

ADVANCE CONTRACT AWARD NOTICE (ACAN)

1. Advance Contract Award Notice (ACAN)

An ACAN is a public notice indicating to the supplier community that a department or agency intends to award a contract for goods, services or construction to a pre-identified supplier, thereby allowing other suppliers to signal their interest in bidding, by submitting a statement of capabilities. If no supplier submits a statement of capabilities that meets the requirements set out in the ACAN, on or before the closing date stated in the ACAN, the contracting officer may then proceed with the award to the pre-identified supplier.

2. Definition of Requirements

The department of Natural Resources Canada (NRCAN) has constructed two oil spill test tanks at their CanmetENERGY-Devon (CED) facility, which are located in Alberta. These tanks have similar dimensions and design where both can control water temperature (1 to 30°C) and one is located in an external building that allows air temperature to be -5 to 30 °C. These tanks are open vessels which provide unique opportunities to study oil in water behavior under more realistic conditions than those that can be simulated in laboratory flasks due to size and experimental design. Compared to other spill test facilities available, these tanks are relatively small. However, their size and design are unique in that they allow for oil mass balance to be determined between evaporation, floatation on the water surface, and distribution between the water and sediment in the water column and bottom of the tank.

To maximize the impact of the research performed in these vessels, NRCAN CED needs to characterize and benchmark the hydrodynamics of their two spill test tanks, which include their internal operations including mixing characteristics and energies need to be determined for depth of water used and frequency of waves generated.

In details, the objectives of this contract are to, at different water levels for both spill test tanks:

1. Characterize hydraulic at different water levels and frequencies of waves;
2. Estimate the mixing energy at various locations of the tank to quantify high-mixing and low-mixing zones;
3. Estimate the residence time of water in various compartments of the tank;
4. Simulate the hydrodynamics in the tank including the generation, propagation, and breaking of the waves;
5. Using the mathematical technique of particle tracking to estimate the movement of oil, sediment, and oil particle aggregates (OPA) to determine the residence time of each in each compartment of the tank;
6. Relate the functioning of the tank to larger wave tanks and to sea conditions.

3. Criteria for Assessment of the Statement of Capabilities

Any interested supplier must demonstrate by way of a statement of capabilities that it meets the following requirements:

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| 1) The proposed resource MUST have a minimum of 10 years' combined experience in characterization of open tanks' hydrodynamics for oil spill (ex.: wave tanks) and in conducting oil-spill research. This includes calculating mixing energies based on detailed measurements of velocity and water surface excursion. |
| 2) The proposed resource MUST have expertise in mixing energy information relevant to the natural environmental conditions such as lakes, rivers and oceans (i.e.: related peer-reviewed papers/reports). |

- 3) The proposed resource **MUST** have the experience characterizing hydrodynamics in an active spill tank in North America. This includes conducting computational fluid dynamics (CFD) simulations in conjunction with measurements.

4. Trade Agreements

This procurement is subject to the following trade agreement(s):

- Canadian Free Trade Agreement (CFTA);
- Canada-Chile Free Trade Agreement (CCFTA)
- Canada-Columbia Free Trade Agreement (CCoFTA)
- Canada-Honduras Free Trade Agreement (CHFTA)
- Canada-Panama Free Trade Agreement (CPaFTA)
- Canada-Korea Free Trade Agreement (CKFTA)

5. Justification for the Pre-Identified Supplier

The supplier mentioned in section 10 below is the only known supplier that meets the mandatory criteria set out in section 3 above.

Should Canada receive a statement of capabilities from a supplier that contains sufficient information to indicate that it meets the requirements set forth in this ACAN, a competitive process will be triggered with a technical and financial evaluation methodology of the bids proposed by the potential bidders

6. Exception to the Government Contracts Regulations

The following exception(s) to the Government Contracts Regulations is invoked for this procurement under subsection

- 6(d) – only one person is capable of performing the work

The identified provider and proposed resource, **Michel C. Boudafel, PhD, PE, BCEE** at **The New Jersey Institute of Technology** is the only one able to meet all of the criteria identified in paragraph 3 above.

7. Exclusions and/or Limited Tendering Reasons

The following exclusion(s) and/or limited tendering reasons are invoked under the:

- Canadian Free Trade Agreement (CFTA): Article 513.1 (b) (iii)
- Canada-Chile Free Trade Agreement (CCFTA): Article Kbis-09, article Kbis-09(c)
- Canada-Columbia Free Trade Agreement (CCoFTA): Article 1409 (b) (iii)
- Canada-Honduras Free Trade Agreement (CHFTA): Article 17.11 2 (b) (iii)
- Canada-Panama Free Trade Agreement (CPaFTA): Article 16.10 (b) (iii)
- Canada-Korea Free Trade Agreement (CKFTA): Article 14.3, Under the Recised GPA – Article X111, 1 (b) (iii)

8. Ownership of Intellectual Property

Canada intends to retain ownership of any Foreground Intellectual Property arising out of the proposed contract on the basis that the main purpose of the contract is to generate knowledge and information for public dissemination.

9. Period of the Contract

The period of the contract will be from date of issuance of contract to March 31 2022.

10. Estimated Cost

The estimated value of the contract is \$108,500.00 USD excluding applicable taxes.

11. Name and Address of the Proposed Contractor

Michel C. Boufadel, PhD, PE, BCEE
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Professor, John A. Reif, Jr. Dept. Civil and Environmental Engineering
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12. Suppliers' right to submit a statement of capabilities

Suppliers who consider themselves fully qualified and available to provide the services/goods described herein, may submit a Statement of Capabilities in writing, preferably by e-mail, to the contact person identified in this Notice on or before the closing date and time of this Notice. The Statement of Capabilities must clearly demonstrate how the supplier meets the advertised requirements.

13. Closing Date

The closing date for a submission of a Statement of Capabilities is October 7, 2020 at 14:00 Eastern Daylight Time.

14. Contract Authority

Enquiries and statements of capabilities are to be directed to:

Nadia Kelly
Supply Specialist
Natural Resources Canada
Nadia.kelly@canada.ca
236-464-5236