

22-58030- ACAN
IMPACT ASSESSMENT STUDY OF CLIMATE CHANGE PROVISIONS FOR
STRUCTURAL DESIGN OF BUILDINGS

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 Requirements

Rowan, Williams, Davies and Irwin (RWDI) has previously completed a study for the National Research Council (NRC) to evaluate the impact of climate change on building code requirements for wind and snow loads. The findings and recommendations from the study were summarized in a report issued on December 2020. As an outcome of this work, the NRC wishes to better understand the implications of the recommended code changes on typical building designs across Canada. The particular area of focus relates to the potential change in material quantities and associated costs for the primary and secondary structural systems required using both the current and the proposed code provisions.

This contract seeks to enter into an agreement with RWDI to assess the potential changes in material quantities and associated costs for the primary and secondary structural systems required using both the current and proposed code provisions.

Individual and combined wind and snow loads will be calculated using the provisions of the 2020 National Building Code (NBC), as well as those proposed by RWDI that account for the potential impacts of climate change. Loading information will be quantified for typical building types (with >600 m² footprint) to fall within the scope of the NBC's Part 4, Structural Design. Each building type will be assessed for representative locations across Canada.

As deliverables of this contract, the NRC requests RWDI to provide:

- current and proposed snow and wind loads.
- primary structural system requirements for wind and snow.
- secondary structural system requirements for wind and snow.
- Comparisons of total costs using both the current provisions of NBC and proposed code provisions considering the impacts of climate change. Final Report including the cost impact.

RWDI will provide briefings for CCBFC's Standing Committee on Structural Design and its Task Group on Climatic Data as needed and address their comments and potential modifications.

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

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

1. The qualified firm must have a dedicated employee with an advanced degree (Ph.D.) in engineering, with a rich academic background (a minimum of 25 years) and a minimum 25 years practical experience in the development of design wind and snow loads for buildings
2. The qualified firm must have an extensive record of publications in the area of design wind and snow loads (author of 265 papers).
3. The qualified firm must have a minimum of 25 years knowledge of the National Building Code of Canada and the Canadian Codes process, including committees, governance, code change requests, and the codes cycle.
4. The qualified firm must have a minimum of 25 years of experience writing national and international Codes and standards for wind and snow loads.
5. The qualified firm must have a deep understanding of all aspects of potential climate change impact on structural loads on buildings and related load combinations, and experience applying mesoscale modeling methods to assess climatic effects on a regional basis.
6. The qualified firm must have a demonstrated track record in analysing and quantifying structural failure risk – including use of the Finite Area Element method for assessing snow loads on structures, and experience in combining climatic information with aerodynamics and scale model testing to provide practical design load information for designers and code writing bodies.
7. The qualified firm must have a deep understanding of the uniform risk design approach under climatic loads, and its impact on the National Building Code, including load combination factors.
8. The qualified firm must have experience in the use of statistical analysis to predict extreme events and their impact on loads in the National Building Code of Canada.
9. The qualified firm must have experience in addressing the potential impact of climate change on the design of buildings, including cost analysis for design of the primary and the secondary structural elements of buildings.

4. Applicability of Trade Agreement(s) to Procurement

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

- Agreement on Internal Trade (AIT)
- World Trade Organization - Agreement on Government Procurement (WTO-AGP)
- North American Free Trade Agreement (NAFTA)

5. Set-aside under the Procurement Strategy for Aboriginal Business

Not applicable

6. Comprehensive Land Claims Agreement(s)

Not applicable

7. Justification for the Pre-Identified Supplier

There are no alternative sources of supply for this support. Rowan, Williams, Davies and Irwin known as RWDI is unique in the level of expertise and experience with a proven track record. No other firm in Canada, or worldwide, can match the team's ability to complete successfully the tasks identified by NRC for developing proposed code changes related to climate change for the National Building Code.

Dr. Irwin, RWDI and its collaborators are in a unique position to bring a wealth of knowledge, experience and resources to the present work and, as an experienced engineering consultant, to arrive at practical and clear recommendations on how to incorporate the effects of climate change into new wind and snow load provisions including the impact analysis that could be implemented in the future edition of the National Building Code.

8. Government Contracts Regulations Exception(s)

The following exception to the Government Contracts Regulations is invoked for this procurement under subsection 6 (d) – Only company is capable of performing the work.

9. Exclusions and/or Limited Tendering Reasons

N/A

10. Ownership of Intellectual Property

Canada intends to retain ownership of any Foreground Intellectual Property arising out of the proposed contract.

11. Period of the Proposed Contract or Delivery Date

The contract period will be 7 months with an expected start date of September 1, 2022. The anticipated completion date is March 16, 2023 to ensure the proposed code changes as well as their related impact analysis are ready for the CCBFC's Committees to review and approve for possible implementation in the 2025 Edition of the National Building Code

12. Cost Estimate of the Proposed Contract

The contract value will be approximately of \$ 265,000 CAD (Taxes not included).

13. Name and Address of the Pre-identified Supplier

RWDI
600 Southgate Drive, Guelph, ON N1G 4P6 Canada

Email: solutions@rwdi.com

Telephone: +1.519.823.1311.

14. Suppliers' right to submit a statement of capabilities

Suppliers who consider themselves fully qualified and available to provide the 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.

15. Closing date for a submission of a statement of capabilities

The closing date and time for accepting statements of capabilities is **August 25, 2022 at 2:00 p.m. EDT.**

16. Inquiries and Submission of Statements of Capabilities

Inquiries and statements of capabilities are to be directed to:

NRC Contracting Officer: Stéphane Lajoie (stephane.lajoie@nrc-cnrc.gc.ca)