

**ตารางแสดงวงเงินงบประมาณที่ได้รับจัดสรรและราคากลาง(ราคาอ้างอิง)
ในการจัดซื้อจัดจ้างที่มีใ้ใช้งานก่อสร้าง**

๑. ชื่อโครงการ..... การจัดการระบบน้ำมันเชื้อเพลิงอากาศยาน โครงการเรือตรวจการณ์ไกลฝั่ง
กิจกรรมจัดการระบบน้ำมันเชื้อเพลิงอากาศยาน โครงการเรือตรวจการณ์ไกลฝั่ง
/หน่วยงานเจ้าของโครงการ สำนักโครงการเรือตรวจการณ์ไกลฝั่ง ลำที่ ๒ บริษัท อู่กรุงเทพ จำกัด
๒. วงเงินงบประมาณที่ได้รับจัดสรร ๔,๖๕๐,๐๐๐ บาท (ไม่รวมภาษีมูลค่าเพิ่ม ๗%)
๓. วันที่กำหนดราคากลาง (ราคาอ้างอิง) วันที่ ๒๐ มิถุนายน ๒๕๕๙
เป็นเงิน ๘๓,๘๓๔.๙๕ ปอนด์ (ไม่รวมภาษีมูลค่าเพิ่ม ๗%)
(คิดเป็นเงินไทยโดยประมาณ ๔,๓๓๕,๕๕๐ บาท)
๔. แหล่งที่มาของราคากลาง (ราคาอ้างอิง)
จากการสืบราคาปัจจุบัน จากบริษัทผู้ผลิตโดยตรง ๑ ราย ดังนี้
๔.๑ Fluid Transfer International
๕. รายชื่อเจ้าหน้าที่ผู้กำหนดราคากลาง (ราคาอ้างอิง)
๕.๑ นางจันทร์ทิพย์ ชำศิริพงษ์ หัวหน้าแผนกบริหารงานพัสดุ
๕.๒ นายธนาพิพัฒน์ วุฒิวงศ์ พัสตุ ๑

Term of Reference (TOR)
Aviation Fuel/Defuel System for the Royal Thai Navy
Offshore Patrol Vessel

1. Objective

The Bangkok Dock Company (1957) Limited (Buyer) wishes to announce this Term of Reference (TOR) for procuring 1 set of aviation fuel/defuel system for the construction of the Royal Thai Navy Offshore Patrol Vessel (OPV)

The aviation fuel/defuel system consists of

- 1 unit of FT-001241 Transfer Skid
- 1 unit of FT-001214 Dispense Module

2. Requirement

2.1 Goods shall be 1 (one) set of FLUID TRANSFER aviation fuel/defuel system for marine application, including Support Services, Factory Acceptance Test (FAT) and recommended on-board spare parts.

2.2 The aviation fuel/defuel system consist of 1 unit of FT-001241 Transfer Skid and 1 unit of FT-001214 Dispense Module.

2.3 The detail and scope of supplies are in ANNEX A: Technical Requirement Specification.

2.4 Goods shall be manufactured in the United Kingdom.

2.5 Goods shall be new and never been used.

3. Condition of Bidding

3.1 The bid price shall include all costs, expenses, fees, and cost for transportation. Transportation shall be CIF Laem Chabang Port, Chonburi, Thailand in accordance with Incoterms 2010 (by vessel with Thai flag or same privilege) and risk shall pass in accordance with the said terms.

3.2 This bid price shall exclude customs duty for the list of materials imported into the Kingdom of Thailand.

3.3 The enumeration of the bid price must be provided in Total Price

3.4 The price validity shall be until 31th July 2016.

4. Qualification of Bidder

4.1 Bidder must be a professional to sell goods in this bid.

4.2 Bidder has never been on the blacklist of the Thai Government, or as a result of not receiving orders to another entity or person who is blacklisted by the Thai Government.

4.3 Bidder must act as principal for its own account and not as agent or broker. If any Bidder has a coordinator in Thailand, the name and contact details of such coordinator must be clearly specified in the proposal.

4.4 Bidder must have own bank account where receive/payment shall be made, except, if each payment is not over 30,000 Bath, the counter party may receive/paid by cash.

5. Document for Consideration

5.1 Bidder's Qualification Document

5.1.1 Copy of Company Registration/Affidavit1 and certified true copy.

5.1.2 Letter of power of attorney, in case of the bidder is authorized the behalf to bid, sign in the bid, or in the other cases. The letter shall be affixed the duty and enclosed with the copy of the identity card or passport and/or household registration, which declare both of the authorizer and behalf. Notarisation is required.

5.2 Technical Specification Document

- 5.2.1 The details of specification of goods in this bid must meet the buyer's requirements. The bidder must clearly identify the manufacturer profile and the country of origin.
- 5.2.2 Copy of List of document showing that the bidder has sold similar Dispense Skid Assembly and Transfer Skid Assembly to the BAE Systems Surface Ships Limited for the River Class Vessel project for the UK Royal Navy.
- 5.2.3 If the Technical Specification documents do not comply with item 5.2.1 - 5.2.2, the buyer reserves the right not to consider the bidder.

6. Delivery and Acceptance

- 6.1 If the goods are transported via sea freight that has Thai flag or the same privilege vessel in operation, Thai flag or the same privilege vessel shall be used. Relevant Bill of Lading shall also be provided.
- 6.2 In the event that the delivery will be delayed due to the non-availability of a Thai Registered Vessel, the bidder shall request an exemption from Bangkok Dock and will be responsible for any such costs incurred seeking such an exemption from the relevant authorities in Thailand. The bidder shall give a minimum of 30 days' notice of a request for an exemption.
- 6.3 The bidder must declare document and/or evidence of delivered goods that meet the specification and standard which specified in Contract or purchase order (PO) as stated in all respects.
- 6.4 If the delivered goods from bidder do not meet the requirements, buyer reserves the right to reject those goods. And in this case, the bidder must immediately take the right to change immediately.
- 6.5 Goods shall be CIF Laem Chabang Port, Chonburi, Thailand not more than 8 months after receiving Purchasing Order (PO) or Contract Effective Date (CED).

7. Warranty

Warranty period shall be not less than 12 months after the ship delivery to the RTN.

8. Assurance

All machinery supplied shall be according to class rules subjected to class approval. Bidder shall provide the class certificates in original. In some single cases only copies of class certificates could be accepted.

The bidder shall confirm the quality assurance by issuing a copy of its quality plan that complies with ISO (latest standard) at no extra cost to the buyer.

9. Penalty

If the bidder cannot deliver on time as buyer's scheduled, bidder must pay on a daily rate penalty of 0.07 percent of the goods value that are not delivered from the date of delivery until the date that the bidder has fulfilled the conditions in the contract or PO.

When the penalty reaches the maximum of 5% and if the equipment is still not delivered after this period then buyer shall be entitled to terminate the contract and seek further recompense if buyer has to source an alternative supplier for the equipment. In addition buyer would expect a refund of all payments made.

10. Performance Guarantee

At the time of execution of the contract, the bidder shall submit to buyer a Performance Guarantee in an amount of five percent (5%) of the contract value in favour of the buyer by a first class bank operating in Thailand. The Performance Guarantee shall valid until the end of the agreed warranty period.

In the event the bidder requires an advance payment, the bidder shall issue an Advance Payment Guarantee via a first class bank operating in Thailand and remain valid up to the point of delivery. No advance payment will be made until the Advance Payment Guarantee has been issued to buyer.

11. Condition of Payment

11.1 Payments shall be;

- 15% down payment against an advance payment guarantee of 15 percent of contract value in favour of the buyer.
- 85% on the delivery of goods CIF Laem Chabang Port, Thailand

11.2 Payment by this condition shall be made out of an Irrecoverable and Confirmed Letter of Credit. The bidder is responsible for any other charges related to the transfer of the bank levy, and consent to such deductions from the amount transferred in that period.

11.3 The bank must be a first class bank operating in Thailand.

12. Export Licenses/End User Certificate

In the event of the bidder's equipment requires bidder's Government to issue an Export License before the equipment can be shipped to Thailand, the bidder must advise buyer immediately and provide the required format of the End- User Certificate needed to satisfy its authorities. It should be noted that the issuing of an End-User certificate can take up to 90 days and this should be taken into consideration when requesting such a document from buyer.

13. Law of the Contract

The contract shall be subjected to the Laws of the Kingdom of Thailand with the right to go to Arbitration in the event a dispute cannot be resolved. Arbitration shall be in accordance with current ICC rules and shall take place in Bangkok, Thailand.

14. Technical Requirement

ANNEX A: Technical Requirement Specification

ANNEX A
Technical Requirement Specification of the Aviation Fuel/Defuel System
for the Royal Thai Navy Offshore Patrol Vessel

1. Requirement

1 set of Fluid Transfer AVCAT Fuel/Defuel System including Support Services, Factory Acceptance Test (FAT) and recommended on-board spare parts.

The module will be supplied as 2 self-contained skid mounted units, one mounted in the machinery space, other being deck mounted rated at 5m³/H, with consideration being given to access and operability.

The module will be arranged to enable the following:

- Fuel aircraft
- Defuel aircraft

The aviation fuel/defuel system consist of

- 1 unit of FT-001241 Transfer Skid
- 1 unit of FT-001214 Dispense Module

2. Technical Specifications

2.1 FT-001241 Transfer Skid

Model : FT-001241
Quantity : 1

2.1.1 AVCAT Pump

Type Positive Displacement Gear Type

The relief valve control is an integral part of the pump

Delivery : 5M³/H

Pressure : 5.0 bar

Suction : 4 m

Prime mover

Type : Electrical TEFV IP56 Eex d fitted with thermistors and A/C
Heater

Power : 3.30 kW at 1128 rpm.

Class : T5

Voltage : 380V 3 phase 50 Hz

Speed : 1128 rpm

2.1.2 Pump suction strainer

1 off pump suction strainers will be selected from an approved range of in-line basket type strainers of 38mm NB fitted with a 40 mesh strainer.

2.1.3 Valves and pipe work

The pumps will be protected by manually operating ball valves and control valves. All pipework and will be stainless steel grade 304. All isolating valves will be fire safe design.

2.1.4 AVCAT Filter Water Separator

1 off vertical Filter Water Separators, the vessel will be approved and rated at 5M³/h.

The element fitted will be capable of reducing free water content of the fuel to less than 10 ppm and removal of solid particles from the fuel for the life of the filter element.

The Filter Water Separator will be fitted with:

- Differential Pressure Gauge
- Manual Water Drain
- Auto Air Vent
- Sample Points
- Isolation Valves for protection of Pressure Gauge
- Thermal relief valve

2.1.5 Return to tank pressure relief valve
A pressure relief valve set at 5.0 Bar

2.1.6 Instrument Gauge Panel
A stainless steel gauge panel with the following gauges: Suction (vacuum)
Discharge
Differential pressure gauges.

2.1.7 Base Plate
A drain rim type base plate fabricated in mild steel with drain valve.

2.1.8 Storage Tank
1 off 304 stainless steel rectangular storage tank manufactured in accordance with BS 799 part5, with a capacity of 2200 Litres with internal baffles and stiffening to permit mounting of the transfer pumping skid. The size 2000mm long x 1250mm wide x 1000mm high fabricated in 5mm plate.

Fitted with a low level alarm, contact gauge, drain sump, 600mm diameter side entry manhole and lifting lugs.

2.1.9 Control Panel
A skid mounted control panel with the following controls:

- Fuel stop start
- Pump available
- Pump running
- Service tank low level warning
- Interlocks for pump monitor and fuel availability.

2.1.10 Emergency Pump Stop
A remote emergency pump stop button mounted in a safe area outside the pump room.

2.2 FT-001214 Dispense Module

Model : FT-001241

Quantity : 1

2.2.1 Final Filtration Unit
1 off vertical filter monitor manufactured and approved to the Institute of Petroleum.

The unit will be supplied with 1 set of elements unfitted

2.2.2 Ancillary Equipment
The units will be fitted with the following ancillary equipment:

- Differential pressure gauge
- Sample points
- Auto air eliminator
- Thermal relief valve

- 2.2.3 Hose Reel
A Fluid Transfer MK9 hand rewind hose reel manufactured with a stainless steel fluid path and fitted with hose guides
- 2.2.4 Hose
A 20m length of EN1361 Type E Ø38mm bore aviation fuel hose fitted with Spanlock end fittings.
- 2.2.5 Over wing trigger nozzle
Over wing trigger nozzle with an automatic shut-off and earth cable and clamp. Supplied with defuel tube.
- 2.2.6 Default Pump
Type : An air driven double diaphragm stripping pump
Flow rate : 60 lpm.
Pressure : - 0.77 bar
- 2.2.7 Flushing Funnel
A FTi stainless steel flushing funnel
- 2.2.8 Bonding Reel
A FTi hand rewind bonding reel with 20 m of cable.
- 2.2.9 Flow meter
A 1” Nutating disc flow meter with 4 digit read out and totaliser
- 2.2.10 Base Plate
A fabricated Steel drip tray type skid base with drain points
- 2.2.11 Trigger Nozzle Defuel Tube
A defuel tube to strip the fuel tanks.
- 2.2.12 Control Panel
A control panel supplied loose for bulkhead mounting fitted with the following:
- Fuel stop start and emergency stop
 - Pump available
 - Pump running
 - Service tank low level warning
- 2.2.13 Interlock for pump monitor and fuel availability
- 2.2.14 Alternative Fueling Method equipment
- HEPC (Pressure Control)
A Carter series 64200 Hose End Pressure Controller with stick handles, strainer and pressure controller
 - Flushing Connection
A Fluid Transfer aviation tank unit Part No. DCA10461
 - Stowage
A Fluid Transfer HEPC Stowage unit part no DCA10214 mounted on the skid base
 - Adapter
A Fluid Transfer overwing / underwing adapter to fit the trigger nozzle to the HEPC to defuel.

3 General

The system shall be supplied as follows:

- Fully painted in a 2 pack epoxy one colour gloss finish
- Fully tested in the presence of certifying authority inspector
- Test Certificates (Lloyds Register)

4 Technical Documentation

The following documents are required:

- Instruction Manual for Operating and Maintenance
- Drawings (Drawings shall be an initial delivery for design)
- ILS document
- Factory Acceptance Test Record
- All document, 8 hard copies, 1 soft copy shall be provided

5 Support Services

Bidder shall provide support services for the installation, Setting to Work, Harbour Acceptance and Sea Acceptance Trials. Man-day and price shall be separately shown.

6 Factory Acceptance Test

Buyer and the Royal Thai Navy (RTN) reserve the right to attend Factory Acceptance Tests. The bidder will be responsible for all costs in their country, including provision of test fuel and labour in the event that we wish to attend Factory Acceptance Tests. Costs of personnel travel and accommodation whilst in UK shall be responsible of the buyer. If there is a failure of the equipment not to pass the Factory Acceptance Test, the bidder shall be responsible for all additional costs incurred by the party attending the tests.

The bidder shall give 90 days' notice of the intended date for the Factory Acceptance Test of the equipment to enable adequate planning to be made for a team to visit. The bidder shall provide all assistance required to obtain any visa that may be required to enter the bidder's country.

7 Spare Parts

List and price of carried on-board spare parts shall be provided.

8 Training

The bidder shall provide operator training at the buyer training facilities in Sattahip, Thailand.