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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

Title - Sujet CCGS - MACH'RY CTRL ROOM HVAC UNIT	
Solicitation No. - N° de l'invitation F2599-165002/A	**Amendment No. - N° modif.** 001
Client Reference No. - N° de référence du client F2599-165002	**Date** 2016-05-18
GETS Reference No. - N° de référence de SEAG PW-$$ML-046-25815	
File No. - N° de dossier 046ml.F2599-165002	**CCC No./N° CCC - FMS No./N° VME**
Solicitation Closes - L'invitation prend fin **at - à 02:00 PM** **on - le 2016-05-25**	**Time Zone** **Fuseau horaire** Eastern Daylight Saving Time EDT
F.O.B. - F.A.B. **Plant-Usine:** ☐ **Destination:** ☑ **Other-Autre:** ☐	
Address Enquiries to: - Adresser toutes questions à: Laprise, J-F	**Buyer Id - Id de l'acheteur** 046ml
Telephone No. - N° de téléphone (819) 420-2902 ( )	**FAX No. - N° de FAX** (819) 956-0897
Destination - of Goods, Services, and Construction: **Destination - des biens, services et construction:** CCGS GRIFFON CANADIAN COAST GUARD 401 KING STREET WEST PRESCOTT, ON K0E 1T0	

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

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Instructions: Voir aux présentes

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

Issuing Office - Bureau de distribution

Marine Machinery and Services / Machineries et services maritimes
11 Laurier St. / 11, rue Laurier
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Canada

This amendment is raised to answer a question from a potential bidder.

A. Questions and answers set #1:

Question 1: Annex A, Section 1.4: "The compressor shall be protected by high and low pressure controls with auto reset". We recommend that the high pressure condition be manually reset.

Answer 1: Canada would like to have high and low pressure controls with auto reset as per the SOW. Canada will accept high pressures controls with manual reset.

Question 2: Annex A, Section 1.4.3: "The condensing unit shall be designed for R407c or equivalent". Please note that R407c is a zeotropic refrigerant with a global warming potential of 1610. European F-Gas regulations already have a phase out for this refrigerant and North America is likely to follow suit in the near future. R134a, a pure substance with a global warming potential of 1300 already has drop in replacements such as R1234yf with GWP of just 4 which will comply with any foreseeable regulations. Specifying R134a also has the advantage of increasing the efficiency of the plant while maintaining a much lower operating pressure (and design pressure) of the system. We feel this refrigerant, providing we meet the capacity and space requirements, should be permitted.

Answer 2: Actually, R410A refrigerant will meet the new regulatory guidelines. Canada approved R407c or equivalent as well. Please review the new regulations in accordance with the SOW.

Question 3: Annex A, Section 1.4.3: "the compressor suction and discharge lines shall be connected to the system piping with flexible vibration absorbing pipe sections… other connections (gauge, water regulator, oil return, control devices, etc..) shall use flexible refrigeration hose." We found that vibration isolation for compressor suction and discharge lines add weight and render the equipment unnecessarily large. Instead, we hard mount the compressor and design the piping system with enough flexibility to accommodate any compressor starting vibration. We also recommend against the use of equipment built-in pressure gauges as they are not calibrated, and give a misleading reading to the servicing mechanic. Instead, service personnel must connect calibrated mechanic's manifolds whenever servicing the equipment. Also, it is preferable to use copper lines instead to the leak-prone refrigeration hoses.

Answer 3: The ice-breaking will produce an incredible amount of vibration, and vibration isolation is required as per the SOW.

Question 4: Annex A, Section 1.4.5: "Gauges". As mentioned in the previous paragraph, often when uncalibrated gauges are installed on equipment, refrigeration mechanics do not use their calibrated ones for service, misleading service activities. It is recommended not to install them.

Answer 4: Canada would like gauges as per the SOW.

Question 5: Annex A, Section 1.4.5: "oil separator". On applications where the condensing unit only served one evaporator and all the oil that escapes the compressor has only one path that leads it back to the compressor, oil separators are not required. Removing this device will save space and weight.

Answer 5: Canada will accept condensing units that are not fitted with oil separators.

Question 6: Annex A, Section 1.4.3: "the compressor shall be semi-hermetic". The requested capacity is 47,500 BTU.hr. This capacity can easily be achieved with a much lighter and compact hermetic scroll compressor. Please confirm that weight and size savings are desirable and that hermetic scroll compressors are allowed.

Answer 6: Canada would like to have the compressor be semi-hermetic as per the SOW.

Question 7: Annex A, Section 1.4.3: "the sea water cooled condenser shall be of shell and tube design…" For this capacity, coaxial condensers with inner Cu/Ni tube offers reliable lightweight performance in a compact envelope. Like the previous paragraph, please confirm that the use of a marine coaxial condenser is allowed.

Answer 7: Canada would like to have the condenser be shell and tube design as per the SOW.

Question 8: Annex A, Section 1.4.3: "the condensing unit shall be sized to supply 110% of the specified AHU capacity". It is not recommended to oversize the condensing unit. An oversized compressor will constantly cycle, even at high load conditions, reducing its life. It is better to define the required capacity of the condensing to match that of the evaporator in the AHU and to demand proof of performance at design conditions such as compressor and heat exchanger selections to ensure good performance.

Answer 8: Canada would like to have the condensing unit be sized to supply 110% of the specified AHU capacity as per the SOW.

Question 9: Annex A, Section 1.4.4 specifies: "The air handler should be as compact as possible. Space available is maximum 22" Deep x 32" Wide x 60" High". Section 1.5 says: "Workshop escape – 24" door with welding narrowing to 21". It has an electric chain fall and can take the weight. Unfortunately getting aft past the R/O unit is almost impossible".

Kindly confirm that installation of Air Handling unit will not be an issue based on specified dimensions of "Maximum 22" Deep x 32" Wide x 60" High".

Answer 9: No, that unit will definitely not fit down the Workshop Escape. In fact that entry point should not be considered as it is only 21" wide (athwartships) by 26" longitudinal. Height would be an issue too as it would have to be angled even if it could fit.
A unit 22" Deep X 32" Wide X 60" high could only be manhandled into the ER from the Upper Deck entrance to the Engine Room by the expansion tanks. 22" being the absolute maximum depth it could be.

Question 10: Please note that piping may come out of the side of the Air Handling unit for Liquid and Suction lines. The specification also allows for the filters and possibly the return duct to be mounted on the Side (Section 1.4.4).
Do you prefer the Refrigerant piping to come out the front or from the side?
In order to braze or flange the refrigerant piping connections, 12" clearance from the surface of the Air Handling Unit is likely required. Please confirm that this space is available.

Answer 10: Canada would like to see the piping coming out the right hand side when facing the unit. There is 12" of space for brazing available.

Question 11: a) Extra maintenance space is not required on the side of the unit if Inlet and Filter is on the side of the selected Air Handling Unit.

b) If inlet and filter is on the Front of the selected Air Handling Unit, a minimum service space of 36" will be required at the front of the unit for maintenance of filter.

Please confirm that this space is available.

Answer 11: We do not have 36” in front of the unit to service the filter. The filter would have to slide out the same side as the piping as close to the front of the unit as possible.