



অসম আন্তঃৰাষ্ট্ৰীয় জল পৰিবহন উন্নয়ন সমিতি

Assam Inland Water Transport Development Society

(An Autonomous Body under the Transport Department, Government of Assam)

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No.AIWTDS-177/2019/43

dated 17.07.2019

### Corrigendum-II

In reference to the RFB notification no. AIWTDS/177/2019/30 dated 28<sup>th</sup> June 2019 for E-procurement of "Supply, Installation and Commissioning of 4 (four) nos. of Type approved Marine Diesel Engines (2 nos. 140 HP and 2 nos. 180 HP) coupled with compatible Gear Box for repowering of existing two vessels of IWT, Assam at Guwahati.", certain amendments enclosed as Annexure-A, have been incorporated in the bid document. Bidders are requested to take the note of these amendments prior to the submission of bid.

The last date for submission of bid has also been extended to 30.07.2019 till 14:00HRS (IST). The date & time of bid opening through e-procurement portal of govt. of Assam viz. [www.assamtenders.gov.in](http://www.assamtenders.gov.in) is fixed on 30.07.2019 at 16:00 HRS(IST)

**Enclosed: Annexure-A**

(Rahul Ch Das, ACS)

Deputy State Project Director  
Assam IWT Development Society  
Ulubari, Guwahati-7

Memo No.AIWTDS-177/2019/43-A

dated 17.07.2019

Copy to:

- i) OSD to SPD, AIWTD Society for kind appraisal of the State Project Director
- ii) The Director, IWT Assam for publishing the Corrigendum-II in the website of DIWT [www.iwtdirectorate.assam.gov.in](http://www.iwtdirectorate.assam.gov.in)
- iii) e-procurement portal of Govt. of Assam viz. [www.assamtenders.gov.in](http://www.assamtenders.gov.in)

(Rahul Ch Das, ACS)

Deputy State Project Director  
Assam IWT Development Society  
Ulubari, Guwahati-7

## Annexure-A of Corrigendum No. II

RFB No.: AIWTDS/177/2019/30

Date: 28.06.2019

### Procurement of:

**Supply, Installation and Commissioning of 4(four) nos. of type approved Marine Diesel Engines coupled with Compatible Gear Box for repowering of existing 2 (two) vessels of IWT Assam under IWT division, Guwahati. (2 no's of 140 BHP and 2 no's of 180 BHP along with compatible Gear Box)**

Clause Reference	Existing	Modified
Section II - Bid Data Sheet (BDS) – ITB Reference 22.1	The deadline for uploading the Bids is: Date: 19 <sup>th</sup> July 2019 Time: 1400 Hrs	The deadline for uploading the Bids is: Date: 30 <sup>th</sup> July 2019 Time: 14:00 Hrs
Section II - Bid Data Sheet (BDS) – ITB Reference 25.1	The online Bid opening shall take place on: Date: 23 <sup>rd</sup> July 2019 Time: 1500 Hrs	The online Bid opening shall take place on: Date: 30 <sup>th</sup> July 2019 Time: 16:00 Hrs
RFB No. AIWTDS/177/2019/ 30 Dated, Guwahati, the 28 <sup>th</sup> June'2019	<b>Title of Procurement:</b> Supply, Installation and Commissioning of 4 (four) nos. of Type approved Marine Diesel Engines (2 nos. 140 HP and 2 nos. 180 HP) coupled with compatible Gear Box along with 12 V electric starting system and all necessary standard accessories for repowering of existing two vessels of IWT, Assam at Guwahati	Supply, Installation and Commissioning of 4 (four) nos. of Type approved Marine Diesel Engines (2 nos. 140 HP and 2 nos. 180 HP) coupled with compatible Gear Box along with all necessary standard accessories for repowering of existing two vessels of IWT, Assam at Guwahati

## Clause Reference

**PART 2 – Supply Requirements, Section VII - Schedule of Requirements,  
3. Technical Specifications has been modified as:**

### 3. Technical Specifications

<b>Propulsion System</b>	<b>~140 BHP Marine Turbo Diesel Engine. ~180 BHP Marine Turbo Diesel Engine. Marine Hydraulic Gearbox.</b>
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#### 1.0 Requirement:-

Required two sets of IACS Member Class Type approved **~140 BHP @ 2000 RPM** and two sets of **~180 BHP @ 2000 RPM**, 4 (four) Stroke Marine Turbo charged internal combustion Diesel engines fitted with compatible Hydraulic Marine Reverse Reduction Gear Box and twin remote control system along with all necessary alarms, trips, annunciation and essential accessories etc. for retrofitting in Inland Water Passenger Vessels.

The engines should be:

- Marine Engines from manufacturer or authorized OEM.
- Suitable for working in ambient air temperature of 45 deg. C. and water temperature of 32 deg. C.
- With Type approval of IACS Member Class.
- Available with local spares and servicing facilities at Assam, India.
- SFC (Specific Fuel Consumption) certified by the manufacturer/OEM, at economic RPM (Specify RPM).
- With proof of 10 years of manufacturing/product support.

The Gearbox should be:

- From reputed Indian or International manufacturer.
- Factory Fitted to the Engine with suitable coupling.
- Type approved by IACS Member Class.

Manufacturer / OEM is to provide service manual along-with parts catalogue during supply of main engine, gear box along-with OEM recommended tool kit and consumable parts for one year.

#### 1.1 Engine:-

Class approved light duty rating ( for passenger ferry service in river , maximum 50% time running in every 24 hours) 4 Stroke Turbo Charged Diesel Engine of reputed brand having indigenous manufacturing and product support facilities.

Proof of local (in Assam) service centres shall be submitted at the time of bid submission.



1. The engine is to be equipped for electrical starting. 24 Volt electrical starting and charging batteries shall be provided.
2. The engine is to be supplied complete with all associated accessories, alarms, trips & annunciation as approved by Class & required for satisfactory running.

Alarms, trips and annunciations – Class required alarms and annunciations are to be provided for local mounting as well as for the remote operating station, including the following add minimum :-

- High cooling water temperature
- High lub oil temperature
- Low lub oil pressure
- Engine rpm meter
- Engine hour meter

3. The engines and Gear Boxes shall be Heat Exchanger cooled.
4. The engine is to be supplied with standard equipment as applicable, e.g.
  - (a) Flameproof Hose lines for fuel connection.
  - (b) Fuel pre-filter.
  - (c) Oil dipstick (left or right).
5. Engine installations are to be designed such as to ensure proper operations under the conditions as under:
  - Permanent list of 10°
  - Permanent trim of 5°
6. Suitable exhaust system dry type to be provided as per OEM recommendation. Supply to include silencer with each engine & 3 piece bellows for each exhaust line.
7. Suitable fuel system to be provided including fuel filter, fuel consumption gauge(s) etc.
8. Provision of remote starting/stopping of main engines from the wheel house/coxswain and locally from engine room as applicable shall be provided.

Controls – Combined twin screw Push-Pull cable type remote control set for engines and gearboxes is to be provided for each pair of engines and gearboxes.

### **1.3 Gearbox**

Marine hydraulic reverse reduction gearbox of reputed brand having local product support & servicing facilities with Type approval by member of IACS classification Society, with reduction ratio of 2:1 shall be fitted on each shaft line to meet main engine output and speed characteristics.

The gearbox shall be marine type and rigidly mounted with manufacturer's recommended mounting arrangement with couplings to main engines. Thrust bearings shall be incorporated

within the gearbox. The gearbox shall be complete with its auxiliary equipment, systems, controls and instrumentation. The Reduction ratio of the gearbox would be 2:1.

Supply to be complete with foundation bolts, all pumps and heat exchangers and all other accessories as required for satisfactory running of the engines.

**3.0 Test & Trials:** -The successful bidder shall be responsible for Supervising, Assisting and commissioning installation of the Engines, Gear Boxes and supplied accessories and commissioning the supplied equipments etc. during fitment of the propulsion train. The following will be examined by Department engineers/ 3<sup>rd</sup> Party Surveyors for which the supplier's technical representative shall be present:-

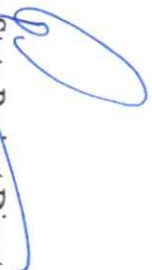
- a) Engine installation, shafting & propeller arrangement.
- b) Examination of structural arrangement in way of engine girder.
- c) Examination of fuel system including provision of fuel filter, & water separator, engine cooling system, exhaust system (dry/wet type).
- d) Examination of engine starting/stopping system, control & monitoring system.
- e) Water/speed trials to evaluate the performance of engine. (Min. one hour water trial of boat to be carried out at various loading condition to evaluate the engine RPM, and boat speed, maneuvering trial, astern trial, turning circle, crash stop.).





Sr. No	REFERENCE	AS STATED IN TENDER DOCUMENTS	QUERY/REMARKS			REPLY TO QUERIES									
3.	PART 2 – Supply Requirements, Section VII - Schedule of Requirements, 3.Technical Specifications, Engine Specification Guide lines (Both 140/180HP)	Displacement ( Below 5000 cc ) Weight ( Engine + Gear Box ) - 800 kg	How does the displacement for higher rating i.e. 180 HP engine is decided? Can it be possible to increase displacement value upto 7000 cc to meet this power requirement (180 HP)? For higher power 180 HP Engine and Gearbox ,since weight of Gear boxes are on higher side, could you accept additional weight upto 500 kg i.e. total 1300 kg		<p><b>Engine Specification</b></p> <p>(a) Fuel Consumption (SFC) - 155 gm/hp/hr</p> <p>(b) Fuel Consumption (SFC)- 6.5 lit/hr &amp; 7.5 lit/hr</p> <p>(c) 12 V starting system</p> <p><b>SWP / Fresh water pump</b></p> <p>(d) Shaft Material ( SS 316 )</p> <p><b>Heat Exchanger</b></p> <p>(e) Shell Material - Aluminium</p> <p><b>Charge and Exhaust</b></p> <p>(f) Exhaust Manifold - Water cooled</p>	<p>(a) At What % of Load SFC is calculated?</p> <p>(b) At What Power the fuel consumption is calculated in L/Hr? What is the criteria for load on the engine is considered?</p> <p>(c) In safety point of view, Marine application require 24 V starting system. Could you accept 24 v Starting system?</p> <p>(d) Could you accept shaft material as SS 304 in place of SS316?</p> <p>(e) Could you accept shell material as IS 2062 ( High tensile structural steel ) in place of Aluminium</p> <p>(f) Could you accept dry type exhaust manifold in place of water cooled Exhaust manifold</p>	Please refer to Corrigendum II								
4.	PART 2 – Supply Requirements, Section VII - Schedule of Requirements, 3.Technical Specifications,	<p><b>Engine Specifications (140/180 HP)</b></p> <p>(a) Displacement : Not above 5000 CC</p> <p>(b) Pump: Mico/Bosch/Any other equivalent – P Type</p> <p>(c) Weight (Engine + Gearbox) – Not</p>	<table border="1"> <thead> <tr> <th data-bbox="351 1951 438 2049">Sl No</th> <th data-bbox="351 2049 438 2161">140 HP</th> <th data-bbox="351 2161 438 2240">180 HP</th> </tr> </thead> <tbody> <tr> <td data-bbox="295 1951 351 2049">a)</td> <td data-bbox="295 2049 351 2161">5700 CC</td> <td data-bbox="295 2161 351 2240">5700 CC</td> </tr> <tr> <td data-bbox="231 1951 295 2049">b)</td> <td data-bbox="231 2049 295 2161">Bosch A Type</td> <td data-bbox="231 2161 295 2240">Bosch A Type</td> </tr> </tbody> </table>	Sl No	140 HP	180 HP	a)	5700 CC	5700 CC	b)	Bosch A Type	Bosch A Type			Please refer to Corrigendum II
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b)	Bosch A Type	Bosch A Type													

Sr. No	REFERENCE	AS STATED IN TENDER DOCUMENTS	QUERY/REMARKS		REPLY TO QUERIES															
		<p>above 800 Kg.</p> <p>(d) Fuel Consumption: SFC – Not above 155gm/HP/HR</p> <p>(e) Fuel Consumption L/HR. – 6.5 L (Min 8 Knots/1800 RPM) for 140 HP, 7.5 L (Min 8 Knots/1800) for 180 HP</p> <p><b>Fuel Circuit (140/180 HP)</b></p> <p>(f) Fuel leak collection tray – Yes</p> <p><b>Heat Exchanger</b></p> <p>(g) Tubes – Copper</p> <p><b>Charge &amp; Exhaust</b></p> <p>(h) Exhaust Manifold – Water Cooled</p> <p><b>Instrumentation</b></p> <p>(i) Engine oil temperature alarm - Yes</p>	<table border="1"> <tr> <td data-bbox="1284 1265 1372 1635">c)</td> <td data-bbox="1284 1635 1372 1904">Its 795 Kg. without GB</td> <td data-bbox="1220 1265 1276 1635">d)</td> <td data-bbox="1220 1635 1276 1904">158gm/HP/HR</td> </tr> <tr> <td data-bbox="1157 1265 1212 1635">e)</td> <td data-bbox="1157 1635 1212 1904">It will change as per application</td> <td data-bbox="1093 1265 1149 1635">f)</td> <td data-bbox="1093 1635 1149 1904">Fuel leak collection cylinder</td> </tr> <tr> <td data-bbox="1029 1265 1085 1635">g)</td> <td data-bbox="1029 1635 1085 1904">Cupronickel</td> <td data-bbox="965 1265 1021 1635">h)</td> <td data-bbox="965 1635 1021 1904">Dry/ Wet Optional</td> </tr> <tr> <td data-bbox="901 1265 957 1635">i)</td> <td data-bbox="901 1635 957 1904">Not available</td> <td data-bbox="837 1265 893 1635"></td> <td data-bbox="837 1635 893 1904">Not available</td> </tr> </table>	c)	Its 795 Kg. without GB	d)	158gm/HP/HR	e)	It will change as per application	f)	Fuel leak collection cylinder	g)	Cupronickel	h)	Dry/ Wet Optional	i)	Not available		Not available	
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