

STATEMENT OF REQUIREMENT -TERMS OF REFERENCE
REPLACEMENT OF MARINE EVACUATION SYSTEM
ABOARD OF THE VESSEL MADELEINE



GRUPE CTMA | MADELEINE

For



Transport
Canada

Transports
Canada

Canada

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1 Background

1.1 Mandate

The roll-on/roll-off (RoRo) passenger vessel C.T.M.A. Madeleine, owned by Transport Canada (TC) is in need of replacement of its Marine Evacuation Systems (MES). The vessel is currently fitted with MES systems which, although compliant with the applicable regulations and requirements, are approaching the end of their service life. This vessel is operated by a third party under charter party agreements (C.T.M.A).

1.2 Madeleine Marine Evacuation System Replacement

The Madeleine, operated by Coopérative de Transport Maritime & Aérien (CTMA), provides service between Cap-aux-Meules, Iles de la Madeleine, Québec and Souris, Prince Edward Island. The ship operates April to mid-January each year depending on ice conditions. The vessel is 'in-class' and delegated to Lloyd's Register.

The Madeleine is certified to carry 750 passengers and 50 crew members, or 768 passengers and 32 crew members, for a total complement of 800 persons. The ship sails between Cap-aux-Meules (Québec) and Souris, Prince-Edward-Island. According to Canadian marine classification, this vessel is classified under Home Trade Class II. Therefore as per the C1436 Life Saving Equipment Regulation, this ship is a Class II Ship.

The Marine Evacuation Systems that need to be replaced each comprise the two chutes and the sixteen (16) life rafts and associated cradles. The eight (8) life rafts (25 persons) and davits installed on the aft end of the vessel will remain on board and not be replaced. The actual rescue boats are to be kept and the new supplied MES system associated rafts must be towable by the actual rescue boats now fitted.

1.2.1 Vessel's Particulars

| | |
|-----------------------------------------|------------------------------------------|
| Official/ IMO Number | 820241 / 7915228 |
| Service | Iles-de-la-Madeleine, QC to Souris PEI |
| Operator | CTMA |
| Period of Operation | 10-month service (April – January) |
| Length of Crossing | 146 km |
| Capacity | |
| • Persons | 800 |
| • Passengers | 750 |
| • Automobiles | 200 |
| • Tractor -Trailers | 25 |
| Car Decks | 3 |
| Year Built | 1981 |
| Gross Tonnage | 10024 tons |
| Net Tonnage | 3007 tons |
| Length Overall: | 116.24 m |
| Breadth | 18.51 m |
| Draft Maximum: | 4.995 m |
| Depth | 12.55 m |
| Fuel Type and Quantity | Diesel – 5,213,062 litres |
| <i>Life Saving Information :</i> | |
| Passengers | 750 or 768 |
| Crews | 50 or 32 |
| Complement | 800 |
| Class of Voyage | Near Coastal 1, limited to Home Trade II |
| <i>MES System:</i> | DBC MSS Type 1, 14679 C/W one platform |

| | |
|--------------------------|---------------------------------------------------------------------------------------|
| Weight | Approx. 1400 kg |
| Chute system | Single |
| Capacity | 400 in 30 minutes (each MES) |
| MES rafts | None |
| Freeboard height | 13.44 meters |
| Life rafts | 8 X 50 persons DBC (per side) |
| Life rafts (under davit) | 8 X 25 persons (not incl. in total count for 1 |
| <i>Rescue Boat:</i> | 2 of |
| Type | Hurricane 533 FRC, C/W Yamaha outboard |
| Capacity | 6 persons each |
| Life Jackets | Lalizas, Type 70178 Advanced Adult Lifejacket Mustang, Models 8000 and 8005 |

2 General information

2.1 Purpose

The purpose of this Statement of Requirements is to solicit an organization (Contractor and/or Supplier) specializing in Marine Evacuation Systems & steelwork to supply, install and commission the necessary equipment aboard the Madeleine. As this SOR will be a complete package, detailing specifications and necessary drawings, it will then be considered a “turnkey” solution. It is understood that the Contractor will be in charge of the contract, and will purchase, install and test the complete MES and life raft systems. The Supplier will supply the lifesaving equipment, and also supply the Original Equipment Manufacturer (OEM) Field Service Representative (FSR) for installation supervision and final testing of the units, in presence of a Lloyd’s Register (LR) Surveyor.

The successful Contractor/Supplier is responsible for all material and work required in completing the procurement and installation including, all travel and living expenses. Any sub contract work required to complete the installation will be the sole responsibility of the Contractor. The vessel will be docked at its respective home wharf, in Cap-aux-Meules, Iles-de-la-Madeleine during installation phase, from February 1st to March 23rd, 2018.

The successful contractor will be required to remove the old MES systems and associated life rafts aboard the vessel and replace them with new modern State of the Art systems/equipment, well adapted to the vessel.

The successful contractor is responsible for the supply and delivery of the new systems (MES and life rafts) to Cap-Aux-Meules, QC including any and all transportation, duties and taxes. Old systems will be handed over to the Owner for disposal. The work will consist of the supply, installation and testing of the new replacement MES systems and accessory equipment.

The successful contractor is responsible to ensure that all of the supplied equipment is approved by a Class Society acting as a Recognized Organization (RO) for Transport Canada Marine Safety and Security (TCMSS) and accepted by Lloyd’s Register. The MES and all supplied equipment should meet the requirements of section 4 of this Statement of work.

An optional site visit will be possible for the interested bidders to determine all specificities of the vessels’ muster stations and safety arrangements. Space allotted for muster station and area for new MES installation is already determined, and all new equipment will need to be installed respecting the actual boundaries. Spaces under the deck on which MES and life rafts will be installed are passenger lounges, and extra care must be taken by Contractor to perform work in such a manner that integrity of deck head is not affected, and that hot work is well contained and inspected. Lounges to be left in same state as at beginning

of work on board. The date of the visit and location of vessel will be determined before contract award, so as to permit any potential Contractor/Supplier to board vessel.

The proposed MES must currently be in marine service and must have Original Equipment Manufacturer (OEM) representation in Canada. The manufacturer's appointed service organization must hold a stock of essential spares and be capable of providing qualified field service representatives (FSRs), thorough component documentation support, with the capability to provide technical support for standard overhaul as well as repair. The service organization must be capable of delivering these services and parts to Madeleine Islands, QC, as well as all major shipyards located on the eastern seaboard of Canada.

2.2 Bid Submission Package

The bidder shall endeavor to include within the bid submission package a completed reference document entitled "Requirements Reference Section" which will serve to indicate the page and paragraph number within the bid submission package where the requirements stated within this specification are met. A copy of the template for this document is included in the solicitation documents.

The bidder must supply one copy of each of the following:

Technical data listed in Part 3 of this SOR.

Regulatory Compliance documentation with reference to Part 4 of this SOR.

Manufacturers published maintenance schedule for the equipment comprising the proposed marine evacuation systems.

Manufacturers published sales, technical specifications and detailed launching instructions for the proposed equipment.

Confirmation Installation and testing will be required to be supervised by an Original Equipment Manufacturer (OEM) trained Field Service Representative (FSR).

OEM field service rates (current) for annual inspection and rates for deployment, re-packing and re-certification. The cost of the annual rates and one deployment and re-certification following deployment shall be itemized separately and included in the bid. Note the cost of transportation and travel is excluded.

3 Description of Work

3.1 Equipment to be removed

The two (2) existing MES systems, cables, bowing winches, wires and pulleys, located on boat deck, port and starboard (approx. frame 66) are to be removed and deposited on wharf. They will be suitably packaged for future transportation to be disposed of by the Client (*see figure 1*). The chute systems (*see figure 2*) are welded to deck on 4 doubler plates, matching the MES footprint. Bowing winches (2 of) are also welded to boat deck next to MES systems, as well as numerous pulleys and fixed attachment points on the hull, on each side of the vessel (*see figure 3*). The actual DBC MES system has no electrical or hydraulic/pneumatic release systems installed. The compartments under the boat deck are passenger lounges, and deck heads are thermally insulated. Extra care will be taken by Contractor to protect furniture and carpets, dismantle ceiling, remove thermal insulation, proceed with hot work, and reinstall all removed material at the end of the planned work.



Figure 1: Starboard MES, on boat deck



Figure 2: chute, with inboard door open



Figure 3: bowing winch with vertical & horizontal pulleys

The sixteen (16) existing DBC life rafts, located on each side of MES systems on Navigating deck, 8 on port and 8 on starboard, are to be removed by the Contractor. They shall be suitably packaged for future transportation and disposed of by the Client. All 4 existing launching racks to be removed by the Contractor and disposed of by the Client. These racks are also welded to decks, via 4 square channels (2 on boat deck and 2 on navigating deck) and 4 doubler plates/stands (*see figure 4*). There is always a chance that the life raft racks could be re-utilized with the new MES purchased by the Contractor. This option to be reviewed by the Contractor. If Contractor wishes to re-use the existing life raft racks, they will be responsible for assuring that installation meets the requirements of the MES and this specification. Railings will also need to be modified to fit new racks and life rafts.



Figure 4: Starboard life raft rack, with 4 X 50 person's rafts

3.2 Equipment to be installed/modified

The Contractor will need to install the two MES systems (Open Deck installation) that will be purchased via this Statement of Requirements. In section 1.2.1, information on the existing lifesaving equipment is included. Equipment to be installed:

- Two (2) Class approved MES systems (chutes or slides), in same area as existing MES systems for a total complement capacity of 800 persons, 400 each side (the 25% extra capacity is accommodated by the existing 8 x 25 persons davit launched life rafts).
- Bowsing pulleys, cables, bowsing line stowage profiles and hard points to suit new equipment
- Life rafts and launching racks to match the vessel's required complement per side. All supplied equipment should meet the requirements of LSA Code and the standards as per section 4 of this specification.
- Modification of railings surrounding MES systems and life raft launching devices
- Stainless steel pipe work for release system (if needed).
- Local release & control stations for MES
- Manufacturer's Factory Trained FSR to be on site and installation to meet all Manufacturer's requirements.
- Any replacement and/or disturbed steel work to be Coated as per section 4.2 of this document immediately upon completion of work.

- Contractor is responsible to supply any plans required to be approved by Lloyd's Register for the installation including organizing and payment of LR services. Electronic copies of approved drawings including any approval documentation shall be provided to TC.

3.2.1 Functionalities of new MES systems and accessories

- The MES installed must be able to evacuate at minimum the required complement of 800 persons within 30 minutes
- The MES shall utilize a slide or helical slide chute method with dual slides or chutes (each unit)
- All supplied life rafts to be enclosed (canopied) and self-righting with B Packs. Rafts included are:
 - rafts part of MES
 - and extra throw over (link) rafts
- Size of new MES must be similar to old model, as deck area needs to be similar. . Approximate dimensions of old MES: 1.63 m long X 1.5 m wide X 2.23 m high, weight: 1400 kg,
- Freeboard height of vessel is 13.44 meters, in lightest Seagoing Condition
- Total (MES & link) number of proposed life rafts to be 10 or less (maximum five (5) life rafts per side)
- MES system shall be capable of being deployed from the ship under unfavourable conditions of trim up to 10 degrees and list up to 20 degrees either way.
- The MES descend slide or chute must be deployed with a minimum of one self-righting canopied life raft connected integral to the system.
- The MES system must be compatible with the lifejackets presently fitted on the vessel, see section 1.2.1. This information shall be confirmed in the bid package.

4 General Requirements and Standards

4.1 The Contractor should assure that all following issues are dealt with and upheld:

- 1) All the following work specified herein and all repairs, inspections and renewals shall be completed to the satisfaction of TC Technical Authority and LR. LR will perform the surveys for compliance with TCMSS requirements and the delegated RO. Upon completion of each item of the SOR, TC shall be so notified so that he may inspect the work prior to final closing up and after complete closing up. Failure to give notification does not absolve Contractor of the responsibility of providing TC the opportunity to inspect any item.
- 2) Any item of work involving the use of heat in its execution requires that Contractor advises Technical Authority prior to starting such heating and upon its completion. Contractor shall be responsible for maintaining a competent and properly equipped fire watch during and for one full hour after all hot work. The fire watch shall be arranged such that all sides of surfaces being worked on are visible and accessible. Contractor shall provide sufficient suitable fire extinguishers and a fire watch during any such heating and until work has been cooled. Ship's extinguishers are not to be used except in an emergency. Contractor shall be responsible to ensure that Contractor's personnel including all subcontractors shall follow the policy.
- 3) Contractor to include in quote the costs of any and all transportation, staging, rigging, slinging, crane service, removals, and installations of parts and equipment such as may be required to carry out work. It is to be noted that vessel will be docked in home port during MES installation. Therefore, Contractor to provide appropriate crane service to remove old and install new MES systems, as one will be installed alongside (next to wharf), and the other unit outboard. Vessel is 18.5 meters wide.
- 4) Any piping, manholes, parts and/or equipment requiring removal to carry out specified work and/or to gain access shall be replaced upon completion with new jointing, nuts, bolts, anti-seize compound, clamps and brackets as applicable (Contractor supply), and secured in original condition. Any removals shall be jointly inspected by both Contractor and TC prior to removal.
- 5) Contractor to ensure that all spaces, compartments, and areas of the ship, both internal and external, are left in as clean a condition as found. The cost of removing dirt, debris, and associated material shall be included in the quote on each item of this specification.
- 6) Contractor to supply TC with marine chemist's certificates before any cleaning, painting or hot work is commenced in confined spaces or machinery compartments. Certificates shall clearly state the type of work permitted, and shall be renewed as required by the regulations.

- 7) Whenever any work is being carried out involving a ship's firefighting or fire detecting system, it shall be done in such a way as to leave the vessel and any persons aboard with adequate protection against fire at all times. This may be so accomplished by removal or disarming of only a portion of the system at a time, by replacement with spares while work is in progress or by other reasonable means acceptable to the Technical Authority.
- 8) All materials, unless otherwise specified, shall be supplied by Contractor. Where a particular item is specified, or where substitution must be made, the Technical Authority must approve all material offered.
- 9) Contractor to be responsible for calling in the services of Lloyd's Register, when and as required for survey and inspection as well as payment of such services.
- 10) Contractor shall use fully qualified, certified and competent tradesmen and supervision to ensure a uniform and high level of workmanship as judged by normally accepted shipbuilding standards to the Technical Authority's satisfaction.
- 11) The installation of all MES systems and equipment specified herein shall be as per the Manufacturers' applicable instructions, drawings and specifications.
- 12) Contractor shall provide adequate temporary protection for any equipment or areas affected by this supply/installation. Contractor shall take proper precautions to maintain in a proper state of preservation any machinery, equipment, fittings, stores or items of outfit which might become damaged by exposure, movement of materials, paint, sand grit or shot blasting, welding, airborne particles from sand grit or shot blasting, grinding, burning, gouging, painting or airborne particles of paint. Any damage shall be the responsibility of Contractor.

4.2 Regulatory, Classification and Standard Requirements

- 1) The Marine Evacuation Systems (MES) are required to be 'Type Approved' by one of the Recognized Organizations (RO) approved by Transport Canada Marine Safety and Security within the Delegated Statutory Inspection Program (DSIP) and accepted by Lloyd's Register.
- 2) The vessel Madeleine is 'in-Class' with Lloyd's Register and delegated under Transport Canada Marine Safety and Security's (TCMSS) Delegated Statutory Inspection Program (DSIP). All work must meet the requirements of Lloyd's Register and TCMSS including plan review, onsite inspections and testing as required.
- 3) The requirements of the following standards must be complied with in supplying and installing the MES. Current editions of documents at the time of solicitation are to be used.
 - a) IMO International Convention for the Safety of Life at Sea (SOLAS)
 - b) IMO Life Saving Appliances (LSA) Code, including the latest Recommendations of the Code. In particular Resolution MSC.81(70): International Marine Organization

Resolution MSC.81(70) entitled *Revised Recommendation on Testing of Life-Saving Appliances* and appendices, as amended.

- c) Rules and Regulations for the Classification of Ships (Lloyds Register).
 - d) Canada Shipping Act, 2001 (CSA 2001)
 - 1. Life Saving Equipment Regulations
 - 2. Marine Machinery Regulations
 - 3. Hull Construction Regulations
 - 4. Vessel Pollution and Dangerous Chemicals Regulations
 - e) Transport Canada Publications
 - 5. TP127 – Ships Electrical Standards
 - 6. TP14475 – Canadian Life Saving Appliance Standard
 - 7. TP 14612 - Approval Procedures for Life Saving Equipment and Structural Fire Protection Products
 - f) All paint and primer applied as part of this specification shall be International Paints applied as per paint manufacturers requirements;
 - 1. Primer ‘Intershield 300’ (two coats) applied DFT of 6 mils (per coat)
 - 2. Top coat ‘Interlac 665’ (two coats) applied DFT of 3 mils (per coat)
 - g) All new steel shall be Classification Grade “A” steel, CSA 44W or equivalent as per LR requirements.
- 4 All electrical installations or renewals shall be in accordance with the latest editions of the following Marine Standards:
- a) TP 127 – Ship Safety Electrical Standards
 - b) IEEE Standard 45 – Recommended Practice for Electrical Installation on Shipboard
- 5 Contractor must ensure that welding is performed by a welder certified by the Canadian Welding Bureau (CWB) in accordance with the requirements of the following Canadian Standards Association (CSA) standards:
- a) CSA W47.1, Certification for Companies for Fusion Welding of Steel Structures (Minimum division level 2.0); and
 - b) CSA W47.2-M1987 (R2003), Certification for Companies for Fusion Welding of Aluminum (Minimum division level 2.1).

- 6 All materials supplied and work carried out by Contractor shall be adequate to meet the following service conditions:
- a) outside air temperature of minus (-) 30^o C to plus (+) 35^o C;
 - b) wind velocity of 50 knots;
 - c) water temperature of minus (-) 2^o C to plus (+) 30^o C;
 - d) Shock loading of 2.5g horizontal, 1.5g vertical.

5 Experience

The Contractor's professional experience, expertise and qualifications are the key to a successful outcome. As such, the Contractor/Supplier shall have previous experience in the procurement and installation of similar lifesaving systems on board vessels of comparable size and complexity as the CTMA Madeleine. The Contractor/Supplier shall also have to verify the availability of qualified personnel/resources in Eastern Canada/Iles-de-la-Madeleine/Québec to provide warranty, maintenance and repair services for the future.

6 Work Plan

The contractor's professional experience and expertise are to be used to develop a work plan of sufficient detail to provide a clear indication of the time and schedule required to undertake the procurement, installation and commissioning of the new MES system, while allowing for the removal of old system. The proposed work plan must be included in the bid/proposal and must identify the team members with accompanying resumes, supplemented by an organizational chart explaining the roles of each.

7 Supplied info + Drawings

The following documentation will be supplied to the bidders:

- See plans listed as per Annex A

8 Responsibilities of Contractor and TC

The Contractor will be responsible for all work produced under the contract, including completeness, accuracy and adherence to all relevant safety & environmental regulations, rules and good practices. The Contractor is to be responsible for obtaining and maintaining any hot work certificates that are required to complete the installation work. The Contractor shall be responsible for arranging and funding the approvals and visits of LR surveyor's during fabrication, installation and testing.

The Contractor is responsible to ensure that any cabling or cable penetrations of watertight/fire bulkheads is to be completed such that it complies with all applicable TC and LRS standards and regulations for this class of vessel.

The Contractor is to ensure that all components of the supplied systems and associated wiring, connections and associated components are approved by a Class Society acting as a Recognized Organization (RO) for TCMSS and accepted by Lloyd's Register. Additionally the MES should meet the LSA Code and be certified for use in Canada as per TP14612 and TP14475, as well as meeting the Life Saving Equipment Regulations. The work is to be completed to a standard that complies with LRS and TC requirements.

The Contractor is responsible for all costs relating to the certification of the system and the witnessing of the Factory Acceptance Testing by Class. This includes the deployment of one MES system during initial acceptance testing, at the Client's wharf. Installation will be performed during the winter period (before March 23rd, 2018). It will be mandatory that Field Service Representative (FSR) be present during installation and testing phases, including time and travel + incidental expenses. It will also be imperative that tested MES be repacked and re-installed aboard the vessel before this date. The installation tests shall be completed in accordance with the requirements of the LSA Code, 'Testing and Evaluation Procedures', Part 2 as applicable shall be performed; In particular the Installation test for Marine Evacuation Systems, section 7, as applicable.

The FSR will also provide training for both crews during this period.

All travel-related costs will be borne by the Contractor, and included in the bid price (including optional site visit and all FSR expenses).

The Contractor must maintain an electronic library of the work in progress and delivered items. The contractor is to supply to TC a copy of the Class Compliance Certificate from LRS for the MES and life rafts. The Contractor is to supply to TC a copy of the Factory Acceptance Test Certificate (or type approved) for the equipment.

Project Management, The contractor shall provide a schedule and Gantt chart (or similar) for the planned work period and maintain the chart as any alterations to the schedule are required. The contractor

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shall be responsible for organizing weekly meetings (or conference calls) and must maintain summary minutes as well as history of all action items and submit it to the Technical Authority.

All other work will be conducted on-site (e.g. at the Contractor's place of business); TC will not provide office space/work accommodations for the Contractor.

After a contract award, the Government of Canada will not consider any requests to amend the contract basis of payment to allow the Contractor to recover any costs associated with a change in the location where the required services are provided.

The supply and installation of the MES systems are to be completed while the vessel is in winter layup, during the period of February 1st, 2018 – March 23rd, 2018 at Cap-aux-Meules, Iles-de-la-Madeleine. The location of the vessel will be confirmed prior to contract award.

The Contractor's responsibilities would also include those set out below:

- o Preliminary vacuum test of release system (if needed).
- o Installation of MES deck housings to vessel.
- o All finished painting.
- o Assistance from Contractor personnel as and when required during installation, testing and commissioning schedule.
- o All transportation & crane services required during contract work period.
- o All persons required for any manned evacuation trial
- o Insurance for non-supplier personnel participating in test.
- o Diver to recover life raft containers during harbour acceptance test.
- o Clean & dry area for recovery of deployed equipment
- o Fresh water supply for washing down recovered equipment
- o Transportation to and from the authorised MES service station.
- o Access to office facilities for FSR and TC Technical Authority
- o Liaison with TC & Class
- o Safe and secure storage of goods prior to installation

TC will be responsible of disposal of old MES systems and life rafts.

TC will be responsible of supplying inspection services as Technical Authority.

9 Imposed Constraints

Decisions concerning the revision or definition of key search criteria, as well as contractual obligations and requirements, are excluded from the contractor's services. Contractor personnel must limit themselves to provide comments and recommendations only to the Technical Authority on these issues.

The personnel of the Contractor providing the services must be independent of direct control by servants of Canada are not in any respect employees or servants of Canada.

During the performance of the contract, the Contractor and the Contractor's personnel must not direct any departmental organization, or any personnel of any third parties with whom Canada has or intends to contract, to perform any action.

All drawings, reports, data, documents or materials, provided to the Contractor by the Government of Canada remain the property of Canada and will be used solely in support of this requirement. The Contractor is required to safeguard the preceding information and materials from unauthorized use and must not release them to any third party, person or agency without the express written permission of the Technical Authority. Such information and material must be returned to the Technical Authority upon completion of the services or when requested by the Technical Authority.

All correspondence, either initiated by the Contractor personnel or by any section of TC, must be submitted to the Technical Authority. Correspondence is defined as records of conversations or decisions as well as any written correspondence in any format.

The Technical Authority or other authorized departmental government representative must have access at all times to the work that is being performed.

The Contractor must ensure that their personnel do not use Government of Canada or TC designations, logos or insignia on any business cards, cubicle/office signs or written/electronic correspondence that in any manner lead others to perceive contracted personnel as being an employee of Government of Canada.

10 Deliverables

The deliverables must be in the form of services provided to the Technical Authority in accordance with the assessment and the products generated thereof.

A meeting will be arranged at the Contractor's place of work, or via teleconference with the Technical Authority to discuss the project and deliverables. The Contractor will need to supply to the Client the following:

Before ordering MES equipment and life rafts

- Conceptual arrangement drawing of MES and life rafts (modified GA of vessel)
- Evacuation procedure utilized with this type of MES (ex. minimum personnel to deploy, etc.)
- Technical documentation of proposed equipment
- Client will then comment on proposed equipment and approve conceptual GA drawing

The removal of both old MES systems, sixteen life rafts and 4 life raft racks on the boat and navigating decks of the vessel.

The supply and installation of a fully functioning and operational MES and life raft arrangement, complete with modifications of muster station railings rendered necessary to permit efficient evacuation of personnel and crew during emergency evacuation of vessel. All material, testing and work included in this SOR are to be delivered and installed before March 23rd, 2018.

The provision of service technicians (FSR) for the installation phase and completion of acceptance tests for a period sufficient to satisfy the classification and regulatory requirements, and to demonstrate the requirements of this SOR are met. Tests will be in accordance with the LSA Code and Life Saving Equipment Regulations.

Two (2) copies of installations and operational manuals (in English and French) in a bound paper format, explaining the details of the installation and operation of the system as well as maintenance and parts listing. In addition, one electronic PDF copy of the manual is to be supplied (in French and English). This includes copies of Type Examination Certificates for FAT, and installation drawings and instructions.

Two (2) independent (French and English) sessions of training and familiarization of the MES system and its operation for the two (2) crews of the vessel. A training DVD (French and English) will also be supplied to Client.

Unless otherwise specified by the Technical Authority, two hard copies and one soft copy of the deliverables must be provided to the Technical Authority. Soft copy deliverables must be provided electronically. In addition, deliverables must be provided according to the following format: MS Word and/or Adobe Acrobat. Other formats may be accepted if approved by the Technical Authority.

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The Contractor should be aware that the deliverables provided may form part of a subsequent specification or information package provided to another entity. .

Certifications

- The Contractor shall obtain and provide to TC and /LR all required technical Certifications as specified in the applicable rules and codes. These shall include but not be limited to the following:
 1. Equipment and Component inspection certificates including all test reports supporting the certifications.
 2. Material test certificates including all test reports supporting the certifications and Type Approval certificates
 3. System Installation inspection certificates including proof of compliance.
 4. Classification approval certificate shall be provided for the new MES.
 5. Certificates and results of NDT inspections and testing.

Two (2) typewritten copies of all above-noted test data must be provided to the Technical Authority (TA) prior to acceptance.

11 Project Schedule

Procurement of all MES equipment and systems must be contracted out as soon as possible after contract award, as to be able to install MES systems between February 1st and March 23rd, 2018, at Cap-aux-Meules, Iles-de-la-Madeleine. The vessel will be in self-refit during that period.

12 Basis of payment

The basis of Payment for this contract will be a fixed price including travel expenses.

13 Continuity and Replacement of Resources

The selected Contractor shall not commence any work or be entitled to any compensation for any work undertaken unless the Contract Authority has authorized the work to begin.

The selected Contractor shall be responsible to ensure that all proposed personnel and other professional resources are assigned for the duration of the contract and are not replaced without due cause. In the event that a resource is to be replaced, it will be the Selected Contractor's responsibility to ensure that there is no negative impact on any work in progress.

Should for any reason, the designated resources for a deliverable are not available, then the selected Contractor shall immediately make available a fully qualified replacement resource to be approved by the Project Authority. Such approval is not intended to limit the selected Contractor's flexibility but to ensure the use of agreed-to resource levels and experience for stated deliverables. The Project Authority retains the right to refuse the proposed backup resources in which case, and within a reasonable period of time, the selected Contractor shall propose alternate resources. If no suitable replacement resource can be provided within a suitable timeframe (maximum of one (1) week), then the Project Authority may elect to terminate the Contract, or may elect to use an alternate method. Note that replacement resources are to be evaluated in accordance with the original evaluation.

Selection Criteria

Contractor Selection Method

The selected Contractor/Supplier will be determined on the basis of the highest responsive combined rating by a 70/30 percentage ratio of technical merit and price respectively. Final score =

$$\begin{aligned} & \text{Technical merit score} \quad + \quad \text{Lowest Price Score} \\ & (\text{maximum: 100 points}) = \quad (\text{maximum: 70 points}) \quad + \quad (\text{maximum: 30 points}) \end{aligned}$$

Lowest Price Score

The lowest priced technically responsive proposal is allocated the maximum of 40 points and other technically responsive proposals are awarded points according to the formula

$$\text{Lowest price score} = \text{lowest priced proposal} / \text{bid price} \times 30$$

Point Related Technical Merit Score

The total points are 70

Minimum points to be awarded is 30

The following table illustrates an example where three bids are responsive and the selection of the contractor is determined by a 90/10 ratio of technical merit and price, respectively. The total available points equal 135 and the lowest evaluated price is \$45,000 (45).

| Basis of Selection – Highest Combined Rating Merit (90%) and Price (10%) | | | |
|--------------------------------------------------------------------------|---------------------|-------------------|--------------------|
| | Bidder 1 | Bidder 2 | Bidder 3 |
| Overall Technical Score | 115/135 | 89/135 | 92/135 |
| Bid Evaluated Price | \$55000 | \$50000 | \$45000 |
| Technical Merit Score | 115/135 X 90= 76.66 | 89/135 X90= 59.33 | 92/135 X 90= 61.33 |
| Pricing Score | 45/55 X 10= 8.18 | 45/50 X 10= 9.00 | 45/45 X 10= 10.00 |
| Combined Rating | 84.84 | 68.33 | 71.33 |
| Overall Rating | 1 st | 3 rd | 2 nd |

Bidder 1 was the most expensive, but technical merit made him win the bid.

Mandatory Technical Criteria

The bid must meet the mandatory technical criteria specified below. The bidder must provide the necessary documentation to demonstrate compliance with this requirement.

Bids that fail to meet the mandatory technical criteria will be declared non-responsive. Each mandatory technical criterion should be addressed separately. **Bidders must complete the following checklist and include it in the bid submission package.**

Mandatory Technical Criteria (MT)

Bidder's name:

Date:

| Number | Description of Criterion | Met | Not Met | Cross Ref to Proposal |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|---------|-----------------------|
| MT1 | Bidders must demonstrate completeness and quality of the written proposal. Demonstration of how the requirements are to be met Indicators Respond to Section 10 and describe in writing how each requirement will be met in a thorough, concise and clear manner. | | | |
| MT2 | Bidders must demonstrate that the MES units are approved and meets all the requirements of Section 4. Submit documentation from LRS that they will provide design assessment and approval according to Lloyd's Register and the requirements of section 4 will be met. | | | |
| MT3 | Bidders must demonstrate that the new MES at a minimum meets the functionality as described in section 3.2 & 3.2.1. The Contractor must verify and summarize the proposed equipment's functions for items listed in Section 3.2 & 3.2.1 | | | |

| | | | | |
|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|
| MT4 | The supplied bid must demonstrate the ability to supply, deliver, install and test full MES system + life rafts and racks to Vessel home port before March 23 rd , 2018 | | | |
| MT5 | Bidders must demonstrate that they can provide an Eastern Canada FSR to provide support to vessel on designated route Contractor to provide identification and qualifications of the FSR together with contact information | | | |
| MT6 | The bidder must identify a minimum of six (6) installations in the last ten (10) years by the MES manufacturer. Reference list must also include the current installations of the vendor equipment which has been installed / maintained in Canada by the manufacturer in the last ten (10) years. This must be in the form of objective evidence | | | |
| MT7 | Bidders must provide a duration and cost estimate for each of the following activities: Contractor to provide a written cost estimate - Strip of old equipment and cabling - Supply and Installation of new equipment and cabling - Set to work and operational trials - Testing and witnessing by LR - Cranage - Training and deployment - Repacking and re-installation MES including all shipping costs - Quote of current FSR and re-certification costs as per section 2.2 | | | |

| | | | | |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|
| MT8 | Bidders must provide a preliminary planning and scheduling which will indicate in working days the duration of each of the following activities <ul style="list-style-type: none"> - Contract Award - Period of manufacturing and procurement of components - Existing component strip out preparation of steel - Delivery of MES at Cap-aux-Meules, QC - Period of FSR attendance - Installation and operational trials - Commissioning and testing - Schedule for crantage - Period of repacking of MES and re-installation | | | |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|

Technical Merit Criteria

Technical Merit (TM)

TM1 MES Self Contained, fully autonomous single action release

| Description of Criteria | Score | Indicators |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|------------|
| <p>Bidder will supply an approved MES with total or a combination of autonomous single acting release system</p> <p>Total (10 points)</p> <p>(0-2 points) Very complex system, quite larger than original, with electrical/hydraulic launch system, needing extra crew to deploy MES</p> <p>(3-6 points) System larger than original, and requires minimal modifications, with assisted release system, requiring 2-3 crew participation for deployment</p> <p>(7-10 points) Compact all-in-one stowage, minimal footprint, and single action release (no electrical/hydraulics) requiring minimal crew participation</p> | | |

TM2 Self Aligning/Tensioning Bowsing System

| Description of Criteria | Score | Indicators |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|------------|
| <p>Bidder supplied MES with functional bowsing system:</p> <p>Total (10 points)</p> <p>(2 points) Bowsing system is manual, with no self-aligning</p> <p>(6 points) Bowsing system has automatic function for alignment</p> <p>(10 points) Bowsing system is completely automatic for self-aligning and tensioning</p> | | |

TM3 Return to vessel via chute or slide

| Description of Criteria | Score | Indicators |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|------------|
| <p>MES will be designed to permit crew to re-embark on vessel, and/or help passengers evacuate vessel</p> <p>Total (3 points)</p> <p>(0 – 1points) MES has means to permit crew or passengers to return to ship via slide or chute with harness</p> <p>(2-3 points) MES permits crew to return to vessel during an evacuation and/or aid personnel recovery via chute or slide in a fast and effective manner</p> | | |

TM4 Heavy Weather testing *

| Description of Criteria | Score | Indicators |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|------------|
| <p>MES manufacturer provides documentation to confirm Heavy Weather tested in excess of Beaufort 6 wind forces (as per LSA Code)</p> <p>Total (3 points)</p> <p>(1-3 points) MES tested to more than Beaufort 6 weather conditions as per LSA code requirements.</p> | | |

TM5 Size of crew for safe deployment

| Description of Criteria | Score | Indicators |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|------------|
| <p>Bidder to clearly identify personnel and duties required to deploy and evacuate MES including life raft personnel</p> <p>Total (10 points)</p> <p>(1-4 points) MES deploys chute/slide + integrated life raft initially and needs throw over rafts to complete evacuation (need very little personnel)</p> <p>(5-10 points) MES deploys chute + totality of necessary life rafts (need minimal personnel)</p> | | |

TM6 Technical assistance response

| Description of Criteria | Score | Indicators |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|------------|
| <p>Supplier to be able to supply a Field Service Representative to assist vessel, within 48 hours. Service depot is located in Eastern Canada</p> <p>Total (6 points)</p> <p>(1 point) FSR available and dispatched within 48 hours or more</p> <p>(4 points) FSR available and dispatched within 36</p> <p>(6 points) FSR available and dispatched within 24 hours</p> | | |

TM7 Servicing (Annual and post Deployment)

| Description of Criteria | Score | Indicators |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|------------|
| <p>Time normally required in OEM service facility to inspect and re-certify MES following deployment. (Transportation excluded)</p> <p>Total 4 Points</p> <p>0 (10 or more days)</p> <p>1-2 (5-9 days)</p> <p>3-4 (4 days or less)</p> | | |

TM8 MES Facilitates evacuation of disabled and injured persons

| Description of Criteria | Score | Indicators |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>System readily facilitates evacuation of disabled or injured persons and allows for assisted descent and good communication with ship's personnel.</p> <p>Bid submission to demonstrate</p> <p>Total (6) points</p> <p>Demonstrate easily crew assisted descent of disabled of injured passenger (0-4 points)</p> <p>Demonstrates assistance while allowing for good communication and visual contact (0-2 points)</p> | | <p>Demonstrates assisted descent</p> <p>Accommodates stretcher</p> <p>Allows for good communication with ship's personnel including line of sight</p> |

TM9 Contractor Experience

| Description of Criteria | Score | Indicators |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|------------------------------------------------------------------------------------|
| <p>Contractor to have proven Marine work experience and have the capacity to remove old system, supply & install new MES + accessories</p> <p>Total (5 points)</p> <p>(1-2 points) Less than 5 years' experience</p> <p>(3-4 points) Between 5 and 10 years' experience</p> <p>(5 points) More than 10 years' experience</p> | | <p>Contractor to list memorable installation work done during the last 5 years</p> |

TM10 MES Slide/chute Provides Protection from Elements

| Description of Criteria | Score | Indicators |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|------------|
| <p>The MES slide or chute is enclosed and provides protection from elements during decent</p> <p>Total (8 Points)</p> <p>(0-4 Points) Slide or chute provides partial protection</p> <p>(4-8 Points) Slide or chute is totally enclosed and provides good protection from elements</p> | | |

TM11 Anticipated Service Cost

| Description of Criteria | Score | Indicators |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|------------|
| <p>Present cost for OEM FSR service (as quoted) by MES OEM supplier for annual and service following deployment</p> <p>Total (5 Points)</p> <p>Cost for annual x 5 + deployment (1) = Total</p> <p>(0-4 pts) Low Total/High Total X 5</p> <p>(5 pts) Low total</p> | | |

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Appendix A
Supplies drawings Madeleine

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