



CEYLON PETROLEUM CORPORATION

(Established by Parliamentary Act Number 28 Of 1961)

BID DOCUMENT FOR

**BOTTOM REPAIRS OF
CRUDE OIL STORAGE TANK NO. 04**

TENDER NO: REF-PD/WORKS/2016/02

**CHAIRMAN - DPC
CEYLON PETROLEUM CORPORATION
REFINERY DIVISION
SAPUGASKANDA
SRILANKA.**

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CEYLON PETROLEUM CORPORATION
REFINERY DIVISION
TENDER NOTICE
BOTTOM REPAIRS OF CRUDE OIL STORAGE TANK NO.04

TENDER NO: REF-PD/WORKS/2016/02

Department Procurement Committee hereby invites bids from local & international firms to carryout Bottom Repairs of 67m diameter Crude Oil Storage Tank No. 04, as per API Standard Codes 650/653 latest edition at Ceylon Petroleum Corporation - Refinery, Sapugaskanda, Kelaniya, Sri Lanka.

Bidders having following qualifications are invited for bidding.

- The local bidders shall have experience in carrying out steel oil tank maintenance/construction work as per API 650/653 in the past 5 years and registration with Institute for Construction Training & Development (ICTAD) at Grade EM 1.
- Foreign bidders shall have prior experience in the past 10 years carrying out steel tank maintenance/construction work as per API Standard 650/653 and shall have successfully completed at least one steel tank maintenance/construction of value not less than US\$ 800,000/= within past 5 years
- In case of a join collaboration of a local registered company with a foreign company, foreign company shall fulfill the requirement of carrying out at least one Mechanical Engineering maintenance/construction of value more than US\$ 800,000/= within past 5 years and either party having 650/653 tank construction experience.

Bid documents will be issued to the bidders those who produce documentary evidences of above qualifications.

A non-refundable tender deposit of Rs. 12,500/- (with all taxes) shall be paid to Refinery Finance Department at the time of collection of tender documents.

Final date and time of issuing of bid documents will be on **25th September 2017** at **15.00** hours and the closing date and time of receiving sealed bids will be on **12th October 2017** at **14.30** hours and bids will be opened just after the closing of bids.

All bidders or their duly authorized representatives are requested to be present at the “Pre-bid” meeting and site visit, to be held on **27th September 2017** at **09.30** hours at the Main Conference Room of CPC Refinery. Attendance to this is essential and if not attended, offer will not be accepted. All costs incurred in attending to this meeting will have to be borne by the bidders themselves.

Bid documents and other details could be obtained from Deputy Refinery Manager (Maintenance & Projects), Refinery Division, Sapugaskanda, Kelaniya.

Bid document can be read on the **www.ceypetco.gov.lk** web site.

Chairman

Department Procurement Committee (Major),
Ceylon Petroleum Corporation,
Refinery Division,
Sapugaskanda,
Sri Lanka
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CONTENTS

1. Instructions To Bidders

- 1.1.Introduction
- 1.2.Basis of Contract
- 1.3.Basis of Bid
- 1.4.Invitation to Bid Document
- 1.5.Bid Guarantee
- 1.6.Bidding Instructions
- 1.7.General Information to be Included in the Bid
- 1.8.Acknowledgments
- 1.9.Amendments/ Clarification
- 1.10. Closing date of Tender
- 1.11. Opening of Bid
- 1.12. Period of Validity of Bid
- 1.13. Manpower and Recourse Schedules
- 1.14. Right of Tender Board
- 1.15. Local Agents
- 1.16. Notice of acceptance

2. Conditions of Contract

- 2.1.Performance Guarantee
- 2.2.Schedule of Payments
- 2.3.Tax Liabilities
- 2.4.Part Payment/ Retention Money
- 2.5.Liquidated Damage
- 2.6.Defaulting Contractors
- 2.7.Project Schedule
- 2.8.Termination of Contract
- 2.9.Guarantee
- 2.10. Force Majeure
- 2.11. Safety Regulations & Regulations for the Prevention of fire
- 2.12. Security clearances
- 2.13. Arbitration

3. Scope of Supply, Scope of Work and other Technical Specifications.

- 3.1.Scope of Supply by CPC
- 3.2.Scope of Supply by contractor
- 3.3.Contractor's Scope of Work
- 3.4.Technical Specifications/ Codes/Standards
- 3.5.Inspection & Testing
- 3.6.Construction Drawings List
- 3.7.Standard specification for scaffolding

4. Contract forms

- Schedule 'A' - Tender and Schedule of Prices
- Schedule 'B' - Format of bid Security Guarantee
- Schedule 'C' - Format of Advance Payment Guarantee
- Schedule 'D' - Format of Performance Guarantee
- Schedule 'E' - From of Agreement

1. INSTRUCTIONS TO BIDDERS

1.1 INTRODUCTION

- 1.1.1 Department Procurement Committee (DPC) on behalf of Ceylon Petroleum Corporation, Refinery Division (CPC), hereby call tenders from Local & International firms (herein after called bidders) having experience in the construction & maintenance repairs of Petroleum oil storage steel tanks as per the API Standards 650/653, for replacement of bottom plates and carry out other repairs of the crude oil storage tank no. 4 as per the API Standard 650/653 Latest Edition & this Invitation to Bid (ITB) document, along with complete sets of construction drawings and with inspection by CPC. The Floating Roof Type Crude oil Storage Tank No 4 of Diameter 67 m and height 14.63 m is situated at the Oil Refinery premises at Sapugaskanda, Kelaniya, Sri Lanka.
- 1.1.2 The local bidders shall have experience in carrying out steel oil tank maintenance/construction work as per API 650/653 in the past 5 years and registration with Institute for Construction Training & Development (ICTAD) at Grade EM 1.
- 1.1.3 Foreign bidders shall have prior experience in the past 10 years carrying out steel tank maintenance/construction work as per API Standard 650/653 and shall have successfully completed at least one steel tank maintenance/construction of value not less than US\$ 800,000/= within past 5 years
- 1.1.4 In case of a join collaboration of a local registered company with a foreign company, foreign company shall fulfill the requirement of carrying out at least one Mechanical Engineering maintenance/construction of value more than US\$ 800,000/= within past 5 years and either party having 650/653 tank construction experience.
Note: A copy of the join collaboration agreement shall also be submitted along with the bid.
- 1.1.6 All bidders must produce documentary proof that a Consultant or an Engineer who is conversant with API code 650/653 could be assigned for this construction work and a Graduate Mechanical Engineer shall be available full time at site.
- 1.1.7 The tank site is located at CPC Refinery at Sapugaskanda, Sri Lanka, 17 Km by road from Colombo, Sri Lanka.

1.2 BASIS OF CONTRACT

- 1.2.1 The contract will be carried out on a lump sum fixed fee basis. The lump sum fixed fee covers the total value for completion of the entire job as per the scope of work in this Bid document, according to API 650/653, of the Floating Roof Type Crude Oil Storage Tank No. 4 of diameter 67 m and height 14.63m, VAT, NBT, Withholding Tax and all local taxes, employee provident fund and insurance of construction labour, supervision, any local agency fees, commissioning costs, transportation costs, cost of construction equipment, & consumables etc. CPC will be supplying all steel plates and other material needed for the construction as described under “scope of supply by CPC” in clause No. 3.1.
- 1.2.2 The contract will be entered into with CPC.
- 1.2.3. The contractor shall not subcontract the whole of the works & purchases, except where otherwise provided by the contract. However, the contractor may subcontract any part of the works or purchases with the prior consent of CPC. The contractor is however, not required to obtained such consent for purchases of materials or to

replace contracts (or minor details) for any part of the works of which the manufacturer or supplier is named in the contract. The contractor shall be responsible for the acts, defaults and neglects of any subcontractor, his agents or employees as fully as if they were the acts, defaults or negligence of the contractor, his agents or employees.

1.3 BASIS OF BID

1.3.1 Bidders are to submit completely furnished details given in attached "SCHEDULE A" Tender & Schedule of Prices, giving a lump sum fixed price for the entire job as per the scope of work in this Bidding document NBT, VAT, all taxes including withholding tax, and provident fund, insurance of construction labor, supervision, transportation costs, cost of construction equipment, etc.

The bidders who are registered for the purpose of VAT should indicate the amount of VAT claimed separately in the bid documents along with VAT registration number. If the bidder not registered for VAT, only the net value of the tenders shall be indicated. Any local or foreign taxes applicable for foreign contractors should be born by the contractor by himself. (Except local VAT).

1.3.2 A clear breakdown of the lump sum fixed fee as requested in Schedule "A" "Tender and Schedule of Prices" shall also be submitted.

1.3.3 Additional services provided by the bidder that have not been covered by this invitation to bid shall be clearly stated for CPC's consideration.

1.3.4 Exceptions to CPC's Invitation To Bid shall also be clearly stated by the bidder. If no exception were stated, CPC would assume bidder conforms to most stringent conditions in this Invitation To Bid.

1.3.5 All alterations & corrections to errors in bid offer have to be initiated by the bidder.

1.4 INVITATION TO BID DOCUMENT

1.4.1 **The Invitation to Bid Document shall be obtained from**
 Senior Engineering Manager (Mechanical & Projects)
 Ceylon Petroleum Corporation
 Refinery Division
 Sapugaskanda
 Sri Lanka

A non-refundable tender deposit of Rs. 12,500/- will be charged at the time of collection of tender documents. Final date and time of issuing of tender documents will be on **25th September 2017 at 15.00 hrs.**

Bid documents will be issued to the bidders those who produce documentary evidences of qualifications, stated in clause no. 1.1.

1.4.2 Pre bid meeting

Pre Bid meeting will be held on **27th September 2017** at **09.30 hours** at the Main Conference Room of the CPC Refinery.

Attendance to this meeting by a technically competent authorized, representative of the bidder (with a letter of authorization) is essential and if not attended, offer will not be accepted. All costs incurred in attending to this pre bid meeting will have to be born by the contractor.

CPC reserves the right to change the pre bid meeting date due to any unforeseen reason and if changed, will be notified to the bidders who have collected the Tender Documents.

For this purpose the Bidders shall inform the contact person and his telephone number when collecting the tender document.

1.4.3 Any person who act as an agent or sub-agent, representative or nominee for or on behalf of any bidder / principal supplier, shall register himself and such public contract as per Public Contracts Act, No 3 of 1987 for every public contract exceeding five million rupees (SLR) & a copy of the valid Certificate of registration bidding documents. All bidders should submit the registration certificate along with the bid.

Where any person is an agent, sub-agent, representative or nominee for or on behalf of a bidder / principal supplier he shall first produce a certificate of his appointment as agent, sub-agent, representative or nominee to the Registrar under Public Contracts before he registers himself under the Public Contracts Act. [Contact details of the Registrar under Public Contracts: Department of Registrar of Companies, "SamagamMedura", No. 400, D R WijewardenaMawatha, Colombo 10 / Tel.: +94-11-2689208 / +94-11-2689209 / Email: registrar@drc.gov.lk .(Contact details may vary from actuals & CPC does not take any responsibility in this regard)]

1.5 BID GUARANTEE

1.5.1 Each bid shall be accompanied by a Bid Security Guarantee undertaking that the offer will be valid up to 120 days from the date of closing of bids and that the offer will not be withdrawn during that period. Such Bid Security Guarantee shall be in the form of a guarantee issued by a reputed commercial Bank operating in Sri Lanka, approved by the Central Bank of Sri Lanka and should be encashable on demand and payable to CPC or bank draft issued by a reputed commercial Bank operating in Sri Lanka, approved by the Central Bank of Sri Lanka, equivalent in value of Sri Lanka Rupees 1,500,000.00 (one point five million).

1.5.2 The bid security guarantee shall be valid up to 150 days from the date of closing of bids and shall be in accordance with the specimen in SCHEDULE -B, "Form of Bid Security Guarantee" by bank guarantee or bank draft.

1.5.3 Failure to submit the Bid Security Guarantee at the time or before the closing of the bids with a validity period 150 days from the date of closing of bids and in accordance with the above said requirements will result in the bid being rejected. Bid Security Guarantee from unsuccessful bidders will be returned to them after an award is made in accordance with the above said requirements.

1.5.4 The Bid Guarantee of the successful bidder will be returned after receipt of Performance Guarantee.

1.6 BIDDING INSTRUCTIONS

1.6.1 Bidder shall bid for the complete project in accordance with this Invitation to Bid.

Bids are to be furnished in: -

1.6.1.1 **Section 1** -Complete technical proposal indicating the method to be adapted for Reconstruction of Bottom and Roof of Crude Oil Storage Tank No.4, details of construction procedures and sequences, WPS (Welding Procedure Specification) for all joints indicating type of electrodes to be used and their makes, source (s) of supply and repair/fabrication schedule etc. The contractor should elaborate how he intends getting the plates into the tank for reconstruction of the tank bottom & roof.

1.6.1.2 Bar chart of the total work clearly indicating the various phases of contract, breakdown of manpower and equipment and organization chart allocated for this contract.

1.6.1.3 **Section 11**-Complete commercial proposal giving a breakdown of the lump sum fixed price in to following categories as required in Schedule 'A' "Tender and Schedule of Prices".

1. Cost of Repair/construction management and contractor's engineering overheads.
2. Cost of tank construction/repair field labour to be engaged.

3. Cost of tank repair consumables such as welding electrodes, grinding discs, gas for cutting radiography films & dye-penetrant etc. covered by the contractors' scope of supply.

4 Cost of blast cleaning and cost of painting.

5. Cost of construction equipment such as welding plants, compressors, cranes, and scaffolding that the contractor plans to mobilize on this project (plans to bring from local sources or make available from the Contractor's equipment)

6. NBT 2%

7. VAT 15 %

1.6.1.4 **Section 111**-Literature\Write-ups to supplement the technical proposal given in 1.6.1.1 Section 1 above, indicating work experience in repair or construction work on petroleum oil storage tanks as per relevant codes and standards.

1.7 GENERAL INFORMATION TO BE INCLUDED IN THE BID

1.7.1 Bidder should state in his bid offer address including fax (if any) to which orders, notices and correspondence related to bid offer is to be sent. Any change of address should be notified to CPC and any such change shall be valid only when such notification has been acknowledged by CPC.

1.7.2 Background of the bidder, place of business, number of years of experience in the field of construction/ repairs of storage tanks, financial report of the company for

the last 3 years and names and addresses of (present & former) clients other than CPC.

1.7.3 Indication of similar jobs in hand and including their values.

1.7.4 Intended location of shop fabrications, shop testing (if any).

1.7.5 Any proposed arrangements with others, either affiliates or associated companies, the extent of the work the bidder will handle with own personnel and equipment, if not, extent of work to be sub-contracted, litigation if any should also be notified.

1.7.6 Names and addresses of local agents (if any).

1.7.7 Plan or method of carrying out work.

1.7.8 Electrical power needed for construction.

1.7.9 Water needed for construction.

1.7.10 Welder/procedure qualification testing facilities and place.

1.7.11 List of construction equipment to be used at the Refinery site by the contractor. List out equipment to be imported, if any, and hired locally lease locally.

1.8 ACKNOWLEDGMENTS

Bidders shall answer by fax for any written query raised by DPC on the proposals at the stage of evaluation of bids.

1.9 AMENDMENTS/CLARIFICATIONS

1.9.1 DPC reserves the right to issue amendments to the Invitation to Bid as and when deemed necessary up to the time of pre Bid meeting given in Para 1.4.2.

1.9.2 Bidders if they so desire may seek request additional information or clarification on this Invitation to Bid or seek any other pertinent information from the:

Senior Engineering Manager (Mechanical & Projects)
Ceylon Petroleum Corporation
Refinery Division
Sapugaskanda
Sri Lanka.

Fax –94 11 2400431 / 2400436

Tel –94 11 2400427 / 5668542

All clarifications shall be made within two week, before the closing date of the tender.

1.9.3 Where prospective bidder has not sought any such clarification, such bidder shall be deemed to have accepted the Invitation to Bid document in full.

1.9.4 Bidders must acquaint themselves fully with the conditions of the site and Bid document. No plea of lack of information will be entertained at any time or stage of the proposal and implementation of the project.

1.10 CLOSING DATE OF TENDER

- 1.10.1 Bids are to be furnished in accordance with all relevant information given in this Bid document.
- 1.10.2 One original and a copy of the bid proposals are to be submitted. The figures given in the original will be binding and any deviations in the copies in the course should not be taken into account and the price given in will be considered as the covering price for the entire job.

Bids are to be submitted before **14.30 hours** of Sri Lanka time on **12th October 2017**.

The Chairman,
 Departmental Procurement Committee
 Ceylon Petroleum Corporation
 Refinery Division
 Sapugaskanda
 Sri Lanka.

- 1.10.2 Bid proposals may be sent to above address given in the Para 1.10.2 by registered post or delivered at the above address and deposited in the tender box at Refinery Managers' office, Ceylon Petroleum Corporation, Refinery Division, Sapugaskanda, Kelaniya. Bids sent under registered post must reach the above address before the given time and date of closing of Bid given in Para 1.10.2.
- 1.10.3 Bids received prior to the bid closing time will be kept secure and un-opened until the time and date of opening given in Para 1.10.2. DPC will not take any responsibility for any bid documents sent by post, which has not been received by DPC.
- 1.10.4 Reference "**Bottom repairs of Crude Oil Storage Tank No. 4**" shall be written on all bid proposal covers and all sealed envelopes.

1.11. OPENING OF BIDS

1.11.1 Bids will be opened at **14.30 hours** on **12th October 2017** at,

Main Conference Room,
 Ceylon Petroleum Corporation
 Refinery Division
 Sapugaskanda
 Kelaniya.
 Sri Lanka.

Bidders may attend the opening of bids if they so desire, Bidders' representative must carry an authoritative letter and identity from the main contractor. Aggregate Bid, prices will be read out in public at the opening of bids.

1.12. PERIOD OF VALIDITY OF BID

Bid offers should be valid for acceptance up to 120 days from the date of opening of bids. No price variation is allowed until the completion of the contract and the project/work acceptance letter is issued by CPC, except variation due to legislation and statutory changes of the Government policies/ regulations.

1.13. MANPOWER AND RESOURCE SCHEDULES:

- 1.13.1 Bidder is requested to provide a complete schedule of manpower at various grades deployed at site during execution of the project. A graduate mechanical engineer shall be available full time at site.
- 1.13.2 Bidders are requested to submit a complete list of construction equipment which will be at site of erection.
- 1.13.3 Contractor shall submit a bar chart along with the offer for the total work clearly indicating the various phases of contract, breakdown of manpower, equipment and organization chart allocated for this contract.

1.14. RIGHTS OF TENDER BOARD

DPC reserves the right to accept or reject bids without adducing any reason. DPC will accept the lowest responsive bidder. DPC/CPC is not responsible for any expenses or losses whatsoever which may be incurred by a bidder in the preparation and submission of the bid or bid bond.

1.15. LOCAL AGENTS:

- 1.15.1 Bids received from an agent signed on behalf of principal will not be considered unless the agent holds a legally executed Power of Attorney from the principal empowering the agent to tender and to enter into a valid contract on behalf of the principal to fulfill all terms and conditions of the tender. The original of the Power of legally executed Attorney must be attached to the tender.
- 1.15.2 The bidder/principal should disclose the name and address of agent if any, and the agency commission payable to him.

1. 16. NOTICE OF ACCEPTANCE

Acceptance of bid will be communicated by fax / E-mail and confirmed in writing by registered post to the successful bidder to the address given by him in the Form of Bid, soon after the receipt of the Procurement Committee decision. Any change of address of the bidder shall be promptly notified to the Senior Engineering Manager (Maintenance & Projects), Ceylon Petroleum Corporation, Refinery Division, Sapugaskanda, Kelaniya, Sri Lanka.

Very Important -

Bidders shall indicate the title of the bid and the tender reference number in all correspondences in respect of this tender.

2. CONDITIONS OF CONTRACT

2.1. PERFORMANCE GUARANTEE

- 2.1.1 On the tender being accepted, CPC shall notify such acceptance by letter of award (either by Letter of Intent) to the successful bidder whose bid has been accepted. Such notification shall require the successful bidder to furnish at his own cost and expenses, a Performance Guarantee through a reputed commercial Bank in Sri Lanka acceptable to CPC in a sum of not less than 10% of the full contract price of the successful bidder at or before the time and date specified in such notification. The Performance Guarantee shall be strictly in the form given in SCHEDULE 'D' "Form of Performance Guarantee" of this Bid document.
- 2.1.2 If the successful Bidder fails to furnish a performance Bond as provided therein, the Bid Security of such bidder will be forfeited at the sole discretion of the DPC and such contractor will be placed in the list of defaulting contractors.
- 2.1.2 DPC shall forthwith be entitled in its absolute discretion to select and offer other suitable party as it may think fit (whether another bidder or not) at the risk and expenses of the defaulting contractor and make arrangements required for the performance of the successful bidder whose tender has been accepted and shall be further entitled to recover from the defaulting contractors all loans, costs damages and expenses CPC may sustain in consequences of default by the said default contractor.

2.2 SCHEDULE OF PAYMENT

- 2.2.1 Advance payment to a maximum of 10% will only be paid on submission of a bank guarantee from a reputed commercial bank operating in Sri Lanka acceptable to CPC as per the format in SCHEDULE "C" of this Bid document.
- 2.2.2 Progress/part payments will be paid on the basis of 75% of the value of work completed. The balance 25% will be retained until the successful completion and handing over of the tank to CPC and released subject to retention conditions in clause 2.2.4. Part payment will be made to contractor within one month of finalizing their submission of part payment bill by the contractor.
- 2.2.3. In case of advance payment, 20% of each progress/part payment (2.2.2 of above) will be deducted until the full amount of advance payment is recovered.
- 2.2.4 Five (5%) percent of the lump sum cost will be with-held from the retention money of progress payments mentioned in clauses 2.2.3 which will be released twelve months (12) after successful completion and handing over of the tank.
- 2.2.5 Schedule of payment only for lump sum fixed fee component:
- The lump sum fixed fee price will be apportioned as follows for the purpose of making progress payments, which the contractor will be entitled to claim on completion and acceptance by CPC of each item subject to payment conditions in clause 2.2.

DESCRIPTION	% PAYMENT
1. Fabrication of jacking up brackets to shell, jacking up the tank and Cut and remove existing bottom plates.	12
2. On completion of sand blasting & painting of underside of the bottom plates.	8
3. On completion of fabrication and laying of bottom and annular plates.	10
4. On completion of welding of bottom and annular plates & vacuum test/radiography test.	40
5. On completion of repairs of roof sealing system.	3
6. On completion of replacement of firewater and foam lines.	2
7. On completion of painting of shell external.	10
8. On completion of hydro test, rectification of any defect found during hydro test.	3
9. On completion of painting of bottom top and shell internal.	10
10. Site clearing and handing over of the tank.	2

2.3 TAX LIABILITIES

2.3.1 Contractor shall be liable to pay the taxes levied by the Sri Lankan Governmental Authorities such as the Inland Revenue Dept. or Local Government Authorities on, its income and profits derived from execution and shall also be liable for all income taxes of its sub-contractor's personnel and the local agents.

2.3.2 Contractor shall accept liability to pay all taxes, turnover tax, NBT (Nation Building Tax), Value added tax, other taxes like import duty levies, fees, stamp duties, and the like, including but not limited to any sales or with holding taxes levied by whatsoever authorities in respect of the construction equipment, material supplied and any other equipment incorporated on this project.

2.4 PART PAYMENT/RETENTION MONEY

As agreed and given in schedule of payment under section 2.2 of this Bid document, CPC will honor any part payment bills. Retention money will be withheld from such part payments at the rate of 25% of that part payment bill. 5% of the total contract value will be with held from the final payment as retention money after successful completion and acceptance of work by CPC. This retention will be released 12 months after completion and acceptance of work by CPC.

2.5 LIQUIDATED DAMAGES

The successful contractor will pay to CPC, as liquidated damages for failure to comply with contractor's obligation to complete the work in the time guaranteed, an amount for each calendar day after the said date, at the rate of 1 % of the contract price per week subjected however that the maximum liability of the contractor will not exceed 10% of the contracted lump sum fixed price.

2.6 DEFAULTING CONTRACTORS

Bid offers will not be entertained from firms or persons who have been placed on the list of defaulting contractors of the government of Democratic Socialist Republic of Sri Lanka or the CPC.

2.7 PROJECT SCHEDULE

2.7.1 Project schedule from the date of award of contract to handing over commissioning of successfully completed job shall be 8 Months. The bidder should submit an overall project schedule showing the number of calendar days required to reach the date of completion and showing the time required for completion of various phases of work, and resource allocation such as welders, fitters, etc.

2.8 TERMINATION OF CONTRACT

2.8.1 CPC reserves the right to terminate the contract under the following conditions, in which event, Performance Bond of the contract will be forfeited.

- (a) The Contractor stops work for 28 days when no stoppage of work is shown on the current program and the stoppage has not been authorized by CPC.
- (b) The Contractor has delayed the completion of the work by the number of days for which the maximum amount of liquidated damages has been deducted, as defined in clause 2.5 of the Bid document without CPC's prior approval.

2.9 GUARANTEES:

2.9.1 Contractor will guarantee that the construction, here under shall be free from defects and shall confirm to and shall perform so as to comply with specifications contained in the Bid document or other specifications as may be ordered or approved by CPC.

2.9.2 During the whole period from the commencement of construction/erection until one year after acceptance by CPC, Contractor shall immediately after receipt of written notice from CPC, repair or replace at its own cost and expense such material or workmanship supplied which will be found to be defective.

2.9.3 Any cost of repair /replacement during the guarantee period of 12 months informed to the contractor and not repaired / replaced or undertaken by the contractor will be repaired/replaced by CPC and such cost will be deducted from the retention of 5% and the contractor will be considered to be defaulted & same will be notified to the contractor.

2.10 FORCE MAJEURE:

Contractor or CPC shall not be responsible for any delay or failure hereunder resulting from causes beyond their control including but not being only restricted, to acts of god, fires, explosions, flood, earthquakes, wind storms, national strikes, national riots national walk-outs, national boycotts, wars, laws, regulations or acts of any government or from other cause beyond contractor's control and which by the exercise of due diligence company is unable to prevent.

2.11 SAFETY REGULATIONS & REGULATIONS FOR THE PREVENTION OF FIRE

(To be observed by the contractor, his sub-contractors and his and their workers, agents and invitees)
All persons engaged in work at Ceylon Petroleum Corporation, Refinery, Sapugaskanda (hereinafter called the Refinery) shall be acquainted with the following regulations and their consent to abide by them shall be an essential condition of their permit to work at the Refinery.

1. The whole of the premises within the boundary fence is constituted a danger area with the exception of any area expressly exempted by the Refinery Manager (hereinafter called the Manager).

2. All employees, agents and invitees of the Contractor who may not be aware of the exact locality of any area expressly exempted from the danger area must assume that any part of the Refinery is a danger area and act accordingly.
3. Before work of any nature is commenced in any area by the Contractor, his employees, agents or invitees, the Contractor must obtain the Manager's authorized signatories necessary for excavation permits, safety certificates and clearance certificates and if the work involves sparks of flames, also a fire permit.
The Contractor, his employees, agents or invitees must observe all precautions stipulated in these documents. If the work cannot be completed in the period for which these documents are valid, the work shall be discontinued until the documents are renewed.
4. Persons under 18 years of age should not be employed by any contractor or by any sub-contractor for carrying out any contract work in any part of the Refinery.
5. It is a condition of the permit to work at the Refinery that all persons engaged at the Refinery shall submit to be searched by the Refinery's Security Officials. This search may take place, either at the time of entry to the Refinery or at any other place and during any time while the employees are in the Refinery, at the discretion of the Senior Security Officer, Refinery.
6. Fire, naked flame, lighters, matches, petrol or any other flammable substance and any apparatus / equipment which can cause ignition should not be taken to the danger area by any contract personnel without a written authority signed by the manager's authorized representatives. Such written permit shall be valid for the period stated therein and must be returned to the Head of Fire Fighting and Safety, Refinery.
7. No dry battery or accumulator type of electric hand-lamp or hand-torch, which is not of a flameproof safety type, approved by the Manager, may be taken to the danger area.
8. Smoking is strictly prohibited in any part of the Refinery.
9. No fires shall be lit and no matches shall be ignited in any part of the Refinery without a special fire permit being given and signed by the Manager's authorized signatory.
10. The contractor shall observe the speed limit of 30 KMPH for vehicles and 24 KMPH for motorcycles within the Refinery premises and all vehicles must be mechanically sound and have an efficient exhaust, silencer, horn, brake, filler cap and tyre of good condition. All contract drivers must possess a valid driving license.
The vehicles used by the contractor should only be driven on the recognized main roads in the Refinery and no vehicle should leave a main road and enter into an operational area without having a valid Fire and Safety Permit.
11. Mobile cranes and other lifting equipment used for the contract job must be load tested and test reports must be produced to the Fire & Safety Department.
12. If any contract work involves scaffolding, it should be erected as per Standard, Refinery Scaffolding Procedure. A copy of Standard Refinery Scaffolding Procedure should be requested when necessary.
13. All contract work should be stopped if the fire siren is sounded or in case of a Refinery Emergency.
14. (a) The Contractor shall ensure that his employees and those of any of his sub-contractors shall not make use of any equipment, material or property of any kind whatsoever belonging to the Corporation unless the written permission of the corporation has been obtained beforehand.
(a) The Contractor shall ensure that so far as is compatible with the work being carried out, the area in which his workers and /or agents are working shall be kept free of all equipment, material or property of any other kind which may constitute

an accident hazard. If it is necessary in the opinion of the Contractor for such equipment, material or property to be on site, it will be the Contractor's responsibility to ensure all necessary safety precautions are observed by his own employees and those of his sub-contractors.

15. The contractor must supply all personal protective equipment necessary for the contract employees to carry out the contract work. All contract employees should follow Refinery Safety Regulations and ensure to wear personal protective equipments.
16. All accidents caused to the contractor's employees must be reported to the Fire and Safety Department immediately.
17. After completion of the contract work by the contractor the area involved with the contract work should be inspected by the Fire and Safety Department to ensure that the cleanliness and good house keeping practices had been followed. The area involved with the contract work should be certified by the Fire and Safety Department before the final payment is made.
18. If the Contractor / Sub Contractor intend to use Electronic equipment / radioactive equipment the contractor shall inform the engineer in charge and give the complete details of such equipment and the purpose for which such equipment is used and obtain the permission from the Electrical Department before commencing the contract work.
19. Any employee, agent or invitee of a Contractor consciously or without consciousness, breaking the above Rules shall be liable to have his permit to work at the Refinery terminated immediately.
20. In addition to the above it will be contractor's responsibility to abide by the relevant clauses of Factories Ordinance of Sri Lanka in respect of all work carried out at the site and the safety of personnel engaged and equipment used at site. Contractor shall pay special attention to the following clauses of the Factories Ordinance of Sri Lanka. However, the responsibility of the contractor will not be limited to the clauses listed below but will cover all other conditions in the whole Factories Ordinance and its amendments.
 1. Clause 27 - Hoists and lifts
 2. Clause 28 - Chains, Ropes & Lifting Tackle
 3. Clause 29 - Cranes and other Lifting Machines
 4. Clause 30 - Construction and Maintenance of floors, passages and stairs.
21. The mobile phones will not be allowed to bring Refinery premises with out proper authorization / approval.

2.12 SECURITY CLEARANCES

2.12.1 The Refinery premises is considered a high security zone and all contractor's personnel shall abide by the security regulations, prevailing and those which might be enforced as and when necessary due to changing circumstances.

2.12.2 All contractors' personnel and their vehicles will be required to obtain gate passes before entering into the Refinery.

Any part of the work that is to be sub contracted should be notified during the process of tendering and the name of the contractor along with the offer. If the contractor is to be changed after the award, written permission of the CPC will have to be obtained.

2.13 ARBITRATION

2.13.1 All the disputes arising in connection with this contract shall be finally settled under Arbitration Act No.11 of 1995 of Sri Lanka.

2.13.2 Performance of the contract shall continue during Arbitration proceedings.

2.13.3 All proceedings and hearings by the Arbitrator shall be held in Sri Lanka.

3. SCOPE OF SUPPLY, SCOPE OF WORK AND OTHER TECHNICAL SPECIFICATIONS.

3.1 SCOPE OF SUPPLY BY CPC

3.1.1 Construction material

3.1.1.1 Supply of steel plates, pipes and all other structural material requirement for re-construction of the tank bottom, fire water and foam supply lines, material for primary & secondary sealing systems, steel plate and pipe requirements of procedure qualification tests and welder qualification tests and other material requirement for repair work. Contractor has to collect all above material from Refinery materials Department.

3.1.2 Construction Utilities

3.1.2.1 CPC will provide sufficient and reasonable quantities of construction utilities at site at no cost which include supply of construction electrical power, drinking water and water for hydro-testing and firewater. Maximum available electric power is 45 KVA

3.1.2.2 The electrical power supply available to the contractor is 400V AC, 4 wire (TPN) 50 Hz. and will be subjected to following conditions:-

3.1.2.3 The maximum load that the CPC electrical department can feed will be 75A, 3 phase.

3.1.2.4 The CPC Refinery Electrical department will terminate the feeding cable(s) to a suitable circuit isolating and interrupting devices such as a circuit breaker mounted at contractors' distribution board.

3.1.2.5 The distribution board shall be provided with suitable protection devices such as Earth leakage circuit breakers, miniature circuit breakers, isolators etc.

3.1.2.6 All cables used for power distribution above 48V shall be of armoured type.

3.1.2.7 Power distribution inside the tank should comply with IEE wiring regulations for construction sites.

3.1.2.8 CPC will reserve the right to disconnect the power supply to the contractor without prior notice, if any of the conditions is violated.

3.1.3 Site Fabrication Facilities

3.1.3.1 CPC will provide sufficient space in Refinery premises for establishment of a site shop for fabrication. The bidder shall indicate the extent of area needed for the site shop. The contractor shall under no circumstance use this site facility for any other purpose not involved with the job.

3.1.4 Construction Equipment

3.1.4.1 CPC will provide 20 no of 50-ton screw jacks for jacking up/lowering the tank shell. Contractor has to return the jacks after completion the job. Cost of any damages to the jacks will be deducted from final payment bill.

3.2 SCOPE OF SUPPLY BY CONTRACTOR

3.2 Construction Equipment & consumables.

3.2.1 Supply of all consumables such as welding electrodes, gas for cutting, grinding discs, abrasive material for blast cleaning and all other consumables necessary for the proper execution of the job.

- 3.2.2 Supply of abrasive material for blast cleaning and all paints, thinner needed for painting work.
- 3.2.3 Supply of all construction equipment such as welding machines, Grinders, air compressors, cranes & other rigging equipment, vacuum testing equipment, blast cleaning & painting equipment, radiographic equipment, illuminating lamps and other tools required for proper execution of the job.
- Note:** All equipment should be maintained in good working order and tested where applicable and conform to requirements of the Latest Factories Ordinance of Sri Lanka.
- 3.2.4 The contractor shall supply all required non-destructive testing (NDT) equipment & consumables as per API 650/653. The contractor should get CPC inspection department prior approval for NDT consumables.
- 3.2.5 Supply of temporary erection material such as lugs, brackets scaffolding and reinforcement materials and other accessories.
- 3.2.6 All direct requirements of field equipment such as fuel, lubrication oil etc. the contractor intends to mobilize at site.
- 3.2.7 Supply of all manpower needed including supervision to carry out the work described under “Contractor’s scope of Work” in clause 3.3.
- 3.2.8 All bidders must produce documentary proof that a Consultant or an Engineer who is conversant with API code 650/653 will be assigned for this construction work and a Graduate Mechanical Engineer will be made available full time at site.
- 3.2.9 The contractor shall employ a level II certified personal for NDT work, only after CPC inspection department approval.
- 3.2.10 An Insurance cover for site equipment so that CPC will be released from any responsibility regarding accidents, losses etc.
- 3.2.11 An Insurance cover for all manpower at site as per the Workmen Compensation Act.

3.3 CONTRACTOR’S SCOPE OF WORK

All the under mentioned conditions should be completely fulfilled by the selected bidder for the completion of the total job.

1. Tank roof drain hose and center foam supply hose to be removed carefully and to be kept under cover from sunlight.
2. Carefully removing of primary and secondary sealing systems and recover all items for re use.
3. Cutting and removing of existing bottom plates and annular plates without disturbing roof legs. 4 nos. roof deck plates to be removed for easy removing and installation of bottom plates. Removed plates to be installed, welded and vacuum tested after complete the job.
4. Transport the cut plates to scrap yard within the refinery premises and stack properly.
5. Welding of 48 nos. jacking up brackets to tank shell. Fabricated brackets will be supplied by CPC.
6. Construction of 48 nos. 500x5000x200 mass concrete bases around tank shell for jacking up the tank.
7. Jacking up the tank and removing of existing annular plates from the tank shell carefully without damaging the tank shell.

8. Sand blasting & painting of under side of the bottom plates and annular plates as per CPC painting specification in clause No. 3.4.3, 3.4.4 & 3.4.5.
9. Sand blasting of 1 m band of shell inside adjacent to the bottom, weld filling / grinding of pitted areas and dye-penetrant testing where necessary.
10. Building/weld filling of the bottom edge of the shell inside and dye-penetrant testing where necessary. This has to be done before lowering the tank shell.
11. Repair/ replace existing bitumen sand layer where necessary.
 - 10.1. Removal of loosen or damaged bitumen/ sand layer in tank bottom.
 - 10.2. Supply, lay and compact new bitumen/ sand layer using 5 ton vibrating roller to the required depth and slope of the tank bottom.
 - 10.3. Re-leveling of tank foundation to the highest level of the existing tank foundation.
 - 10.4. Repair/ Replace existing bitumen layer on tank skirt.
12. Level measurement report shall be submitted before laying bottom plates. If there exist any level difference under the shell, necessary remedial work should be done.
13. Fabrication and laying of bottom plates and annular plates as per CPC Dwg. No. 3216. This has to be done carefully without damaging the bitumen coating. Any damage to be repaired.
14. Fabrication /repair, painting and installation of bottom sumps in the tank bottom. Painting shall be carried out as per CPC painting specification in clause No. 3.4.3, 3.4.4 & 3.4.5.
15. Lowering of the tank shell.
16. Welding of bottom plates, annular plates and shell to annular plates. Welding sequence to be prepared to minimize the distortion and to be approved by CPC Inspection department before start welding.
17. Radiography testing of annular plate butt joints as per API 650.
18. Welding of 500 X 500 X 8 mm pads to the bottom plates under the roof supporting legs.
19. Vacuum testing of bottom plate & annular plate welding. Diesel testing of shell to annular plate welding as per API 650. Any defects to be repaired and retested.
20. Sand blasting & painting of tank roof outer rim and pontoon top plate outer band between shell and foam dam as per CPC painting specification in clause No. 3.4.3, 3.4.4 & 3.4.5.
21. Repair/replace necessary items and re-installation of primary and secondary sealing system after painting of tank outer rim as per CPC drawing No.3399 & 3399 A.
22. Cut & remove existing Jacking up supports without damaging the tank shell and minimum damage to the jacking up supports.
23. Dye penetrant testing of all Jacking up support-welded places on the tank shell. Any defect to be repaired and retested.
24. All locations where shell is damaged by welding (other than above) shall be repaired and dye penetrant tested.
25. Bending, fabrication, sand blasting, painting & installation of 16 nos. 5.8 m lengths of foam supply ring around the tank including 6" vertical supply lines on tank shell, branch piping and Splash plates as per CPC Dwg. Nos. SK-1693, 1978, 6393 and 6521.
26. Bending, fabrication, sand blasting, painting & installation of 21 Nos. 5.8 m lengths of fire water ring around the tank including two s/o flange sets in every

two lengths, sprinkler nozzles and 6” vertical supply lines on tank shell as per CPC Dwg. Nos. SK-1692, 3219 and 2115.

27. Repair/replace foam/firewater rings supports where necessary (patch repairs or weld filling of corroded areas on the tank shell at support welding places also to be done).
28. Carry out any minor repairs instructed by CPC Engineer.
29. Completion of tank repair in all respect and boxing up the tank for hydro test.
30. The tank will be hydro tested by CPC after contractor has completed all repair works, NDT testing and boxing up of the tank. The contractor shall rectify any defect found during and after the hydro test. Contractor should open all shell and roof manhole covers after the hydro test and offer for inspection.
31. Sand blasting & painting of 1.5m band of shell inside from the top as per CPC painting specification in clause No. 3.4.3, 3.4.4 & 3.4.5.
32. Sand blasting & painting of 1m band of shell outside from bottom as per CPC painting specification in clause No. 3.4.3, 3.4.4 & 3.4.5.
33. Sand blasting & painting of full height of 1st shell course inside from bottom as per CPC painting specification in clause No. 3.4.3, 3.4.4 & 3.4.5.
34. Sand blasting & painting of top product side of tank bottom as per CPC painting specification in clause No. 3.4.3, 3.4.4 & 3.4.5.
35. Re installation of tank roof drain hose and center foam supply hose. . Both hoses to be hydro tested.
36. Wire brushing, patch primer and over coating of balance shell outside including all attachments, foam & fire water piping and wind girders per CPC painting specification in clause No. 3.4.4 & 3.4.5. The extent of cleaning will be indicated at the pre bid meeting
37. Wire brushing, patch primer and painting of entire floating roof top including all attachments such as foam piping, foam header, top part of roof support legs, rolling ladder, all platforms & hand railings as per CPC painting specification in clause no. 3.4.4 & 3.4.5.
38. Calibration of the tank using optical triangulation method or any other method and calculation and tabulation as per API 2550-ASTM 1220 by reputed third party company acceptable to CPC. Hard and soft copy of calibration chart and/or table to be submitted to CPC.
39. After completion of the repair, re-assembling of all the removed inlet /outlet pipes including Fire water/foam lines will be the responsibility of the contractor and any modification required also will be his responsibility.
40. Transport all cut plates, other scrap material, blast cleaning sand and excess earth and other foundation material from the site to respective scrap and sand dumping yards in the refinery and stack them properly.
41. Completion of tank repair in all respect and make ready for commissioning to the satisfaction of CPC inspection Dept. and removing of all debris from the tank compound including boxing up.

3.4 TECHNICAL SPECIFICATIONS/CODES/STANDARDS

3.4.1 WELDING PROCEDURES AND WELDER QUALIFICATION:

3.4.1.1 Filler material for all joints:

The following welding electrodes shall be used for each category of joint.

ROOF

All fillet welding joints on the roof – AWS E 6013

BOTTOM / SHELL

All fillet welding Joints & But welding Joints - AWS E 7018.

PIPE BUT JOINTS

- Root run - AWS E 6010
- Filling & capping - AWS E 7018

Welding procedure specifications (WPS) for all types of joints to be submitted to CPC for approval and Welding Procedure Qualification test shall be carried out and test reports from a reputed third party shall be submitted to CPC.

- 3.4.1.2 All welders to be qualified as per ASME Sec. IX in presence of CPC Inspection Engineer at CPC site and test samples of bend test with test certificates from a reputed third party to be submitted for CPC's approval. Welding of any type will not be allowed without proper qualification of welders by CPC.
- 3.4.1.3 Pipe welders shall be qualified for all pipe joints as per ASME Sec. IX and bend test results by a third party to be submitted along with test pieces.

3.4.2 STANDARD OF MECHANICAL CONSTRUCTION:

- 3.4.2.1 This tank has been designed according to API standard 650 by CPC. All mechanical Repair work, tolerances and testing has to be as per API 650/653 (latest edition). Final acceptance will be by CPC based on the limitations of these standards.
- 3.4.2.2 After completion of repairs plumpness and roundness of the tank shall be check and reports to be submitted to CPC.

3.4.3 SPECIFICATION FOR BLAST CLEANING

- 3.4.3.1 Tank bottom plate – Shall be blast cleaned to SA 2 1/2.
- 3.4.3.3 Tank shell specified areas - Shall be blast cleaned to SA 2 1/2.
- 3.4.3.4 All structural and piping – shall be blast cleaned to SA 2 ½
- 3.4.3.5 All the blast-cleaned surfaces shall be brushed off with clean brushes or blown off with compressed air to remove all traces of blast cleaned products before painting. CPC reserves the full authority to accept or reject a prepared surface depending on the cleanliness and/or anchor pattern specified by the specific paint manufacture, depending on the type of paint system selected.
- 3.4.3.6 Prior to commencement of blast cleaning a sample of abrasive material to be supplied to CPC for approval and a test sample to be performed for the qualification of the particular abrasive material and the operator.

3.4.4 PAINTING SPECIFICATIONS

- 3.4.4.1 All paints shall be thoroughly stirred to give uniform consistency before use. Paints supplied as more than one component shall be mixed in the proportions laid down by the supplier and applied within the specified time after mixing (pot life). Coatings containing heavy or metallic pigments that have a tendency to settle shall be kept in suspension by a mechanical agitator or stirrer. No pain shall be used in which the vehicle has set hard and which cannot readily be re-incorporated by correct mixing. Similarly, no paint shall be used which has jellied or thickened to such an extent that too much thinner is required to bring it to brushing consistency.

3.4.4.2 Paints shall not be applied under the following conditions:-

1. When the temperature of the surfaces is less than 3C⁰ above the dew point of the surrounding air and/or the relative humidity is higher than 85%.
2. When the temperature is below 4C⁰.
3. When there is the likelihood of an unfavorable change in weather conditions within two hours after coating.
4. When there is a deposition of moisture in the form of rain, condensation, frost etc. on the surface. This is likely to occur when the relative humidity is over 80% and the temperature is below.

3.4.4.3 Painting carried out under doubtful weather conditions is the responsibility of Contractor. If any painting is found to be unacceptable the particular surfaces shall be made paint free and be re-painted at contractor's expense. The first coat of paint shall be applied as soon as possible after surface preparation is approved by CPC. Each layer of paint shall be allowed to dry for a period of time within the limits prescribed by the paint manufacturer, before the next layer is applied. Particular attention shall be paid to the painting of corners, edges, welds etc. especially with respect to the specified minimum dry film thickness. All surfaces inaccessible after assembly shall be fully painted before assembly.

3.4.4.4 All welded places where paint damage arias shall be re-blasted or power brushed and re painted.

3.4.4.5 Paint thickness report shall be submitted to the Inspection Department at each painting stage.

3.4.5 PAINTING SCHEDULE

3.4.5.1 Painting Schedule (A)

Top most shell course top most 1.5m band, complete bottom & bottom shell course (Product side) & roof outer rim:

	DFT Microns	Overcoating interval	
		Min.	Max.
Primer- Sigma Cover 522	50	2-6 Hrs.	60-90 days
Intermediate – Sigma Guard 720	150	2-6 Hrs	4-7 days
Finish – Sigma Guard 720	150	2-6 Hrs	4-7 days
Surface Preparation	Blast cleaning to SA 2 ½		
Paint Application	Airless spray		

3.4.5.2 Painting Schedule (B)

Roof & all roof accessories (External side):

	DFT Microns	Overcoating interval	
		Min.	Max.
Primer – Sigma Cover 280	60	*1	*1
Intermediate – Sigma Cover 435	100	*1	*1

Finish – Sigma Cover 453	100	*1	*1
Final Finish – Sigma Dur 188 (Al)	75		
Surface Preparation	Wire brush (non-corroded area)		
Paint Application	Airless spray		

3.4.5.3 Painting Schedule (C)

Shell external side:

Primer:

- * Primer : CIC Zinc Phosphate Primer or suitable equivalent.
- * Surface preparation : Wire brushing patch prime and Overcoat
- * DFT / No. of coats : 170 microns / 04 coats (Where corroded)

- * Application : Brush / roller / Air spray / Airless spray
- * Over coating interval : 4 hrs (minimum)
7 days (maximum)

Overcoat:

- * Overcoat : Bright Aluminums or suitable equivalent to primer
- DFT / No. of coats : 50 microns/02
- Over coating interval: 4 hrs. (Minimum)
7 days (maximum)

3.4.5.4 Painting Schedule (D)

Excising Fire water/foam piping, external stair way, hand railings etc.:

Primer:

- Primer - CIC Red lead primer or suitable equivalent
- DFT/No. of coats - 80x2 microns. Where metal surface exposed. Other area 02 coats.
- Surface preparation - Scraping, wire brushing
- Application - Brush/Roller
- Overcoating interval - 4hrs./20°C(Minimum)
7 days (Maximum)

Overcoat:

- Overcoat - Enamel paint
- DFT / No. of coats - 50 microns/02

New Fire water/foam piping

Primer:

- Primer - CIC Red lead primer or suitable equivalent
- DFT/No. of coats - 170 microns/04
- Surface preparation - SA 2 1/2

Overcoat:

- Overcoat - Enamel paint
- DFT / No. of coats - 50 microns/02

3.4.5.5 Painting Schedule (E)

Bottom plate under side:

	DFT Microns	Overcoating interval	
		Min.	Max.
Primer – Sigma Cover 280	50	*1	*1
Intermediate – Sigma Cover 300	150	*1	*1
Finish – Sigma Cover 300	150	*1	*1
Surface Preparation	Blast cleaning to SA 2 ½		
Paint Application	Airless spray		

*1 - Please refer note

Notes:

- *1) Paint manufacturer's data sheet recommendation shall be strictly applied.
- 2) Two pack epoxy paints shall be applied either by airless / air spray method only as per paint manufacturers data sheet. Brush /roller brush application will not be allowed.
- 3) Epoxy paint two component mixing shall be done by pneumatic / electric mixer only. Hand mixing with timber or steel rod is not allowed.
- 4) All primer paint damaged area should be cleaned by power brushing, patch primed prior to overcoat application.

3.5 INSPECTIONS AND TESTING:

- 3.5.1 All local fabrication and installation at site & material will be inspected by CPC inspector with concurrence of the contractor's own inspection.
- 3.5.2 In the event of any rejection arising out of quality of standard of fabrication /installation according to API Std. 650/653 (latest edition), such items shall be replaced by the contractor at no cost to CPC. In view of standard of fabrication that have to be maintained, CPC reserved the right to reject services of workers not measuring up to skills required.
- 3.5.3 CPC inspectors & project engineers will carry out inspection at all stages of construction
- 3.5.4 Contractor shall carry out all non-destructive testing such as Radiography, Dye penetrate testing vacuum testing etc. Wherever required by the design code API Standard 650/653 (Latest Edition) using contractor's own equipment, consumables & manpower at its own cost in the presence of CPC's inspectors and submit reports for CPC's approval.

3.6 CONSTRUCTION DRAWINGS LIST

DWG. NO.	DESCRIPTION
3216	Tank bottom
3217	Shell
3399	Primary Seal
3399A	Secondary Seal
1798-(SH3)	Form Connection for Tank S1 & S2
6393	Form Ring Support for Tank 1,2,3,4
3219	4" DIA Cooling Ring
2116	Piping Assy. Cooling Water & Fire Fighting System.
SK-1692	Tank 4 Cooling Ring
SK-1693	Form Connection for tank 4

3.7 STANDARD SPECIFICATION FOR SCAFFOLDING

Scaffolds

A scaffold is an elevated working platform for supporting both personnel and materials. It is temporary; its main use being in construction and/or maintenance work. Scaffolds should be designed to support at least four times the anticipated weight of workers and materials which will be used for. Scaffolding is the structure that supports the working platform.

Overhead Protection

Whenever, work is being done above the personnel working on a scaffold, overhead protection should be provided on the scaffold for those personnel. This protection should be not more than 9 ft. (e m) above the working platform and should be planks or other strong suitable material.

Means of Access

A safe convenient means must be provided to gain access to the working platform level. Means of Access may be a portable ladder, fixed ladder, ramp or runway or stairway.

Suggested Scaffolding Regulations for Refinery Use

Definition of Scaffold Terms

Standards (or Upright)

The vertical supports which bare the weight of the structure and its load.

Ledgers

Horizontal tubes which connect standards longitudinally and which may act as supports for transoms.

Transoms

Tubes, which span ledgers transversely and may support as working platform.

Braces

Tubes fixed diagonally across the length and/or width of a scaffold through scaffold (i.e. Plan bracing) to increase its stability.

Ties

Tubes used to maintain stability in a scaffold by connecting it to the structure or the wedges on ground.

Right Angle Load Bearing Coupler

Scaffold fitting used to join major load bearing tubes at right angle.

Swivel Coupler

Fitting used to join tubes at any angle.

Base Plate

A steel plate approximately 6"x6" with a spigot over which a scaffold tube can be placed at right angles to the plate.

Joint Pin

Coupler for joining scaffold tubes end to end by fitting externally.

Sole Plate

Wood plank of suitable size to cover soft ground

Independent Tie Scaffolds

There are scaffolds having two rows of standards

1. All scaffolds should be erected on level and firm ground. Where level ground is not available then the ground directly below the sole plates should be leveled.
2. Excavations manholes, openings, etc. must be covered with larger timber for sole plates. Where several standards are involved a competent engineer must ensure the bridging is adequate for the loads involved.
3. Bricks scrape pieces of timber, breezeblocks, etc. Must not be used as sole plates.
4. Metal base plates must be used to support standards on grounds other than hard concrete floor.
5. Standards shall be erected vertically at not more than 6 ft. (2.134 m).
6. Joints in standards must be staggered, i.e. no adjacent joints in the same lift, and should be as near as possible to the ledgers. These joints should be made with joint pins (internal couplers). Swivel joint couplers should not be used for this purpose.
7. Ledgers must be fitted horizontally and secured with 90o load bearing couplers to the inside of the standards, and spaced not more than 6 ft.
8. Joints in ledgers should be avoided as much as possible, but may be made with sleeve couplers and must be staggered (i.e. no adjacent joints in the same bay) and should not be more than 2 ft. (610 mm) from any standard.
9. Transoms should be fixed at both ends to the ledgers with right angle or swivel couplers. The distance between two adjacent transoms shall be not more than 4 ft.
10. Additional transoms must be fitted to ensure that the ends of the boards or planks are supported properly.
11. Ties must be fitted at 20 ft. minimum intervals along the scaffold horizontally over 13 ft. vertically
12. All ties must be secured with right angle load bearing couplers.
13. At least 50% of all ties should be through ties and must be horizontal where possible and secured to standards or close to standards. Horizontal ties must be fastened both to the internal and external standards or ledgers.
14. Where it is not possible to make all ties through ties inter- mediate reveal ties may be fitted.
15. The minimum width of the scaffold platforms should be as follows:
 - (a) 24" - 2 persons only (no material)
3 boards/planks
 - (b) 32" - 3 persons and the depositing of materials
not more than 25 kg. Passage of persons
4 boards/planks
 - (c) 48" - 4 persons & material up to 50 kg.
6 boards/planks must be supported by minimum of six standards)

16. All scaffolding must be suitably braced.
 - (a) Diagonal bracing at right angles to the structure and at alternative pairs of standards are necessary for the full height of the scaffold.
 - (b) Longitudinal or facade bracing to the full height of the structure in the end bays and intermediate locations of 100 ft. may be used.
 - (c) Longitudinal bracing should be fastened to extended transoms by right angle couplers.
provided that such transoms are clamped to ledgers or standards with right angle couplers. Bracing, fastened to the standards may be secured by swivel couplers as near to the ledger as possible.
 - (d) Joints in braces should be made by sleeve or parallel couplers.
17. Scaffold boards/planks must be free of large splits, knots, should be bend at both ends.
18. Every scaffold boards/planks longer than 6 ft. should have at least three supports, but needs more supports as in clause 10.
19. No board should overhang it last support by more than 12 inches.
20. Every scaffold board should have a minimum overhang of 6 inches over its last support.
21. The space between two adjacent boards must not exceed 1 inch.
22. Scaffold platforms must be completely boarded out.
23. Every scaffold platform from which a person can fall more than 6 ft. 6 inch. must be fitted with guard rails the height of the guard rail from the platform must be between 3 ft. and 3 ft. 9 inch (1.142 m).
24. The space between the edge of the working platforms and of the equipment must be as small as possible and must never exceed 12 inches. If due to circumstances a gap of more than 12 inches is created, guardrails must be fitted as above.
25. As possibility of displacement exist, from high winds etc.
boards must be fastened down at both ends with suitable clamps.
26. Where platforms become slippery due to oil etc. the boards should either be fastened down at both ends with suitable clamps.
27. Clear access/agrees must be maintained at all times to all scaffolds and all ladders being used to give access must be sound construction.
28. The gap in the guardrail for the ladder access must be as small as possible.
29. Ladder runs must not, under any circumstances, be used to support gangways, runways, or platforms of any nature.
30. Single planks runs must not be used under any circumstances.
32. Ladder landings must be provided at every 30 ft.
33. No part of scaffold be used to support any other load or as a supporting point for a chain b locks ratchet etc.

Mobile or United Scaffolds

1. No mobile or united scaffold shall be erected to a height greater than 3 1/2 times its minimum base width.
2. The standards should be made vertical.
3. All other requirements for independent tied scaffolds should be satisfied other than ties.
4. Maximum height of mobile or united scaffold is 6 ft.

Inspection of Scaffolds and Accessories

1. Every scaffolding pipe, coupler & base plate must be inspected by Inspection Engineer once in every month's period.
2. The Inspection Engineer will reject the defective items such as damaged pipes, corroded couplers and base plates etc.
3. Every plank to be used for a platform should be load tested at 6 months intervals by Inspection Dept.
4. The planks should be supported at closest to its ends and tested with the rated load at the centre.

The rated loads shall be :

300 Kg. for planks 4 ft. long 200 kg. for planks
6 ft. long

150 kg. for planks 8 ft. long 100 kg. for planks
12 ft. long

5. Before load testing every 6 months, planks to be inspected
6. Every scaffolding clamp and pipe must be numbered.

SCHEDULE 'A'

TENDER AND SCHEDULE OF PRICES

The Chairman,
Department Procurement Committee,
Ceylon Petroleum Corporation
Refinery Division
Sapugaskanda

Dear Sir,

BOTTOM REPAIRS OF CRUDE OIL STORAGE TANK NO. 04

TENDER NO REF-PD/WORKS/2016/02

We hereby tender for the **Bottom repairs of Crude Oil Storage Tank No. 4** in conformity with the conditions as stated in the Invitations to Bid.

Having perused the Invitation to Bid for the **Bottom repairs of Crude Oil Storage Tank No. 4** and the Schedule of Prices referred to therein, I / We hereby agree to comply with the Conditions of the said Tender.

I / We undertake to conform to all the Terms & Conditions in the said Tender and the Schedule of Prices within the time specified.

I / We declare that I / We have perused the Performance Guarantee (Schedule "D") and the Agreement (Schedule 'E') respectively and confirm our compliance with the said Performance Guarantee and Agreement in the event of award of Tender.

Unless and until a formal agreement is engrossed and executed this Form of Tender together with your written acceptance thereof shall constitute a binding contract between us.

I / We am / are fully aware that the acceptance of any Tender will be at the sole discretion of the Ministry Tender Board, Ceylon Petroleum Corporation.

The Name and Address of Local Agent (if any) is given below.

Signature of Bidder :

Name :

Date :

Company Address :

Company Stamp :

Name of Local Agent (if any):

SCHEDULE OF PRICES

	Cost (Rs.)	Cost (Foreign Currency) Please specify
1 Cost of Repair/construction management and Contractor’s engineering overheads.	-	
2. Cost of tank construction/repair field labour to be engaged.	-	
3. Cost of tank repair consumables such as welding electrodes, grinding discs, gas for cutting, radiography films & dye-penitent etc. covered by the contractor’s scope of supply.	-	
4 Cost of blast cleaning and cost of painting including cost of paint, thinner, abrasive material & equipment.	-	
5. Cost of construction equipment such as welding plants, grinding machines, cranes, scaffolding, etc., that the contractor plans to mobilize on this project (plans to bring from local sources or make available from the contractor's equipment)	-	
SUB TOTAL	-	
NBT 2%	-	
SUB TOTAL	-	
VAT 15 %	-	
TOTAL	_____	_____
	=====	=====

VAT Registration no.....

Foreign currency will be applicable for foreign contractors only.

Signature of Bidder :

Name :

Date :

Company Address :

Company Stamp :

SCHEDULE "B"

FORM OF BID SECURITY GUARANTEE

1. BY BANK GUARANTEE

[This bank guarantee form shall be filled in accordance with the instructions indicated in brackets]..... [Insert issuing agency's name and address of issuing branch or office]

Beneficiary: Ceylon Petroleum Corporation, No.609, Dr. Danister Silva Mawatha, Baseline Road, Dematagoda Colombo 09, Sri Lanka.

Date : [Insert (by issuing agency) date]

Public Tender Reference : PD/WORKS/2016/02

BID GUARANTEE NO:[insert (by issuing agency) number]
We have been informed that [Insert (by issuing agency) name of the Bidder; if a joint venture, list complete legal names of partners] (Hereinafter called "the Bidder") has submitted to you its bid dated [Insert (by issuing agency) date] (Hereinafter called "the Bid") for execution of **Bottom Repairs of Crude Oil Storage Tank No. 04** under Bids No.
[Insert IFG number] (The "IFB")

Furthermore, we understand that, according to your conditions, Bids must be supported by a Bid Guarantee.

At the request of the Bidder, we [Insert name of issuing agency] hereby irrevocably undertake to pay you any sum of sums not exceeding in total an amount of [Insert amount in figures] [insert amount in words] upon receipt by us of your first demand in writing accompanied by a written statement stating that the Bidder is in breach of its obligations(s) under the bid conditions, because the Bidder.

- (a) has withdrawn its Bid during the period of bid validity specified; or
- (b) does not accept the correction of errors in accordance with the Bid Document (hereinafter "the Bid") of the IFB; or
- (c) having been notified of the acceptance of its Bid by the Employer/Purchaser during the period of bid validity, (i) fails or refuses to execute the Contract Form, if required, or (ii) fails or refuses to furnish the Performance Security; in accordance with the Bid Document.

This Guarantee shall expire: (a) if the Bidder is the successful bidder, upon our receipt of copies of the Contract signed by the Bidder and of the Performance Security issued to you by the Bidder; or (b) if the Bidder is not the successful bidder, upon the earlier of (i) our receipt of a copy of your notification to the Bidder that the Bidder was unsuccessful, otherwise it will remain in force up to [Insert date]
Consequently, any demand for payment under this Guarantee must be received by us at the office on or before that date

[Signature of authorized representative (s)]

2. By Bank Draft

Ceylon Petroleum Corporation.
No.609, Dr. Danister de Silva Mawatha,
Colombo 09,
Sri Lanka.

Dear Sir,

Bid for Bottom repairs of Crude Oil Storage Tank No. 4
PD/WORKS/02/2016

We hereby inform that Bank draft no..... valueIssued by
.....bank submitted as a bid security guarantee of the above contract.

Signature of the bidder Designation

Company stamp Date

SCHEDULE - "C"

FORM OF ADVANCE PAYMENT GUARANTEE

An advance payment securities issued in the format given below is acceptable.

-----[Name and address of Agency, and Address of Issuing Branch
or Office] -----

Beneficiary: Ceylon Petroleum Corporation. No.609, Dr. Danister de Silva Mawatha,
Colombo 09, Sri Lanka.

Date : -----

ADVANCE PAYMENT GUARANTEE NO: -----

We have been informed that -----[name of Contractor] (hereinafter
Called “ the Contractor”) has entered into Contract No.----- [reference
Number of the contract] dated ----- with you, for the Bottom repairs of
Crude Oil Storage Tank No. 4 (hereinafter called “ the Contract”).

Furthermore, we understand that, acceding to the conditions of the Contract, an
Advance payment in the sum ----- [amount in figures] (-----)
[amount in words] is to be made against an advance payment guarantee.

At the request of the Contractor, we ----- [Name of the Issuing agency] hereby
Irrevocably undertake to pay you any sum or sums not exceeding in total an
Amount of -----[amount of figures] (-----)[amount in words] upon
receipt by us of your first demand in writing accompanied by a written statement stating
That the Contractor is in breach of its obligation under the Contract.

The maximum amount of this guarantee shall be progressively reduce by the
amount of the advance payment repaid by the Contractor.

This guarantee shall expire, Insert *the date*, 28 days beyond the expected expiration date
of the Contract.

Consequently, any demand for payment under this guarantee must be received
by us at this office on or before that date.

[Signature(s)]

*The Guarantor shall insert an amount representing the amount of the advance payment and
Denominated either in the currency(ies) of the advance payment as specified in the Contract.*

SCHEDULE “D”

FORM OF PERFORMANCE GUARANTEE

..... [Issuing Agency’s Name and Address of issuing Branch or office].....

Beneficiary : Ceylon Petroleum Corporation, No.609, Dr. Danister de Silva Mawatha,
..... Colombo 09, Sri Lanka.

Public Tender Reference :

Date :

1 PERFORMANCE GUARANTEE NO :

We have been informed that[name of Contractor] (hereinafter called “the Contractor”) has entered into Contract No. [reference number of the contract] dated with you, for the Bottom repairs of Crude Oil Storage Tank No. 4. (Hereinafter called “the Contract”) Furthermore, we understand that, according to the conditions of the Contract, a performance guarantee is required.

At the request of the Contractor, we..... [name of Agency] hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of.....[amount in figures] (.....) [amount in words], such sum being payable in the types and proportions of currencies in which the Contract Price is payable, upon receipt by us of your first demand in writing accompanied by a written statement stating that the Contractor is in breach of its obligation(s) under the Contract, without your needing to prove or to show grounds for your demand or the sum specified therein.

This guarantee shall expire, no later than the day of20.....[insert date, 28 days beyond the scheduled contract completion date] and any demand for payment under it must be received by us at this office on or before that date.

.....
[Signature(s)]

SCHEDULE - " E "

FORM OF AGREEMENT

This AGREEMENT made the[day] of[month] 200.....[year], between[name and address of Employer] (hereinafter called and referred to as “ the Employer ”), of the one part, and [name and address of Contractor] (Hereinafter called and referred to as “ the Contractor ”), of the other part:

WHEREAS the Employer desires that the Contractor execute..... [name and identification no of Contract](hereinafter called and referred to as “ the Works ”) and the Employer has accepted the Bid by the Contractor for the execution and completion of such Works and remedying of any defects therein.

The Employer and the Contractor agree as follows:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Contract hereinafter referred to.
2. In consideration of the payments to be made by the Employer to the Contractor as indicated in this Agreement, the Contractor hereby covenants with the Employer to execute and complete the Works and remedy any defects therein conformity in all respects with the provisions of the Contract.
3. The Employer hereby covenants to pay the Contractor in consideration of the execute and complete the Works and remedy any defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

In Witness whereof the parties hereto have caused this Agreement to be executed the day and year aforementioned, in accordance with laws of Socialist Democratic Republic of Sri Lanka.

.....

Authorized signature of Contractor

Authorized signature of Employer

COMMON SEAL

COMMON SEAL

In the presence of :
Witnesses :

1. Name and NIC No.
Signature
Address
2. Name and NIC No.
Signature
Address

Note: The following documents shall be deemed to form and be read and construed as part and parcel of this agreement.

1. Bid document with reference.
2. The bid proposal dated submitted by the bidder.
3. Form of Bid dated submitted by the bidder.
4. Duly completed schedule of prices dated submitted by the bidder.
5. The Addenda No. (clarifications and replies).
6. Letter of Award dated Issued by CPC.
7. Letter dated.....Issued by the bidder accepting the award of bid.
8. Performance Security dated..... Established in favor of CPC by the bidder.
9. The scope of work of the bidder.
10. The conditions of the contract as indicated in the Bid document with reference.