

OIL & GAS DEVELOPMENT COMPANY LIMITED



Supply of underground diesel storage tank at Jhal Magsi gas Field, district Jhal Magsi, Baluchistan

TE/JM/PROJ/02/2024

TERMS OF REFERENCE (TOR)

Bids are required for supply of 01 No underground diesel storage tank (supply at field location). The following is the detail of requirement.

Sr. No.	Description service	Qty.
1.	Supply of underground diesel storage tank	01

- Supplied tank should be in accordance with the attached datasheets.
- The major requirements are stated below.
 - i. The corrosion allowance for all tank material shall be 3 mm.
 - ii. The corrosion allowance for structural components shall be 1.5 mm.
 - iii. The manufacturer must indicate the Tank Tag Number on the drawing as specified in the datasheet.
 - iv. The manufacturer must specify the tank's net-working capacity
 - v. The manufacturer must design the tank for a temperature of 180°F (83°C), as indicated in the RFQ datasheet.
 - vi. The manufacturer must include all required design parameters on the drawing.
 - vii. The contractor must include nozzle data on the drawing.
 - viii. A flame arrester piping system from the inside of the tank to the atmosphere with fittings must be supplied.
 - ix. Diesel in-tank fill piping with strainer and fittings must be supplied with the tank.
 - x. Dip gauge piping with fittings must be supplied with the tank.
 - xi. Piping with fittings to the dispenser connection must be supplied with the tank.
 - xii. An observation well, consisting of a factory-slotted/perforated PVC pipe plugged at the bottom, must be supplied with the tank.
 - xiii. Radiographic examination shall be performed for tank welds.
 - xiv. Paint must be applied to the interior and exterior of the shell, underside and interior of the bottom and exterior of the tank structure.
 - xv. The supplier must submit the mill test report.
- Delivery at site must be within Four weeks (04) after the issuance of PO.
- LD charges in case of late delivery will be imposed up to maximum 10% of the amount of PO excluding tax.
- Inspection will be carried out at contractor warehouse/factory before transportation. Final inspection will be carried out at site after delivery.
- Payment will be made after delivery at site and after satisfactory site inspection report.
- Partial payment/advance will not be paid.
- Earnest money /bid bond of PKR 100,000/- is the shape of P.O/DO bank guarantee shall be submitted with the bid.

Annexure-A

Sr. No.	Description of Material	Units (A)	Qty. for one system (B)	Unit Rate (C)	Total Price for One system D=(BxC)
1.	Supply of underground diesel storage tank	No	01		
Grand Total					

Note:

- i. Contract will be awarded to the bidder with lowest in total amount.
- ii. Bidder to quote amount inclusive of all applicable taxes.

TECHNICAL EVALUATION CRITERIA

Sr#	DESCRIPTION	MARKS	Min Qualifying Marks
i	Valid NTN/PST certificate	10	10
ii	Affidavit of Non-Black Listing duly attested by Notary Public	10	10
iii	Bidder must have valid PEC C-3 License	10	10
iv	Bidder must have five (05) years' experience in fabrication/supply of storage tanks. PO of last five years to be provided (at least five Nos of PO)	10	10
v	Clean acceptance of the TOR	10	10
Total			50



DATA SHEET FOR UNDER GROUND DIESEL STORAGE TANK

Spec. No. 0102-DS-1800
 Prep. MSH Chk. NUH Apr. SRA
 Date 24-Sep-24
 Sheet 1 of 4 Rev. B

GENERAL INFORMATION

1 **Purchaser/Agent** Oil & Gas Development Company Limited

Address Gas Plant Facility

City Jhal Magsi **State** Pakistan **Zip Code** --- **Phone** ---

2 **User** OGDCL

3 **Erection Site** Gas Plant Facility
Location Jhal Magsi

4 **Tag No.** 1014-TK2 **Nominal Capacity** 167 bbl **Net Working Capacity** 159 bbl

5 **Pumping Rates** in 40 gpm **Out** - gpm

6 **Maximum Operating Temp. (°F)** AMBIENT °F

7 **Product Stored** Diesel **Design Sp. Gravity** 0.850 At 121 °F
Design Temperature 180 °F **R. Vapor Pressure** - psig
Design Pressure ATM psig

8 **Corrosion Allowance** **Shell** 3 mm **Roof** 1.5 mm
Bottom 3 mm **Structurals** 1.5 mm

9 **Shell Design** **API 12D/650** **Basic Standard 620**

10 **Roof Design** **API 12D/650** **Basic Standard 620**
Frangible Roof Joint? Yes No

11 **Roof Design Information**
Uniform Live Load 25 lb / ft²
Special Loads (Provide Sketch) ----
Insulation Load ----
Maximum Design Roof Temp. ---- °F
Gases in the Vapor Space ----

12 **Earthquake Design?** Yes No **Roof Tie Rods (3.10.4.5)?** Yes No.
Seismic Zone note-1 **Importance Factor** _____
Zone Factor (Table 2) note-1 **Site Coefficient (Table E-3)** _____

13 **Wind Load** **Velocity** note-1 ft/sec **Provide Intermediate Wind Grider (3.9.7)?** Yes No.

14 **Environmental Effects** **Maximum Rainfall** note-1 in/Day
Total Snow Accumulation note-1 ft

15 **Size Restrictions** **Maximum Diameter** _____ ft **Maximum Height** _____ ft

16 **Foundation Type** Earth Concrete Ringwall Other _____

NOTES

1 As per Site Environment and Utility Design Data ANNEXURE 1



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Spec. No.	0102-DS-1800		
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CONSTRUCTION DETAILS

1 Manufacturer	_____		
Address	_____		
City	State	Zip Code	Phone
Serial No.	_____		
2 Fabricator	_____		
Address	_____		
City	State	Zip Code	Phone _____
Serial No.	_____		
3 Material Specifications:	ASTM A - 283 Gr . C		

	Structurals	ASTM A - 36	
4 No of Shell Courses	note-1		
5 Plate Widths, Length and Thickness (including Corrosion Allowance), in inches	_____		
1) _____	4) _____	7) _____	
2) _____	5) _____	8) _____	
3) _____	6) _____	9) _____	
6 Tank Bottom	Plate Thickness: 8 mm	<input checked="" type="checkbox"/> Lap	<input type="checkbox"/> Butt Seams
	Slope 1 : 25	<input type="checkbox"/> To	<input type="checkbox"/> From Centre
7 Minimum Width and Thickness of Bottom Annular Plates (3.5), in inches:	NA		
8 Roof-to-Shell Detail	-		
9 Intermediate Wind Girder?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Top Wind Girder for Use as Walkway?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
10 Roof Type	<input type="checkbox"/> Supported <input checked="" type="checkbox"/> Self-supported	<input type="checkbox"/> Floating	
	Slope or Radius 1:16	_____	
11 Roof Plate	Thickness 6 mm	<input checked="" type="checkbox"/> Lap	<input type="checkbox"/> Butt <input type="checkbox"/> Joint
12 Paint	_____		
- Shell	Exterior? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	m/sec _____	Interior? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
	Surface Preparation _____		
- Bottom	Underside? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Interior? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	Surface Preparation _____		
- Structural Steel	Exterior? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Interior? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
	Specification _____		
13 Tank Bottom Coating	Interior? <input type="checkbox"/> Yes <input type="checkbox"/> No	Material _____	
	Application Specification _____		
14 Inspection By	Shop _____	Field	_____
15 Weld Examination	Radiograph Yes	_____	
	Supplementary Liquid Penetrant or Ultrasonic NA		
16 Films	Property of _____		
17 Leak Testing	Bottom Vacuum	Roof	Air Pressure
	Shell Hydrotest	_____	
18 Mill Test Reports	Required <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Structural Shapes Yes	
	Plate Yes	_____	
19 Purchaser's Reference Drawing	_____		
20 Tank Size (VTC)	Internal Diameter 4.11 m	Height	2 m
21 Date of Standard API - 12D/Revision	Latest		

REMARKS

NOTES

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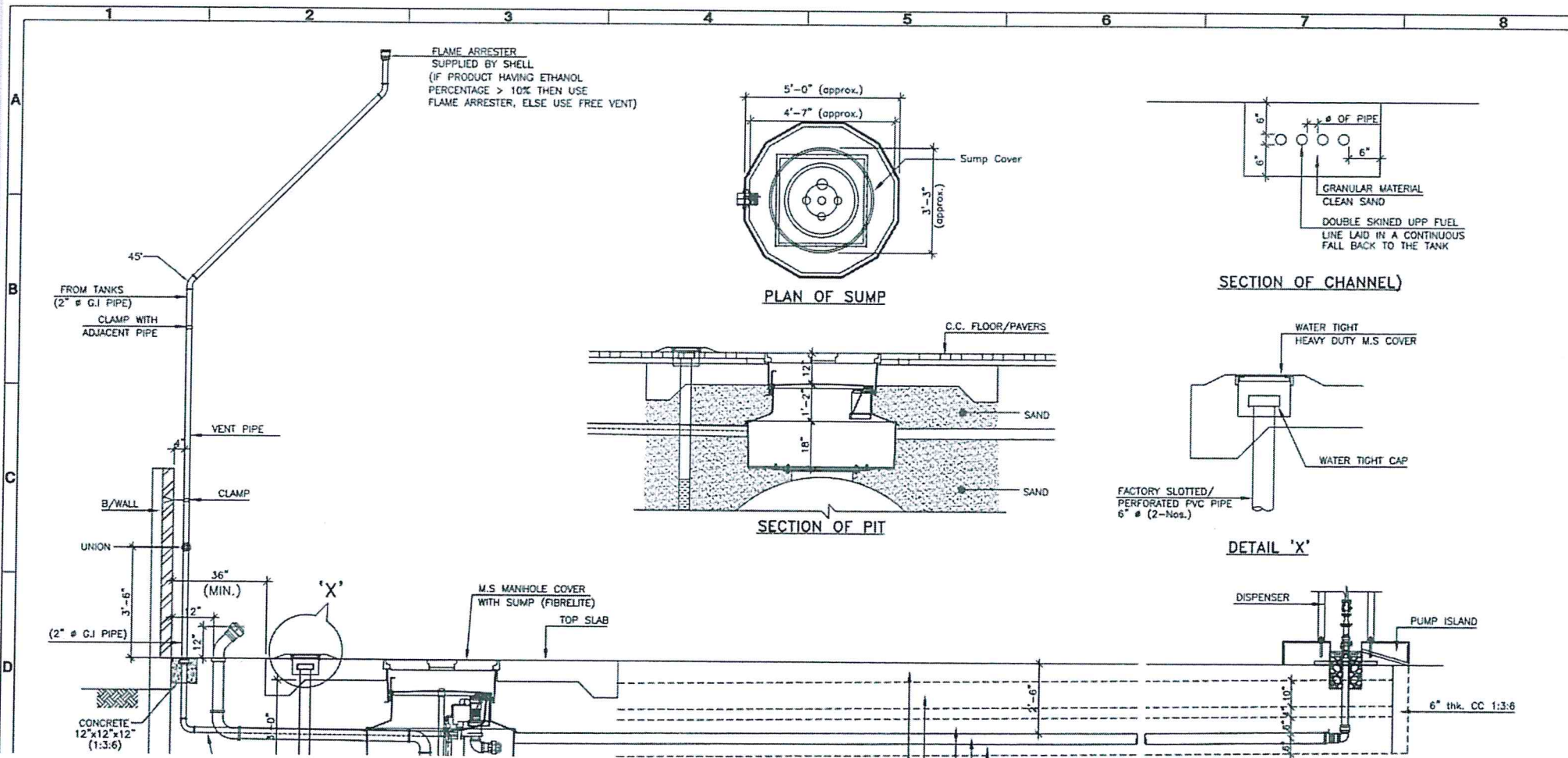
APPURTENANCES

- 1 Stairway Style: Circular/Straight, Angle to Horizontal
2 Walkway: Width, Length
3 Drawoff Sump: Standard API 12D/650, Special
4 Bolted Door Sheet?: Yes/No, Raised/Flush
5 Scaffold Hitch: NA
6 Internal Piping: Swing Line, Suction Line, Heating Coil Surface Area
7 Roof Drain: Jointed
8 No. and Size of Shell Manholes
9 No. and Size of Roof Manholes

10 Shell Nozzles : note-1

11 Roof Nozzles, including venting connection note-1

NOTES:
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1 SITE & ENVIRONMENTAL DESIGN DATA

The Site, Environmental & Utility Design Data of Jhal Magasi, Balochistan, obtained from Pakistan Meteorological Department, web site data for the UCH Power plant and nearby field.

1.1 Temperature

Average maximum dry bulb temperature:	127 °F
Design maximum dry bulb temperature:	131 °F
Average minimum dry bulb temperature:	47.5 °F
Design minimum dry bulb temperature:	30 °F
Design wet bulb temperature:	86 °F

1.2 Humidity

Relative Humidity range:	18 - 89%
Average Relative Humidity for monsoon months:	59 - 87%

1.3 Pressure

Minimum barometric pressure:	14.3 psia
Maximum barometric pressure:	14.7 psia

1.4 Rainfall

Heaviest rainfall in one day:	251.5 mm
Design rainfall:	260 mm

1.5 Wind Data

Average wind velocity:	0.115-6.8 mph
Design wind velocity for structural design:	120 mph

Prevailing wind direction:

Summer:	South-West
Winter:	Northerly

1.6 Seismic Design

Seismic design factor:	0.03 – 0.15 g
Earthquake zone	Zone 2 (uniform building code)
Earthquake magnitude	5.0 – 5.9

1.7 Site Conditions

Site elevation:	180 ft (AMSL)
Site location:	Approx. 400 km from Quetta, Balochistan, Pakistan.



2 UTILITY INFORMATION

Standard utility conditions are presented below; however, these will be confirmed during detailed process design.

2.1 Fuel Gas

Supply header pressure: 80-85 psig
Supply header temperature: 65 °F (+/- 10 deg F)

Table-1: Raw Gas Composition (mol %)*

Methane	88.98
Ethane	0.86
Propane	0.22
i-Butane	0.03
n-Butane	0.06
i-Pentane	0.01
n-Pentane	0.00
n-Hexane	0.12
Nitrogen	7.27
Carbon dioxide	2.20
Hydrogen sulfide (ppm)	1000
Water (lb/mmscf)	64.5
Gross Heating Value (Btu/scf)	933

Table-2: Fuel Gas Composition (mol %)*

Methane	89.80
Ethane	0.87
Propane	0.23
i-Butane	0.04
n-Butane	0.06
i-Pentane	0.01
n-Pentane	0.00
n-Hexane	0.12
Nitrogen	7.34
Carbon dioxide	1.53
Hydrogen sulfide (ppm)	4.0
Water (lb/mmscf)	7.0
Gross Heating Value (Btu/scf)	938-950

* Fuel gas to be provided from Sales gas header after startup.

2.2 Power Supply

220V / 1 Phase / 50 hz / AC
400V / 3 Phase / 50 hz / AC



2.3 Instrument Air

Instrument air maximum pressure:	145 psig
Instrument air normal pressure:	135 psig
Instrument air minimum pressure:	70 psig
Dew point:	-40 °F

2.4 Nitrogen

Nitrogen will be available from nitrogen generation package that will extract nitrogen from air.

Nitrogen purity:	99.5 vol%
Minimum supply pressure:	90 psig
Nitrogen Dew point	-84 °F

2.5 Hot Oil System

Hot Oil supply header pressure:	80 Psig
Hot Oil supply temperature:	350 °F
Hot Oil Return temperature:	250 °F