

Advance Contract Award Notice (ACAN)

Title: Expert Advice and Support

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

1.0 Background

As part of its human spaceflight objectives, the Canadian Space Agency (CSA) recruits, trains and secures flight opportunities for Canadian astronauts. This brings the responsibility to optimize the safety, health and performance of Canadian astronauts during all phases of their careers. This responsibility reaches its penultimate level when astronauts fly onboard the International Space Station (ISS) – where their health and performance are of critical importance to mission success. The CSA currently implements a suite of programs to identify, characterize and address astronauts' health and performance issues. These programs cover scientific research, technology development, hardware manufacturing and payload operations, as well as the training of astronauts and delivery of ground and space-based health care and medical services.

Looking ahead, the CSA is pursuing preliminary work to prepare Canada's potential participation in upcoming international efforts to move human spaceflight beyond low Earth orbit – with the ultimate objective of sending human missions to Mars within the next two decades. As part of this effort, in fall 2017 the CSA established an Expert Group on the Potential Canadian Healthcare and Biomedical Roles for Deep Space Human Spaceflight, with members from healthcare institutions, industry associations, remote medicine and Indigenous healthcare organizations, academic and research institutions and former physician-astronauts. The Expert Group helped the CSA engage with the broader Canadian biomedical, health and performance communities, and studied whether Canada should get involved in astronaut health care for deep space missions and whether Canada has the capability take on a leadership role in astronaut health care. In February 2018, the Expert Group submitted their recommendations to the CSA President as outlined in their Report entitled *Canada's Leadership in*

Autonomous Health Systems. Their recommendations were that Canada should get involved and that Canada could and should take on a leadership role.

The CSA is now seeking expert advice and support to further develop elements of the health care vision outlined in the Expert Group Report and to better understand how this vision could be implemented.

This entails engaging the Canadian biomedical and health performance communities in order to identify, scope and assess health and biomedical contributions that would:

- Provide Canada with a meaningful, visible and sustainable role and influence in international missions;
- Leverage existing Canadian health and medical expertise / capabilities and leadership in collaborative international relations; and
- Have high potential for significant socio-economic benefits for Canada, including growing Canada's health and medical capabilities, as well as improving the quality of life.

2.0 The tasks to be covered under this contract include:

The expert is to advise and support as per guidance by the CSA Director General of Policy, namely on stakeholder engagement, partnership building and astronaut health care vision development.

- Providing the perspective of a crewmember and medical officer with regards to health and performance requirements during long duration flights, as well as the associated capabilities to meet these requirements;
- Defining effective means to engage and build partnerships with the Canadian biomedical, health and performance communities so that space health care solutions contribute to the improvement of remote health care delivery on Earth, in addition to other terrestrial health care benefits;
- Recommending to CSA effective means to engage international partners, notably NASA, in order to secure a critical and visible role in the area of astronaut health and performance;
- Articulating ideas and concepts that could be presented to the health and biomedical community, and eventually to the Canadian government, to further define, scope or assess potential Canadian role;
- Analyzing and prioritizing ideas, concepts and proposals resulting from the engagement with the Canadian community – based on the stated objectives;
- Providing expert advice in decision making as the Director General sees fit.

3.0 Deliverables:

- Attending workshops, conferences and other forums to gather, analyze and summarize information required by the advisory role described above;
- Delivering presentations and leading/supporting expert discussions during workshops, conferences and other forums, and providing written reports on these discussions;
- Identifying and guiding potential partners from the health care system, industry, academia and Indigenous organizations to work with the CSA to design a collaborative program that will solve shared health care challenges;
- Raising public awareness on the socio-economic benefits of investing in space health and performance activities, for example by making presentations in public events or forums organized by the broader Canadian health and biomedical community.

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

In order to successfully perform the required work, the consultant must:

- have a broad understanding of the Canadian health and biomedical community (academia, clinicians and industry);
- have an established network of contacts within that community as well as with experts in foreign space agencies, notably NASA;
- have experience in long duration human spaceflight;
- be knowledgeable of space health risks;
- have experience working as a physician;
- have experience with participation in national and/or international forums and proven ability to present information, lead discussions and bring colleagues to a consensus; and
- have knowledge and understanding of the CSA Operational Space Medicine mandate and activities.

4. Justification for the Pre-Identified Supplier

As future human spaceflight missions extend to beyond low-Earth orbit, the greater physical distances will necessitate longer mission durations with increased need for medical autonomy of crewmembers. Some of the consequences of longer mission durations included the reduced opportunity for the quick return of sick or injured crewmembers for medical treatment on Earth,

increased communications time delays and limited medical resources including access to medical specialist expertise among crewmembers.

Canada has 10 retired astronauts, however, of these, only three practiced medicine. Given that the CSA is seeking expert advice on vision implementation and support to engage the Canadian biomedical and health performance communities, we need a space exploration expert who has a broad understanding of the Canadian health and biomedical community.

Of the three former astronauts with experience in the health care field, only one, Dr. Robert Thirsk, flew on a long-duration space mission.

As such, Dr. Thirsk is uniquely positioned to provide the CSA with the perspective of a crewmember *and* medical officer with regards to health and performance requirements during long duration flights, as well as the associated capabilities to meet these requirements.

The expert advice and support being sought by the CSA requires the contractor to have a fairly established network of contacts that includes leaders in the academic, government, industry, healthcare and public domains. The contractor will have to lead/support expert discussions during stakeholder engagement and partnership building activities in order to develop and assess the next steps to further develop elements of the astronaut healthcare vision. Dr. Thirsk's experience as an astronaut on both the Shuttle and International Space Station missions makes him a suitable spokesperson for Canada's needs in space health.

As Chair and main author of the Expert Group on the Potential Canadian Healthcare and Biomedical Roles for Deep Space Human Spaceflight (2018), Dr. Thirsk is well-positioned to expand on the outlined recommendations and to identify and analyse how to move towards implementation. His vision and background expertise will guide the CSA towards the next course of action.

In addition to his unique background as a trained medical doctor and his experience with long duration spaceflights, Dr. Thirsk has held several distinguished positions in a variety of organizations, which position him very well for this stakeholder engagement and partnership building exercise. He is currently the Chancellor of the University of Calgary and has served as the Vice-President of Public, Government and Institute Affairs with the Canadian Institutes of Health Research and as a faculty member at the International Space University in Strasbourg, France. Dr. Thirsk also participated in the Panel on the Health Risks of Spaceflight during CSA's National Forum on Space, Health and Innovation in 2017 where he shared relevant context on healthcare delivery challenges and viewpoints.

5. 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.

6. Ownership of Intellectual Property

Canada intends to retain ownership of any Foreground Intellectual Property (IP) arising out of the proposed contract where the Foreground IP consists of material subject to copyright, with the exception of computer software and all documentation pertaining to that software.

7. Period of the proposed contract or delivery date

The proposed contract is from the award date till March 31, 2020

8. Option to extend the contract period

The Contractor grants to government of Canada the irrevocable option to extend the term of this contract by one (1) period of one (1) year at the time each under the same terms and conditions. Government of Canada may exercise this option at any time by sending a notice to the Contractor at least 30 calendar days prior to the contract expiry date.

9. Cost estimate of the proposed contract

The estimated value of the contract is: \$95,000.00 (Tax included)

Base Period: \$45,500.00 (award date – March 31, 2020)

Option 1: \$49,500.00 (April 1, 2020 – March 31, 2021)

10. Name and address of the pre-identified supplier

Robert Thirsk

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 January, 31st, 2019

13. Inquiries and submission of statements of capabilities are to be directed to:

Anaïs Beaudry
Senior Contracting Officer, Procurement
Canadian Space Agency / Government of Canada
6767 route de l'aéroport
Saint-Hubert Québec
J3Y 8Y9
Phone: 450-926-4492
Fax: 450-926-4969
email: anais.beaudry-delisle@canada.ca

The Canadian Space Agency is exempt from all of Canada's national and international trade agreements.

Suppliers who consider themselves fully qualified and available to provide the services/goods described herein, 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.

The file number, the CSA contact name and the closing date of the ACAN must appear on the outside of the envelope in block letters or, in the case of a facsimile transmission, on the covering page.

The Crown retains the right to negotiate with suppliers on any procurement. Documents may be submitted in either official language of Canada.