Full technical specification requested by the contracting authority

Port tugboat-pusher

A harbor tugboat-pusher (hereafter - tug) is required, intended for maneuvering other vessels or floating units by the pulling/pushing method in the Giurgiulesti Port Complex aquatorium, and on the maritime sector of the Danube River. The tugboat will be trained in port towage maneuvers of sea-going vessels (up to 15000 GRT), mixed navigation vessels (river-sea), and inland navigation vessels. At the same time, the tug must be equipped and capable of performing other activities as required, such as: rescue; fire-fighting; ice-breaking; the tug must be highly maneuverable, capable of towing in any direction, have very good visibility from the wheelhouse, and be stable in waves, to the pull of the towbar and violent gyrations.

Tenderers proposing the tug must submit in their tenders the following characteristics as mentioned below.

1. General provisions

The tug must be designed to carry out towing/ pushing operations of sea and river vessels in the Giurgiulesti Port Complex.

Working temperature range from -30 to +50ºC.

The tug must be maintained with a 3-person crew, be reliable, simple to service, with easy accessibility to all equipment, parts and assemblies.

2. Manufacturing

The proposed tug should preferably be a new one, but also accepted with year of construction not older than 2015, provided that the last dry-dock examination is not later than 2023. The tug must be ice classed by one of the EU recognized classification societies, capable of breaking ice with a minimum thickness of 20 cm.

3. Standards

The tug shall be built in accordance with the rules for classification and construction of ships of a classification society recognized by the European Commission, and the requirements of the ES-TRIN standard shall be taken into account. The class of the tugboat must be established by a classification society recognized by the European Commission.

4. Units of measurement

All data and information must be presented in the metric system of measurement (SI).

5. List of requirements

General indicators:

Required specifications		
	Harbor tugboat-pusher	
5.1.1.	Hull - metal; - ice' class required for breaking ice with a minimum thickness of 20 cm (class 'ICE', according to the class assigned by the classification society recognized by the European Commission); - propulsion adapted to ice navigation; - fortified bow for the purpose of pushing ships - Wider bow and stern protection (preferable minimum width to be preferred)	
5.1.2.	Engine - number of engines - 2 (two); - fuel type - diesel;	

	- total engine power - not less than 1350 hp; - Engine manufacturer (preferably EU, USA, Japan, UK: e.g. Caterpillar; Volvo Penta), or similar, with a world-wide reputation, and extensive experience in the production of marine engines (Diesel Marine Engine). - The tug must have automation class that does not require continuous supervision of the machinery space - UMS (Unattended machinery space) - Operating regime - long time operation at full power (heavy-duty. "1" or "A" depending on manufacturer), which means 100% of the time at full power, at worst 80% of the time at full power.	
5.1.3.	Propulsion system - number of propulsion units - 2 (two) located aft. - propulsion type - omnidirectional (azimuth Stern Drive Tug ASD) - propulsion thrusters shall not exceed the lowest point of the tug (keel), and shall be submerged at the minimum draught of the tug. - Transmission (mechanical, electrical, hydraulic)	
5.1.4.	Maximum speed 10 - 14 knots	
5.1.5.	Presence of at minimum two diesel generators on board. Total electrical power (380 V; 50 Hz; 1x30 kW and 1x15kW)	
5.1.6.	Governing system: - The tug shall be equipped with active means of steering, e.g. rudder-propeller with propeller in independently steerable nozzles - Emergency steering post.	
5.1.7.	Towing hook - Bollard pull - between 16 and 30 tones - With release mechanism from the tug's wheelhouse by the master and automatic release when full tension is reached.	
5.1.8.	Stern towing and pushing/towing devices in the bow - Minimum of 2 automatic tow winches of approximately 30 tonnes each. - Towing rope (vegetable or synthetic) - Vessel coupling system for pushing - Towing bollards/bitts (minim SWL-20) - Trailer hitch guides/limiters - towbars	
	Dimensions of the tug	
5.1.9.	Length within the limit - 18 - 25 m	
5.1.10.	Width between - 5 - 9 m	
5.1.11.	Depth within limit - 3,5 - 4,5 m	
5.1.12.	Maximum draught between 1,9 - 2,3 m	
	Wheelhouse	
5.1.13.	- The wheelhouse must be of the closed type and offer 3600 freedom of movement and visibility as well as low noise level and must have air heating and air conditioning. - Provide good vertical visibility of about 450 upwards, and downwards sufficient for observation of bow and stern winches and gunwales. - The wheelhouse must be equipped with: - Radar - Hazardous depth marking - ECDIS (Electronic Chart Display and Information System) - AIS (Automatic Identification System) - Three stationary radio stations operating independently of each other - Vessel turning speed indicator connected to radar repeater - Ultrasonic sounder repeater - Loch	

	- Remote propulsion steering system - Sound signaling system - Window wiper/blind control and wash system - Wheelhouse lighting equipment - Internal communication systems (minimum 3 portable VHF stations) - Hydro meteorological information display block - Engine functionality information display block - Block for viewing the functionality of the tug's main systems including navigation lights. - Equipped with international communication signals according to the Rules of Navigation on the Danube or COLREG Convention	
5.1.14.	Fire extinguishing systems - Fire extinguishing monitors - Fire pumps - Foam tank - Water curtain system - Hydrants, hoses and hoses - International connection - Fire extinguishers - Tool panels - Fire blanket - Fire-fighting equipment (minimum 1 piece of equipment)	
5.1.15.	Stability must meet the requirements of the classification society recognised by the EU	
	Maritime radio navigation and radio communication systems for the "A1" area as defined by SOLAS and inland navigation	
5.1.16.	- Vessel turning speed indicator connected to radar repeater - Radar - Magnetic course compass at main control station - Ultrasonic sounder - Manual depth sounder - Prismatic binoculars - Aneroid barometer - inclinometer - Loch - AIS (Automatic Identification System); - Inland AIS (Inland Automatic Identification System); - GPS (Global Positioning System) - ECDIS (Electronic Chart Display and Information System) - Inland ECDIS (Inland Electronic Chart Display and Information System) - Radar transponder - means of displaying navigational information (multifunction display) - steering/power system position indicators - All navigation systems must be powered from the base power supply and the emergency power supply (rectifier-charger) - The tug shall be provided with uninterruptible power supply, and shore power supply. - Radio navigation equipment must be in complement allowing efficient use of the systems (antennas, receivers, indicators, transmitters, etc.) - The radio-navigation equipment must also be completed taking into account the issue of access to service and repair centers in the region (Republic of Moldova, Romania, Bulgaria, Turkey). - stationary radio stations (25W) - 3 (three) and portable radio stations (5W) - minimum 3 (three). The radio stations must be set for communication in the	

	international maritime and river channels according to the RAINWAT regional agreement (channel 13 - 156.650 MHz; 14 - 156.700MHz 16 - 156.800MHz; 72 - MHz; 77 - MHz; 73 - 156.675 MHz), VHF simplex and duplex telephony). - DSC encoder - 1 - DSC watch receiver - 1 - Automatic Transmitter Identification System - ATIS - NAVTEX (NAVigational TEleX) - COSPAS-SARSAT EPIRB - 1 - Parachute missiles - 12 - Handheld torch - 6 - Floating smoke signals - 2	
	Fuel tanks (tanks)	
5.1.17.	Volume not less than 10 tonnes with international bunker connection	
	Fresh water tank	
5.1.18.	Approximate volume 2 - 3 tons	
5.1.19.	The tug must be equipped with facilities for the crew to work and rest - Cabins - minimum 3 - Galley - equipped. - Sanitary block (shower/toilet)	
	Anchoring systems	
5.1.20.	The tug must be equipped with two anchors	
	Rescue aids	
5.1.21.	According to the requirements of the classification society recognized by the European Commission.	
5.1.22.	- Life jackets - 6 pcs - Lifebuoy with safety rope - 4 pieces	
	Signaling	
5.1.23.	The tug shall be equipped with signaling systems in accordance with the provisions of the COLREG Convention	
5.1.24.	The tug shall be equipped with ship vitality combat installations and systems as required by the classification society recognized by the EU	
5.1.25.	The tug shall be fitted with water drainage systems from its compartments in accordance with the requirements of the classification society recognized by the EU	
5.1.26.	The tugboat must be equipped with a ballast system	
5.2. Technical documentation		
	Required specifications	
5.2.1.	Operating instructions for on-board systems/equipment/installations - in Romanian or Russian and English.	
5.2.2.	Valid ship's certificates (issued by the flag State, and those issued by EU-recognized classification society)	
5.2.3.	The ship project which will include at least: - Information on the hull of the vessel (hull, rigging, materials used, information and their characteristics, etc); - Technical information on the systems on board the vessel; - Technical information on the installations on board the vessel; - Information on the stability of the ship; - Information on tests applicable to a tug and their results - Detailed description (technical specifications of on-board devices, installations, mechanisms and systems, electrical equipment); - general plan; - master couple section plan with the most typical structural cross-sections; - design profile;	

	- plan of shapes; - deck plan and bulkhead plan; - after peak, rudder and rudder shaft plan; - plan of the fire-fighting installations, fire-fighting systems and fire-fighting equipment; - general arrangement plan of machinery, boilers and equipment in machinery and boiler spaces and of spaces with emergency sources of power with indication of escape routes; - diagram of the shaft line at the propulsion plant and of the arrangement of the drum tube; - diagram of the piping on board; - Electrical circuit diagram and circuit diagrams of the main and emergency switchboards.	
5.2.4.	The ship's survey certificates from the EU recognized classification society. 1. The latest Class Certificate and Certificate of Seaworthiness (Ship Certificate); 2. Reports of the examinations carried out, and the last renewal of class examination; 3. For ships year of construction not older than 2015 - Dry Dock Report not later than 2023)	
5.3 Consultation service		
	Required specifications	
5.3.1.	Provide contact details of responsible persons who can advise on specific aspects of tug operation	
5.3.2.	Provide contact details of persons/companies/regional representatives (Republic of Moldova, Romania, Bulgaria, and Turkey) who can provide information support and advice on the facilities and equipment with which the tug is equipped.	
5.3.3.	Delivery of replacement parts to order within 20 days from the time (date) of receipt of the request (within the warranty period).	
5.3.4.	Free supply of replacement parts for the warranty period.	
5.4. Warranty		
	Required specifications	
5.4.1.	Guarantee for equipment and installations, minimum 48 months. Warranty for tug body and main engines at least 60 months.	
5.4.2.	Response to claim within the warranty period - no more than 48 hours from receipt of claim.	
5.5. Instructions		
	Required specifications	
5.5.1.	Training in Russian or Romanian language. Carry out training on familiarization with all the tug's functionalities for 4 persons who will take over its command and operation (crew members) The programme shall include: Theoretical training (minimum 24 working hours): - Material part of the tug (purpose, technical characteristics, on-board devices, operating instructions, preparation for work, adjustment, technical condition check, operating procedure, maintenance, possible faults and methods of their elimination). - Work protection requirements, safety measures. Practical training (24 hours per crew member): - Preparation for work, consecutiveness of work, faults and methods of their elimination, maintenance. - Carrying out the maneuvering exercise	

	Place of training - Giurgiulesti Port Complex aquatorium.	
5.5.2.	On completing the training, specified in 5.5.1, an acknowledgement of receipt of training services shall be signed.	
5.6. Commissioning		
	Required specifications	
5.6.1.	Testing of the tug shall be carried out at the place of its displacement by the buyer's representatives. - The expenses for the travel of the buyer's representatives shall be supported by the buyer.	
5.6.2.	Delivery of the tug - shall be made by the seller, within 30 days from the moment of registration of the contract at the State Treasury - delivery costs are assumed by the seller - place of delivery is Giurgiulesti Port Complex (Republic of Moldova) - the seller shall ensure that the tugboat is completed with qualified crew necessary for the delivery (single trip) from the place of its deployment to the Giurgiulesti Port Complex. The seller shall bear the costs of the crew. - the seller provides all the necessary documentation for the single voyage. The costs of preparing the documentation and preparing the tugboat for the single voyage shall be covered by the seller.	
5.6.3.	The reception of the tug by the buyer after delivery in working condition will be carried out in the Giurgiulesti Port Complex (Republic of Moldova), according to the act of receipt-delivery signed by the parties.	

Contracting Authority_____ Date_____

Digitally signed by Zaharia Igor
Date: 2024.03.29 15:07:15 EET
Reason: MoldSign Signature
Location: Moldova