

Advanced Contract Award Notice (ACAN)
23-58227 X-ray Diffraction High Temperature and Pressure Reaction Chamber

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 the requirement

The National Research Council of Canada's (NRC) Energy, Mining and Environment Research Centre (EME) has a requirement for a quantity of one (1) X-Ray Diffraction High Temperature and Pressure Reaction Chamber hereby known as "The System". The System is required to perform in-situ x-ray diffraction experiments during solid-state and solid-state/gas reactions. The System must be delivered to our Ottawa ON campus, installed and must include training on-site for minimum of two (2) NRC participants in English. Training manuals are included and will be provided in English. The hardware maintenance support must be provided via telephone, fax, email and via website and included. The coverage time must be eight (8) hours per day, Monday to Friday (excluding statutory holidays in the Province of Ontario), with a response time of eight (8) hours maximum.

3. Criteria for assessment of the Statement of Capabilities (Minimum Essential Requirements)

Any interested supplier must demonstrate by way of a Statement of Capabilities that its product/equipment/system (as appropriate) meets the following requirements:

Reaction Chamber:

- The reaction chamber must be compatible with the D8 Advance XRD instrument manufactured by Bruker AXS LLC.
- The reaction chamber must be able to be operated under temperatures from 25 to 900 degrees Celsius.
- The reaction chamber must be able to be operated under vacuum, atmosphere, inert gases (nitrogen, argon), as well as reactive gases (carbon dioxide, oxygen, and hydrogen).
- The reaction chamber must be equipped with a sample spinner.
- The reaction chamber must have a closed sample holder made out of Macor.
- The reaction chamber must have an adapter with motorized and software-controlled precision stage for height alignment of the sample chamber.
- The reaction chamber must be able to operate in the pressure range of 1mbar to 10 bar.
- The reaction chamber must contain an electrical heater which guarantees the absence of temperature gradients in the sample.
- The reaction chamber must operate with a maximum housing temperature of 150 degrees Celsius.
- The reaction chamber must allow for X-Ray Diffraction measurements in the scan range of 0 degrees 2-theta to 165 degrees 2-theta in reflection geometry.

Combined Control Unit:

- The contractor must provide a temperature control unit with displays for sample holder temperature, control parameters, and instrument status.

Vacuum equipment:

- The contractor must provide a 2-stage pre-vacuum rotary valve pump with complete technical outfit connections for vacuum measuring tubes.
- The contractor must provide flexible stainless steel vacuum tube for connecting the pump to the reaction chamber.

Cooling water connection kit

- The contractor must provide a kit to connect cooling water to the reaction chamber.

4. Applicability of the trade agreement(s) to the procurement:

This procurement is subject to the following trade agreement(s)
Canadian Free Trade Agreement (CFTA)

Canada–Chile Free Trade Agreement (CCFTA)
Canada–Colombia Free Trade Agreement (CETRA)
Canada–Honduras Free Trade Agreement (CHFTA)
Canada–Korea Free Trade Agreement (CKFTA)
Canada–Panama Free Trade Agreement (CPAFTA)

5. Justification for the Pre-Identified Supplier:

Bruker AXS LLC. is the Original Equipment Manufacturer (OEM) and sole supplier that can offer the reaction chamber (XRK900) that is compatible with our existing Bruker XRD instrument as well as being able to supply training from their qualified service engineer.

6. Government Contracts Regulations Exception(s):

The following exception(s) to the Government Contracts Regulations is (are) invoked for this procurement under subsection 6(d) - "only one person is capable of performing the work".

7. Exclusions and/or Limited Tendering Reasons:

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

Canada-Colombia Free Trade Agreement – Article 1409 (1) (b) (iii): due to an absence of competition for technical reasons;

Canada-Honduras Free Trade Agreement – Article 17.11 (2) (b) (iii): due to an absence of competition for technical reasons;

Canada-Korea Free Trade Agreement – referencing the WTO Protocol Amending the GPA, Article XIII (1) (b) (iii): due to an absence of competition for technical reasons;

Canada-Panama Free Trade Agreement – Article 16.10 (1) (b) (iii):

8. Period of the proposed contract or delivery date:

The system is expected to be delivered on or before March 29, 2024.

9. Cost estimate of the proposed contract:

The estimated value of the contract is approximately **\$146,900.00 CAD (applicable taxes not included)**.

10. Name and address of the pre-identified supplier:

Bruker AXS LLC
5465 East Cheryl Parkway
Madison WI 53711-5373

11. Suppliers' right to submit a Statement of Capabilities:

Suppliers who consider themselves fully qualified and available to provide the goods, services or construction services described in the ACAN may submit a statement of capabilities in writing to the contact person identified in this notice on or before the closing date of this notice. The statement of capabilities must clearly demonstrate how the supplier meets the advertised requirements.

12. Closing date for a submission of a Statement of Capabilities:

The closing date and time for accepting Statements of Capabilities is February 5, 2024 at 2:00pm EDT.

13. Inquiries and submission of Statements of Capabilities

Inquiries and Statements of Capabilities are to be directed to:

Carol Cooper
Senior Contracting Officer
Finance and Procurement Services Directorate
National Research Council Canada
E-mail: Carol.Cooper@nrc-cnrc.gc.ca