

SCOPE OF WORK: ANNEXURE A

Background

The facility operates six (6) crude oil underground storage tanks, each approximately 240 m × 240 m. Each tank top is fitted with a 1.5 mm thick High-Density Polyethylene (HDPE) geomembrane outer liner, covering the full tank surface and divided into four (4) structural slabs.

The HDPE liner is covered with fine gravel, which discolours brown when gas leaks occur.

Scope Description

The Contractor shall:

1. Conduct a site inspection to confirm locations and extent of HDPE liner damage.
2. Access the damaged liner by carefully removing fine gravel.
3. Repair the HDPE liner using patches of the same type and 1.5 mm thickness, ensuring:
 - Adequate overlap for effective welding
 - Continuous, defect-free welds
4. Test all repairs for integrity. Any defects must be repaired and re-tested.
5. Reinstall the fine gravel layer to its original condition.
6. Ensure all works are carried out safely, complying with site HSE requirements.

Repair work shall only proceed after written approval of measured areas following inspection.

The tank top is a flat surface, and no working at height is required. The tanks will remain in service containing crude oil during execution of the works.

Based on tank age, typical degradation, and prior assessments:

- A provisional repair quantity of 100 m² per tank has been allocated.
- Total provisional area across 6 tanks: 100 m² × 6 = 600 m²
- Final payment will be based strictly on actual measured and approved repair area.

Unit Rate and Payment

The Contractor shall provide a fixed all-inclusive rate per square metre for HDPE liner repair. This rate shall cover:

- HDPE patch material
- Labour and supervision
- Welding and welding equipment
- Testing of welded work after completion
- Removal and reinstatement of fine gravel
- Consumables and all other associated works

Inspection / Site Measurement shall be priced separately as a lump sum.

Payment Formula:

Total Payment = Inspection (Lump sum) + (Actual m² Repaired × Contractor Rate)

Pricing Schedule

Item	Description	Unit	Provisional Qty
1	Inspection	Lump sum	1
2	HDPE Liner Repair (all-inclusive)	m ²	600

Contractor Responsibilities

- Provide trained and competent personnel experienced in HDPE liner repairs
- Submit a Method Statement and Risk Assessment prior to work
- Execute repairs using approved HDPE welding techniques
- Ensure all works are carried out safely.

Quality Control and Testing

- All completed welding seems shall be tested by the Contractor using approved non-destructive testing methods suitable for HDPE geomembranes, including spark testing and/or air pressure testing to confirm integrity and leak-tightness.
- Any defects identified during testing shall be repaired and re-tested until compliance is achieved.

Deliverables

The Contractor shall provide the following upon completion of work:

- Confirmation of completed repairs for each tank.
- Weld integrity test results and records.
- Confirmation that the liner has been reinstated in a safe and serviceable condition.

Note: Repairs shall only be conducted under static tank operating conditions, with tank pressure maintained between 45 kPa and 50 kPa.

ARRANGEMENT OF TANK ROOF



