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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**

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1713 Bedford Row

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<b>Title - Sujet</b> CCGCTraining Engine Installation	
<b>Solicitation No. - N° de l'invitation</b> EB144-212046/A	<b>Amendment No. - N° modif.</b> 002
<b>Client Reference No. - N° de référence du client</b> EB144-21-2046	<b>Date</b> 2021-02-11
<b>GETS Reference No. - N° de référence de SEAG</b> PW-SPWA-122-6115	
<b>File No. - N° de dossier</b> PWA-0-84106 (122)	<b>CCC No./N° CCC - FMS No./N° VME</b>
<b>Solicitation Closes - L'invitation prend fin</b> <b>at - à 02:00 PM</b> Atlantic Standard Time AST <b>on - le 2021-02-23</b> Heure Normale de l'Atlantique HNA	
<b>F.O.B. - F.A.B.</b> <b>Plant-Usine:</b> <input type="checkbox"/> <b>Destination:</b> <input checked="" type="checkbox"/> <b>Other-Autre:</b> <input type="checkbox"/>	
<b>Address Enquiries to: - Adresser toutes questions à:</b> Chinye (PWA), Chukwudi	<b>Buyer Id - Id de l'acheteur</b> pwa122
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<b>Signature</b>	<b>Date</b>

Amendment 002 is raised to answer the questions and incorporate the changes to the specifications and drawings.

Bidders are advised that the closing date has been EXTENDED from February 18, 2021 to February 23, 2021. Closing location and time to remain unchanged.

**Question 1:** Dwg. MH-101 does the EPWS/EPWR and the DPWS/DPWR fall under the clause in the specification 2.2.1.1 HT (High Temp) water piping? Do these systems require thermal insulation and jacketing? If so, what temperature do they operate at for insulation thickness as per the MNECB.

**Answer to Question 1:** EPWS/EPWR that is higher temperature HT requires insulation and associated jacketing per specifications. Please see attached sketch clarifying EPWS/EPWR lower temperature LT highlighted in yellow which DOES NOT require insulation and associated Jacketing. DPWS/DPWR does not require insulation and associated jacketing Temperature before engine, about 81degC Temperature at the engine outlet, nom 91degC

**Question 2:** Do the muffler, exhaust and silencers provided by the engine manufacture come factory insulated or as part of a pre-insulated system. Is there any component of the exhaust system for the engine system that will require some thermal insulation application?

**Answer to Question 2:** The Wartsila muffler and Wartsila bellows provided by CCG does not come insulated. Contractor to insulate. The pre-fabricated breeching / exhaust systems supplying remainder breeching and components come factory insulated per specifications.

**Question 3:** Part 9: Diesel Fuel Filters & Part 14: Deaerators are missing from Appendix A.

**Answer to Question 3:** They are in Appendix A Part 1 (main Wartsila IPI manual). Will break out and include in this Amendment 001

**Question 4:** 23 05 48 Vibration and Seismic Controls for HVAC - Please confirm that seismic restraints are not required for this project.

**Answer to Question 4:** Seismic restraints are not included in body of specification. Not required.

**Question 5:** When & where will the contractor receive the owner supplied equipment? Is the contractor responsible to off load this equipment from delivery trucks.

**Answer to Question 5:** Where: CCGC LSSL site When: Varies with item. CCG responsible for offload of equipment. CCG has already received some owner supplied equipment (currently on site) Coordination with CCG required.

**Question 6:** 23 13 23.01 Aboveground Diesel Fuel And Lube Oil Storage Tanks - The tanks in this section are numbered 1 to 10. There is no tank #4 listed. Please confirm there is no tank #4.

**Answer to Question 6:** Typo. there is no Tank4

**Question 7:** Please confirm that all fluids- lube oils, fuel, ethylene glycol etc. are supplied by the owner.

**Answer to Question 7:** Lube oil, diesel fuel supplied by CCG Glycol supplied by Contractor

**Question 8:** Please confirm that all heating cooling piping (drawing MH101, MH602) is to be installed in accordance with the Hydronics System specification 23 21 13.02. And that grooved piping systems are acceptable for this.

**Answer to Question 8:** Grooved piping acceptable for dyno water loop, glycol loop, and engine jacket water loop

**Question 9:** 15 weeks appears to difficult to achieve for a project of this scope. Please confirm if 15 weeks to complete is required.

**Answer to Question 9:** An extension has been granted in amendment 001.

**Question 10:** We request an extension to the closing date due to the complexity of preparing this bid.

**Answer to Question 10:** An extension was issued in amendment 001.

**Question 11:** Please provide detail of supports required for the MTU 4000 & 2000 breeching.

**Answer to Question 11:** Please see amendment 001 drawings S-100, S-102 and detail 400/dwg S-301. Detail 400/dwg S-301 typical of Wartsila, MTU2000, and MTU4000

**Question 12:** MV-101 - existing ventilation duct & equipment is not all labeled as existing. Please advise.

**Answer to Question 12:** Revised drawing attached for clarification in amendment 001

**Question 13.** Section 23 01 31 What portions of equipment & ductwork are required to be cleaned?

**Answer to Question 13:** Duct cleaning section deleted. Duct cleaning no longer in project

**Question 14.** Section 23 44 00 - HVAC Air Filtration. What equipment are the 3 sets of filters required for?

**Answer to Question 14:** New control room supply fan

**Question 15:** Where will the pre-purchased gear be stored and who is responsible for moving to site and placing?

**Answer to Question 15:** Please see Answer 5 above: Where: CCGC LSSL site When: Varies with item. CCG responsible for offload of equipment. CCG has already received some owner supplied equipment (currently on site) Coordination with CCG required.

**Question 16:** Provide scale for mechanical drawings.

**Answer to Question 16:**

MDH-101 : Scale 1:50

MDV-101 : Scale 1:50

MDP-101 : Scale 1:50

MH-101 : Scale 1:50

MH-102 : Scale 1:50

MV-101 : Scale 1:50

MP-101 : Scale 1:50

**Question 17:** Items on Drawing MP-601: Please provide a specification for the pressure reduction unit and the filters for each engine.

**Answer to Question 17:**

Pressure Reduction unit

- .1 Factory assembled, heavy-duty with mounting bracket and low pressure side safety relief valve.
- .2 316L SS
- .3 Diaphragm sensing pressure controls
- .4 Max inlet pressure 6,998 kPa.
- .5 Working inlet pressure: 3,000 kPa.
- .6 FKM seals, FKM seat
- .7 FKM diaphragm
- .8 Unit to be supplied with CRN
- .9 Pressure range in regulator: 34 kPa to 6,998kPa.
- .10 Gauge range: 0 kPa to 7000 kPa.
- .11 Unit to be of same manufacturer as tubing and fittings

**Question 18:** The equipment legend on Drawing MH-301 indicate that pumps PX9-8 and PX9-9 are owner supplied. Is this correct?

**Answer to Question 18:** Typo. Pumps PX9-8 and PX9-9 are supplied by contractor

**Question 19:** Please provide a specification for the manometers shown on drawing MH-602.

**Answer to Question 19:** Please see section 23 05 19 paragraph 2.5

**Question 20:** Drawing MH-602: What specification applies to the filters shown on the GLYS supply to each MTU engine?

**Answer to Question 20:** Filters no longer required on glycol supply to MTU4000 and MTU2000

**Question 21:** Drawing MP-601: What is the specification for the relief valve shown in the supply line to the MTU4000? There is an unknown rectangular symbol before the flexible connection at the MTU4000.

**Answer to Question 21:**

MTU4000 compressed proportional air relief valve

- .1 Factory assembled proportional air relief valve side safety relief valve.
- .2 316L SS
- .3 Diaphragm sensing pressure controls
- .4 Working pressure: 3,000 kPa.
- .5 FKM seals, FKM seat
- .6 FKM diaphragm

- .7 Unit to be supplied with CRN
  - .8 Unit to be of same manufacturer as tubing and fittings
- Unknown symbol before flexible connection at the MTU4000 is electromagnetic starting valve (supplied by MTU)

Question 22: Drawing MH-602: What is the specification for the cathodic protection noted on this drawing?

Answer to Question 22: Magnesium Anode rod type.1. 3/4 in. NPT fitting

Question 23. If the contractor is providing the ethylene glycol for the GLY system, how many liters are to be provided for tank MTK9-3?

Answer to Question 23: Contractor to confirm quantity of ethylene glycol for system

Question 24. What is the piping arrangement for the Turbo Wash Unit? It is not shown on drawing MH-602.

Answer to Question 24: The Turbo Wash Unit has been deleted.

Question 25. Section 23 25 00, 2.4 Chemical Feed Pumps. Where are the chemical feed pumps located? How many are required?

Answer to Question 25: The chemical feed pumps are deleted.

Question 26: Section 23 08 01: "Test to prove concentration will prevent freezing to minus 40 degrees C" , Section 23 21 16 "Contractor to provide 40% premixed ethylene glycol". Please advise which is correct.

Answer to Question 26: Please go by Section 23 21 16 paragraph 2.11;" Contractor to provide 40% premixed ethylene glycol...."

Question 27: Please provide a specification for the oil mist traps on drawing MH-603.

Answer to Question 27: Please see detail attached.

Question 28: Are pumps PX9-10 and PX9-12 shown drawing MH-604 owner supplied? Please see Addendum

Answer to Question 28: PX9-10 supplied by this contractor  
PX9-12 supplied by CCG, installed by this contractor.

Question 29: Please provide a specification for the 6" Fixed Orifice, Drawing MH-602, GLYS supply to the MTU4000.

Answer to Question 29: Revise fixed orifices to balance valves

Question 30: MH-102: The note on this drawing calls for a stainless still drip pan. Is this required if the diesel pump set has a factory drip pan?

Answer to Question 30: Drip pan required. Factory supplied drip pan (with diesel pump set) would be acceptable

Question 31: Are all tank connections to be flanged?

**Answer to Question 31: All tank connections to be flanged.**

**Question 32: Are diesel / lube vents to be cleaned / pickled? Are the tanks to be cleaned / pickled?**

**Answer to Question 32: Diesel / lube vents to be cleaned according to each system's requirements. (therefore required to be pickled)**

Tanks to be cleaned / pickled by tank manufacturer

**Question 33: What pressure class are the fuel & lube oil socket weld fittings?**

**Answer to Question 33: Fittings to Class 3000**

**Question 34: Some vents are noted on cross sections to go through the roof. On the schematic it is noted to go through the wall. Are any roof penetrations required?**

**Answer to Question 34: There are no roof penetrations. Vents go through walls but terminate at roof level**

**Question 35: Is final position / alignment of the Wartsila engine by this contractor?**

**Answer to Question 35: Yes, final position / alignment of the Wartsila engine is by this contractor**

**Question 36: Are tank vents above 50mm to be butt welded? What is the material requirement for vents above 50mm? (Sch80?)**

**Answer to Question 36: Yes, 50mm and larger vents to be butt welded Sch 80.**

**The following changes to the specification and drawings were uploaded in amendment 001**

**SPECIFICATIONS REFERENCE**

Reference Table of Contents and Section 23 01 31 Air Duct Cleaning for HVAC Systems

.1 Delete section 23 01 31 Air Duct Cleaning for HVAC Systems

**Reference Appendix A**

.1 Reference Part 1 Wartsila Engine

.1 Add attached Wartsila IPI manual (November23,2020)

.2 Reference Part 9 Diesel Fuel Filters

.1 Add attached part 9 diesel fuel filter cut sheet

.3 Reference Part 14 Deaerators

.1 Add attached part 14 deaerator cut sheet

**DRAWING REFERENCE**

Reference Drawing MV-101 Ventilation Plan New Work :

Please see attached Drawing MV-101 Issued For Addendum 1 Revision

Reference Drawing MV-602 Ventilation Schedules:

Please see attached Drawing MV-602 Issued For Addendum 1 Revision

**Reference Drawing S-301 Structural Sections:**

Reference Detail 400:

.1 Add Note, " This detail typical for Wartsila, MTU4000, and MTU2000 associated diesel exhaust breeching systems"

**SPECIFICATIONS REFERENCE**

**Reference Section 23 08 01 Performance Verification HVAC Systems**

.1 Reference paragraph 1.6 Glycol Systems;

.1 Delete paragraph .1

.2 Add paragraph .1 ;

" .1 Test to prove concentration 40% premixed ethylene glycol. Test inhibitor strength and include in procedural report. Refer to ASTM E202"

**Reference 23 25 00 HVAC Water Treatment**

.1 Delete paragraph 2.4 Chemical Feed Pumps;

**Reference Appendix A**

.1 Delete Part 11 Turbo Washer Unit

**DRAWINGS REFERENCE**

**Reference Drawings S-101, S-102, A-101, and A-102:**

Provide separate breakout pricing for walking platforms and associated stairs. Structural drawings S-101A and S-102A are for base building pricing.

Please see attached Drawing S-101A Structural Level 200 Partial Plans Without Platform;  
Issued For Addendum

Please see attached Drawing S-102A Structural Level 200 Partial Plans Without Platform;  
Issued For Addendum

Please see attached Drawing A-101 Control Room and Platform New Floor Plan; Revised For Tender.

Please see attached Drawing A-102 Control Room and Platform Section and Elevations; Revised For Tender.

**SPECIFICATIONS REFERENCE**

**Reference Section 23 51 00 Breeching, Chimneys and Stacks**

.1 Reference Paragraph 2.3.2 Muffler / Silencer:

.1 Reference paragraph 2.3.2.1: Add, " Insulation blanket to be rated for exterior use."

- .2 Reference paragraph 2.3.2.2: Add, " 35-40 dBA. Muffler c/w exterior rated insulation blanket"
- .3 Reference paragraph 2.3.2.3: Add, " 35-40 dBA. Muffler c/w exterior rated insulation blanket"

#### DRAWING REFERENCE

##### Reference Drawing MH-602 :

- .1 Please see attached sketch clarifying EPWS/EPWR lower temperature  
LT highlighted in yellow which DOES NOT require insulation and associated  
jacketing. (See Question and Answer 1 above)

All Other Terms and Conditions Remain the Same.