract, fails to diligently maintain up to date the information herein requested, or if the Supplier or any of the Supplier's affiliates fail to remain free and clear of any acts or convictions specified herein during the period of the Supply Arrangement, such false declaration or failure to comply may result in the cancellation of the Supply Arrangement cancelled and the termination for default of any resulting contracts. The Supplier understands that a termination for default will not restrict Canada's right to exercise any other remedies that may be available against the Supplier and agrees to immediately return any advance payments.

GC15.3 For the purpose of this section, everyone, including but not limited to organizations, bodies corporate, societies, companies, firms, partnerships, associations of persons, parent companies and subsidiaries, whether partly or wholly-owned, as well as individuals and directors, are Supplier's affiliates if:

- a. directly or indirectly either one controls or has the power to control the other, or
- b. a third party has the power to control both.

GC15.4 Indicia of control, include, but are not limited to, interlocking management or ownership, identity of interests among family members, shared facilities and equipment, common use of employees, or a business entity created following the acts or convictions specified in this section which has the same or similar management, ownership, or principal employees, as the case may be.

GC15.5 The Supplier must diligently maintain an up-to-date list of names by informing Canada in writing of any change occurring during the period of the Supply Arrangement and of any resulting contracts. The Supplier must also, when so requested, provide Canada with the corresponding Consent Forms.

GC15.6 The Supplier certifies that it is aware, and that its affiliates are aware, that Canada may verify the information provided by the Supplier, including the information relating to the acts or convictions specified herein through independent research, use of any government resources or by contacting third parties.

GC15.7 The Supplier certifies that neither the Supplier nor any of the Supplier's affiliates have directly or indirectly, paid or agreed to pay, and will not, directly or indirectly, pay a contingency fee to any individual for the solicitation, negotiation or obtaining of the Supply Arrangement and any resulting contracts if the payment of the fee would require the individual to file a return under section 5 of the *Lobbying Act*.

GC15.8 The Supplier certifies that no one convicted under any of the provisions under a) or b) are to receive any benefit under a contract resulting from this Supply Arrangement. In addition, the Supplier certifies that except for those offences where a criminal pardon or a record suspension has been obtained or capacities restored by the Governor in Council, neither the Supplier nor any of the Supplier's affiliates has ever been convicted of an offence under any of the following provisions:

- a. paragraph 80(1)(d) (*False entry, certificate or return*), subsection 80(2) (*Fraud against Her Majesty*) or section 154.01 (*Fraud against Her Majesty*) of the *Financial Administration Act*, or
- b. section 121 (*Frands on the government and Supplier subscribing to election fund*), section 124 (*Selling or Purchasing Office*), section 380 (*Fraud*) for fraud committed against Her Majesty or section 418 (*Selling defective stores to Her Majesty*) of the *Criminal Code* of Canada, or
- c. section 462.31 (*Laundering proceeds of crime*) or sections 467.11 to 467.13 (*Participation in activities of criminal organization*) of the *Criminal Code* of Canada, or
- d. section 45 (*Conspiracies, agreements or arrangements between competitors*), 46 (*Foreign directives*) 47 (*Bid rigging*), 49 (*Agreements or arrangements of federal financial institutions*), 52 (*False or misleading representation*), 53 (*Deceptive notice of winning a prize*) under the *Competition Act*, or
- e. section 239 (*False or deceptive statements*) of the *Income Tax Act*, or
- f. section 327 (*False or deceptive statements*) of the *Excise Tax Act*, or
- g. section 3 (*Bribing a foreign public official*) of the *Corruption of Foreign Public Officials Act*, or
- h. section 5 (*Trafficking in substance*), section 6 (*Importing and exporting*), or section 7 (*Production of substance*) of the *Controlled Drugs and Substance Act*.

GC16 ACCESS TO INFORMATION

GC16.1 Records created by the Supplier, and under the control of Canada, are subject to the *Access to Information Act*. The Supplier acknowledges the responsibilities of Canada under the *Access to Information Act* and must, to the extent possible, assist Canada in discharging these responsibilities. Furthermore, the Supplier acknowledges that section 67.1 of the *Access to Information Act* provides that any person, who destroys, alters, falsifies or conceals a record, or directs anyone to do so, with the intent of obstructing the right of access that is provided by the *Access to Information Act* is guilty of an offence and is liable to imprisonment or a fine, or both.

APPENDIX “A” – DESCRIPTION OF SERVICES FOR SEISMIC EVALUATIONS**DEPARTMENT OF FOREIGN AFFAIRS, TRADE AND DEVELOPMENT
(DFATD)**

PART 1. GENERAL**1.1 DEFINED TERMS**

- 1.1.1 The referred to *Contractor* is the Consultant.
- 1.1.2 The referred to *Consultant* is the A&E Seismic Consulting Engineer
- 1.1.3 The referred to *DFATD Departmental Representative* (DR) is Doug Ercit.
- 1.1.4 The referred to *DFATD Technical Advisor* (TA) is Damian de Krom.
- 1.1.5 The referred to *DFATD Seismic Program Manager* (SPM) is Michael Petrescu-Commene.
- 1.1.6 The referred to *Supply Arrangement* (SA) is ARL-EAMGRPC-SEISMIC-12054/00x.

1.2 BACKGROUND

- 1.2.1 The Department of Foreign Affairs, Trade and Development (DFATD) has Embassies and Mission outposts throughout the world. It is the responsibility of the Physical Resources Bureau (ARD) to maintain and protect these international assets. The Bureau's Seismic Program was set up as a Bureau initiative to assess and, if necessary, remediate any DFATD real property assets considered to be at risk in the event of a seismic event. An initial rapid screening identified fifty-three (53) locations deemed to be of high seismic risk and requiring further evaluation. Upon completion of this initial screening, a four-phase Seismic Program was established.
- 1.2.2 As part of the Seismic Program, five Missions in Europe were grouped together. These five Missions are defined as the “Europe, Africa, Middle East - Group ‘C’ (EAM-C)” set of Missions and consist of Bucharest, Lisbon, Reykjavik, Vienna, and Zagreb. Detailed evaluations of all Missions in this group are to be completed which is the reason for developing this Description of Services (DoS).

1.3 DESCRIPTION

A Phase 1 Seismic Evaluation is to be completed for the buildings identified in PART 7 “Grouping of Facilities” as the EAM - Group ‘C’ portion of the Seismic Program. Depending on the results of each Phase 1 evaluation, a subsequent two-component Phase 2 investigation may be requested by the DFATD Representative. From the analysis of the Phase 2, Component 1 results, the DFATD Representative may request to proceed to Phase 2, Component 2, and from there, if required, Phases 3 and 4.

1.4 EXISTING DOCUMENTATION

- 1.4.1 Relevant existing documentation such as drawings, layouts, structural reports, and

geotechnical reports that is available and which may be required to complete a Level of Effort for each DFATD building listed in the **PART 7 “Grouping of Facilities”** can be accessed on demand through the DFATD Representative. All documentation accessed requires approval by the DFATD Representative after the signing of the Undertaking of Confidentiality.

1.4.2 It is the Consultant’s responsibility to review and validate the conclusions of any existing documentation.

1.4.3 The site-specific seismic hazard to be used in the assessment of each DFATD Mission will be provided by the DFATD Technical Advisor. For Category 1 Missions, the Consultant is required to research and compile additional documentation of any local site features that may influence the specific seismic hazard. Bucharest and Lisbon are Category 1 Missions under EAM – Group ‘C’.

1.5 WORK PLAN

1.5.1 A proposed work plan, including schedule, must be submitted prior to starting work on any Phase. Work may commence once approval has been granted by the DFATD Representative.

PART 2. PHASE 1 - SEISMIC EVALUATION

2.1 TECHNICAL PERFORMANCE REQUIREMENTS

The following technical performance requirements outline the general description of the work for the seismic evaluation of DFATD Missions that have been identified through a seismic screening process as requiring further study.

2.1.1 DFATD facilities have been organized into two categories: Category 1, Post-Disaster or Immediate Occupancy and Category 2, Normal Occupancy or Life Safety. Refer to the PART 7 “Grouping of Facilities” for the assigned category of each DFATD building within the grouping.

2.1.1.1 Category 1 - Buildings are to be evaluated based on the Post-Disaster Importance category as defined in the 2010 National Building Code of Canada (NBCC) and the Immediate Occupancy (IO) criteria, as defined in the American Society of Civil Engineers/Structural Engineering Institute 31-03 (ASCE/SEI 31-03) Standard.

2.1.1.2 Category 2 - Buildings are to be evaluated based on the Normal Importance category as defined in the 2010 NBCC and the Life Safety (LS) criteria as defined in the ASCE/SEI 31-03 Standard.

2.1.2 A seismic evaluation of listed DFATD Missions is to be carried out in accordance with the ASCE/SEI 31-03 Standard, as modified in Paragraph 6 of this Description of Services.

2.1.3 The Consultant shall conduct a Tier 1 screening phase evaluation for all buildings to be assessed and conduct a full Tier 2 evaluation in accordance with the ASCE/SEI 31-03 Standard, as modified in PART 6 of this Description of Services, for the buildings on which sufficient information is available.

- 2.1.4 The Consultant shall review all existing documentation made available by the DFATD Representative.
- 2.1.5 The Consultant shall be required to travel in order to perform a site visit and a structural investigation. Travel shall be limited to one site visit per Mission. The Consultant will be advised of potential visit dates approved by the Missions prior to submitting a proposed travel schedule and cost estimate. An approved visit schedule shall then be prepared by the Consultant before any travel is authorized. For efficiency reasons, travel to multiple Missions will be grouped by the DFATD Representative.
- 2.1.6 The level of structural investigation required shall be as follows:
- 2.1.6.1 For Category 1 buildings with available structural drawings, the Consultant is to propose a methodology and site specific plan to conduct a detailed visual inspection in order to verify applicability of existing structural drawings, structural condition. Material properties, if not specified in the documents provided, will be assumed based on the age of building and local construction practices, or the minimum values provided by DFATD shall be used. The information gathered should be of sufficient detail to enable the accurate completion of a structural analysis as detailed in this Description of Services. The Plan must be approved by the DFATD Representative before proceeding with any work;
 - 2.1.6.2 For Category 1 buildings with no available structural drawings, the Consultant is to propose a methodology and site specific plan to conduct a detailed inspection in order to determine existing structural framing and details, structural condition, and estimate material properties. It is expected that the consultant to access ceiling and attic spaces, if applicable, review structural elements exposed on mechanical / electrical rooms, basements, etc. The information gathered should be of sufficient detail to enable the accurate completion of a structural analysis as detailed in this Description of Services. The plan must be approved by the DFATD Representative before proceeding with any investigation work.
 - 2.1.6.3 For Category 1 buildings, identify appropriate areas where future intrusive material sampling may be performed.
 - 2.1.6.4 For Category 2 buildings, the Consultant is to propose a methodology to conduct a non-intrusive structural inspection to determine structural details, structural condition, and estimate material properties. The information gathered should be of sufficient detail to enable the accurate completion of a structural analysis as detailed in this Description of Services. The Consultant is to submit and explain their proposed assumptions for any unconfirmed data. Work shall be initiated upon receipt of the DFATD Representative's approval.
 - 2.1.6.5 The Consultant must provide reasonable assumptions, with the acceptance of the DFATD Departmental Representative, to replace the missing information. If acceptance of the assumptions is not granted, or it is not possible to provide assumptions, the Consultant shall provide a narrative description of the building. The narrative is to include an engineering assessment on the building's ability to resist the design seismic loading. The narrative shall also include the following information:

- 2.1.6.5.1 Date of design and construction of the building
 - 2.1.6.5.2 Site description
 - 2.1.6.5.3 Key dimensions;
 - 2.1.6.5.4 Type of construction;
 - 2.1.6.5.5 Construction materials used;
 - 2.1.6.5.6 Structural framework of the building;
 - 2.1.6.5.7 State of the building – visible damages and any deteriorations possibly affecting structural performance;
 - 2.1.6.5.8 Finishes used;
 - 2.1.6.5.9 Any health and safety issues observed, and;
 - 2.1.6.5.10 Expected performance of the building exposed to the design seismic loads.
- 2.1.7 Once 2.1.6 is complete, the Consultant is to develop a three-dimensional computer model of the building to undertake a linear dynamic analysis based on the requirements of the 2010 NBCC for all Category 1 buildings and as required for deficiencies noted in the Tier 1 analysis of Category 2 buildings according to the requirements of the ASCE/SEI 31-03 Standard as modified in PART 6 of this Description of Services. Missing information to be replaced by assumptions, clearly identified in the report, or ultimately the Consultant shall complete the report as per 2.1.6.5. This is further clarified in 2.2.3.2
- 2.1.8 Unless otherwise directed, the Consultant will verify the Site Class/Seismic Hazard information provided by the DFATD Technical Advisor by performing a desktop study. This desktop study shall involve researching the Mission area and compiling data from local building codes. Where Site Class information is not available, the Consultant shall determine the information through the desktop study.
- 2.1.9 The Consultant is to calculate the overall lateral load capacity in each primary direction using the ASCE/SEI 31-03 Standard, as modified by PART 6 of this Description of Services, and compare it to the equivalent static base shear calculated using the 2010 NBCC. For this calculation, assume an Importance factor as defined by the terms of 2.1.1. Assume both the Ductility factor (R_d) and Over-strength factor (R_o) are equal to the values listed in the 2010 NBCC for conventional construction for the appropriate building type.
- 2.1.10 For all Missions, the Consultant is to review the seismic performance of operational and functional components (i.e. non-structural elements). These include building components such as: canopies, partitions in corridors and stairwells, roof parapets, mechanical and electrical systems, elevators, ceilings, cladding, light fixtures, filing cabinets, bookshelves, computers, flat-screen monitors, and appliances. As part of the report defined in 2.2.3, the Consultant is to examine and review, for seismic performance, all operational and functional components along any egress routes.

2.2 DELIVERABLES

2.2.1 Travel Proposal Deliverables

- 2.2.1.1 The Consultant will be advised of potential visit dates approved by the Missions prior to submitting a proposed travel schedule and estimate. An approved visit schedule shall then be prepared by the Consultant before any travel is authorized.
- 2.2.1.2 Should the Consultant deem additional travel is warranted, the Consultant must provide a travel proposal, in writing, to the DFATD Representative. The travel proposal must provide proper justification as to why the travel is required. Any additional travel to the Mission required to complete this work shall be authorized by the DFATD Representative prior to making any travel plans.

2.2.2 Summary of Key Observations Deliverables

- 2.2.2.1 Upon completion of the site visit, the Consultant shall provide a summary in the form of an itemized list of key engineering observations of the building and property, noting any obvious deficiencies. The summary shall be submitted in the following format:
 - 2.2.2.1.1 Background;
 - 2.2.2.1.2 General Observations;
 - 2.2.2.1.3 Data that could not be collected, and proposed assumptions;
 - 2.2.2.1.4 Recommendations; and,
 - 2.2.2.1.5 Immediate Concerns.
- 2.2.2.2 The observations included in the summary shall be limited to anything that may be of an immediate concern and/or may benefit from immediate remediation or action. The summary shall provide any vital concerns and the estimated level of remediation (if any) necessary.

2.2.3 Report Deliverables

- 2.2.3.1 The Consultant will prepare a written report, signed and sealed by a Professional Engineer licensed to practice in Canada. All numeric values in the report are to be presented in S.I. units. All technical performance requirements must be included in the report. As a minimum, the report is to include the following:
 - 2.2.3.1.1 An outline of the scope of the evaluation conducted, including a list of the checklists followed, and the type of investigation conducted;
 - 2.2.3.1.2 A list of the documents that were used in the evaluation and a brief description of each document;
 - 2.2.3.1.3 A general description of the building that includes, but is not limited to, building description, number of stories, overall building dimensions, occupancy load, the age of the building, and the design code used for the design of the building;
 - 2.2.3.1.4 A structural description of the building including the gravity and lateral load resisting system(s), with a description of the structural systems including the floor and roof diaphragms, vertical structural elements, basement, and

- foundation system. The identification of the Building Type(s) as per Table 2-2 of ASCE/SEI 31-03;
- 2.2.3.1.5 A discussion of the level of inspections and testing conducted (if applicable);
 - 2.2.3.1.6 A discussion of the site data including site classification and seismic hazard;
 - 2.2.3.1.7 A review of research and any discussions on the performance of the building in past seismic events (if applicable);
 - 2.2.3.1.8 A summary of the engineering parameters employed and assumptions considered in the analysis, including a discussion of material properties, and the seismic hazard;
 - 2.2.3.1.9 A summary of the Tier 1 and Tier 2 checklist results, including a prioritized list of deficiencies and discussion of items that were identified as non-compliant;
 - 2.2.3.1.10 A discussion of the seismic modelling of the Mission, including modelling software used, and modelling assumptions made (if applicable);
 - 2.2.3.1.11 A discussion of the highlights of the seismic analysis results;
 - 2.2.3.1.12 An analysis of the seismic demand/capacity ratios for the most important elements along the lateral load resistance path;
 - 2.2.3.1.13 A copy of all photographs, material test results, the results of the desktop geotechnical study, all necessary checklists, summary data sheet, and references. Copy of all calculations and analysis results must be available upon request and,
 - 2.2.3.1.14 A review of the seismic performance of non-structural components of the building.
- 2.2.3.2 In the event that the DFATD Representative is unable to provide all the technical documentation required to perform a seismic analysis as defined in Paragraphs 2.1 and 2.2.3.1, the following three (3) levels of reporting shall be used:
- 2.2.3.2.1 Level 1 - if enough data is available to do a complete report as defined in 2.1 and 2.2.3.1, a complete analysis is expected as defined in this Description of Services;
 - 2.2.3.2.2 Level 2 - if some key information is not available, and would be considered unreasonable or prohibitively costly to obtain, a complete report, as defined in 2.1 and 2.2.3.1, will be completed based on reasonable engineering assumptions for the missing information; and
 - 2.2.3.2.3 Level 3 - if it is deemed by the DFATD Technical Advisor that there is insufficient information available to conduct a seismic analysis as defined in 2.1 and 2.2.3.1 or reasonable to complete, then the building's expected seismic performance, as defined by 2.1.6.5, is to be provided. The scope of this narrative should approximate the detail that is found in the reports written in accordance with 2.1 and 2.2.3.1.

2.2.3.3 Where the format of the Final Report is clearly defined by the terms of 2.1 and 2.2.3.1, a Draft Report will provide at least 80% of the content of the final report. The Draft Report is to be submitted electronically in PDF format to the DFATD Representative who will review them and provide comments to the Consultant before the report is finalized.

2.2.3.4 The report shall include the following elements:

2.2.3.4.1 An executive summary;

2.2.3.4.2 The body of the report as outlined in Paragraphs 2.1 and 2.2.3.1;

2.2.3.4.3 Recommendations; and,

2.2.3.4.4 Conclusions.

2.2.3.5 Final Reports are to be delivered to the DFATD Representative both electronically in PDF format on CD, along with two bound hard copies.

2.2.4 Presentation Deliverables

2.2.4.1 The Consultant shall be prepared to give a brief presentation in order to provide an overview of the Draft Report, explain findings to the DFATD Technical Advisor, and present recommendations and concept design options. Unless otherwise specified by the DFATD Representative, the presentation shall be presented in person in Ottawa or by video or teleconference.

2.3 SCHEDULE OF DELIVERABLES/MILESTONES

The Consultant shall inform the DFATD Representative, in writing, a minimum of twenty-eight (28) calendar days before the deadline to request any extensions with appropriate justification.

2.3.1 The Consultant shall provide a project schedule indicating the level of effort for each phase. Any deviation, without proper justification, might be considered a breach of Contract.

2.3.2 The Consultant shall submit a Travel Proposal as defined in 2.2.1, for the approval of the DFATD Representative, within twenty-one (21) calendar days of award of the A&E Services Individual Supply Contract.

2.3.3 A Summary of Key Observations as defined in 2.2.2 shall be delivered to the DFATD Representative, within fourteen (14) calendar days of the completion of travel.

2.3.4 A Draft Report as defined in 2.1, 2.2.3.1, 2.2.3.2, and 2.2.3.3 shall be submitted to the DFATD Representative within sixty (60) calendar days of the completion of travel.

2.3.5 The DFATD Technical Advisor shall review the Draft Report within fourteen (14) calendar days of receiving it, and have it returned to the Consultant with comments.

2.3.6 The Consultant shall make any necessary revisions to the Draft Report and submit it to the DFATD Representative as a Final Report. This report is to be delivered fourteen (14) calendar days after the Draft Report has been reviewed by DFATD and returned to the

Consultant.

- 2.3.7 The Consultant shall be prepared to deliver a presentation, in accordance with 2.2.4, within seven (7) calendar days’ notice.

PART 3. PHASE 2 - DETAILED SEISMIC EVALUATION AND OPTIONS ANALYSIS

3.1 PHASE 2, COMPONENT 1 – DETAILED SEISMIC EVALUATION TECHNICAL PERFORMANCE REQUIREMENTS

The goal of the Phase 2 evaluation is to eliminate the vast majority of assumptions used in the Phase 1 evaluation, and to update the evaluation using the applicable data. The following technical performance requirements outline the general description of work for Component 1 of a Phase 2, “Detailed Seismic Evaluation” of the DFATD Missions that have been identified. If it is deemed necessary by the DFATD Representative, Phase 2, Component 2 will follow.

- 3.1.1 Based on the Phase 1 results, the DFATD Representative may direct the Consultant to proceed with a Phase 2 investigation at specific Missions by means of initiating a resulting Contract under the Supply Arrangement. This Contract will detail the specific requirements for each building and may include additional technical design requirements.
- 3.1.2 In the event that two or more Phase 2 Studies occur concurrently, the Consultant must demonstrate that it can undertake multiple Individual Supply Contracts simultaneously.
- 3.1.3 Upon approval from the DFATD Departmental Representative, the Consultant shall undertake a site visit to visually assess the condition of the chancery and to complete a detailed non-intrusive and intrusive structural investigation. Due to the nature of the on-site investigative work required, it is required that, at a minimum, the Consultant must provide an intermediate structural engineer to be present during the site visit.
- 3.1.4 For the detailed structural evaluation, the Consultant will:
- 3.1.4.1 Investigate all dimensional parameters of structural elements using both non-intrusive and intrusive investigations;
 - 3.1.4.2 Determine the reinforcing pattern of structural elements, and selectively confirm that reinforcing patterns conform with the structural drawings provided;
 - 3.1.4.3 Determine the properties of materials through material testing and intrusive structural investigations. This may include subcontracting all necessary resources to complete the work;
 - 3.1.4.4 Unless otherwise directed, retain a geotechnical engineer to complete the required field work and analysis for the determination of the site specific Seismic Site Classification, as well as basic soil information;
 - 3.1.4.5 Re-evaluate the structure based on the findings of the detailed survey and geotechnical investigation. The Consultant shall perform a 3-D model and dynamic analysis considering all connectivity between different components of the seismic resisting elements;

- 3.1.4.6 If directed by the DFATD Departmental Representative, retain the services of a Seismologist to complete an update of the "Seismic Risk and Spectral Acceleration Parameters";
- 3.1.4.7 Present the findings of the evaluation by means of a Technical Memorandum as per Clause 3.3.5; and,
- 3.1.4.8 If requested by the DFATD Departmental Representative, attend a presentation meeting in Ottawa to review the Technical Memorandum to explain findings and recommendations. The presentation shall be presented in person in Ottawa or by video or teleconference

3.2 PHASE 2, COMPONENT 2 - RETROFIT OPTIONS STUDY TECHNICAL REQUIREMENTS

The goal of Phase 2, Component 2 is to identify and evaluate three (3) seismic retrofit options. The evaluation must include technical, cost and construction implementation aspects.

- 3.2.1 If it is determined by DFATD that the level of risk at the Mission(s) is unacceptable, then the second component will commence for the Mission(s) identified as unacceptable.
- 3.2.2 It is expected that the results of the Phase 2, Component 1 investigation would be sufficient for this stage. However, the Consultant may propose additional work, such as structural investigations, (both intrusive and non-intrusive), material testing, geotechnical investigations and geophysical investigations, which may have a significant effect on the development of retrofit options. For any additional work requested, the Consultant shall submit a written proposal for the DFATD Representative's approval which will detail the following:
 - 3.2.2.1 Benefits of the additional work for the development of retrofit options;
 - 3.2.2.2 The purpose and methodology of the additional work;
 - 3.2.2.3 An estimated schedule to complete the additional work; and,
 - 3.2.2.4 An overall cost to complete the additional work.
- 3.2.3 With the approval of the DFATD Representative, the Consultant shall develop a plan to conduct the additional work.
- 3.2.4 The Consultant shall advise the DFATD Representative if any additional travel is required.
- 3.2.5 Upon issuance of the Phase 2 A&E Services Individual Supply Contract, the Consultant shall develop three (3) seismic retrofit options for building elements that require seismic upgrades. The consultant shall present the proposed option to DFATD Technical Representative before proceeding with any analysis. If accepted by DFATD Technical Representative, these three (3) options will contain sufficient detail to fully indicate the concept of the retrofit and its overall effect on the building. Seismic upgrades shall consist of structural enhancements which are developed with due consideration for all existing architectural, mechanical, and electrical aspects of the building. The three (3) proposed options shall also include any other operational and functional (i.e. non-structural) components (OFC's) that affect the appropriate seismic performance of the

- building. The Consultant is to prepare scaled sketches to present the three seismic retrofit options to the DFATD Representative. The Consultant shall give full consideration to new technologies which may economically enhance the seismic resistance of the building.
- 3.2.6 All three (3) proposed retrofit options will incorporate a lateral force resisting system capable of safely resisting 100% of the forces/displacements required by the 2010 NBCC. These three (3) options are each to include two (2) additional variations as defined by 3.2.8.
- 3.2.7 Designs are to be based on Canadian material and design standards. The Consultant shall also verify if more stringent local Codes apply, and advise the DFATD Representative of these requirements.
- 3.2.8 For each Mission that will be subjected to a Phase 2 analysis, the Consultant shall include a comparative cost analysis to implement three (3) distinct variations of the seismic upgrade options defined by 3.2.5 for the building's structure. The variations are as follows:
- 3.2.8.1 Variation 1 is to bring the building to a state to resist 60% of the NBCC 2010 seismic loads. This variation would be equivalent to using a Seismic Importance Factor (I_E) of 0.60;
- 3.2.8.2 Variation 2 is to bring the building to a state to resist 100% of the NBCC 2010 seismic loads. This variation would be equivalent to using a Seismic Importance Factor (I_E) of 1.00 and to consider the building as a Normal Category building as defined in the NBCC 2010; and,
- 3.2.8.3 Variation 3 is to bring the building to a state to resist 150% of the NBCC 2010 seismic loads. This variation would be equivalent to using a Seismic Importance Factor (I_E) of 1.50 and to consider the building as a Post-Disaster Category as defined in the NBCC 2010. This variation is to be applied only to Category 1 buildings or if otherwise directed by the DFATD Representative.
- 3.2.9 The Consultant shall also include in the report a description of the implications of the three (3) variations listed above, in 3.2.8, on the building's seismic performance. The description shall include a presentation about any technical constraints and challenges of implementing each variation. The Consultant shall also provide a rationale for its recommendation.
- 3.2.10 The report is to include an analysis of the feasibility of implementing the seismic upgrades within an occupied and operational building versus an unoccupied building. A comparative analysis on the associated costs for the three (3) distinct variations defined in 3.2.8 shall also be included in the report.
- 3.2.11 Upgrade options for non-structural items are to be proposed. These include, but are not limited to, building components such as canopies over exit ways, chimneys, partitions in corridors and stairwells, roof parapets, mechanical and electrical systems, elevators, ceilings, and cladding at access/egress locations. Discuss implications with respect to building performance and retrofit costs. Also provide commentary on each option and discuss the strategic constraints in the implementation of each, including the implication of working within an occupied and operational building versus unoccupied building. Discuss associated costs for the various implementation strategies. Designs are to be based on Canadian material and design standards. Verify if more stringent local codes

apply.

3.2.12 The seismic upgrades shall contain sufficient detail to fully indicate their overall effect on the building. Seismic upgrades shall consist of structural enhancements which are developed with due consideration for all existing architectural, mechanical and electrical aspects of the building.

3.2.13 For the retrofit options discussed above, provide a cost factor as defined in 3.2.8.

3.2.14 If requested by the DFATD Departmental Representative, attend a presentation meeting in Ottawa to review the Draft Report to explain findings and recommendations. The presentation shall be presented in person in Ottawa or by video or teleconference.

3.3 PHASE 2, COMPONENT 1 - DELIVERABLES

3.3.1 Travel Proposal

3.3.1.1 The Consultant will be advised of potential visit dates approved by the Missions prior to submitting a proposed travel schedule and estimate. An approved visit schedule shall then be prepared by the Consultant before any travel is authorized.

3.3.2 Work Deliverables

3.3.2.1 The Consultant shall prepare a written 'Approach Methodology' detailing the actions to be taken in order to achieve delivery of the Technical Memorandum. The methodology shall include a schedule, an outline to complete the work as defined in 3.1 and a Travel Proposal as defined in 3.3.1.

3.3.3 Additional Work Deliverables

3.3.3.1 The Consultant shall prepare a written proposal for the work required, as identified in the Phase 1 study, including: structural investigations (both intrusive and non-intrusive), material testing, and geotechnical and geophysical investigations. The estimate shall include the following: justification, purpose, estimated schedule for the additional work, and a cost of reimbursable expenses (contractor assistance for the intrusive investigation, testing laboratory fees, travel, etc.).

3.3.4 Summary of Key Observations Deliverables (Trip Report)

3.3.4.1 The Phase 2 Component 1 Trip Report will include all the requirements as stated in 2.2.2.

3.3.5 Technical Memorandum Deliverables

3.3.5.1 The Consultant shall prepare a written report compliant with the paragraphs of this Description of Services which shall be signed and sealed by a Professional Engineer licensed to practice in Canada. All numeric values in the report are to be presented in S.I. units. At minimum, the report is to include the following:

3.3.5.1.1 An outline of the scope of the evaluation conducted, including a list of any checklists followed, and the type of investigation conducted;

- 3.3.5.1.2 A general description of the property that includes, but is not limited to, description, features, and overall property dimensions;
 - 3.3.5.1.3 A list of the documents that were used in the evaluation and a brief summary of each document;
 - 3.3.5.1.4 A summary list and discussion of the results of any tests and sampling methods undertaken;
 - 3.3.5.1.5 A discussion of the level of inspections and testing conducted (if applicable);
 - 3.3.5.1.6 A discussion of the site data including site classification used;
 - 3.3.5.1.7 A summary of the engineering parameters employed and assumptions considered in the analysis, including a discussion of material properties and the seismic hazard; and,
 - 3.3.5.1.8 A copy of all analytical procedures, calculations, photographs, material test results, the results of the geotechnical study, all necessary checklists, summary data sheet, and references.
- 3.3.5.2 The Technical Memorandum will also include the following elements:
- 3.3.5.2.1 A short executive summary;
 - 3.3.5.2.2 The body of the memorandum as outlined in 3.3.5.1;
 - 3.3.5.2.3 Recommendations; and,
 - 3.3.5.2.4 Conclusions.
- 3.3.5.3 Where the format of the Technical Memorandum is clearly defined by the terms of this DoS in the SA, an electronic copy of the Draft Memorandum will be submitted to the DFATD Representative in PDF format for review and comment, if any.
- 3.3.5.4 The Final Technical Memorandum is to be delivered to the DFATD Representative in electronic format (PDF), on CD, and two (2) bound hard copies.

3.3.6 Presentation Deliverables

- 3.3.6.1 The Consultant shall be prepared to give a brief presentation in order to provide an overview of the Draft Technical Memorandum, explain findings to the DFATD Technical Advisor, and present recommendations and concept design options. Unless otherwise specified by the DFATD Representative, the presentation shall be presented in person in Ottawa or by video or teleconference.

3.4 PHASE 2, COMPONENT 2 – DELIVERABLES

3.4.1 Report Deliverables

- 3.4.1.1 The Consultant shall prepare a written report compliant with the paragraphs of this Description of Services which shall be signed and sealed by a Professional Engineer licensed to practice in Canada. All numeric values in the report are to be presented in S.I. units. At minimum, the report is to include the following:

- 3.4.1.1.1 An outline of the scope of the evaluation conducted based on the conclusion of the Phase 2, Component 1 report;
 - 3.4.1.1.2 A description and summary of the results of the investigation and analysis;
 - 3.4.1.1.3 A description of the method of analysis or calculations and the design code(s) or standards used. If designs are not based on Canadian material and design standards, include an explanation and justification as to why alternate standards were used;
 - 3.4.1.1.4 A description of the three (3) proposed retrofit options, including the level of intrusiveness and effort to implement each option;
 - 3.4.1.1.5 A discussion regarding implementation of each seismic retrofit option including implications with respect to building performance, technical constraints, retrofit costs, phasing, construction strategy, and scheduling;
 - 3.4.1.1.6 A description of seismic upgrade options for non-structural items;
 - 3.4.1.1.7 A list of Rough Order of Magnitude (ROM) costs for the three proposed retrofit options, to include a cost estimate of the project, based on delivery of the project in Canada, and an estimate of a cost factor to account for the cost of delivery of materials to the location of the building; and,
 - 3.4.1.1.8 An assessment of the availability of local skilled labour, to carry out the required retrofit options.
- 3.4.1.2 The Final Report will also include the following elements:
- 3.4.1.2.1 An executive summary;
 - 3.4.1.2.2 The body of the report as defined in 3.4.1.1;
 - 3.4.1.2.3 Recommendations; and,
 - 3.4.1.2.4 Conclusions.
- 3.4.1.3 Where the format of the Final Report is clearly defined by the terms of this DoS, a Draft Report is to be prepared. In order to review the Draft Report in a timely fashion, the Draft Report is to be submitted electronically in PDF format to the DFATD Departmental Representative who will have it reviewed and provide comments to the Consultant.
- 3.4.1.4 The Final Report is to be delivered to the DFATD Representative in electronic format (PDF), on CD, and in two (2) bound hard copies.

3.4.2 Concept Drawing Deliverables

- 3.4.2.1 The Consultant shall prepare concept drawings of the three (3) retrofit options of structural systems proposed, including typical floor plans, foundations, lateral force resisting systems, and explanatory sketches. All drawings are to be approved and stamped by a Professional Engineer licensed to practice in Canada.

3.4.3 Presentation Deliverables

- 3.4.3.1 The Consultant shall be prepared to present their findings in Ottawa or by teleconference in order to: provide an overview of the Draft Report and concept drawings; explain proposed options with advantages and disadvantages to the DFATD Technical Advisor, including implementation strategies.

3.5 SCHEDULE OF DELIVERABLES/MILESTONES

The Consultant shall inform the DFATD Departmental Representative, for approval in writing, a minimum of twenty-eight (28) calendar days before any deadline to request any extensions with appropriate justification.

3.5.1 PHASE 2, COMPONENT 1 - SCHEDULE OF DELIVERABLES

- 3.5.1.1 Upon notification by the DFATD Representative to proceed with Phase 2 Component 1 work, the Consultant shall submit to the DFATD Representative, within fourteen (14) calendar days, a Travel Proposal as discussed in 3.3.1 and an Approach Methodology as discussed in 3.3.2.
- 3.5.1.2 The Summary of Key Observations as defined in 3.3.4 shall be delivered to the DFATD Departmental Representative, within seven (7) calendar days of the completion of travel.
- 3.5.1.3 A Draft Technical Memorandum as defined in 3.3.5 shall be submitted to the DFATD Departmental Representative within twenty-eight (28) calendar days of completion of travel.
- 3.5.1.4 The DFATD Technical Advisor shall review the Draft Technical Memorandum within fourteen (14) calendar days of receiving it, and have it returned to the Consultant with comments, if any.
- 3.5.1.5 The Consultant shall make any necessary revisions identified in 3.5.1.4 to the memorandum and submit it to the DFATD Departmental Representative as a Final Technical Memorandum, The Memorandum is to be delivered within fourteen (14) calendar days after the Draft Memorandum has been reviewed by DFATD and returned to the Consultant.
- 3.5.1.6 If requested by the DFATD Departmental Representative, the Consultant shall prepare and deliver a presentation in accordance with 3.3.6 within seven (7) calendar days' notice.

3.5.2 PHASE 2, COMPONENT 2 – SCHEDULE OF DELIVERABLES

- 3.5.2.1 Upon notification by the DFATD Representative to proceed with Phase 2, Component 2 work, the Consultant shall present to DFATD Technical Representative the proposed three (3) seismic reinforcing options within seven (7) calendar days.

- 3.5.2.2 Upon acceptance by the DFATD Representative of the proposed seismic upgrade options, the Consultant shall submit a Draft Report as defined in 3.4.1 within sixty (60) calendar days. The Draft Report shall include all concept drawings.
- 3.5.2.3 The DFATD Technical Advisor shall review the Draft Report within fourteen (14) calendar days of receiving it, and have it returned to the Consultant with comments.
- 3.5.2.4 The Consultant shall make any necessary revisions to the Draft Report and submit it to the DFATD Representative as a Final Report, or provide additional clarification, to the satisfaction of DFATD Representative on any items in disagreement. This Final Report is to be delivered fourteen (14) calendar days after the Draft Report has been reviewed by DFATD and returned to the Consultant. The Final Report is to include, at minimum, all of the components listed in Paragraph 3.4.1.
- 3.5.3 If requested by the DFATD Departmental Representative, the Consultant shall prepare and deliver a presentation in accordance with 3.4.3 within seven (7) calendar days' notice.
- 3.5.4 All hard copies of documentation deliverables are to be submitted together fourteen (14) calendar days after notification by the DFATD Departmental Representative to do so.

PART 4. PHASE 3 - CONSTRUCTION DOCUMENTS FOR SELECTED RETROFIT OPTION

4.1 TECHNICAL PERFORMANCE REQUIREMENTS

The following technical performance requirements outline the general description of work for Phase 3 'Construction Documents for Selected Retrofit Option' of DFATD Missions that have been identified.

- 4.1.1 In the event that two or more Phase 3 'Construction Documents for Selected Retrofit Option' contracts occur simultaneously, the Consultant must demonstrate the ability to undertake multiple A&E Services Individual Supply Contracts simultaneously.
- 4.1.2 Upon issuance of an A&E Services Individual Supply Contract, the Consultant shall prepare tender drawings / plans, Schedule of Quantities and Technical Specifications and submit them for review and approval by the DFATD Technical Advisor at the 50%, 75% & 99% design stages. The Consultant is to provide four (4) hard copies of final tender package and drawings and one (1) copy in PDF electronic format and any drawings in dwg format to the DFATD Representative. The Consultant shall allow at least fourteen (14) calendar days for conducting Quality Assurance Reviews (QARs) at each stage.
- 4.1.2.1 Additional design considerations, e.g. local codes, local construction techniques, special site conditions, etc. must be submitted to the DFATD Technical Advisor.
- 4.1.2.2 The technical specifications shall follow the current version of the Canadian National Master Specification (NMS) format.
- 4.1.2.3 The Consultant shall:
- 4.1.2.3.1 Prepare tender and construction drawings complete with all construction details, highlighting any special conditions, materials, and / or construction

- sequencing. Designs are to be based on Canadian materials and current design standards;
- 4.1.2.3.2 Before proceeding with the detailed design, verify if more stringent local Codes apply and advise the DFATD Representative of these requirements;
 - 4.1.2.3.3 Ensure the technical aspects of the structural design meet local requirements;
 - 4.1.2.3.4 Ensure that the tender and design package meets local code permit and contracting requirements to avoid delays in the delivery of the project;
 - 4.1.2.3.5 Prepare a list of recommended brand names for equipment and pre-manufactured assemblies, if any, for local and imported equipment and assemblies required for the project;
 - 4.1.2.3.6 Prepare a detailed cost estimate of the project;
 - 4.1.2.3.7 Prepare a proposed construction schedule, assuming that the project will be constructed in Canada; and,
 - 4.1.2.3.8 Assist in the tender stage by assisting in the pre-selection of qualified bidders.

4.2 DELIVERABLES

4.2.1 Travel Proposal

- 4.2.1.1 For any additional travel deemed necessary by the Consultant, the Consultant shall submit, for approval by the DFATD Representative, a travel proposal for all site visits as defined in the Contracting Documents.

4.2.2 Seismic Design Package

- 4.2.2.1 The Consultant shall submit a full and comprehensive seismic reinforcing design package of structural modifications. The seismic design package shall include considerations for any required architectural, mechanical, electrical and any other non-structural component upgrades that shall be delivered. The design package shall consist of the following:
 - 4.2.2.1.1 Drawing sets to be delivered at the 50%, 75% & 99% stages for Quality Assurance Review, and finally, the full set of Construction Documents.. These drawing sets are to include all aspects of design including non-structural elements seismic bracing designs;
 - 4.2.2.1.2 Full Technical Specifications following the most current version of the National Master Specs (NMS);
 - 4.2.2.1.3 A complete cost estimate including material quantities detailed for each type of material in accordance with the specifications; and
 - 4.2.2.1.4 A bench mark construction schedule for the entire project.

- 4.2.2.2 The Consultant shall provide the DFATD Representative with four (4) hard copies of the final tender package and drawings and one (1) copy in PDF format plus drawings in DWG format on CD.

4.3 SCHEDULE OF DELIVERABLES/MILESTONES

- 4.3.1 The scheduling for Phase 3 and Phase 4 will be defined under a supplemental Description of Services depending on the completion of Phase 2.

PART 5. PHASE 4 – QUALITY ASSURANCE

5.1 TECHNICAL PERFORMANCE REQUIREMENTS

The following technical performance requirements outline the general description of work for Phase 4 ‘Quality Assurance’ of DFATD Missions that have been identified.

- 5.1.1 DFATD may enter into a contract with a General Contractor to implement the Phase 3 design. The Consultant, in Phase 4, shall provide DFATD with Quality Assurance.
- 5.1.2 All Missions that have a Phase 3 completed and that are directed by the DFATD Representative to proceed into implementation, the construction shall proceed into Phase 4. During Phase 4, the Consultant shall:
- 5.1.2.1 Assist in the tendering stage by responding to technical questions raised during the tendering process, and providing comment on the pre-qualification submissions of the bidders;
 - 5.1.2.2 Review and provide to the DFATD Representative a recommendation for approval or rejection of shop drawings submitted by the General Contractor;
 - 5.1.2.3 Provide detailed drawings, sketches, specifications or installation information which may be required by the General Contractor for clarification, mitigation of unforeseen site conditions, and to ensure proper execution of the work;
 - 5.1.2.4 Prepare and submit an estimated schedule for site visits detailing work to be done at each visit. Alternately, DFATD might retain a local qualified firm to provide the Quality Assurance. In this case, the Consultant shall provide guidance, direction to the selected QA firm, and based on their reporting validate that the completed work is in general conformance with the construction documents.
 - 5.1.2.5 Prepare a list of approved materials and makes for local or imported items required for the project;
 - 5.1.2.6 Submit to the DFATD Representative in writing for approval, any additional works that the Consultant deems necessary for this stage;
 - 5.1.2.7 Answer the General Contractor’s questions pertaining to the project;
 - 5.1.2.8 Provide site supervision or guidance to a local QA firm, including detailed reports of the field review of construction progress and deficiencies;

- 5.1.2.9 Update the design as necessary, which shall be submitted to the DFATD Representative for the required Quality Assurance Review (QAR); and,
- 5.1.2.10 Deliver a full as-built package including as-built drawings and a letter of substantial completion as per the Contract Documents.

5.2 DELIVERABLES

5.2.1 Travel Proposal

- 5.2.1.1 The Consultant will be advised of potential visit dates approved by the Missions prior to submitting a proposed travel schedule and estimate. An approved visit schedule shall then be prepared by the Consultant before any travel is authorized.

5.2.2 Field Review and Inspection Reports

- 5.2.2.1 The Consultant must submit detailed "Field Review and Inspection" reports for each day that an inspection is made in person or by the retained QA firm. Detailed "Field Review and Inspection" reports are to be submitted and reviewed by a Professional Engineer licensed to practice in Canada. The reports are to include details on construction progress, identify clearly the area being reviewed, any deficiencies observed, and any modifications required.

5.2.3 As-built Package

- 5.2.3.1 The Consultant shall submit a full and comprehensive as-built package. The as-built package shall include the following:
- 5.2.3.1.1 As-built drawings;
 - 5.2.3.1.2 A letter of substantial completion as per the Contract Documents;
 - 5.2.3.1.3 Material test reports; and,
 - 5.2.3.1.4 Any other information deemed appropriate by the Consultant.

5.3 SCHEDULE OF DELIVERABLES/MILESTONES

- 5.3.1 The scheduling for Phase 3 and Phase 4 will be defined under a supplemental Statement of Work depending on the completion of Phase 2.

PART 6. MODIFICATIONS TO ASCE/SEI 31-03

- 6.1 The intent of this Section is to modify the requirements of ASCE/SEI 31-03 to suit the provisions of 2010 NBCC Section 4.1.8. Specific modifications to ASCE/SEI 31-03 are listed below. While carrying out the Tier 1 and Tier 2 evaluations, in the event that the ASCE/SEI 31-03 calculation is different than those listed in NBCC 2010, the provisions of NBCC 2010 will be used.

6.2 ASCE/SEI 31-03 (2.2) – MATERIAL PROPERTIES

- 6.2.1 For the Tier 1 evaluations, unless material properties are specified in the existing documentation provided by DFATD, the following material properties are to be used:
- 6.2.1.1 Concrete – $f_c = 13$ MPa;
 - 6.2.1.2 Reinforcing Steel – $f_y = 210$ MPa;
 - 6.2.1.3 Structural Steel – $F_y = 210$ MPa; and

6.2.1.4 Masonry – $f_m = 6$ MPa.

6.3 ASCE/SEI 31-03 (2.3) – SITE VISIT

6.3.1 DFATD has determined that a site visit is required for all Phase 1 studies.

6.4 ASCE/SEI 31-03 (3.2) – BENCHMARK BUILDINGS

6.4.1 There are no exemptions for post-benchmark buildings. All DFATD Missions listed are to be evaluated.

6.5 ASCE/SEI 31-03 (3.5) – TIER 1 ANALYSIS

6.5.1 In the calculation of the pseudo lateral force, the effective seismic weight of the building is to be calculated in accordance with the 2010 NBCC Section 4.1.8.

6.5.2 Story shear force distribution is to be calculated in accordance with the 2010 NBCC Section 4.1.8. Consideration of the higher mode factor, M_v , and its associated base over-turning moment reduction factor, J , shall be given for the calculation and distribution of story shear forces and over-turning moments.

6.5.3 Spectral Accelerations, provided by DFATD, shall be modified, **for Tier 1 only**, as follows:

6.5.3.1 $S_{D1} = 0.6F_v S_a(1.0)$; and,

6.5.3.2 $S_{Ds} = 0.6F_a S_a(0.2)$.

6.5.4 The spectral accelerations provided by DFATD are based on a reference soil condition of Site Class C. Site coefficients F_a and F_v are to be based on NBCC 2010 Table 4.1.8.4B and Table 4.1.8.4.C respectively.

6.5.5 Building period is to be calculated in accordance with the 2010 NBCC Section 4.1.8.

6.6 ASCE/SEI 31-03 (4.2) – TIER 2 ANALYSIS

6.6.1 Building period is to be calculated in accordance with the 2010 NBCC Section 4.1.8.

6.6.2 Story shear force distribution is to be calculated in accordance with the 2010 NBCC Section 4.1.8. Consideration of the higher mode factor, M_v , and its associated base over-turning moment reduction factor, J , shall be given for the calculation and distribution of story shear forces and over-turning moments.

6.6.3 The mathematical model for the analysis (LDP) is to be a three-dimensional model.

6.6.4 The seismic force on non-structural components shall be calculated in accordance with 2010 NBCC Section 4.1.8.

PART 7. GROUPING OF FACILITIES**EUROPE, AFRICA, MIDDLE EAST
GROUP 'C'***

Mission	Facility	Category	
		Category 1 (IO)	Category 2 (LS)
Bucharest	Chancery		
Lisbon	Chancery		
	Official Residence		
Reykjavik	Chancery		
Vienna	Chancery		
Zagreb	Chancery		

* DFATD reserves the right to delete, substitute or add a Mission to the terms of the A&E Services Individual Supply contract. The list of individual Missions may change, however the region will remain the same.

Appendix 'B' — Example Level of Effort Form for Individual Contracts



Department of Foreign Affairs
Trade and Development (DFATD)
Project Implementation Division (ARP)

Level of Effort for A&E Seismic Requirements

Request for Level of Effort

Date:
Consultant:
Project #:
Solicitation #:

1.0 Description of the Work
See attached Statement of Work.

2.0 Estimated Period of Contract
From:
To:

3.0 Location:
3.1 Country, City;
3.2 Building: Chancery, Official Residence, Staff Quarters

4.0 Cost

Construction Cost Breakdown	Per Diem Rate	No. Of Days to Perform the Work	Total
Senior Structural Engineer	\$		
Intermediate Structural Engineer	\$		
Junior Structural Engineer	\$		
Structural Technical Support	\$		
Seismologist	\$		
CAD Operator/Draftsman	\$		
Geotechnical Engineer	\$		
Architect	\$		
Mechanical Engineer	\$		
Electrical Engineer	\$		
Site Engineer/Technician	\$		
Total Labour			\$
Estimated Travel			\$
Living Expenses			\$
		Sub-Total	\$
		HST/VAT	\$
		Total	\$

- The above table is applicable to all Phases however it will be modified accordingly.

You are requested to provide a detailed cost breakdown in accordance with both the basis of payment in the Supply arrangement for A&E Seismic Services and the attached Statement of Work.

5.0 Consultant Response

Consultant *must* check one of the following options

A Level of Effort for this requirement has been completed

No Level of Effort will be provided for this requirement because: *Reason:* _____

Name of Consultant authorized to sign (type / print)

Title of Consultant authorized to sign (type / print)

Date: _____

Signature : _____

UNDERTAKING OF CONFIDENTIALITY**Title:****Contract Number:****Project Number: N/A****Name of Consultant:**

1. The Consultant shall keep confidential all information provided by or on behalf of Canada to the Consultant in connection with the Contract Number ARD_____ as well as, all information developed by the Consultant as part of the Solicitation Process and any Work resulting from the Consultant Qualifying for the Standing Offer. The Consultant shall not disclose any such information to any person, including subcontractors or suppliers, without the prior written permission of the Departmental Representative.

This subsection does not apply to any information where the same information: (a) is publicly available from a source other than the Consultant; or (b) is or becomes known to the Consultant from a source other than Canada, except any source that is known to the Consultant to be under an obligation to Canada not to disclose the information.

2. When the Contract, the Work, or any information referred to in subsection 1 is identified as SECRET, CONFIDENTIAL, or PROTECTED by Canada, the Consultant shall at all times take all measures reasonably necessary for the safeguarding of the material so identified, including those set out in the Department of Public Works and Government Services Industrial Security Manual and its supplements and any other instructions issued by the Department.

3. Without limiting the generality of subsections 1 and 2, when the Contract, the Work, or any information referred to in subsection 1 is identified as SECRET, CONFIDENTIAL, or PROTECTED by Canada, the Minister shall be entitled to inspect the Consultant 's premises and the premises of any authorized subcontractor at any tier or any authorized supplier for security purposes at any time during the term of the Standing Offer and the Consultant shall comply with, and ensure that any authorized subcontractor complies with, all written instructions issued by the Department dealing with the material so identified, including any requirement that employees of the Consultant or of any such subcontractor or supplier execute and deliver declarations relating to reliability screenings, security clearances and other procedures.

4. Upon award of the Contract, all other unsuccessful Proponents shall destroy all Documentation mentioned above.

5. Any proposed change in the security requirements after the establishment of the Standing Offer that would involve a significant increase in cost to the Consultant shall be fully addressed in the Contract provisions.

6. Any violation of this undertaking may result in prosecution or liability, either civil or criminal and will result in the Consultant being deemed ineligible to contract with Government of Canada.

Signed on the _____ day of _____ in the year 2014 at _____ in the Province and Country of _____ .

Signatures:

Name of Individual
Title
Corporate/Company Name
Address

Witnessed by:

Name of Witness
Title
Corporate/Company Name
Address