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1713 Bedford Row
Halifax, N.S./Halifax, (N.É.)
B3J 1T3
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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
Acquisitions
1713 Bedford Row
Halifax, N.S./Halifax, (N.É.)
B3J 3C9

Title - Sujet ENGINE REPLACEMENT HOLIDAY ISLAND	
Solicitation No. - N° de l'invitation T1704-130241/A	Amendment No. - N° modif. 002
Client Reference No. - N° de référence du client T1704-13-0241	Date 2013-10-28
GETS Reference No. - N° de référence de SEAG PW-\$HAL-302-9105	
File No. - N° de dossier HAL-3-711151 (302)	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2013-11-07	Time Zone Fuseau horaire Atlantic Daylight Saving Time ADT
F.O.B. - F.A.B. Plant-Usine: <input type="checkbox"/> Destination: <input checked="" type="checkbox"/> Other-Autre: <input type="checkbox"/>	
Address Enquiries to: - Adresser toutes questions à: Gaudreau, Michel	Buyer Id - Id de l'acheteur hal302
Telephone No. - N° de téléphone (902) 496-5245 ()	FAX No. - N° de FAX (902) 496-5016
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

Solicitation No. - N° de l'invitation

T1704-130241/A

Amd. No. - N° de la modif.

002

Buyer ID - Id de l'acheteur

hal302

Client Ref. No. - N° de réf. du client

T1704-13-0241

File No. - N° du dossier

HAL-3-71151

CCC No./N° CCC - FMS No/ N° VME

Request for Proposal Amendment No 002 is issued for the purpose of correcting a technical error that prevented the amended annexes from being attached to the solicitation.

ANNEX A

M/V HOLIDAY ISLAND

MAIN ENGINE REPLACEMENT ~~WITH OPTION TO REPLACE FLUID COUPLINGS~~

TECHNICAL SPECIFICATION

Version 2

ANNEX A

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ANNEX A

Vessel Reference Drawings (Upon Request)

1. M/V Holiday Island General Arrangement
2. M/V Holiday Island Machinery Arrangement
3. M/V Holiday Island Diagrammatic Arrangement of Fresh & Salt Water Circulating
4. M/V Holiday Island Diagrammatic Arrangement of Oil Fuel Filling, Transfer & Service
5. M/V Holiday Island Diagrammatic Arrangement of L.O. Filling, Transfer & Service System
6. M/V Holiday Island Diesel Exhaust Piping Arrangement
7. M/V Holiday Island Arrangement & Details of Shafting
8. M/V Holiday Island Main Engine Seats

ANNEX A

1.0 GENERAL

The intent of this specification is to establish the technical requirements for replacement main engines ~~and the option to include the replacement of the fluid couplings~~ for the M/V Holiday Island. Transport Canada's mandate is to replace the two (2) main engines on the ship M/V Holiday Island, which operates between Prince Edward Island and Nova Scotia. The current engines are original to the ferry which was built in 1971 and are approaching the end of their expected useful life. Transport Canada requires replacement of the main engines to extend the lifespan of the ship, ensure the safety of passengers and crew, reduce the costs of repairs and maintenance, and maintain the reliability of the M/V Holiday Island. Transport Canada intends to complete the engine replacement project in March 2014 at quay side of Caribou Ferry Terminal, Nova Scotia, Canada. This specification outlines particulars of the vessel, regulatory and technical requirements and intended scope of supply to give the Vendor a clear understanding of the equipment, components and service of such to be included in their response. It is the responsibility of the supplier to provide a proposal detailing their scope of supply and service in accordance with the design details laid out in this document and associated attachments. Innovative alternative solutions that allow for simplification and cost reduction for the modification and operation of the vessel may be included in the vendors' proposal. For all proposals and options, the vendor shall also supply a 10 year life cycle cost including estimated parts, spares and labour required to maintain machinery based on an operational profile at paragraph 4.0 and in accordance with manufacturer, Transport Canada Marine Safety (TCMS) and LR requirements.

~~Suppliers are to note that the scope of supply is for the replacement of the main engines with an option to supply fluid coupling packages. Canada reserves the right to purchase the engine packages only; or to include the option for the fluid coupling packages at contract award or within a 12 month period after contract award.~~

2.0 VESSEL INFORMATION

The vessel is to operate as a multi-purpose RO-PAX vessel for the transportation of passengers (485), cars (155) or tractor trailers (16) between Caribou, NS and Wood Islands, PEI.

The vessel principal dimensions are:

Length, overall approx.	99 m
Breadth, moulded	20.8 m
Depth	7.09 m
Design Draft	5.00 m
Displacement	4200 tons
Open Water Service Speed	14.0 kn in calm seas, no wind

3.0 REGULATORY REQUIREMENTS

The vessel is registered under Canadian Flag.

The vessel is built according to LR Rules and Regulations.

The vessel is classed: **✱100A1**

The vessel is SOLAS compliant. If other Regulations for this vessel, required by the national authorities of the flag country such as those noted below, are more stringent they are to take precedence at the date of contract.

1. Montreal Protocol
2. Classed Ships Inspection Regulations, 1988 (SOR/89-225)
3. Collision Regulations (C.R.C., c. 1416) amended 2008-09-17
4. Crew Accommodation Regulations (C.R.C., c. 1431)
5. Marine Machinery Regulations (SOR/90-264)
6. Navigation Safety Regulations (SOR/2005-134)
7. Pollutant Discharge Reporting Regulations, 1995 (SOR/95-351)
8. Regulations for the Prevention of Pollution from Ships and for Dangerous Chemical (SOR/2007-86)
9. Vessel Certificates Regulations (C.R.C., c. 1482)

4.0 OPERATIONAL PROFILE

The vessel operates between Wood Islands, Prince Edward Island (PEI) and Caribou, Nova Scotia (NS).



The route is reasonably well sheltered but is subject to strong winds and drifting ice conditions. Please see paragraph 5.0 for a full description of the ambient environmental conditions.

From May 1st until November M/V Holiday Island operates on a 5 round trip schedule from Wood Islands, PEI to Caribou NS. The ship would not be sailing between the end of December to the beginning of May and not operating in any ice condition.

Please refer to: <http://www.ferries.ca/northumberland-ferries-schedule-and-fares/>

This schedule means that the vessel will experience a large range of loads over the course of a single day. The vessel spends approximately 18% of its time manoeuvring, 17% idle at the dock (with engines running) and 65% in transit.

The average time and main engine speed for each mode are:

Total	Undock	Transit	Dock	Idle
115 Min.	10 Min.	75 Min.	10 Min.	20 Min.
Desired ME Speed	400 rpm	900 rpm	400 rpm	400 rpm

5.0 AMBIENT CONDITIONS

The main engine systems, equipment and components are to be designed using the following conditions as a design basis:

- Maximum ambient air temperature +32°C
- Minimum ambient air temperature -20°C
- Maximum temperature of seawater intake +27°C
- Minimum temperature of seawater -2°C
- Maximum space temperature in engine room +45°C
- Maximum temperature for electronics +50°C

The following design criteria apply unless the Classification Society or Administration stipulates alternative, more onerous, criteria.

The machinery installation is to be designed to withstand forces from the following conditions:

- 22.5 degrees roll, dynamic
- 15 degrees list, static
- 7.5 degrees pitch, dynamic
- 5 degrees trim, static

(Engines have a 3.87 degree rake to match existing shaft line with ship at zero trim.)

6.0 SCOPE OF SUPPLY

There are two (2) identical sets of main engines ~~and connected fluid couplings~~ to be replaced. Each engine is connected, via a fluid coupling, to a gearbox and its own propulsion shaft line (driving a Voith Schneider propeller, FWD and AFT). To avoid confusion, the technical requirements in paragraph 7.0 are written for one (1) engine set; the replacement engine sets will be supplied with identical scope of equipment.

The expertise of an engine supplier to the marine industry is required to:

(a) supply engines (total quantity - 2) for replacement of existing equipment within the M/V Holiday Island. This includes all of the necessary parts, materials, installation plans, and LR and TC approvals for the engines to connect to the existing fluid couplings ~~if the existing couplings are retained.~~

~~(b) supply fluid couplings (total quantity — 2) for replacement of existing equipment within the M/V Holiday Island. This includes all of the necessary materials, plans, and LR and TC approvals to connect the new fluid couplings to the replacement engines and existing gearboxes.~~

(c) supply all required ancillary parts, material, and equipment; such as: silencers, water and lubricating coolers, oil coolers, mating connections (bolts, keys, flanges ... etc.) for the new components provided.

(d) design the engine ~~and optional coupling arrangement~~ and provide technical support to interface (electrically, dimensionally, mechanically, and hydraulically) the provided components with existing ship equipment and systems. As examples, this interfacing would include (but not be limited to) integrating with the existing Integrated Alarm Monitoring and Control System (IAMCS), the fluid coupling and input flange of the existing gear box.

(e) provide on-site support during the engine installation and perform functions related to the trials and commissioning of the engine. Additionally, supplier is to have the capacity to provide post-installation support (FSR's, parts ... etc.) to maintain operation of the engines.

(f) provide the manufacturer standard, recommended and required spares for a two year period and in compliance with LR Classification Society requirements;

(g) supply all special tools recommended by the manufacturer for maintenance of equipment/components.

Suppliers shall clearly demonstrate in their proposals how the requirements of items a) to g) will be met.

7.0 TECHNICAL REQUIREMENTS

The replacement main engine ~~and optional matching fluid coupling~~ are to be designed and constructed so far as is practicable to avoid noise and vibration generation and propagation during normal ship operation. The noise and vibration levels are to be met at all service load conditions of the propulsion plant.

The replacement main engine ~~and optional matching fluid coupling~~ are to be designed and constructed as far as is practicable to restrict sound generation and propagation within the accommodation and working spaces. The intention is to provide good protection against noise under all service conditions for the well-being of the crew and passengers. The IMO Resolution A.468 (XII) "Code on Noise Level On Board Ships" and national rules are to be met including LR PCAC requirements.

The vibration level of machinery and equipment shall meet the criteria specified by either the manufacturer, the Classification Society (LR) or ISO 2372 / 10816 and LR PCAC requirements.

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7.1 MANDATORY REQUIREMENTS: MAIN ENGINE

Each main engine is to be fully assembled, piped, wired and tested on a single base frame suitable for lifting and installing. The engine mounted on the vessel's structure. The diesel engine is to be a two or four-stroke, trunk piston type suitable for operation on low sulfur diesel fuel oil complete with all necessary engine driven auxiliaries with an engine Maximum Continuous Rating (MCR) power output range between 2,237 kW (3,000 HP) and 2,535 kW (3,400 HP) at maximum speed of 900 rpm. The rotation of the main engines is to be counterclock wise looking from engine's free end. The main engine sets are to be located at approximate same location of the existing engines in the engine room.

7.1.1 PHYSICAL CONSTRAINTS

Each main engine set including engine and on-engine auxiliaries is to have a maximum space envelope to match existing shaft line and provide with clearance to maintain and repair.

The maximum nominal exhaust piping diameter is to be limited to 608 mm (24") with maximum silencer diameter of 1219 mm (48") thus allowing installation in the existing uptake casing.

7.1.2 SPECIFIC ENVIRONMENTAL REQUIREMENTS

Engine emission is to be certified to IMO Tier II emission requirements and certificates indicating such to be supplied with equipment. Any required non-attached equipment is to be identified and supplied with the engine.

7.1.3 SUPPORTING ENGINEERING / ANALYSIS

The supplier is to undertake the necessary torsional and axial vibration calculations for the diesel engine and to satisfy the Classification society with regards vibration stresses and critical frequencies. The necessary torsional dampers and any other component deemed necessary to obtain Classification approval is to be supplied and installed as part of the engine assembly.

7.1.4 CONTROL & MONITORING REQUIREMENTS

Main engine controls & monitoring – The diesel engine shall be normally controlled and monitored in machinery control room and local control as per the manufacturer's normal standard must be provided. The diesel engine is to have a local Human Machine Interface (HMI) with alarm and control. Local control panels are to be supplied with necessary alarm, monitoring and control features as required to comply with the LR class requirements and provide the necessary interface to integrate with the ship's Integrated Alarm, Control & Monitoring System (IACMS). Remote control and monitoring panels or inserts are to be identified and provided for installation in existing machinery control room and two (2) bridge wheel houses.

7.1.5 PERFORMANCE REQUIREMENTS

Engine fuel is to be low sulfur diesel fuel with less than 500 ppm sulfur content. The new engines must be able to operate with ultra-low sulfur diesel fuel with less than 15 ppm sulfur content in the future. Engines are to be capable of extended low load operation within the ship's

ANNEX A

service load range without any time limit or detrimental effects. The engines specific fuel consumptions are to be fuel optimized for the normal service load and still be able to deliver the MCR power when required. The normal service load will be the nominal propulsion load to maintain the ship's service speed during transit. The engine maker is to provide a new guarantee point and consumption values for the entire service range. Fuel is to be supplied to the main engines by gravity from the service day tank.

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- 7.1.5.1** Engine Power - as required to produce a net output of between 2, 237 kW and 2,535 kW (3000 – 4000 HP) at MCR at maximum speed of 900 rpm.
- 7.1.5.2** Engine Type – two or four-stroke, trunk piston, non-reversible (turbo-charged and inter-cooled as required).
- 7.1.5.3** Engine Cooling – Each engine's integral Fresh Water (FW) and Sea Water (SW) cooling systems are to have engine driven SW and FW pumps. External coolers including fresh water and lubricating oil coolers with thermostatic 3-way control valves are to be suitably sized and supplied loose for refit contractor installation. The sea water pump is to be suitably sized with a flow and head capacity to meet the main engine and fluid coupling cooling requirements plus cooling demands from existing gear box lubricating oil cooler and six (6) shaft bearings.
- 7.1.5.4** Engine Exhaust – An absorption type exhaust silencer with integral spark arrestor with 35 dB(A) attenuation, necessary number of exhaust expansion joint(s), sized to suit the exhaust system configuration and engine makers requirements, and transition duct(s) for connecting turbocharger outlets to exhaust system piping is to be supplied loose for refit contractor installation.
- 7.1.5.5** Engine Fuel System – Engine is to be equipped with integral fuel delivery pump. A single fuel cooler with thermostatic 3-way control valve, both suitably sized, are to be supplied loose for refit contractor installation in the common return line from main engines to the service day tank to maintain the fuel temperature according engine manufacturer's recommendations. Engine is to be equipped with a suitably sized duplex fine filter before the fuel oil entering the engine. A containment tray is to be provided for draining to the sludge tank by refit contractor installed piping.
- 7.1.5.6** Engine Lubricating Oil (LO) System – Engine is to be equipped with complete internal lubrication system including a pre-lubrication system, engine driven pump and integral sump. LO cooler is to be supplied loose for refit contractor installation. The LO sump is to have a connection c/w isolation valve for suction and discharge piping to/from the existing LO transfer pump. The lubricating oil for the engines shall be Petro Canada Duron 30 or equivalent.
- 7.1.5.7** Engine Starting – Each engine is to start by means of compressed air with existing two 1.24 m³ (44 Cu Ft) starting air receivers at nominal pressure of 21 bar (300 PSI). Air consumption of the main engines must be such that the existing receivers are sufficient to provide without replenishment, not less than six (6) consecutive starts of the main engine and to satisfy the LR Classification society with regards starting air arrangement requirements.
- 7.1.5.8** Engine Pipe Connections - Flexible connections are to be supplied to connect the various piping systems of the engine to the engine room systems.
- 7.1.5.9** Engine Governor – An effective operating governor is to be fitted that is capable of setting and automatically maintaining the speed within the limits as indicated by LR.
- 7.1.5.10** Turning Gear - The turning gear for the main engine is to be fitted with safety Interlocks which prevent engine operation when engaged as per LR requirements.

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- 7.1.5.11** Engine Mounts - The main engine is to be mounted with “chockfast” as per the current arrangement. The existing main engine seats will be modified, in accordance with LR requirements. If the proposed engine requires alternative mounting arrangements; the proposal is to clearly identify this requirement for evaluation. The proposal is to include the costs for the supply of all necessary parts and materials required for an alternative mounting arrangement

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7.2 TECHNICAL EVALUATION CRITERIA: MAIN ENGINE

7.2.1 PHYSICAL CONSTRAINTS

7.2.1 Physical Constraints	
100 Max	No change required to double bottom deck
0	Change required to double bottom deck
Proposal must identify the clearance between the bottom of new main engine LO sump and existing double bottom tank top in the mounting arrangement drawing or sketch of the new main engine and fluid coupling; the desired minimum clearance is 50mm (2").	

7.2.2 WEIGHT CONSTRAINTS

7.2.2 Weight Constraints	
50 Max	Wet weight is less than the weight of existing main engine 25,106 kg/ea
0	Wet weight is heavier than the weight of existing engine 25,106 kg/ea
Proposal must identify the wet weight of the main engine assembly. Points to be aligned with weight reduction delta between the new and existing main engine.	

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7.2.3 ENVIRONMENTAL PERFORMANCE

7.2.3 Environmental Performance	
10 Max	Options for further emission reductions to meet proposed IMO Tier III emission levels provided
0	Option not provided
Proposal must provide option detailing changes required to meet IMO Tier III emission requirements with additional equipment and components plus associated cost.	

7.2.4 FUEL CONSUMPTION

7.2.4 Fuel Consumption	
100 Max	Fuel consumption at service load is less than 200 g/kWh
0	Fuel consumption at service load is higher than 200 g/kWh
Proposal must identify the specific fuel consumption of max rated power at engine's service speed, see paragraph 4.0 for operational profile. Fuel consumption shall be based on low sulfur diesel fuel. Max/Min points to be aligned with best/worst engines from bid.	

7.2.5 LUBRICATING OIL CONSUMPTION

7.2.5 Lubricating Oil Consumption	
50 Max	LO consumption at MCR load is less than 1 g/kWh
0	LO consumption at MCR load is higher than 1 g/kWh
Proposal must identify the specific lubricating oil consumption at the engine's MCR load. Max/Min points to be aligned with best/worst engines from bid.	

7.2.6 FUEL OPTION

7.2.6 Fuel Option	
25 Max	Change to LNG fuel option provided
0	Change to LNG fuel option not provided

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Proposal must provide option detailing changes required to use LNG as fuel with additional equipment and components plus associated cost.

7.2.7 ENGINE CONTROL & MONITORING SYSTEM

7.2.7 Engine Control & Monitoring System	
100 Max	High degree of Integration with the existing propulsion control system
0	Low degree of Integration with the existing propulsion control system
Proposal must identify changes required to integrate the new main engine and fluid coupling controls with the existing propulsion control system.	

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7.3 MANDATORY REQUIREMENTS: OPTIONAL FLUID COUPLING

Fluid drive coupling with matching connection flanges to mate with main engine drive end and input end of the existing reduction gear box is to be sized for the maximum 900 rpm speed and maximum shaft power. Self support casing assembly with bearing and suitably sized oil cooler are to be included.

7.3.1 PHYSICAL CONSTRAINTS

The diameter of the coupling casing is to be less than 1820mm. Weight shall be identified for the fluid coupling assembly and associated oil cooler.

7.3.2 DESIGN, CONSTRUCTION AND MATERIAL REQUIREMENTS

Design for shaft diameter, couplings, coupling bolts, keys, keyways and other components connecting main engine and existing propulsion shaft shall be in accordance with LR rules. The construction and material of the fluid coupling is to comply with relevant LR Classification society requirements.

7.3.3 SUPPORTING ENGINEERING / ANALYSIS

The supplier is to provide the necessary torsional and axial vibration calculations for sizing and selecting the proper fluid coupling to satisfy the Classification society with regards vibration stresses and critical frequencies in the entire propulsion shaft line.

7.3.4 CONTROL & MONITORING REQUIREMENTS

Coupling Controls & Monitoring — Local controls are to be supplied with necessary alarm, monitoring and control features as required to comply with the LR class and provide the necessary remote control interface to integrate with the main engine's Integrated Alarm, Control & Monitoring System (IACMS). The fluid coupling is to be fitted with necessary transducers to support LR class requirements.

7.3.5 PERFORMANCE REQUIREMENTS

The fluid coupling shall be capable of transferring the main engine power at MCR to existing propulsion unit through existing shaft line and comply with LR Class requirements. Each unit shall have a maximum allowable slip of 2% at maximum torque load. A safety function of emergency de-coupling and indication shall be provided locally at coupling and in existing machinery control room.

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7.4 TECHNICAL EVALUATION CRITERIA: OPTIONAL FLUID COUPLING

7.4.1 PHYSICAL CONSTRAINTS

7.4.1 Physical Constraints	
50 Max	Wet weight is less than the weight of existing coupling 3,813 kg/ea
0	Wet weight is heavier than the weight of existing coupling 3,813 kg/ea
Proposal must clearly identify the wet weight of the coupling assembly. Points to be aligned with weight reduction delta between the new and existing fluid coupling.	

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8.0 TRAINING AND LOGISTICS REQUIREMENTS

Training on operation of the new main engine and associated equipment and systems is to be provided by FSR(s) to a ship crew of six (6) in a period of three (3) days (8 hrs/day) on board prior to sea trial.

Supplier to provide estimated cost over 5 and 10 years for check-up, maintenance, and over haul. The cost estimate shall be broken down as necessary to parts, spares and labour hours required. Parts, spares, and FSR shall be available in North America.

The warranty period and coverage of the engines, couplings, and other equipment are to be identified in the proposal.

9.0 TRIALS REQUIREMENTS

The supplier is to provide FSR(s) to participate and assist the necessary main engine ~~and fluid coupling~~ tests and trials (at quay and at sea) after installation according to the Rules and Regulations of LR Classification society. The test and trial is to be conducted at quay side of Caribou Ferry Terminal, Nova Scotia, Canada.

10.0 WORK SUPERVISION REQUIREMENTS

The supplier is to provide the necessary technical support during installation of the engines. and couplings.

11.0 TECHNICAL DOCUMENTATION REQUIREMENTS

The following technical information and documentation is required at the time of submission of your proposal for the purposes of evaluation.

1. Outline and Installation Drawings - a complete dimensional drawing containing all equipment dimensions. Preferred drawing format is AutoCAD.
2. Maintenance Envelopes & Lifting Arrangements - a dimensional drawing showing the location of maintenance envelopes, and any specialized equipment required for above tasks.
3. Interface Connections - a dimensional drawing showing the location and detail of all connections, mechanical, electrical, control, heating and cooling requirements, and power requirements (i.e. load, volts, amps and phase). In addition, system schematics showing functional flow, major blocks of equipment, interface with each block and interfaces with ships' systems is required.
4. Hold-Down And Mounting Arrangements - a detailed drawing showing equipment footprint, position and type of mounts (if required) and alignment requirements.
5. Equipment Weight - weights of the supplied equipment and internal fluids is required.
6. Centre Of Gravity - wet and dry for items > 100 kg.
7. Electrical Characteristics – electrical details and schematic diagram including wiring layout, location of test points, cabling type, any special electrical requirements, requirements for electric motors, controllers and starters, termination details, grounding requirements and load profile for transient loads. The power load, voltage, phase and current requirements shall be stated.
8. Heat Dissipation - all reports and data (if not in 3 above).
9. Instrumentation - all panels and control stations supplied or required for equipment, list of sensors, actuators, interface drawings, signal lists, etc.
10. Performance Characteristics – power output, pump curves, reports and test results, etc.
11. Noise and Vibration - detailed reports and test (as required by LR).
12. Additional Information - any LR and IMO approval certificates, technical data, test report, etc., appearing in the Purchase Description or defined by the vendor or TC.
13. Hydraulic and Lubricating Oils – provide recommended list.

Final schedule of technical documentation including drawings and manual is requested at contract award. If delivery at contract award is not achievable, the rationale for later delivery must be stated.

12.0 EQUIPMENT STORAGE AND PROTECTION REQUIREMENTS

Supplier is to identify any equipment storage and protection requirements to preserve proper working condition of equipment/components prior to installation (i.e. recommended warehouse/storage facility conditions) and necessary environmental conditions to maintain full functionality of equipment prior to and upon installation and during operation. All storage services (i.e. power connections) as well as any material preservation requirements (i.e. turning, inspection, lubrication etc.) shall be defined.

13.0 CLASS SPARE, RECOMMENDED SPARES AND SPECIAL TOOLS

Spares as required by the LR Classification Society and spares as per manufacturer standard for a two year period shall be identified and supplied with the engine/coupling package. These, as well as recommended and required spares for periods of five and ten years are to be separately priced and clearly identified.

Special tools recommended by the manufacturer in order to efficiently maintain proper working condition of equipment/components are to be supplied with the engine/coupling package, separately priced and clearly identified.

14.0 ABREVIATIONS

FSR Field Service Representative

IAMCS Integrated Alarm Monitoring & Control System

IMO International Maritime Organisation

ISO International Organization for Standardization

LNG Liquefied Natural Gas

LR Lloyd's Register

MCR Maximum Continuous Rating

MSC Maritime Safety Committee

Ro-PAX Roll-on/Roll-off passenger

SOLAS the International Convention for the Safety of Life at Sea

TC Transport Canada

TCMS Transport Canada Marine Safety

ANNEX "B" VERSION 2

BASIS OF PAYMENT

MAIN ENGINE REPLACEMENT:

a)	To supply two (2) main engine systems in accordance with sections 6.0, 7.0, 7.1 and 7.2 of Annex A, on or before 31 March 2014.	\$ _____
b)	To provide training and logistics requirements in accordance with section 8.0 of Annex A	\$ _____
c)	To provide trials requirements in accordance with section 9.0 of Annex A	\$ _____
d)	To provide work supervision requirements in accordance with section 10.0 of Annex A	\$ _____
e)	To provide technical documentation requirements in accordance with section 11.0 of Annex A	\$ _____
f)	To provide equipment storage and protection requirements in accordance with section 12.0 of Annex A	\$ _____
g)	To provide class spare, recommended spares and special tools requirements in accordance with section 13.0 of Annex A	\$ _____
1.) TOTAL, TAXES EXCLUDED, FOB DESTINATION IN CDN FUNDS		\$ _____

TOTAL LINE 1 ABOVE, TAXES EXCLUDED, FOB DESTINATION IN CDN FUNDS.

(This is the financial bid amount that will be used to determine the pricing score for the overall bid evaluation)

\$ _____

Annex B must be included with the Supplier's bid in accordance with Part 3 of the Bid Solicitation Document.

ANNEX C, VERSION 2

MANDATORY AND POINTS RATED TECHNICAL EVALUATION CRITERIA

Note: Bidders are not to complete any sections of this Annex. This Annex is provided to bidders to clearly demonstrate the mandatory, and points rated evaluation criteria that will be used by the evaluation team.

In accordance with Part 3 of the Solicitation Document; bidders should demonstrate their understanding of the requirements contained in the bid solicitation and explain how they will meet these requirements.

The technical bid should address clearly and in sufficient depth the points that are subject to the evaluation criteria against which the bid will be evaluated. Simply repeating the statement contained in the bid solicitation is not sufficient.

1. Mandatory Technical Evaluation Criteria

Failure to establish that the following criteria are met will render the bid non-responsive:

7.1 MANDATORY REQUIREMENTS: MAIN ENGINE

Item	Description	MEETS
7.1.1	Physical Constraints	
7.1.2	Specific Environmental Requirements	
7.1.3	Supporting Engineering / Analysis	
7.1.4	Control & Monitoring Requirements	
7.1.5	Performance Requirements	
7.1.5.1	Engine Power	
7.1.5.2	Engine Type	
7.1.5.3	Engine Cooling	
7.1.5.4	Engine Exhaust	
7.1.5.5	Engine Fuel System	
7.1.5.6	Engine Lubricating Oil System	
7.1.5.7	Engine Starting	
7.1.5.8	Engine Pipe Connections	
7.1.5.9	Engine Governor	
7.1.5.10	Turning Gear	
7.1.5.11	Engine Mounts	

2. Points Rated Evaluation Criteria

OVERALL UNDERSTANDING OF THE REQUIREMENT

Item	Description (max possible points)	Reasons for Point Rating	Points Scored
1.0 TO 13.0	The supplier has provided a proposal that explains how each requirement will be met in a manner that is clear, precise and demonstrates a thorough understanding of the complete scope of supply for the replacement of the main engines for the M/V Holiday Island (100 points)		

7.2 TECHNICAL EVALUATION CRITERIA: MAIN ENGINE

Item	Description (max possible points)	Reasons for Point Rating	Points Scored
7.2.1	Physical Constraints (100 points)		
7.2.2	Weight Constraints (50 points)		
7.2.3	Environmental Performance (10 points)		
7.2.4	Fuel Consumption (100 points)		
7.2.5	Lubricating Oil Consumption (50 points)		
7.2.6	Fuel Option (25 points)		
7.2.7	Engine Control & Monitoring System (100 points)		