Public Works and Government Services Canada | Travaux publics et Services gouvernementaux Canada

RETURN BIDS TO:
RETOURNER LES SOUMISSIONS À:
See herein

SOLICITATION AMENDMENT
MODIFICATION DE L'INVITATION

The referenced document is hereby revised; unless otherwise indicated, all other terms and conditions of the Solicitation remain the same.

Ce document est par la présente révisé; sauf indication contraire, les modalités de l'invitation demeurent les mêmes.

Comments - Commentaires

Vendor/Firm Name and Address
Raison sociale et adresse du fournisseur/de l'entrepreneur

Issuing Office - Bureau de distribution
Marine Emergency Response Division/Division des Interventions en cas d'urgence maritime
Centennial Towers 7th Floor - 7W11
200 Kent Street
Ottawa
Ontario
K1A0S5

Title - Sujet EREP: Ice Skimmer Package EREP: Large Offshore Ice Skimmer Package	
Solicitation No. - N° de l'invitation F7047-190147/A	**Amendment No. - N° modif.** 006
Client Reference No. - N° de référence du client F7047-190147	**Date** 2021-02-23
GETS Reference No. - N° de référence de SEAG PW-$ERD-005-28045	
File No. - N° de dossier 005erd.F7047-190147	**CCC No./N° CCC - FMS No./N° VME**

Solicitation Closes - L'invitation prend fin
at - à 02:00 PM Eastern Standard Time EST
on - le 2021-03-16 Heure Normale du l'Est HNE

F.O.B. - F.A.B.
Plant-Usine: ☐ **Destination:** ☑ **Other-Autre:** ☐

Address Enquiries to: - Adresser toutes questions à: Richards, Shazia	**Buyer Id - Id de l'acheteur** 005erd
Telephone No. - N° de téléphone (343) 553-2046 ( )	**FAX No. - N° de FAX** ( ) -

Destination - of Goods, Services, and Construction:
Destination - des biens, services et construction:

Instructions: See Herein

Instructions: Voir aux présentes

Delivery Required - Livraison exigée	**Delivery Offered - Livraison proposée**

Vendor/Firm Name and Address
Raison sociale et adresse du fournisseur/de l'entrepreneur

Telephone No. - N° de téléphone
Facsimile No. - N° de télécopieur

Name and title of person authorized to sign on behalf of Vendor/Firm (type or print)
Nom et titre de la personne autorisée à signer au nom du fournisseur/ de l'entrepreneur (taper ou écrire en caractères d'imprimerie)

Signature **Date**

Canada

Solicitation No. - N° de l'invitation	Amd. No. - N° de la modif.	Buyer ID - Id de l'acheteur
F7047-190147/A	006	005erd
Client Ref. No. - N° de réf. du client	File No. - N° du dossier	CCC No./N° CCC - FMS No./N° VME
F7047-190147		

Amendment 006

This amendment is raised to extend the bid closing date, to publish questions and answers as well as to modify the Technical Statement of Requirements (TSOR) - *see attached modified TSOR document*.

1. Modify Bid closing date

Delete: 2021-03-09 14:00 Eastern Standard Time (EST)

Insert: 2021-03-16 14:00 Eastern Standard Time (EST)

2. Publish questions and answers as well as to modify the TSOR

Question 43: Do the umbilical hoses need to be supported in order to be deployed and recovered during operation and storage?

Response 43: The Ice Skimmer Package must include any accessories or features that are necessary to deploy the skimmer head and umbilical hose from the side of a vessel or dock with the use of a single overhead crane, without causing any damage to the components of the Ice Skimmer Package and without resulting in any chaffing or kinking of the umbilical hose.

TSOR Amendment:

Insert TSOR B.1.5:*The Ice Skimmer Package must include any accessories or features that are necessary to deploy the skimmer head and umbilical hose from the side of a vessel or dock with the use of a single overhead crane, without causing any damage to the components of the Ice Skimmer Package and without resulting in any chaffing or kinking of the umbilical hose.*

Question 44: TSOR B.3.1 states that the skimmer must have a rated oil recovery capacity of at least 100 m^3/hr. The TSOR does not dictate at what viscosity this capacity is required. Is it the CCG's intent to not require any recovery rates at specific viscosities?

Response 44: As per B.3.9, testing must be performed to ASTM F631, Standard Guide for Collecting Skimming Performance Data in Controlled Environments; or ASTM F2709, Standard Test Method for Determining a Measured Nameplate Recovery Rate of Stationary Oil Skimmers. The TSOR does not require a specific oil viscosity for testing.

Question 45: In reference to the Amd 005 modification of the TBE which reads, “Please note that the bidder will still be required to demonstrate that the pump meets all requirements as stated in section B.3 of the TSOR once in contract.”, is it a requirement that the manufacturer provide a full scale pumping test demonstration to prove the capacity of 540,000 centiStokes (cSt) in viscosity over a minimum distance of 70 m at a minimum rate of 50 m3/h?

Response 45: A full scale pumping test is not required to demonstrate that the pump meets the requirements outlined in TSOR Section B.3. A mathematical analysis using existing test data should suffice to validate the requirement. Supplementary data/details to those provided with the bid may be required during requirement validation once in contract. Should the mathematical analysis not be sufficient to validate the requirement and a full scale pumping test necessary, then a task authorization will be raised once in contract.

Question 46: In the statement of work, we have a question regarding DID-SE-02 – Product Verification Plan. The “Test Items” states that all testing and inspections required in the TSOR must be carried out”. However in reviewing the TSOR, there are no specific tests or inspections outlined therein. Please define the scope and expectations for “testing”.

Response 46: As per the SOW, the Contractor must prepare a Product Verification Plan (DID-SE-02), that contains any test, demonstration, inspection, analysis or other method that will demonstrate to Canada that the Ice Skimmer Package meets all of the requirements outlined in the TSOR. No specific tests or inspections have been outlined in the TSOR. It is up to the Contractor to determine which tests are necessary to demonstrate to Canada that the Ice Skimmer Package meets all of the requirements. The Product Verification Plan is subject to Canada’s approval.

All other terms and conditions remain unchanged

Annex B

Technical Statement of Requirements

Environmental Response Equipment Modernization/Mobile Incident Command Equipment Project

Ice Skimmer Package

TECHNICAL STATEMENT OF REQUIREMENTS
TABLE OF CONTENTS

LIST OF ACRONYMS AND ABBREVIATIONS

ASME	American Society of Mechanical Engineers
ASTM	Formerly known as the American Society for Testing and Materials
BHP	Brake horsepower
CCG	Canadian Coast Guard
ConOps	Concept of Operations
DD	Two-digit day
DWL	Design waterline
ER	Environmental response
GSA	General Services Administration
IIW-ANBCC	Institute of Welding – Authorized National Body for Company Certification
ISO	International Organization for Standardization
MBS	Minimum breaking strength
MM	Two-digit month
OEM	Original equipment manufacturer
RPM	Rotations per minute
SAE	Society of Automotive Engineers
SOR	Statutory Orders and Regulations
TSOR	Technical Statement of Requirements
UHMW	Ultra-high molecular weight
US	United States
UV	Ultraviolet
WLL	Working load limit
YYYY	Four-digit year

SECTION 1 INTRODUCTION

1.1. BACKGROUND

The Canadian Coast Guard (CCG) is the lead federal agency responsible for ensuring the clean-up of all ship-source and mystery-source pollution spills into waters under Canadian jurisdiction. In fulfillment of this legislated mandate, the CCG maintains operational preparedness capacity to monitor, investigate, and respond to all reports of marine pollution incidents. The object of the Environmental Response Equipment Modernization/Mobile Incident Command Equipment (EREM/MICE) Project is to modernize CCG's response equipment inventory and supporting infrastructure.

1.2. PURPOSE

The CCG requires high capacity skimming capability to recover spilled oil in offshore, unsheltered and ice covered waters. This Technical Statement of Requirements (TSOR) defines the performance requirements and technical specifications for the provision of the Ice Skimmer, hereinafter referred to as the "Ice Skimmer Package".

The Ice Skimmer Package will consist of the following **major** components:

a. A skimmer head;
b. A hose reel;
c. A hydraulic power unit (HPU);
d. Storage container(s);
e. A steam generator;
f. One bilingual hard-copy of the Operations and Maintenance Manuals in both of Canada's official languages i.e., English and French; and
g. One bilingual hard-copy of the Equipment Instructions Illustration.

1.3. SCOPE

All requirements, specifications, and other indications in this TSOR pertaining to the Ice Skimmer Package also apply to each individual component of the Ice Skimmer Package, whether they are acquired together as a complete package, individually, or in any other combination.

1.4. DOCUMENT CONVENTION

The following conventions apply to this TSOR:

a. Dimensions stated as nominal are treated as approximate dimensions. Nominal dimensions reflect a standard whereby materials or products are generally identified for commercial sale but differ from the actual dimensions.
b. Both the metric system and the imperial system of measurements may be indicated in this TSOR. Conversions from one system of measurement to the other may not be exact.

1.5. DEFINITIONS

The following definitions apply to this TSOR:

Terminology	Definition
Accessible	Capable of being reached for use, inspection, and maintenance without the removal of permanent structural elements.
Equivalent	A standard, means, or component type, which Canada has approved for this requirement as meeting the specified requirements for fit and function.
Fully Operational	A quality of readiness whereby an item has been specifically designed to function or perform in the stated environmental condition(s).
Long-Term Storage	The storage of all listed components for a period of 30 consecutive days or longer in the specified conditions.
Marine-Grade	A quality of a product specifically formulated or treated to withstand use at sea.
Off-the-Shelf	Standard articles and materials that are ordinarily produced by manufacturers in the normal course of business.
Provided	The element in question must be delivered, installed, and integrated in a fully operational state.
Recovery Efficiency	Ratio, expressed as a percentage, of the volume of oil recovered to the volume of total fluids recovered.
Safety Factor	Number of times that a load can be increased before failure occurs.

SECTION 2 REFERENCE DOCUMENTATION

2.1. APPLICABLE STANDARDS AND REGULATIONS

The Ice Skimmer Package must conform to all applicable laws, regulations, and industrial standards governing manufacture, safety, noise levels, and pollution in effect in Canada at the time of manufacture. International equivalent laws, regulations, and industrial standards will be accepted only if certified for equivalency by a Professional Engineer.

The following standards and specifications apply to the Ice Skimmer Package:

- ASTM F625/F625M-94: Standard Practice for Classifying Water Bodies for Spill Control Systems.
- ISO 2230: Rubber Products – Guidelines for Storage
- ASTM F631-15: Standard Guide for Collecting Skimming Performance Data in Controlled Environments
- ASTM F2709-15: Standard Test Method for Determining a Measured Nameplate Recovery Rate of Stationary Oil Skimmers
- ASTM F962-04: Standard Specification for Oil Spill Response Boom Connection: Z-Connector
- SOR/2005-3: Off-Road Compression-Ignition Engine Emission Regulations
- ISO 668: Series 1 freight containers – Classification, dimensions and ratings
- ISO 1496-1: Series 1 freight containers - Specification and testing – Part 1: General cargo containers for general purposes
- ISO 7010: Graphical symbols – Safety colours and safety signs – Registered safety signs

2.2. Reference Documentation Version

Unless otherwise specified by Canada, any amendment issued to the documents specified in section **Error! Reference source not found.** must reflect the version in effect on the date of Contract Award.

2.3. Order of Precedence

In the event of a discrepancy between this TSOR and the documents referenced herein, the Contractor must adhere to the following order of precedence:

a) Canadian Regulations;

b) This TSOR; and

c) Industry and other applicable standards and specifications.

SECTION 3 ICE SKIMMER PACKAGE REQUIREMENTS

3.1. Design Overview

3.1.1. General Considerations

3.1.1.1. The Ice Skimmer Packages must be delivered complete, tested, and ready to use.

3.1.1.2. The selection of equipment, fittings, fasteners, hardware, attachments, and fabrication methods used in all Ice Skimmer Packages must be standardized to minimize the number of unique spares. Identical components must be used in all Ice Skimmer Packages, following Canada's design acceptance.

3.1.1.3. All equipment must be installed per the OEM installation recommendations.

3.2. Operational Requirements

The Ice Skimmer Package must meet the following operational requirements:

A.1	The Ice Skimmer Package must be fully operational in air temperatures ranging from -20°C to +40°C and when subjected to rain, sleet, snow, and ocean spray during transportation, operational deployment, and storage.
A.2	The Ice Skimmer Package must be deployable in water temperatures ranging from -2°C to +25°C in both fresh water and salt water environments.
A.3	The Ice Skimmer Package must be fully functional after being stored for extended periods of time in environments with an ambient air temperature ranging from -40°C to +40°C.
A.4	The Ice Skimmer Package must be fully operational in artic waters with up to 70% ice coverage for both floating ice and slush ice.
A.5	The Ice Skimmer Package must be fully deployable and operational in waters classified as Type III-Open Water in ASTM F625/F625M-94 (2017), Standard Practice for Classifying Water Bodies for Spill Control Systems. Type III-Open Waters are equivalent to wave heights ≤ 2 metres (m) or Beaufort Force 4 sea conditions.
A.6	The Ice Skimmer Package must be deployable, operable and retrievable by a maximum of 2 personnel, with the assistance of a crane or a davit.
A.7	The Ice Skimmer must be operable by a remote control stand or by tethered control up to 20 ft.
A.8	The Ice Skimmer must be deployable and retrievable from a ship deck or dock with a freeboard of up to 5 m.

Ice Skimmer Requirements

3.2.1. Ice Skimmer

The Ice Skimmer Package must meet the following requirements:

B.1 General Requirements

B.1.1	The Ice Skimmer Package must have a shelf life/storage life, under controlled storage conditions, of at least twenty (20) years.
B.1.2	All components of the Ice Skimmer Package that will go into the water during the course of normal operations must be abrasion resistant to prevent damage from floating debris or ice. All components of the Ice Skimmer Package must be of durable and robust construction.
B.1.3	All components of the Ice Skimmer Package must be provided with a means of rapid and simple shut down in emergency situations.
B.1.4	The minimum safety factor of all hoisting points (and the adjacent support structure) must be at least 6-to-1; i.e., the ratio of the minimum breaking strength (MBS) to the working load limit (WLL). Design calculations supporting the safety factor of all hoisting points must be certified by a licensed engineer as per DID-SE-01, Detailed Design Package.
B.1.5	The Ice Skimmer Package must include any accessories or features that are necessary to deploy the skimmer head and umbilical from the side of a vessel or dock with the use of a single overhead crane, without causing any damage to the components of the Ice Skimmer Package and without resulting in any chaffing or kinking of the umbilical hose.

B.2 Identification and Markings

B.2.1	The vendor must provide a unique product identifier for each component of the Ice Skimmer Package. The product identifier must comply with the following format: ABCD-DD-MM-YYYY-Manufacturer's Serial #. Proposed product identifier is subject to Canada's acceptance.
B.2.2	Label plates in both Canadian English and French must be used to identify each control, switch, gauge, and display. Label plates must also be used to indicate safe working limits, maximum capacities, and masses of equipment.
B.2.3	Label plates must be manufactured to last a minimum of 20 years under typical use.
B.2.4	The Ice Skimmer Package must indicate all hazards with both Canadian English and French warning labels or clear graphical symbols per ISO 7010, Graphical symbols – Safety colours and safety signs – Registered safety signs.
B.2.5	The Ice Skimmer Package must include an Equipment Instruction Illustration as per DID-TM-04, Equipment Instruction Illustration.
B.2.6	The content and arrangement of all label plates and of the Equipment Instruction Illustration must be approved by Canada prior to installation.

B.3 Skimmer Head

B.3.1	The Ice Skimmer must have a rated oil recovery capacity of at least 100 cubic meters per hour (m^3/h).
B.3.2	The Ice Skimmer head's primary oil recovery mechanism must be, at a minimum, capable of recovering oils and bitumen of at least 540 000 centistokes (cSt).
B.3.3	The Ice Skimmer must incorporate features to protect the oil collection mechanism from floating ice and debris and to prevent collection of floating ice and debris by the skimmer head.
B.3.4	The body of the Ice Skimmer head must be constructed of a light-weight corrosion resistant material.
B.3.5	The Ice Skimmer head must incorporate floatation elements to allow for operation while free floating. The Ice Skimmer must be capable of operating up to a 70 m hose-length from the deployment vessel. The floatation elements must be designed to minimize the footprint of the skimmer head in the water.
B.3.6	The Ice Skimmer head must be capable of maintaining buoyancy should any or all floatation element(s) be breached.
B.3.7	The Ice Skimmer head must incorporate a pump that: a) Has steam and hot water injection capabilities; b) Can pump oil and bitumen of at least 540,000 cSt a distance of 70 metres (m) at a minimum rate of 50 m^3/hour; c) Does not create an oil-water emulsion during pumping; and d) Allows for annular water injection at the discharge side of the pump.
B.3.8	The Ice Skimmer head recovery efficiency must be at least 90% when operating at full capacity for each of the following oil types: a) Light oil, such as diesel or jet fuel; b) Medium oil, such as lube or fresh crude oil; and c) Heavy oil such as bunker C and bitumen.
B.3.9	All oil recovery performance data must be collected in accordance with the general procedure defined in ASTM F631-15, Standard Guide for Collecting Skimming Performance Data in Controlled Environments; or the test protocol defined in ASTM F2709-15, Standard Test Method for Determining a Measured Nameplate Recovery Rate of Stationary Oil Skimmers.
B.3.10	All oil recovery performance data must be collected or verified by one of the following entities: a) A classification society, such as Det Norske, Veritas, American Bureau Standards, Bureau Veritas, or Lloyd's Register; b) An independent laboratory; or c) An independent test facility, such as Ohmsett.
B.3.11	Should any boom connector be incorporated into the Ice Skimmer Package design, it must be capable of interfacing with the containment boom connector defined in ASTM F962-04 (2010), Standard Specification for Oil Spill Response Boom Connection: Z-Connector. The following exceptions apply to this Standard: a) Toggle pin holes must be located 4.5 inches above and below the design waterline (DWL); and b) The toggle pin hole diameter must be 13/32 inches.

B.4 Hydraulic Power Unit

B.4.1	The Ice Skimmer Package hydraulic power unit must be designed to connect to and provide the hydraulic needs of all the components of the Ice Skimmer Package.
B.4.2	The hydraulic power unit must be sized to provide all the required hydraulic pressure and volume without being at its maximum output.
B.4.3	The power supply of the hydraulic power unit must be diesel and must satisfy the Tier 4 emission standards referenced in SOR/2005-32, Off-Road Compression-Ignition Engine Emission Regulations.

B.5 Hose Assemblies

B.5.1	All hydraulic hose assemblies required to operate all the components of the Ice Skimmer Package must be included in the package. Hoses must be at least 70 m in length as per B.3.5.
B.5.2	All oil transfer hose assemblies required for the operation of the Ice Skimmer Package must be included in the package. Hoses must be at least 70 m in length as per B.3.5.
B.5.3	The minimum rated pressure of all fitted, flexible hose assemblies must exceed the working pressure that they may be subjected to while in service. All hose assemblies must be static pressure tested at 1.5 times their rated working pressure for a minimum of 1 hour to confirm no leakage.
B.5.4	All hose assemblies that connect to the Ice Skimmer head must be integrated together into a sealed umbilical hose.
B.5.5	The umbilical hose must be self-floating and capable of maintaining buoyancy during skimmer head deployment, including when the oil transfer hoses are full.
B.5.6	Hoses of at least 10 m in length must be provided for all connections between the HPU, the steam generator, the hose reel and the umbilical to allow for positioning of the units on a ship deck.

B.6 Accessory Units

B.6.1	One hydraulically powered reel must be supplied to hold, deploy and recover the umbilical hose during operation and storage. The reel must allow for the skimmer to operate and collect oil while the hose is still on the reel and the hose reel is rotating.
B.6.2	The hydraulically powered reel must be on a slue (or swivel) gear to allow reel to turn for alignment of the umbilical hose during deployment and recovery operations.
B.6.3	One diesel-powered steam generator must be supplied as part of the Ice Skimmer Package. The steam generator must be sized to produce the amount of steam/hot water required by the Ice Skimmer Package for operation.
B.6.4	The steam generator must be capable of producing steam from both salt water and fresh water during operation.
B.6.5	All hoses, cables and parts necessary to use the hydraulic reel and the steam generator in conjunction with the other components of the Ice Skimmer Package must be supplied.

B.7 Storage Container

B.7.1	All Ice Skimmer Package components must be stored in 10 foot ISO containers that adhere to the dimensions of a 1D container as specified in ISO 668 : Series 1 freight containers – Classification, dimensions and ratings. Should the Ice Skimmer components not fit in one 10 foot ISO container, then multiple 10’ ISO containers must be provided to hold all the components.
B.7.2	The open top ISO containers must follow the requirements defined in ISO 1496-1 : Series 1 freight containers - Specification and testing – Part 1: General cargo containers for general purposes.
B.7.3	All provided ISO containers must be supplied with a completely removable hard top that can be locked into the container. The removable top must have evenly spaced, non-protruding lifting point, to allow for removal by crane.

B.8 Hoisting Slings and Hardware

B.8.1	The hoisting slings must be provided with all the necessary hardware and components required to lift a full Ice Skimmer Package storage container with the use of an overhead crane.
B.8.2	The hoisting slings and provided hardware must be capable of lifting an Ice Skimmer Package container when full.
B.8.3	Each supplied sling must be permanently marked with the following: a) a unique identifier; b) the WLL; c) the sling length d) the sling material; e) the manufacturer;

	f) the date of manufacture

FABRICATION REQUIREMENTS

The Ice Skimmer Package must meet the following fabrication requirements:

C.1	The Ice Skimmer Package must be constructed and finished with a high degree of workmanship, where surfaces are free from blemishes, burrs, defects, irregularities, sharp edges, and other conditions that would be deleterious to the finished component.
C.2	Parts must be properly aligned to preclude any binding and deformation as a result of assembly or operation.
C.3	All equipment subject to freezing temperatures must be kept drained, except during testing and commissioning.
C.4	All parts and equipment must be kept clean and protected against dust, moisture, rapid temperature changes, and foreign matter during manufacture, storage, pre-installation staging, assembly, installation, and post installation.
C.5	All materials used in fabrication must be new, unused and free from defects and imperfection that might affect the serviceability of the finished product; resist corrosion and wear under the environmental conditions specified; and sized or selected to satisfy all the performance requirements specified.
C.6	All synthetic polymers subjected to sunlight must be treated to protect against ultraviolet (UV) degradation, embrittlement, and mold.
C.7	All elastomeric materials in unassembled components and assemblies must contain at least 90% of the initial storage period (as recommended in ISO 2230:2002, Rubber Products – Guidelines for Storage) at the date of delivery to Canada.
C.8	Direct contact between dissimilar metals expected to cause galvanic corrosion must be avoided. If such contact cannot be avoided, an insulating material must be installed between the dissimilar metals to minimize the corrosive effect. The Contractor may propose alternate methods to minimize galvanic corrosion for consideration by Canada.