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Halifax

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B3J 1T3

Bid Fax: (902) 496-5016

**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**

Atlantic Region Acquisitions/Région de l'Atlantique  
Acquisitions

1713 Bedford Row

Halifax, N.S./Halifax, (N.E.)

Halifax

Nova Scot

B3J 1T3

<b>Title - Sujet</b> CCGCTraining Engine Installation	
<b>Solicitation No. - N° de l'invitation</b> EB144-212046/A	<b>Amendment No. - N° modif.</b> 003
<b>Client Reference No. - N° de référence du client</b> EB144-21-2046	<b>Date</b> 2021-02-18
<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 2021-02-24</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
<b>Telephone No. - N° de téléphone</b> (902) 401-7604 ( )	<b>FAX No. - N° de FAX</b> (902) 496-5016
<b>Destination - of Goods, Services, and Construction:</b> <b>Destination - des biens, services et construction:</b>	

Instructions: See Herein

Instructions: Voir aux présentes

<b>Delivery Required - Livraison exigée</b>	<b>Delivery Offered - Livraison proposée</b>
<b>Vendor/Firm Name and Address</b> <b>Raison sociale et adresse du fournisseur/de l'entrepreneur</b>	
<b>Telephone No. - N° de téléphone</b> <b>Facsimile No. - N° de télécopieur</b>	
<b>Name and title of person authorized to sign on behalf of Vendor/Firm</b> <b>(type or print)</b> <b>Nom et titre de la personne autorisée à signer au nom du fournisseur/</b> <b>de l'entrepreneur (taper ou écrire en caractères d'imprimerie)</b>	
<b>Signature</b>	<b>Date</b>

Cette modification sera disponible en anglais seulement en raison de la nature technique de la présente modification.

Amendment 003 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 23, 2021 to February 24, 2021. Closing location and time to remain unchanged.

**Question 1** What surface preparation is required for interior / exterior piping? (section 23 11 13.01)

**Answer to Question 1:**

1. Apply one coat primer and two coats of yellow epoxy paint to all exterior pipes.
2. Apply one coat primer and one coat of epoxy paint to all interior non-insulated pipes where called to be painted in specification.

**Question 2:** What is the specification for the paint / primer for the interior / exterior piping?

**Answer to Question 2:**

3. Exterior painting system to section 09 91 00 Painting and EXT 5.1F Epoxy finish. The coating shall be high-solids polyamide cured epoxy with a semi-gloss finish. Minimum solids by volume to be 65%.
4. Interior painting system to section 09 91 00 Painting and INT 5.1L Epoxy finish. The coating shall be high-solids polyamide cured epoxy with a semi-gloss finish. Minimum solids by volume to be 65%.
5. Prime coat system: The prime coating shall be a self-curing inorganic ethyl silicate (zinc-rich), with a minimum amount of zinc in dry film of 85.0%. Color shall be gray with a matte finish.

**Question 3:** Can you confirm all exterior steel is to be galvanized?

**Answer to Question 3:** Confirmed.

**Question 4:** Can you confirm all platform and stair steel is to be galvanized ?

**Answer to Question 4:** Interior platform and stair steel does not need to be galvanized.

**Question 5:** If the platform and stair steel is to be galvanized. Does all the steel get painted safety yellow after galvanizing?

**Answer to Question 5:** It would not be an expectation for the steel that is galvanized to be painted. All non-galvanized steel needs to be primed and painted. The stair tread nosing's should be painted safety yellow. A safety tape can be applied as well.

**Question 6:** Is the platform top plate 8mm alum checker as per the drawings or 3mm steel checker as per the spec.

**Answer to Question 6:** The platform floor plate is to be 8mm aluminum checker plate as per the drawings

**Question 7:** Can you confirm if all interior structural steel is to be galvanized or painted. If painted, is the coating just primer?

**Answer to Question 7:** Interior structural steel does not need to be galvanized. All exposed steel structure is to be primed and painted. Colour to be chosen by departmental representative.

**Question 8:** Is CCGC to supply (3) muffler/silencer units?

**Answer to Question 8:** CCG is supplying one muffler/silencer (for the Wartsila), installed by contractor. Contractor is supplying and installing mufflers /silencers for MTU2000 and MTU4000.

**Question 9:** Is all breeching (excluding dual exhaust header) to be prefab?

**Answer to Question 9:** Yes

**Question 10:** Are there details for the breeching structural supports?

**Answer to Question 10:** Please see drawings S-100, S-102 and detail 400/dwg S-301. Detail 400/dwg S-301 typical of Wartsila, MTU2000, and MTU4000

**Question 11:** How is SF-9 to be controlled?

**Answer to Question 11:** Fan to be supplied with wall mounted variable speed dial type controller.

**Question 12:** Does the breeching require to be suspended at 1.5 m centers and at each joint, as notes in the attached specifications.

**Answer to Question 12:** The breeching requires to be suspended per manufacturer's recommendations.

## **SPECIFICATIONS REFERENCE**

### **Reference Section 23 13 23.01**

- .1 Reference Paragraph 1.4 Submittals:  
Add paragraph 1.4.3.23, ".23 Include verification/ proof tanks pickled at factory"
- .2 Add Paragraph 2.16 Pickling,  
"2.16 Pickling All tanks to be pickled, flushed, and plugged by tank manufacturer at factory"

### **Reference Appendix A**

- .1 Reference Part 14 Deaerators  
.1 All deaerators supplied by contractor, installed by contractor.
- .2 Reference Part 1 Commissioning manual  
.1 Revise; "Buyer" to, "Contractor"  
.2 See attached Commissioning Table1, Table 2, and Table 3

### **Reference Section 23 11 13.01 Facility Diesel Fuel & Lube Oil Piping**

- .1 Reference Paragraph 2.2 Fill, Vent And Carrier Pipe:  
.1 Reference paragraph 2.2.1: Revise, "..... ASTM A106 GrB ...." To, "... ASTM A 53/A 53M..."
- .2 Add paragraph 2.15; "2.15 Pneumatic Lube Oil Transfer Pumps (PX9-10 and PX9-11)  
.1 Capacity: Max Flow rate: 0.17 l/s (16.6 gpm)  
.2 Pumped fluid: lube oil.  
.3 Air Supply pressure : 138- 690 kpa (20-100 psi)  
.4 Max air consumption : 24.7 SCFM

- .5 Hytrel diaphragm material
- .6 Discharge Volume per cycle: 0.18- 0.23 liters (0.039-0.05 Gal)
- .7 c/w compound gauge on inlet, pressure gauge on discharge.
- .8 Qty: 2"

#### DRAWINGS REFERENCE

##### Reference Drawings MP-601

- .1 Please see attached MP-601, Issued For Addendum

##### Reference Drawings MH-602

- .1 Please see attached MH-602, Issued For Addendum
- .2 Add Note, " Wartsila Dyno currently installed. However, Wartsila Dyno auxiliary equipment currently not installed and to be installed by this contractor"

##### Reference Drawings MH-603

- .1 Please see attached MH-603, Issued For Addendum

##### Reference Drawings MH-604

- .1 Please see attached MH-604, Issued For Addendum

##### Reference Drawings MH-606

- .1 Reference Pump Schedule
  - .1 Reference pump PX9-9;
    - .1 Revise, " 3 l/s" to , "0.42 l/s"
    - .2 Revise, "1206 kPa" to, " 150 kPa"

##### Reference Drawings MV-101 and MV-602:

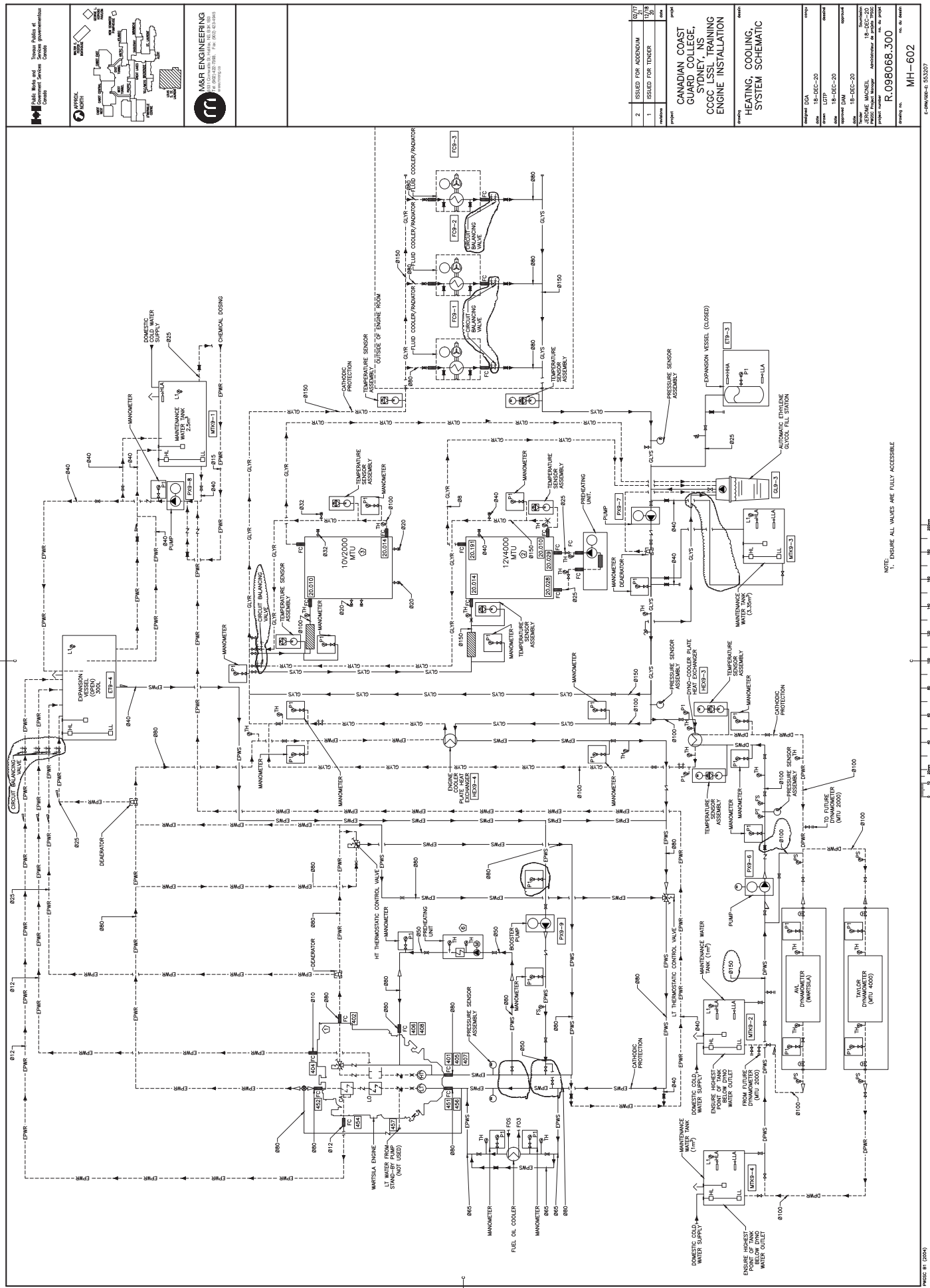
- .1 Reference Supply Fan Schedule
  - .1 Add Note: "Remote Dial for Indoor Wall Mounting Variable speed Control , with manufacturer supplied Transformer, Mounted & Wired"

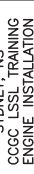
##### Reference Electrical Drawing EP-102

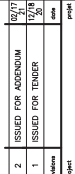
- .1 Add note, " Supply and install two (2) emergency stop pushbuttons, one (1) at exterior fuel tank, mounted on exterior of building and one (1) in Control Room 226. Emergency stop push buttons shall be weatherproof, mushroom pushbutton style, used to shutdown fuel transfer pump FTP1A, FTP1B and purifiers. Revise circuit breakers serving equipment to be c/w shunt trip and connect to emergency stop pushbuttons such that actuation of either button will shutdown equipment."

All Other Terms and Conditions Remain the Same.









project  
CANADIAN COAST  
GUARD COLLEGE,  
SYDNEY, NS  
CCGC LSSL TRAINING  
ENGINE INSTALLATION

## LUBE AND WASTE OIL FLOW SCHEMATIC

[illegible]

R.098068.300	no. du dessin
	MH-604



## Wartsila Commissioning Responsibility Matrix

Act. Nr.	Main activities related to Wartsila scope of supply	Execution by	Guidance provider	Witnessed by Wärtsilä
<b>A. Pre-Commissioning</b>				
A.1	Installation of the engine	Contractor	IPI	No
A.2	Installation of external pipe systems	Contractor	IPI	No
A.3	Installation of flexible pipe connections and supports	Contractor	IPI	No
A.4	Installation of flexible coupling ( <i>Scope of supply depending</i> )	Contractor	IPI	No
A.5	Installation of auxiliaries delivered by Wartsila	Contractor	IPI	No
A.6	Removal of all warning stickers and conservation material from engines and engine oil sump	Contractor	IPI	No
A.7	Installation of electrical grounding between engines and bldg	Contractor	Contractor	No
A.8	Installation of external cabling to engine & auxiliaries	Contractor	IPI	No
A.9	Installation of interface cabling between Wartsila supplied equipment	Contractor	IPI	No
A.10	Alternator megger test	Contractor	Contractor	NO
A.11	Cleaning, flushing, testing and inspection of fuel oil pipe systems, including expansion and day tanks	Contractor	IPI	No
A.12	Cleaning, flushing, testing and inspection of lube oil pipe systems, including sump tank	Contractor	IPI	No
A.13	Cleaning, testing and inspection of compressed air system	Contractor	IPI	No
A.14	Cleaning, testing and inspection of cooling water system	Contractor	IPI	No
A.15	Cleaning, and inspection of combustion air and exhaust gas system	Contractor	IPI	No
A.16	External cable loop checks (ref. A7 and A 8)	Contractor	Contractor	No
A.17	Power supplies available (ref. A7 and A 8)	Contractor	Contractor	No
A.18	Installation readiness check sheets to be sent to Wartsila ( <i>To be sent to Commissioning coordinator and SP PM before Wartsila commissioning work start</i> )	Contractor	Contractor	
<b>B. Commissioning</b>				
8.1	Inspection of resilient mounts installation and filling-in of the related form	Contractor	IPI	Yes
8.2	Inspection of (flexible) pipe connections to engine	Contractor	IPI	Yes
8.3	Inspection of (flexible) connections in exhaust gas system	Contractor	IPI	Yes
8.4	Inspection of (flexible) connections in charge air system	Contractor	IPI	Yes
8.5	Filling of systems (water, oil and fuel), verify cooling water treatment	Contractor	IPI	Yes
8.6	Sampling and analysis of lube oil, fuel oil and cooling water ( <i>If reuse of lube oil after flushing</i> )	Contractor	IPI	Yes
8.8	Cold alignment of coupling and diesel generating set	Contractor	IPI	Yes

8.9	Cold crankshaft deflection	Contractor/ Wartsila	IPI	Yes
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Act. Nr.	Main activities related to Wartsila scope of supply	Execution by	Guidance Witnessed provider byWartsila	
B.10	Spot check of lube oil, fuel, air and water system cleanness	Contract or	Wartsila	Yes
B.11	Signal interface checking between equipments /systems between Wartsila and Contractor scope	Contractor/ Wartsila	Contractor	Yes
B.12	Alarm testing	Contract or	Contractor	Yes
B.13	Powering up and start up of auxiliary equipment	Wartsila		Yes
B.14	Prechecking of engine shut down functions	Wartsila		Yes
B.15	First start of engine, bearing run (5 min)	Wartsila		Yes
B.16	Engine shut down function test	Wartsila		Yes
B.17	Phase sequence check of generator	Contract or		Yes
B.18	Loading of engine to verify functionality of all external systems ( <i>Scope of supply depending</i> )	Contractor/ Wartsila	Contractor	Yes
B.19	Verification of flow rates	Contractor/ Wartsila	Contractor	Yes
C.2	Load acceptance test (Quay Trials)	Contractor/ Wartsila	Contractor/ Wartsila	Yes
C.3	Synchronizing & parallel run test and tuning	Contractor/ Wartsila	Contractor/ Wartsila	Yes
C.4	Verification of safe loading of engines (e.g. loading ramps, combinator curve, etc.) ( <i>Tuning of propulsion plant or PMS</i> )	Contractor/ Wartsila	Contractor/ Wartsila	Yes
C.5	Check of crankshaft deflection in hot condition	Contractor/ Wartsila	IPI	Yes
C.6	Check alignment of coupling in hot condition	Contractor/ Wartsila	IPI	Yes
C.8	Completion of Commissioning Certificate	Contractor/ Wartsila	Wartsila	Yes
C.9	Removal of running-in filters (when applicable)	Wartsila		Yes
C.10	50 hrs maintenance (when applicable)	Wartsila		Yes

## MTU4000 Commissioning Responsibility Matrix

Act. Nr.	Main activities related to MTU 4000 scope of supply	Execution by	Guidance provider	Witnessed by MTU
<b>A. Pre-Commissioning</b>				
A.1	Installation of the engine	Contractor	IPI	No
A.2	Installation of external pipe systems	Contractor	IPI	No
A.3	Installation of flexible pipe connections and supports	Contractor	IPI	No
A.4	Installation of flexible coupling ( <i>Scope of supply depending</i> )	Contractor	IPI	No
A.5	Installation of auxiliaries delivered by MTU	Contractor	IPI	No
A.6	Removal of all warning stickers and conservation material from engines and engine oil sump	Contractor	IPI	No
A.7	Installation of electrical grounding between engines and bldg	Contractor	Contractor	No
A.8	Installation of external cabling to engine & auxiliaries	Contractor	IPI	No
A.9	Installation of interface cabling between MTU supplied equipment	Contractor	IPI	No
A.10	Alternator megger test	Contractor	Contractor	NO
A.11	Cleaning, flushing, testing and inspection of fuel oil pipe systems, including expansion and day tanks	Contractor	IPI	No
A.12	Cleaning, flushing, testing and inspection of lube oil pipe systems, including sump tank	Contractor	IPI	No
A.13	Cleaning, testing and inspection of compressed air system	Contractor	IPI	No
A.14	Cleaning, testing and inspection of cooling water system	Contractor	IPI	No
A.15	Cleaning, and inspection of combustion air and exhaust gas system	Contractor	IPI	No
A.16	External cable loop checks (ref. A? and A 8)	Contractor	Contractor	No
A.17	Power supplies available (ref. A? and A 8)	Contractor	Contractor	No
A.18	Installation readiness check sheets to be sent to MTU ( <i>To be sent to Commissioning coordinator and SP PM before MTU commissioning work start</i> )	Contractor	Contractor	
<b>B. Commissioning</b>				
8.1	Inspection of resilient mounts installation and filling-in of the related form	Contractor	IPI	Yes
8.2	Inspection of (flexible) pipe connections to engine	Contractor	IPI	Yes
8.3	Inspection of (flexible) connections in exhaust gas system	Contractor	IPI	Yes
8.4	Inspection of (flexible) connections in charge air system	Contractor	IPI	Yes
8.5	Filling of systems (water, oil and fuel), verify cooling water treatment	Contractor	IPI	Yes
8.6	Sampling and analysis of lube oil, fuel oil and cooling water ( <i>If reuse of lube oil after flushing</i> )	Contractor	IPI	Yes
8.8	Cold alignment of coupling and diesel generating set	Contr	IPI	Yes

		actor		
8.9	Cold crankshaft deflection	Contractor/ MTU	IPI	Yes

Act. Nr.	Main activities related to MTU 4000 scope of supply	Execution by	Guidance Witnessed provider byMTU	
B.10	Spot check of lube oil, fuel, air and water system cleanness	Contract or	MTU	Yes
B.11	Signal interface checking between equipments /systems between MTU and Contractor scope	Contractor/ MTU	Contractor	Yes
B.12	Alarm testing	Contract or	Contractor	Yes
B.13	Powering up and start up of auxiliary equipment	MTU		Yes
B.14	Prechecking of engine shut down functions	MTU		Yes
B.15	First start of engine, bearing run (5 min)	MTU		Yes
B.16	Engine shut down function test	MTU		Yes
B.17	Phase sequence check of generator	Contract or		Yes
B.18	Loading of engine to verify functionality of all external systems ( <i>Scope of supply depending</i> )	Contractor/ MTU	Contractor	Yes
B.19	Verification of flow rates	Contractor/ MTU	Contractor	Yes
C.2	Load acceptance test (Quay Trials)	Contractor/ MTU	Contractor/ MTU	Yes
C.3	Synchronizing & parallel run test and tuning	Contractor/ MTU	Contractor/ MTU	Yes
C.4	Verification of safe loading of engines (e.g. loading ramps, combinator curve, etc.) ( <i>Tuning of propulsion plant or PMS</i> )	Contractor/ MTU	Contractor/ MTU	Yes
C.5	Check of crankshaft deflection in hot condition	Contractor/ MTU	IPI	Yes
C.6	Check alignment of coupling in hot condition	Contractor/ MTU	IPI	Yes
C.8	Completion of Commissioning Certificate	Contractor/ MTU	MTU	Yes
C.9	Removal of running-in filters (when applicable)	MTU		Yes
C.10	50 hrs maintenance (when applicable)	MTU		Yes

## MTU2000 Commissioning Responsibility Matrix

Act. Nr.	Main activities related to MTU 2000 scope of supply	Execution by	Guidance provider	Witnessed by MTU
<b>A. Pre-Commissioning</b>				
A.1	Installation of the engine	Contractor	IPI	No
A.2	Installation of external pipe systems	Contractor	IPI	No
A.3	Installation of flexible pipe connections and supports	Contractor	IPI	No
A.4	Installation of flexible coupling ( <i>Scope of supply depending</i> )	Contractor	IPI	No
A.5	Installation of auxiliaries delivered by MTU	Contractor	IPI	No
A.6	Removal of all warning stickers and conservation material from engines and engine oil sump	Contractor	IPI	No
A.7	Installation of electrical grounding between engines and bldg	Contractor	Contractor	No
A.8	Installation of external cabling to engine & auxiliaries	Contractor	IPI	No
A.9	Installation of interface cabling between MTU supplied equipment	Contractor	IPI	No
A.10	Alternator megger test	Contractor	Contractor	NO
A.11	Cleaning, flushing, testing and inspection of fuel oil pipe systems, including expansion and day tanks	Contractor	IPI	No
A.12	Cleaning, flushing, testing and inspection of lube oil pipe systems, including sump tank	Contractor	IPI	No
A.13	Cleaning, testing and inspection of compressed air system	Contractor	IPI	No
A.14	Cleaning, testing and inspection of cooling water system	Contractor	IPI	No
A.15	Cleaning, and inspection of combustion air and exhaust gas system	Contractor	IPI	No
A.16	External cable loop checks (ref. A? and A 8)	Contractor	Contractor	No
A.17	Power supplies available (ref. A? and A 8)	Contractor	Contractor	No
A.18	Installation readiness check sheets to be sent to MTU ( <i>To be sent to Commissioning coordinator and SP PM before MTU commissioning work start</i> )	Contractor	Contractor	
<b>B. Commissioning</b>				
8.1	Inspection of resilient mounts installation and filling-in of the related form	Contractor	IPI	Yes
8.2	Inspection of (flexible) pipe connections to engine	Contractor	IPI	Yes
8.3	Inspection of (flexible) connections in exhaust gas system	Contractor	IPI	Yes
8.4	Inspection of (flexible) connections in charge air system	Contractor	IPI	Yes
8.5	Filling of systems (water, oil and fuel), verify cooling water treatment	Contractor	IPI	Yes
8.6	Sampling and analysis of lube oil, fuel oil and cooling water ( <i>If reuse of lube oil after flushing</i> )	Contractor	IPI	Yes
8.8	Cold alignment of coupling and diesel generating set	Contractor	IPI	Yes

8.9	Cold crankshaft deflection	Contractor/ MTU	IPI	Yes
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Act. Nr.	Main activities related to MTU 4000 scope of supply	Execution by	Guidance Witnessed provider byMTU	
B.10	Spot check of lube oil, fuel, air and water system cleanness	Contract or	MTU	Yes
B.11	Signal interface checking between equipments /systems between MTU and Contractor scope	Contractor/ MTU	Contractor	Yes
B.12	Alarm testing	Contract or	Contractor	Yes
B.13	Powering up and start up of auxiliary equipment	MTU		Yes
B.14	Prechecking of engine shut down functions	MTU		Yes
B.15	First start of engine, bearing run (5 min)	MTU		Yes
B.16	Engine shut down function test	MTU		Yes
B.17	Phase sequence check of generator	Contract or		Yes
B.18	Loading of engine to verify functionality of all external systems ( <i>Scope of supply depending</i> )	Contractor/ MTU	Contractor	Yes
B.19	Verification of flow rates	Contractor/ MTU	Contractor	Yes
C.2	Load acceptance test (Quay Trials)	Contractor/ MTU	Contractor/ MTU	Yes
C.3	Synchronizing & parallel run test and tuning	Contractor/ MTU	Contractor/ MTU	Yes
C.4	Verification of safe loading of engines (e.g. loading ramps, combinator curve, etc.) ( <i>Tuning of propulsion plant or PMS</i> )	Contractor/ MTU	Contractor/ MTU	Yes
C.5	Check of crankshaft deflection in hot condition	Contractor/ MTU	IPI	Yes
C.6	Check alignment of coupling in hot condition	Contractor/ MTU	IPI	Yes
C.8	Completion of Commissioning Certificate	Contractor/ MTU	MTU	Yes
C.9	Removal of running-in filters (when applicable)	MTU		Yes
C.10	50 hrs maintenance (when applicable)	MTU		Yes