



MANGALORE REFINERY AND PETROCHEMICALS LIMITED

**Kuthethoor P.O., Via Katipalla,
MANGALURU- 575 030,
KARNATAKA, INDIA**

**Tender Document No.:
MCCR-OC-ZH-B1-004**

TENDER DOCUMENT

FOR

**3D LASER SCANNING AND MAPPING WORKS FOR
CAPACITY ENHANCEMENT / REVAMP OF NHT-
2/PLATFORMER-2/CCR-2/PSA-2/ RSU AT MRPL'S
MANGALORE (KARNATAKA) REFINERY**

Prepared and Issued
For and on behalf of MRPL

By

L&T-CHIYODA LIMITED,

N. H. No.8. Vadodara, Gujarat

MASTER INDEX

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LETTER INVITING TENDER



L&T-CHIYODA LIMITED

Document Number:MCCR-OC-ZH-B1-004
LETTER INVITING TENDER

LETTER INVITING TENDER

Tender No. : MCCR-OC-ZH-B1-004

Date: **02-JAN-2017**

To,
M/s Name of the bidder/ party

Attn.: Mr Contact Person

SUB: - TENDER DOCUMENT FOR 3D LASER SCANNING AND MAPPING WORKS FOR CAPACITY ENHANCEMENT / REVAMP OF NHT-2/PLATFORMER-2/CCR-2/PSA-2/ RSU AT MRPL'S MANGLORE (KARNATAKA) REFINERY. (Tender No.: MCCR-OC-ZH-B1-004)

Dear Sirs,

Sealed tenders are invited for and on behalf of M/s Mangalore Refinery and Petrochemicals Limited, Mangaluru (MRPL) in Single Stage Two Bid Tender System for the work as per details given here under.

- 1.1 Name of the work & location : "3D Laser Scanning and Mapping Works for Capacity Enhancement / Revamp of NHT-2/Platformer-2/CCR/PSA-2/RSU " forMRPL, Mangaluru Refinery, Karnataka
- 1.2 Earnest Money deposit : Rs. : 40,000 (INR Forty Thousand only)
- 1.3 Time of Completion : **42 (Forty Two) Calendar Days** from date of LoA / PO
- 1.4 Last date & Time for receipt : up to 12.00 Noon on **16-JAN-2017**
- 1.5 Date and Time for opening of (Part-I Techno-Commercial Part) : Tender shall be opened on BCD at 3.00 PM



1.6 Tender receiving authority : Mr. ANIL KANAMADI, Procurement Manager
L&T-Chiyoda Limited, L&T Knowledge City
Campus, West Block-1, Fifth Floor,
N.H. #8, Ajwa-Waghodia Crossing,
Vadodara-390 019, Tel : 0091-265-2442550
Mail-id : AKANAMADI@LNTCHIYODA.COM

1.7 Bid Qualifying Criteria :

The bidder who are downloading the Tender Document from Website shall enclose the qualifying Credentials as per clause no. 18.0 of Vol-I, Section -I, Instructions To Bidder (ITB) and submit along with Part-1.

1.8 Submission of Bid:

For detailed explanation, may please refer [Clause No 8.0 of Vol-I, Section-I, Instructions To Bidder \(ITB\)](#) titled as **SUBMISSION / PREPARATION OF BID** in the Bid Document. However, in brief mentioned as below :

The Bid shall be submitted in the following manner in separately sealed envelopes duly superscribed:-

PART - 1 : TECHNO-COMMERCIAL AND UNPRICED BID	
Tender Book	Signed & Stamped One Original Entire Book PLUS Two Copies of Entire Book PLUS Front Cover Page Only
Proposal Forms, Commercial Questionnaire, All supporting documents, any other document other than Tender Book	Signed & Stamped Filled-in One Original PLUS Four Copies
PART - 2 : PRICED BID	Signed & Stamped Filled-in One Original PLUS Three Copies
PART- 3 : EARNEST MONEY DEPOSIT	One Original PLUS One Copy (DD/ BG)



Part-1, Part-2 & Part-3 to be made in THREE separate Envelopes, duly super scribing as :

ENVELOPE NO. - I : "PART- 1 TECHNO-COMMERCIAL / UNPRICED BID"
ENVELOPE NO. - II : "PART- 2 PRICED BID"
ENVELOPE NO. - III : "PART- 3 EARNEST MONEY DEPOSIT"

All these Envelopes should be kept in a Single Envelope, duly superscribing on the outer cover of envelope, as shown below (please cut & paste on respective envelopes):

Earnest money deposit shall be submitted by the tenderer in the form of demand draft, drawn in favour of M/s Mangalore Refinery and Petrochemicals Limited, Mangaluru (MRPL), payable on a local Branch of Nationalised / Scheduled Bank, OR tenderer may also submit in the form of BG as per enclosed format and valid for a period of 6 (six) months from the date of opening of tender. The tender received without E.M.D. shall be rejected.

***** ✂Please Cut this portion and paste on the envelope✂*****

<OUTER COVER>

Tender Number : MRPL-OC-ZH-B1-004

3D Laser Scanning And Mapping Works for Capacity Enhancement / Revamp of NHT-2/Platformer-2/CCR/PSA-2/ RSU at MRPL, Mangaluru Refinery, Karnataka.

From : Name of Bidder, City

To,
Mr. ANIL KANAMADI
Procurement Manager
L&T-Chiyoda Limited
L&T Knowledge City Campus,
West Block-1, Fifth Floor,
N.H. #8, Ajwa-Waghodia Crossing,
Vadodara-390 019 GUJARAT
Tel : 0091-265-2442550
Mail-id : AKANAMADI@LNTCHIYODA.COM

***** ✂Please Cut this portion and paste on the envelope✂*****



***** ✂ Please Cut this portion and paste on the envelope ✂ *****

ENVELOPE NO. - I: "PART- 1 TECHNO-COMMERCIAL / UNPRICED BID"

Tender Number : MRPL-OC-ZH-B1-004

3D Laser Scanning And Mapping Works for Capacity Enhancement / Revamp of NHT-2/Platformer-2/CCR/PSA-2/ RSU at MRPL, Mangaluru Refinery, Karnataka.

From : Name of Bidder, City

To,
Mr. ANIL KANAMADI
Procurement Manager
L&T-Chiyoda Limited
L&T Knowledge City Campus,
West Block-1, Fifth Floor,
N.H. #8, Ajwa-Waghodia Crossing,
Vadodara-390 019 GUJARAT
Tel : 0091-265-2442550
Mail-id : AKANAMADI@LNTCHIYODA.COM

***** ✂ Please Cut this portion and paste on the envelope ✂ *****

***** ✂ Please Cut this portion and paste on the envelope ✂ *****

ENVELOPE NO. - II : "PART- 2 PRICED BID"

Tender Number : MRPL-OC-ZH-B1-004

3D Laser Scanning And Mapping Works for Capacity Enhancement / Revamp of NHT-2/Platformer-2/CCR/PSA-2/ RSU at MRPL, Mangaluru Refinery, Karnataka.

From : Name of Bidder, City

To,
Mr. ANIL KANAMADI
Procurement Manager
L&T-Chiyoda Limited
L&T Knowledge City Campus,
West Block-1, Fifth Floor,
N.H. #8, Ajwa-Waghodia Crossing,
Vadodara-390 019 GUJARAT
Tel : 0091-265-2442550
Mail-id : AKANAMADI@LNTCHIYODA.COM

***** ✂ Please Cut this portion and paste on the envelope ✂ *****



***** ✂ Please Cut this portion and paste on the envelope ✂ *****

ENVELOPE NO. - III : "PART- 3 EARNEST MONEY DEPOSIT"

Tender Number : MRPL-OC-ZH-B1-004

Composite Works for Capacity Enhancement / Revamp of NHT-2/Platformer-2/CCR/PSA-2/ RSU at MRPL, Mangaluru Refinery, Karnataka.

From : Name of Bidder, City

To,
Mr. ANIL KANAMADI
Procurement Manager
L&T-Chiyoda Limited
L&T Knowledge City Campus,
West Block-1, Fifth Floor,
N.H. #8, Ajwa-Waghodia Crossing,
Vadodara-390 019 GUJARAT
Tel : 0091-265-2442550
Mail-id : AKANAMADI@LNTCHIYODA.COM

***** ✂ Please Cut this portion and paste on the envelope ✂ *****

2.0 MRPL / LTC also reserve its right not to accept the lowest rates quoted by the tenderers.

Tenderers are not supposed to take any deviation on the term, condition & specification indicated in the tender. Bid submitted with deviation may be liable to be rejected.

Tenders submitted through any other mode other than the one expressed here, shall not be accepted.

The tender issuing authority / MRPL takes no responsibility for delay, loss or non-receipt of tender sent by Post / Courier services.

The tender issuing authority / MRPL reserves the right to reject any or all of the tenders or any part of the tender so received without assigning any reason.



L&T-CHIYODA LIMITED

Document Number: MCCR-OC-ZH-B1-004
LETTER INVITING TENDER

Also, please arrange to acknowledge this tender by returning us the attached "Acknowledgement Slip" duly filled-in through mail, within 3 days of receipt of this tender. In case you are not interested to submit your offer for some other reasons, please return the tender documents along with your covering letter mentioning reasons thereof.

Thanking You,

For L&T-Chiyoda Limited

A handwritten signature in blue ink, appearing to read 'Pauli', with a horizontal line underneath.

(Procurement Manager)

Encl. : 1. Tender documents



***** ACKNOWLEDGEMENT SLIP *****
Vendor to COPY & PASTE the below format & submit per return mail

From : M/s NAME OF BIDDER
To : L&T-Chiyoda Limited, Vadodara
Attn : Mr. ANIL KANAMADI, PROCUREMENT MANAGER
AKANAMADI@LNTCHIYODA.COM

Dear Sir,

Sub : Your tender No. MCCR-OC-ZH-B1-004dated **02-JAN-2017** for “3D Laser Scanning And Mapping Works for Capacity Enhancement / Revamp of NHT-2/Platformer-2/CCR/PSA-2/ RSU ” for MRPL, Mangaluru Refinery.

This is to acknowledge the receipt of your Tender Documents.

(To be tick marked, where applicable)

Quotation Due on 16-JAN-2017
() We will send () We decline*

* Because <Please mention reason> ; Also we hereby confirm that we have discarded & destroyed all documents issued to us as Tender documents.

Thanks & Regards,
Person's Name :
Designation :
Tel / Mob Number :
Mail-id :



MANGALORE REFINERY AND PETROCHEMICALS LIMITED

**Kuthethoor P.O., Via Katipalla,
MANGALURU- 575 030,
KARNATAKA, INDIA**

**Tender Document No.:
MCCR-OC-ZH-B1-004**

TENDER DOCUMENT

FOR

**3D LASER SCANNING AND MAPPING WORKS FOR
CAPACITY ENHANCEMENT / REVAMP OF NHT-
2/PLATFORMER-2/CCR-2/PSA-2/ RSU AT MRPL'S
MANGALORE (KARNATAKA) REFINERY**

(Volume - I)

COMMERCIAL

Prepared and Issued
For and on behalf of MRPL
By

L&T-CHIYODA LIMITED,
N. H. No.8. Vadodara, Gujarat

**Volume - I : Commercial
Section – I : Instructions To Bidder [ITB]**

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1. DEFINITIONS / ABBREVIATIONS

1.1 Definitions

“OWNER”

shall mean Mangalore Refinery and Petrochemicals Limited (MRPL), a company registered under the Companies Act, 1956 and having its registered office at Kuthethoor P.O., Via Katipalla, Mangaluru - 575 030, Karnataka , India. Phone : (91-824) 2270400 Fax : (91-824) 2271404 and shall include its successors and permitted assigns.

“CONSULTANT”

shall mean L&T-CHIYODA Limited, Vadodara entrusted by OWNER for the project management consultancy job for the subject project and shall include the successor and permitted assigns of the CONSULTANT.

“CONTRACTOR”

Shall mean the agency whose services are being obtained for supply, execution and / or erection of PLANT covered under CONTRACTOR’s scope of work.

“SUPPLIER”

Organization or person that provides a product / services, including PackageVendors.

“PROJECT”

Capacity Enhancement / Revamp of NHT-2/Platformer-2/CCR-2/PSA-2/ RSUas described in Section 2 Scope of Work of Tender Bid Package.

“CONTRACT”

Shall mean the contract including all Annexures thereto and all documents therein attached and amendments which parties may hereafter agree in writing to be made to this contract.

“PLANT”

Shall mean the PROJECT and other related offsite facilities.

“WORK”

Shall mean the responsibilities to be discharged by CONTRACTOR for fulfilling its obligations under this CONTRACT.

“BATTERY LIMIT”

Shall mean the demarcated area within which all the Units and facilities under CONTRACTOR’s scope as detailed in the CONTRACT are being installed for PLANT.

“VENDOR”

shall mean third party supplying any of the equipment/ materials for setting up PLANT covered under CONTRACTOR’s scope of work.

**“AUTHORISED REPRESENTATIVE”**

Shall mean OWNER’s / CONSULTANT’s representative, authorized to act for and on behalf of OWNER/CONSULTANT as the case may be.

“ENGINEER-IN-CHARGE” / “RESIDENT CONSTRUCTION MANAGER”

Shall mean LTC.

1.2 Abbreviation:

MRPL	:	Mangalore Refinery & Petrochemicals Limited
LTC	:	L&T-Chiyoda Limited
ITB	:	Instructions to Bidder
GCC	:	General Conditions of Contract
SCC	:	Special Conditions of Contract
LOA / PO	:	Letter of Acceptance / Purchase Order
SOR	:	Schedule of Rates
EIC	:	Engineer-In-Charge
RCM	:	Resident Construction Manager

2. BRIEF INTRODUCTION**2.1 About MRPL in brief**

2.11 M/s Mangalore Refinery and Petrochemicals Limited (MRPL), a schedule „A“ CPSE and a subsidiary of ONGC is a State of Art Grassroot Refinery located in a beautiful hilly terrain, north of Mangaluru city, in Dakshin Kannada region. The Refinery has got a versatile design with high flexibility to process Crudes of various API and with high degree of Automation.

MRPL has a design capacity to process 15 million metric tons per annum and have 2 Hydrocrackers producing Premium Diesel (High Cetane). It also has 2 CCRs producing Unleaded Petrol of High Octane.

MRPL has high standards in refining and environment protection matched by its commitments to society. MRPL has also developed a Green Belt around the entire Refinery with plant species specially selected to blend with the local flora.

2.12 MRPL currently has two number of NHT/Platformer/CCR (Platformer unit).The objective of the unit is to upgrade the low octane heavy naphtha to high octane reformat. The feed stock to the platformer unit is heavy naphtha from crude distillation units and hydrocracker units. Both the units are of identical capacity and Licensed by M/s UOP LLC.

2.13 The phase 1 unit was installed along with the phase 1 refinery complex and was commissioned in 1996. The phase 2 was installed along with the phase 2 refinery complexes and commissioned in 1999. The main product from the unit is the high octane reformat which is the base blend stock for producing Motor spirit. Typically the Octane number of the reformat produced in MRPL is 102. The naphtha streams (Light naphtha) streams with lower octane are blended with the reformat stream to produce the MS meeting BS 3, BS 4 and Mauritius grade MS etc specifications. The Platformer unit also produces Hydrogen and Fuel gas. The Hydrogen so produced is consumed in the Refinery Hydrotreating and Hydrocracking units. The fuel gas produced is consumed as an internal fuel in the complex. The installed capacity of each Platformer unit is 62.8 m³/hr. Currently each Platformer unit is being consistently operated at 79 m³/hr capacity. The reformat from CCR units is split and further it generates light reformates in the Reformat Splitter Unit (RSU) and as C7 rich stream, Mixed Xylenes (C8) and C9 rich stream in the Mixed Xylene unit.

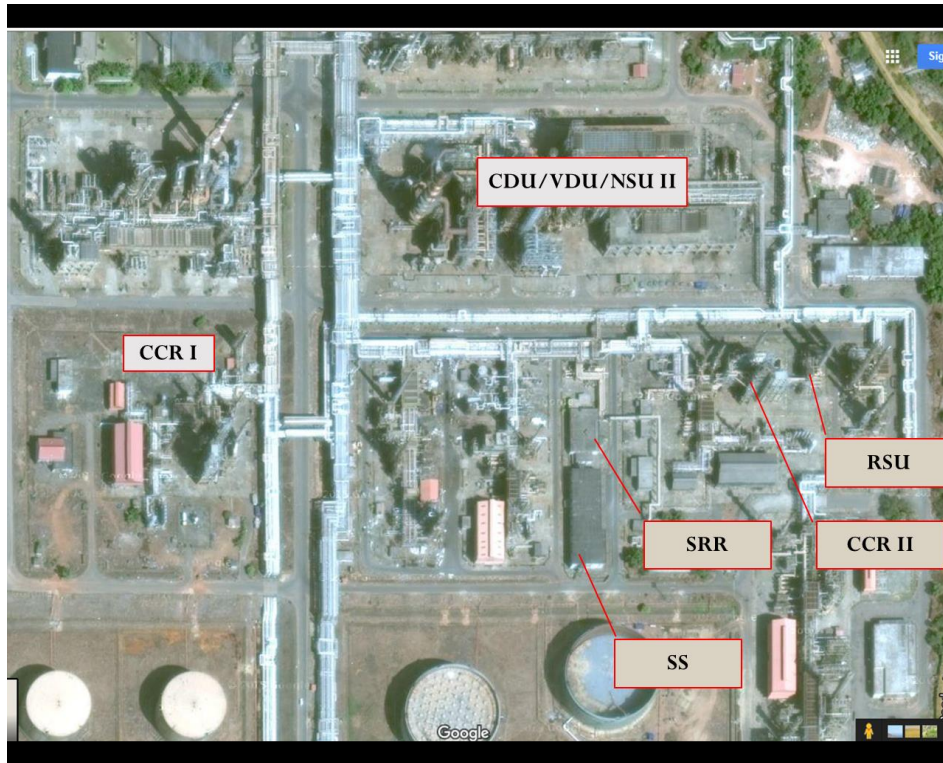
All necessary utility streams Viz Steam (At various desired pressure and temperature levels), Power, cooling water, Air etc are available at the battery limit at specified conditions.

2.2 Project Details

The present status of the units and salient features of the development scheme of the Capacity Enhancement / Revamp of NHT-2/Platformer-2/CCR-2/PSA-2/ RSU as presently envisaged by M/s Mangalore Refinery and Petrochemicals Limited (MRPL), are given in subsequent sections as below :

Unit	Scope	Remarks
NHT-2/ Platformer-2/ CCR-2	Capacity revamp from 79 m ³ /hr to 90 m ³ /hr	BEP by UOP
Reformat Splitter Unit	Capacity revamp from 122m ³ / hr to 145 m ³ /hr	BEP by LTC
CCR-2 PSA	Capacity revamp	Free Issue
Associate Utilities Flare, instrumentation, SRR, Control Room	Modifications	

2.3 Location & Schematics of CCR II / RSU / SRR & SS



2.4 Project Schedule:

Refer Vol-I, Section-III, Annexure IV to SCC of this ITB. The CONTRACTOR shall accordingly develop a suitable work plan / schedule.

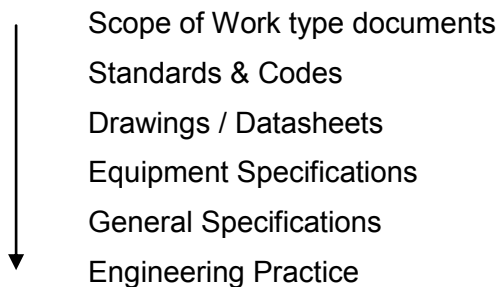
2.5 Project Philosophy

The scope is to carry out 3D Laser Scanning & Mapping. For details, please refer Technical Portion attached as Vol-II.

3. ORDER OF PRECEDENCE AND CONFLICT IN SPECIFICATIONS AND STANDARDS

Normally the project specific documentation (specifications, drawings and datasheets) are in compliance with the regulations, standards and codes. In the event there is conflict, the CONTRACTOR will bring this to the attention of the OWNER and in general the following order of precedence should apply;

From highest Importance:



To lowest Importance:

It is the CONTRACTOR's responsibility to identify any conflict between the requirements of this scope of work and related codes, standards, data sheets, specifications, drawings and requisition. Any identified conflict shall be referred to OWNER for clarification.

Assumptions to cover lack of information are not acceptable. The CONTRACTOR is obliged to obtain reliable information clarification from OWNER before closure of tender.

4. SCOPE OF WORK

4.1 Overview Of The Project

For detailed scope of work, Bidders are hereby informed to refer Volume-II, Technical. However, this clause refers to overview of the project.

4.2 General Scope Of Work

4.2.1 Statutory and regulatory compliance.

a) Conformance to statutory and regulatory requirements

CONTRACTOR shall identify and inform OWNER about statutory and regulatory requirements for the project.

All temporary and permanent items, facilities and services shall comply with statutory and regulatory requirements.

CONTRACTOR shall be responsible for compliance to statutory and regulatory requirements of all items, facilities and services designed, procured, transported, constructed, installed or commissioned by the CONTRACTOR. This includes temporary facilities and services provided by CONTRACTOR meant to support design, procurement, transportation, construction, installation and commissioning of permanent facilities.

In addition to general statutory and regulatory requirements, all items, facilities and services shall conform to conditions stipulated in statutory and regulatory consents granted to Project site.

b) Statutory and regulatory consents and notifications

CONTRACTOR shall identify and provide OWNER with the list of statutory and regulatory consents and notifications required for successful completion and commissioning of the Project and comply with the same.

CONTRACTOR shall apply, liaise and obtain statutory and regulatory consents and make statutory and regulatory notifications required for successful completion and commissioning of the project.

CONTRACTOR shall provide all data, drawings, documents, certificates and forms required for obtaining statutory and regulatory approvals and for making statutory and regulatory notifications in the format acceptable to the concerned statutory or regulatory authority.

OWNER will issue recommendatory letter upon receipt of request from CONTRACTOR along with all relevant details. However, such assistance by OWNER shall not divest the CONTRACTOR of his responsibility to obtain the consent/license / approval.

5.0 COST OF BIDDING

The bidder shall bear all costs associated with the preparation and delivery of its bid including costs and expenses related to visits to the site (s), attending pre-bid meetings (if any), and the MRPL will in no case be responsible or liable for those costs regardless of the outcome of the bidding process.

**6.0 SITE LOCATION / SITE VISIT at MRPL, Mangaluru**

a) Site Location

MRPL is located at Mangaluru in the state of Karnataka. Mangaluru is well connected by rail, road and air with other parts of India. Nearest port is at Mangaluru the state of Karnataka. MRPL is located at about 20 km from Railway Station and 06 km from Airport.

b) Site Visit at MRPL, Mangaluru

The bidder is advised to visit and examine the site of work and its surroundings and obtain for yourself on your own responsibility, all information that may be necessary for preparing the bid and entering into contract. The cost of visiting the site shall be at bidder's own expenses.

The bidder and any of their personnel or agents will be granted permission by MRPL to enter upon MRPL premises and lands for the purpose of such inspection, but only upon the explicit condition that the bidder, their personnel or agents will release and indemnify MRPL and their personnel and agents from and against all liability in respect thereof and will be responsible for personnel injury (Whether fatal or otherwise), loss of or damage to property and any other loss, damage, cost and expenses incurred as a result hereof.

The Bidder may contact following person at site for their visit.

Contact Person: -

Mr. Surya Narayana, Sr Manager(Projects), MRPL

MAIL-ID : suri@mrpl.co.in

Tel No : 0824-2882026

7.0 AMENDMENT OF BIDDING DOCUMENTS AND LANGUAGE OF BID**7.1 Amendment Of Bidding Documents**

- a) At any time prior to the deadline for submission of bids as well as upto priced bid opening, MRPL / LTC may, for any reason whether at its own initiative or in response to a clarification requested by prospective Bidders, modify the Bidding document by amendment.
- b) The amendment shall be part of the Bidding documents, and will be notified in writing or by mail to all prospective bidders who have been issued the Bidding document (except those who decline to offer) and shall be binding on them. The Bidder will be required to acknowledge receipt of any such amendment to the Bidding documents.

- c) In order to afford prospective bidders reasonable time in which to take the amendment into account in preparing their bids, MRPL / LTC may, at its discretion extend the deadline for the submission of Bids.

7.2 Language Of Bid

The Bid prepared by the bidders and all correspondence and documents relating to the Bid exchanged by the Bidder and the OWNER / CONSULTANT shall be written in the English language. Any printed literature furnished by the bidder may be written in another language, provided that this literature is accompanied by an English translation, in which case, for purposes of interpretation of the Bid, the English translation shall govern.

8.0 SUBMISSION / PREPARATION OF BID

- a) Bidder is required to make a proposal in a format as outlined below to achieve the objective of maintaining uniform proposal structure from all the bidders.
- b) The Bid shall be prepared by the Bidder and shall be submitted in three separate envelopes as explained in LIT.
- Submit duly filled Proposal Forms A to E enclosed in the tender.
 - Power of Attorney in the name of person(s) who has/have signed the Bid Documents.
 - Solvency Certificate from Bankers.
 - "Schedule of Rates" with **Price Blank**, in Techno- Commercial Unpriced Bid Part - 1.
 - Audited Balance Sheet and Profit and Loss Account statements duly certified by a Chartered Accountant in practice for the last (3) three years.
 - Partnership deed in case of partnership firm or Memorandum and Article of Association in case of limited Company.
 - Latest Income Tax Clearance Certificate in the proforma prescribed by the Government of India should accompany the Bid. The ITC certificate should be in the name of the firm / individual quoting for the Bid.
 - Declaration by way of enclosing all volume / books of Bidding Document duly signed & stamped on each page as a token of acceptance of having

considered the entire Bidding document while preparing & submitting the bid.

- Details of PF Code No, Sales Tax registration no. etc along with copy of their certificates.
 - Any other information.
- c) The bid requirements are explicitly stated in the Bidding Document. Bidder is required to study these requirements in detail & make a proposal in an outline as defined above completely meeting these requirements. The offer must be complete in all respect leaving no scope for ambiguity.

9.0 VALIDITY OF BID

Bid submitted by Bidder shall remain valid for acceptance for a minimum period of 120 days from the deadline for bid submission. A bid valid for a shorter period may be rejected.

10.0 FORMAT & SIGNING OF BID

The bid shall be signed and stamped on each page by the bidder or a person or persons duly authorised to sign on behalf of the bidder. Such authorization shall be indicated by Written power of attorney accompanying the bid. All pages of the bid shall be initialed by the person or persons signing the bid. The name and position held by each person signing must be typed or printed below the Signature.

11.0 CORRECTIONS AND ALTERATIONS

It may be noted that the Bidders are required to fill in the tender document with due care so as to avoid any cutting / corrections / alterations in the entries made in the tender papers.

In case any correction are required, the original writings shall be neatly cut / penned through and re-written nearby. No overwriting or erasure of original writings by use of „white correcting fluid“ is permitted. In case any erasure using white correcting fluid is found, the tender shall be liable to be rejected.

All corrections / cuttings / alterations shall be signed in full by the Bidder with date. Numerical figures shall be written both in figures as well in words.

12.0 STIPULATION AND DEVIATION OF BID CLAUSES

Bidders are advised to submit their Bid strictly based on the terms and condition and specifications contained in the tender documents and not to stipulate any deviation. However, in case of technical specification, if it becomes unavoidable, deviations should be stipulated with reference to the Section No., clause No., para and page No. of the relevant specification as per Form :-C.

Bid containing deviation / exception to the following condition may be rejected.

- Time Schedule
- Schedule of Rates
- Termination
- Security Deposit
- Price reduction for delay in work

13.0 ACCEPTANCE OF BID

MRPL / LTC reserves the right to accept or reject any bid and to annul the bidding process and reject all bids at any time prior to award of contract without there by incurring any liability to the affected bidder or bidders or any obligation to inform the affected bidder or bidders of the grounds for the MRPL / LTC action.

14.0 LATE BIDS

Any Bid received after the deadline for submission of bids will be declared „Late“ and rejected and returned unopened to the bidder.

15.0 OPENING OF BIDS (SINGLE STAGE TWO BID)

Techno- Commercial Part i.e. (Part 1) shall be opened at LTC, Vadodara on date and time of opening as mentioned in LIT. Price Part (Part- 2) of technically and commercially acceptable bidder opened at LTC, Vadodara on date and time of opening which shall be informed later..

16.0 CLARIFICATION OF BID

To assist in the examination, and comparison of bids, the LTC may, at its discretion, ask the bidder for a clarification of its bid. All responses to request for clarification shall be in writing and no change in the price or substance of the bid shall be permitted to the Bidder after opening of techno- commercial bids (Part- 1) unless specifically sought by LTC.

17.0 BID EVALUATION CRITERIA

The Bidder should have completed at least one similar work in Oil & Gas, Refinery, Petrochemicals, Fertilizers, Power Plant & other industries etc and proof for the same shall be enclosed to the Techno-commercial bid -Part 1

SIMILAR WORK means :

The similar work **means bidder** must have been done following **all** activities **together** ..

- **Continuous scanning for pipe racks/cables.**
- **Preparation of site observation mark-up**
- **Consolidation of scan data, registration, etc. up to generation of 3D Model data**
- Collection of the site related data to proceed with detailed engineering activities.
- Co-ordination & management.
- Obtaining all necessary work permits as applicable.
- Preparation of site observation mark-ups drawing & submission of report.

18.0 PREQUALIFICATION CRITERIA

In case any bidder intend to participate in this tender (other than to whom the tender is issued), the following pre-qualifying criteria need to be met by the bidder. Such bidder shall along with the Techno-commercial bid, enclose the documentary proof /credentials for such pre-qualification. If documents are not attached, their bid will be out rightly rejected without any further reference.

Technical Criteria:

The bidder should have successfully completed similar works during last 7 years ending last day of month previous to the one in which applications are invited should be either of the following:

- (a) Three similar completed works value not less than INR 8 Lakh for each

work order

(b) Two similar completed works value not less than INR 10 Lakh for each work order

(c) One similar completed work value not less than INR 16 Lakh against single work order

Annual Turnover:

Average Annual Turnover of the bidder, during each of the last three years ending March 31st of previous financial years shall not be less than INR 6 Lakh.

Net worth:

Net worth of the bidder as per latest audited annual financial results shall be positive.

19.0 OPENING OF PRICE BID

The priced part (i.e. Part- II) of the technically and commercially acceptable Bidders will be opened at LTC, Vadodara in presence of MRPL and Bidders

20.0 EVALUATION AND COMPARISON OF PRICES

LTC will evaluate and compare the bids determined to be substantially responsive. In evaluating bids, LTC will determine for each bid the evaluated Bid Price.

Only prices as submitted & price implications / revised price, if any furnished by the Bidder's in response to written communications issued / discussions held or revised prices obtained shall be opened and considered for evaluation.

Any further price implications or revision in prices offered by a Bidder before Priced Bid opening either after submission of price implications / revised prices or after confirming compliance to Bid stipulations unconditionally / without disclosing intentions to submit price implications / revision in prices, shall be treated as unsolicited. In such a case, the concerned Bidder(s) shall be asked to withdraw the same. In the event, a Bidder fails to comply with this requirement, their offer shall stand rejected and Priced Bid will not be opened.

Deviation retained by the Bidder and considered acceptable by Owner/LTC shall also be loaded, wherever applicable, based on assessment by Owner/LTC.

Following procedure for evaluation of prices shall be followed whenever a Bidder quotes the rates in figures only.

- (a) If the total amount written in words against the particular item does not correspond to the rate written in figures, then the higher of the rates i.e. rate worked out by dividing the amount with quantity and quoted rate in figures shall be adopted for evaluation purposes and in the event such a Bid is determined lowest Bid, then lower of the rates mentioned shall be considered for award of the works.
- (b) In case Priced Bids containing overwriting / cuttings / erasures in the quoted rates in figures are not attested by the signatory of Bid, such Priced Bids may be liable for rejection.

Contacting the LTC / MRPL

Bidders are advised not to contact LTC/MRPL on any matter relating to its bid from the time of Price Bid opening to the time CONTRACT is awarded. Any effort by a Bidder to influence the LTC/MRPL in any of the decision in respect of Bid evaluations or award of CONTRACT will result in the rejection of Bid.

21.0 POST QUALIFICATION AND AWARD

- 21.1 The MRPL will determine to its satisfaction whether the bidder selected as having submitted the lowest evaluated responsive bid is qualified to perform satisfactorily the Contract.
- 21.2 The determination will take into account the bidder's financial and technical capabilities as well as such other qualifications, as MRPL deems necessary and appropriate.
- 21.3 The MRPL may award the Contract to the successful bidder whose bid has been determined to be the lowest evaluated responsive bid, VIZ., Techno-Commercially accepted bids will be evaluated on overall L1 basis i.e. Lowest Landed Cost to OWNER, as per the above mentioned documents provided that the bidder is determined to be qualified to perform the Contract satisfactorily.

**22.0 NOTIFICATION OF LETTER OF ACCEPTANCE/ Purchase Order**

The MRPL will notify the successful bidder in writing by Letter of Acceptance (LoA)/ Purchase Order (PO) that their bid has been accepted. Bidder shall confirm acceptance by returning a signed copy of LoA/ PO.

23.0 CONTRACT AGREEMENT

No Contract document will be signed, however, following set of documents shall form the contract:

- a) Letter of Acceptance / Purchase Order
- b) The detailed letter of Acceptance including Statement of Agreed Variations if any.
- c) Amendment to bidding documents issued, if any.
- d) Original Bidding documents issued with its enclosures/ drawings.

24.0 SUO-MOTO CHANGES IN PRICES

- 24.1 In the event of any suo-moto price increase sought by a supplier subsequent to the bid due date and which is not as a result of any change in scope of supply or terms and conditions, the bid of such a supplier shall be rejected for the items in which such suomoto increase is effected.
- 24.2 Suo-moto reduction shall not be considered for evaluation whether given before or after opening of price bids. If any tenderer other than lowest offers suomoto reduction in the prices after opening the price bid, the offer shall be rejected out rightly. However, if there is a suo-moto reduction from the lowest tenderer adjudged on the basis of comparative statement as per price bids before such reduction, the benefit of suo-moto reduction shall be availed of at the time of placement of order on the lowest tenderer.

25.0 CARTEL FORMATION

In case any Bidder is found to be involved in cartel formation, his bid will not be considered for evaluation/ placement of order. Such bidder will also be debarred from bidding in future.

26.0 FRAUDULENT PRACTICES

- 26.1 The OWNER requires that Bidders/Vendors/Contractors observe the highest standard of ethics during the award/execution of Contract. "Fraudulent Practice" means a misrepresentation of facts in order to influence the award of a Contract to the detriment of the OWNER, and includes collusive practice among bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the OWNER of the benefits of free and open completion.
- 26.2 The OWNER will reject a bid for award if it determines that the bidder recommended for award has engaged in fraudulent practices in competing for the Contract in question. Bidder is required to furnish the complete and correct information/ documents required for evaluation of their bids, if the information/ documents forming basis of evaluation is found to be false/ forged, the same shall be considered adequate ground for rejection of bids and forfeiture of Earnest Money deposit.
- 26.3 In case, the information/ document furnished by the Bidder/vendor/Contractor forming basis of evaluation of his bid is found to be false/ forged after the award of the contract, OWNER shall have full right to terminate the contract and get the remaining job executed at the risk & cost of such Bidder/Vendor/ Contractor without any prejudice to other rights available to OWNER under the contract such as forfeiture of CPBG/Security Deposit, withholding of payment etc.
- 26.4 In case, this issue of submission of false document comes to the notice after execution of work, OWNER shall have full right to forfeit any amount due to the Bidder/Vendor/Contractor along with forfeiture of CPBG/Security Deposit furnished by the Bidder/Vendor/contractor.
- 26.5 Further, such Bidder/Vendor/ Contractor shall be put on Blacklist/ Holiday/Negative List of OWNER debarring them from future business with OWNER for a time period, as per the prevailing policy of owner.

Signature of Bidder
Name and stamp of Bidder

**Volume - I : Commercial
Section – II : General Conditions of Contract
[GCC] and Appendices**



GENERAL CONDITIONS OF CONTRACT

GENERAL CONDITIONS OF CONTRACT

SECTION-I : DEFINITIONS

The following expressions hereunder and elsewhere in the contract documents used shall unless repugnant to be subject or context thereof, have the following meanings hereunder respectively assigned to them, namely:

1. The 'Owner' shall mean Owner of the project (Name and address as indicated below)

NAME & ADDRESS OF THE OWNER:

M/s. MANGALORE REFINERY & PETROCHEMICALS LTD.,
KUTHETHUR P.O., Via KATIPALLA, MANGALORE - 575 030

2. The 'Contractor' shall mean the tenderer selected by the Owner for the work and shall include the successors and permitted assigns of the contractor.
3. The 'Project' and 'Scope of work' shall mean the totality of the work by expression or by implication envisaged in this contract.
4. The 'Contract' shall mean the totality of the agreements between the parties and derived from the contract documents.
5. 'LTC' shall mean L&T Chiyoda Limited, who are Consulting Engineers to the Owners for this project and having registered office at National Highway No.8, Vadodara Gujarat-391740.
6. 'Engineer-in-charge' shall mean the Resident Construction Manager (RCM) designated by L&T Chiyoda Limited or his successors and permitted assigns.
7. 'Order' and 'Instruction' shall respectively mean written order or instruction given by the Engineer-in-charge within the scope of his powers in terms of the contract.
8. 'Acceptance of the tender' shall mean the acceptance of the tender issued by LTC/ OWNER to contractor.
9. 'Tender Documents' shall mean the tender documents specified in the General Instructions to tenderers.
10. 'Project site' shall mean any storage yards, warehouses or any other place situated within Project premises.



GENERAL CONDITIONS OF CONTRACT

GENERAL CONDITIONS OF CONTRACT
SECTION - II

1. **VALIDITY OF BID:**

Rates quoted by tenderer shall be valid for 120 days from the bid due date of tender. In case of the tenderer revoking or cancelling his tender or varying any terms in regard to thereof without the consent of LTC/OWNER during validity, earnest money shall be forfeited.
2. **PAYMENT TERMS:**

As detailed in SCC
3. **EARNEST MONEY DEPOSIT:**
 - 3.1 Earnest Money Deposit (EMD) shall be submitted by tenderer by way of Demand Draft in favour M/s. Mangalore Refinery and Petrochemicals Limited payable at Mangalore or by bank Guarantee in the prescribed format attached as annexure-A to GCC. EMD shall be valid for six months from Bid Due Date.
 - 3.2 Earnest Money of unsuccessful tenderers shall be returned after award of LOA/ PO to successful bidder.
 - 3.3 Earnest Money Deposit of successful tenderer shall be returned after submission of Security deposit / Performance Bank Guarantee. No interest shall be payable on the Earnest Money Deposit.
4. **RIGHT OF REJECTION OF BID:**

LTC/ OWNER reserves the right to reject any one or all tenders without assigning any reason. It is not binding on LTC/OWNER to accept the lowest tender.
5. **BID:**
 - 5.1 The tenderer is expected to quote rates against respective Schedule of Rates after careful analysis of the cost involved for performance of the job considering all requirements of labour, tools & tackles etc.
 - 5.2 The tenderer is expected to acquaint himself fully of the nature of the job to be performed by him, conditions of project site and Roads, Railway stations and all necessary information before quoting.
 - 5.3 No idle time charges shall be paid to contractor either for handling equipment and/or manpower.



GENERAL CONDITIONS OF CONTRACT

- 5.4 Intending tenderer should carefully study the tender documents and if necessary visit the site and satisfy himself about the local conditions, location and accessibility to the site, nature and character of the operation involved before submitting the tender. Submission of tender implies that the tenderer has obtained all clarifications required and no claim/dispute on the ground of lack of knowledge in any respect will be entertained.
6. SECURITY DEPOSIT(SD)/ PERFORMANCE BANK GUARANTEE(PBG):
- 6.1 The contractor shall submit PBG/ SD equivalent to 10% of the order value of the work, in the form of Bank Guarantee within 14 days from the date of issue of Letter of Acceptance/ Purchase order for subject tender. The format of Bank Guarantee is attached as annexure-B to GCC.
- 6.2 The Security Deposit /PBG shall be held by the OWNER as security for the due performance of the CONTRACTOR'S obligations under the contract, PROVIDED that nothing herein stated shall make it incumbent upon the OWNER to utilise the Security Deposit in preference to any other remedy which the OWNER may have, nor shall be construed as anyway confining the claims of the OWNER against the CONTRACTOR to the quantum of the security deposit.
7. DEFECT LIABILITY PERIOD (DLP)/ PERFORMANCE GUARANTEE:
DLP / Performance guarantee shall be 12 months from the date of completion of work.
8. Time Schedule/ Delivery Period
As per Special Conditions Contract to tender document.
9. PRICE REDUCTION SCHEDULE (PRS):
If work is not completed within schedule completion period as mentioned in the tender, PRS shall be applicable as below:
For delayed completion of work, prices shall be reduced by a sum equivalent to 0.5% of total order value for every week of delay or part thereof, limited to maximum 5% of total order value.
10. TERMINATION OF CONTRACT:
If the contractor does not commence the work in the manner previously described in the contract documents or if the Engineer-in-Charge notices/finds the occurrence of any one of the following:



GENERAL CONDITIONS OF CONTRACT

- i) Failure to carry out the works in conformity of the contract documents.
- ii) Failure to carry out and execute the works to the satisfaction of the Engineer-in-Charge.
- iii) If the contractor abandons the work.
- iv) Distress execution or other legal process being levied upon on the contractor's goods and/or assets.
- v) If the contractor or any person employed by him shall take or offer for any purpose connected with the contract any gift, gratuity, royalty, commission, gratification or other inducement whether money or in any other form to any employee or agent of LTC/OWNER .
- vi) If the contractor during the continuance of the contract shall become bankrupt, make any arrangement or composition with his creditors or permit any execution to be levied or go in to liquidation whether compulsory or voluntary not being merely a voluntary liquidation for the purpose of amalgamation or reconstruction.
Then in any such case, LTC/OWNER shall have the right/power to terminate the contract and take action under provision of the contract. No compensation shall be payable to the contractor.

11. SUB-LETTING OF WORK:

No part of the contract shall in any manner be transferred by the contractor directly or indirectly to any other person or firm without the consent of the owner in writing.

12. RATES FOR EXTRA WORK:

If any work outside the scope/schedule of the contract is required to be carried out by the contractor, specific price for that particular job shall be negotiated by RCM, LTC/OWNER and agreed to on the basis of similar jobs covered by the contract.

13. PRICE, TAXES & DUTIES:

The Lumpsum price quoted in the tender, per Schedule of Rate, shall be inclusive of all applicable taxes and duties but excluding service tax, Swachh Bharat Cess & Krishi Kalyan Cess which shall be payable extra

FORM OF BANK GUARANTEE IN LIEU OF EARNEST MONEY DEPOSIT BG NO :

DATED: _____

VALID UPTO : _____

To
M/s. Mangalore Refinery And
Petrochemicals Ltd., Regd. Office:
Kuthethur P.O
Katipalla, Mangalore 575 030

In consideration of Mangalore Refinery And Petrochemicals Ltd., (hereinafter called "the Owner" which expression shall include its successors and assigns), having agreed interalia to consider the tender of (Name of the Tenderer) having its Head Office / Registered Office at.....(Address of the Tenderer) (hereinafter called the "Tenderer" which expression shall include its successors and assigns), for the work of..... (Name of the Project / Work) at..... to be awarded under Tender No.....

Upon the Tenderer furnishing an undertaking from the Bank as hereinafter appearing in lieu of cash deposit of the Earnest Money.

We(Name of the Bank), a Bank Constituted / Registered under the Act, having our Head Office / Registered Office at..... (hereinafter called the "Bank" which expression shall include its successors and assigns), at the request of the Tenderer and with the intent to bind the Bank and its successors and assigns do hereby unconditionally and irrevocably undertake to pay the Owner at Mangalore forthwith on first demand without protest or demur or proof or satisfaction or condition and without reference to the Tenderer, all sums payable by the Tenderer as and by way of

Earnest Money to the Owner, upto an aggregate limit of (Amount in figures and words).

AND THE BANK DOTH HEREBY FURTHER AGREES AS FOLLOWS:

1. This Guarantee/Undertaking shall be a continuing guarantee and shall remain in full force and effect for all claims or demands made by the Owner on the Bank until the Owner discharges this Guarantee/Undertaking subject, however, that the Owner shall have no claims under this Guarantee/Undertaking after the midnight of200..... or any written extension(s) thereof.

PROVIDED that if the aforesaid work tendered for or any part thereof shall be awarded to the Tenderer on or before the said date, whether on the basis of accompanying tender or any other basis, then the validity of this guarantee/undertaking shall stand automatically extended for all claims and demands made by the Owner for a further three months.

2. The Owner shall have the fullest liberty without reference to the Bank and without affecting in any way the liability of the Bank under this Guarantee/Undertaking at any time and/or from time to time any wise to postpone and/or vary any of the powers, rights, and obligations exercisable by the Owner against the Tenderer and either to enforce or to forbear from enforcing all or any of the terms and conditions of or governing the said Tender and/or any contract consequent upon any award of work or the said Earnest Money Deposit or the securities available to the Owner or any of them and the Bank shall not be released from its liability under these Presents and the Liability of the Bank hereunder shall remain in full force and effect notwithstanding any exercise by the Owner of the liberty with reference to any or all the matters aforesaid or by reason of any other act, matter or thing whatsoever which under law relating to the sureties or otherwise which could, but for this provision have the effect of releasing the Bank from all or any of its obligations hereunder or any part thereof, and the Bank specifically waives any and all contrary rights whatsoever.

3. It shall not be necessary for the Owner to proceed against the Tenderer before proceeding against the Bank and the Guarantee/Undertaking herein contained shall be enforceable against the Bank as principal debtor notwithstanding the existence of any other undertaking or security for any indebtedness of the Tenderer to the Owner and notwithstanding that any such security shall at the time when claim is made against the Bank or proceedings taken against the Bank hereunder, be outstanding or unrealised.
4. The amount stated by the Owner in any demand, claim or notice made with reference to this guarantee shall as between the Bank and the Owner for the purpose of these Presents be conclusive of the amount payable by the Bank to the Owner hereunder. Original BG need not be submitted for making claim hereunder and payment thereof by the Bank.
5. The liability of the Bank to the Owner under this Guarantee/Undertaking shall remain in full force and effect notwithstanding the existence of any difference or dispute between the Tenderer and the Owner, the Tenderer and the Bank and/or the Bank and the Owner or otherwise howsoever touching these Presents or the liability of the Tenderer to the Owner, and notwithstanding the existence of any instructions or purported instructions by the Tenderer or any other person to the Bank not to pay or for any cause withhold or defer payment to the Owner under these Presents, with the intent that notwithstanding the existing of such difference, dispute or instructions, the Bank shall be and remain liable to make payment to the Owner in terms thereof.
6. This Guarantee/Undertaking shall not be determined or affected by the liquidation or winding up or dissolution or change of constitution or insolvency of the Tenderer or any change in the legal constitution of the Bank or the Owner.
7. Without prejudice to any other mode of service, a demand or claim or other communication may be transmitted by the Owner to the Bank or any branch of Bank either by post or by fax. If transmitted by

fax, the transmission shall be complete as soon as acknowledged by the Bank or any branch of Bank.

8. Notwithstanding anything contained herein:

- (i) The Bank's liability under this guarantee/undertaking shall not exceed (Amount in figures & words);
- (ii) The guarantee/undertaking shall remain in force upto_____ and any extension(s) thereof and extension as a result of proviso to clause 1 hereof; and
- (iii) The Bank shall be released and discharged from all liability under this guarantee/undertaking unless a written claim or demand is issued to the Bank on or before_____ or the date of expiry of any extension(s) thereof if this guarantee/undertaking has been extended.

The Bank doth hereby declare that Shri____
(designation)_____who is authorised to sign this
Guarantee/Undertaking on behalf of the Bank and to bind the Bank thereby.

This_____day of _____20_____.

Yours faithfully

Signature:_____

Name & Designation:_____

Name of the

Branch:_____

**PROFORMA OF BANK GUARANTEE FOR SECURITY
DEPOSIT/PERFORMANCE BOND**

(To be executed ON NON-JUDICIAL STAMP PAPER OF APPROPRIATE VALUE)

Ref: Bank Guarantee
No.....
Date.....

To:

M/s. Mangalore Refinery And
Petrochemicals Ltd Regd. Office:
Kuthethur P.O
Katipalla, Mangalore 575 030

Dear Sir,

1. In consideration of Mangalore Refinery And Petrochemicals Ltd., having its Registered Office at..... (hereinafter referred to as the "Company" which expression shall unless repugnant to the context or meaning thereof, include all its successors, administrators, executors) and having entered into a contract dated (hereinafter called the "Contract" which expression shall include all the amendments thereto) with M/s..... having its Head/Registered Office at..... (hereinafter referred to as the "Contractor" (which expression unless repugnant to the context or meaning thereof, shall include all its successors, administrators, executors and assigns) and the contract having been unequivocally accepted by the Contractor resulting in a contract bearing No..... dated..... Valued at for (scope of work) and the Company having agreed that the Contractor shall furnish to the Company a performance guarantee for the faithful performance of the entire contract to the extent of % of the contract price, i.e. Rs..... (in word) we(bank) having its Registered Office at..... (hereinafter referred to as the "Bank" which expression shall unless repugnant to the context or meaning thereof, include all its successors, administrators, executors and assigns) do hereby guarantee and undertake to pay on demand to the

Company any money or all moneys to the extent of Rs..... (Rupees) in aggregate at any time without any demur, reservation, recourse, contest or protest and/or without any reference to the Contractor. Any such demand made, by the Company on the Bank shall be conclusive and binding notwithstanding any difference between the Company and the Contractor or any dispute pending before any Court, Tribunal, Arbitrator or any other authority. We agree that Guarantee herein contained shall be irrevocable and shall continue to be enforceable till it is discharged by the Company in writing.

2. The Company shall have the fullest liberty, without affecting in any way the liability of the Bank under this Guarantee from time to time, to extend the time for performance of the contract by the Contractor, or vary the terms of the Contract. The Company shall have the fullest liberty without affecting this Guarantee to postpone, from time to time, the exercise of power vested in them or of any right which they might have against the Contractor and to exercise the same at any time in any manner and either to enforce, or to forbear from enforce, any covenants contained or implied in the contract between the Company and the Contractor or any other course or remedy or security available to the Company. The Bank shall not be released of its obligations under these presents by any exercise by the Company of its liberty with reference to matters aforesaid or any of them or by reason of any other act or forbearance of other act or forbearance of other acts of Company or any other indulgence shown by the Company or by any other matter or thing whatsoever, which under law would, but for this provision, have the effect of relieving the Bank.
3. The Bank also agrees that the Company at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor, in the first instance, without proceeding against the Contractor and notwithstanding any security or other guarantee that Company may have in relation to the Contractor's liabilities.
4. The Bank further agrees that the guarantee herein contained shall remain in full force during the period that is taken for the performance of the contract and it shall continue to be enforceable till all the dues of the Company under or by virtue of this contract have been fully paid and claim satisfied or discharged or till the Company discharges the Guarantee in writing.
5. We further agree that as between us and Company for the purpose of this
Guarantee any notice given to us by the Company and any amount claimed in such

notice by the Company that the money is payable by the Contractor and any amount claimed in such notice by the company shall be conclusive and binding on us notwithstanding any difference between the Company and the Contractor or any dispute pending before any Court, Tribunal, Arbitrator or any other authority. We further agree that this Guarantee shall not be affected by any change in our Constitution or that of the Contractor or in the Constitution of the Company. We also undertake not to revoke this Guarantee during its currency or till the Company discharges the Guarantee in writing.

6. Notwithstanding anything contained hereinabove, our liability under this Guarantee is limited to Rs..... (Rupees.....) in aggregate and it shall remain in full force upto and including ninety days after unless extended further, from time to time, for such period as may be instructed in writing by M/s..... on whose behalf this Guarantee has been given, in which case it shall remain in full force upto and including 90 days after extended date. Any claim under this Guarantee must be received by us before the expiry of the 90 days from or before the expiry of the 90 days from the extended date. If no such claim has been received by us within the ninety days after the said date/extended date, the Company's right under this guarantee will cease. However, if such a claim has been received by us within and upto ninety days after the said date/extended date, all the Company's rights under this Guarantee shall be valid and shall not cease until we have satisfied that claim

Dated this Day of.....200.... WITNESS:

(SIGNATURE)

(SIGNATURE)

(NAME)

(NAME)

(OFFICIALADDRESS)

(Designation with Bank Stamp)

Attorney as per power of

Attorney
No.....
Dated:.....



L&T-CHIYODA LIMITED

Tender Number : MCCR-OC-ZH-B1-004 .

PROPOSAL FORMS

PROPOSAL FORMS

(FORM A to E)



PROPOSAL FORMS

INDEX OF PROPOSAL FORMS

S. NO.	FORMAT NO.	DESCRIPTION
1.	FORM A	FORM OF BID
2.	ANNEXURE-I to FORM OF BID	INFORMATION ABOUT BIDDER
3.	FORM B	DECLARATION BY THE BIDDER
4.	FORM C	EXCEPTIONS AND DEVIATIONS
5.	FORM D	DELETED
6.	FORM E	FORMAT OF LETTER OF WAIVER OF CONDITIONS / DEVIATIONS



PROPOSAL FORMS

FORM - A

FORM OF BID

(To be filled by the Bidder)

Serial No.

Date:

From

To
Mangalore Refinery and Petrochemicals Limited
Kuthethoor P.O.
Via Katipalla
MANGALORE, INDIA - 575 030

Dear Sirs,

Having examined the Bid Documents consisting of the Letter Inviting Tender, Instructions to Bidders, General Purchase Conditions, Agreed Commercial Terms and Conditions, Specifications, Standards, Technical requirements, Time Schedule, Form of Bid, Form of Price Schedule and Addendum to the Tender Documents, if any, and having understood the provisions of the said Tender Documents and having thoroughly studied the requirements of Mangalore Refineries & Petrochemicals Ltd. relative to the work bid for in connection with the Phase-III : Refinery Project at Mangalore Refinery. I/we hereby submit our bid/offer for the performance of the proposed services and supplies in accordance with the terms and conditions and within the time mentioned in the Tender Documents at the lumpsum price to be quoted by me/us if and when required by Mangalore Refineries & Petrochemicals Ltd. in the Form of Price Schedule(s) included within the Tender Documents and arrived at a lumpsum price for the services, supplies, transportation to site, fabrication, supervision of erection, pre-commissioning, commissioning, carrying out performance guarantee runs as per the Price Schedule. If the work is awarded to me/us, I/we undertake to perform the work and make the supplies in accordance with the Tender Documents.

I/ We further undertake to keep my / our this Bid/offer open for a period of not less than 4 months from the date of opening of Bids specified in the Instruction to Bidders forming part of the Tender documents.

I/We have annexed to this Bid the following documents:

- (i) Original Power of Attorney or other proof of authority of the person who has signed the Bid or Copy of Power of Attorney or other authority duly certified by a Gazetted Officer or a Notary Public in proof of authority of the person who has signed the Bid:
- (ii) Information Regarding Bidder in the form annexed to the Form of Bid(Annexure-I).
- (iii) Hard copy of the Techno - Commercial documents, as issued duly signed along with one set of the CDs (duly signed) and the Master Index duly signed and stamped on each page.
- (iv) Any additional documents as listed below:

.....
.....



PROPOSAL FORMS

.....
.....

I / We hereby undertake that the statements made herein and the information given in the Annexures referred to above are true in all respects and that in the event of any such statement or information being found to be incorrect in any particular, the same may be construed to be a misrepresentation entitling Mangalore Refineries & Petrochemicals Ltd. to avoid or terminate any resultant Contract.

I/We further undertake as and when called upon by Mangalore Refineries & Petrochemicals Ltd. to produce for its inspection, original(s) of the documents(s) of which copies have been annexed hereto.

Yours faithfully,

(Signature(s) of the Bidders(s))

Name & Designation of authorised person signing the Bid on behalf of the Bidder(s)

Full Name and address of the Bidder(s)



PROPOSAL FORMS

**ANNEXURE-I TO
FORM OF BID**

INFORMATION ABOUT BIDDER
(To be furnished with Tender)

1.0 In Case of Individuals.

- 1.1 Name of Business
- 1.2 Whether his business is registered
- 1.3 Date of commencement of business
- 1.4 Whether he pays Income Tax over Rs. 1,00,000/- per year.

2.0 In case of Partnership.

- 2.1 Name of partners
- 2.2 Whether the partnership is registered
- 2.3 Date of establishment of firm
- 2.4 If any of the partners of the firm pays Income Tax over Rs. 1,00,000/- per year, State which of them pays the same.

**3.0 In case of Limited Liability Company
or Company Limited by Guarantee**

- 3.1 Amount of paid up capital
- 3.2 Name of Directors
- 3.3 Date of the Registration of Company
- 3.4 Copies of the Balance Sheet of the Company of the last 3 (Three) years

(Signature of the Bidder)
Name and address of the Bidder



PROPOSAL FORMS

FORM - B

NAME OF WORK : NAME OF WORK : Capacity Enhancement/ Revamp of NHT-2/
Platformer-2/ CCR-2/ PSA-2/ RSU Project of M/s. Mangalore
Refinery and Petrochemicals Limited at Mangalore Refinery

TENDER No. :

DECLARATION BY THE BIDDER

We _____ (Name of the Bidder) hereby represent that we have gone through and understood the Tender Documents and our Bid has been prepared accordingly in compliance with the requirements stipulated in the said documents.

We are submitting complete Tender Documents marked "Original" duly signed and stamped on each page in token of our acceptance as part of our Bid along with one copy of the CDs duly signed and the Master Index duly signed and stamped on each page. We undertake that said Tender documents shall be deemed to form part our Bid and in the event of award of work to us, all the parts shall be considered for constitution of Purchase Order.

SIGNED FOR AND ON BEHALF OF

(NAME OF BIDDER)

PLACE: _____

DATE: _____

NOTE: This declaration should be signed by the Bidder's representative who is signing the Bid.



PROPOSAL FORMS

FORM - C

NAME OF WORK : ----- as per Material Requisition No. -----
----- for -----: Capacity Enhancement/ Revamp of NHT-2/
Platformer-2/ CCR-2/ PSA-2/ RSU Project of M/s. Mangalore
Refinery and Petrochemicals Limited at Mangalore Refinery

TENDER No. :

EXCEPTIONS AND DEVIATIONS

S. NO.	TENDER DOCUMENT REFERENCE			SUBJECT	DEVIATION
	PART NO./ VOLUME	PAGE NO.	CLAUSE NO.		

- NOTE:**
1. If unavoidable, Bidder may stipulate deviations to the requirements of the Bid document only in this format
 2. Bidder shall furnish Technical and commercial deviations, if any, separately.
 3. Any deviations stated elsewhere in the bid shall not be taken into account and may render the bid non-responsive and liable to be rejected.

STAMP & SIGNATURE OF BIDDER : _____

NAME OF BIDDER : _____

DATE :



PROPOSAL FORMS

FORM - E

**FORMAT OF LETTER OF WAIVER OF CONDITIONS / DEVIATIONS
ON COMPANY LETTER HEAD**

NAME OF WORK : ----- as per Material Requisition No. -----
----- for: Capacity Enhancement/ Revamp of NHT-2/ Platformer-2/
CCR-2/ PSA-2/ RSU Project of M/s. Mangalore Refinery and
Petrochemicals Limited at Mangalore Refinery

TENDER No. :

We * _____ hereby agree to fully comply with, abide and accept without variation, deviation or reservation all technical, commercial and other conditions whatsoever of the Bidding documents and all Addenda/ Corrigenda/ Amendments/ Clarifications issued by the Mangalore Refineries & Petrochemicals Ltd.

We further hereby waive, withdraw and abandon any and all deviations, variations, objections or reservations whatsoever hereto set out, given or indicated in our offer, clarifications, correspondence, communications or otherwise with a view that the final price bid submitted may be treated to conform in all respects, with the terms and conditions of the said Tender documents including all Addenda/ Corrigenda/ Amendments.

We further hereby confirm that the currencies of price quoted in the price bid are as per the provisions of the Bidding documents and there is no deviation to the provisions in the final price bid.

** For and on behalf of

Authorised signatory

* Here fill the name of the bidder.

** The letter of Waiver must be signed by the person(s) authorized to sign.

**Volume - I : Commercial
Section – III : Special Conditions of Contract
[SCC] and Annexures**

**SPECIAL CONDITIONS OF CONTRACT**

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SPECIAL CONDITIONS OF CONTRACT

Clause No. Description

ANNEXURE TO SCC

Annexure I	Contract Worker's Safety Policy
Annexure II	Scope of Work
Annexure III	Scope of Supply
Annexure IV	Completion Schedule
Annexure V	Commercial Questionnaire

**SPECIAL CONDITIONS OF CONTRACT**

1.0 GENERAL

- 1.1 Special conditions of contract shall be read in conjunction with the General condition of contract, specifications of work, drawing and any other document forming part of this contract wherever the context so requires.
- 1.2 Notwithstanding the sub-division of the document into these separate sections and Volumes, every part of each shall be deemed to be supplementary of every other part and shall be read with and into the contract so far as it may be practicable to do so.
- 1.3 Where any portion of the General conditions of contract is repugnant to or at variance with any provisions of the special conditions of contract then unless different intention appears, the provision (s) of the special conditions of Contract shall be deemed to override the provision (s) of General conditions of contract only to the extent that such repugnancy or variance cannot be reconciled with the tender conditions of contract and shall be to the extent of such repugnancy of variations, prevail : it being understood that the provisions of General conditions of contract shall otherwise prevail.
- 1.4 Wherever it is stated anywhere in this tender document that such and such a supply is to be effected or such and such a work is to be carried out, it shall be understood that the same shall be effected / carried out by the contractor at their own cost, unless a different intention is specifically and expressly stated herein or otherwise explicit from the context.
- 1.5 The materials, design and workmanship shall satisfy the relevant Indian Standards, the job specifications contained herein & codes referred to where the job specifications stipulate requirements in addition to those contained in the standard codes and specifications, these additional requirement shall also be satisfied. In the absence of any standard / specifications/ codes of practice for detailed specifications covering any part of the work covered in this tender, the instructions/ directions of Engineer-in-charge will be binding on the contractor.
- 1.6 The items given under schedule of Rates shall be read in conjunction with materials and job specifications and in case of any irreconcilable conflict between them, the provision in the item under schedule of rates will override the corresponding provision only of the material and job specifications, which cannot be reconciled. In such cases, the decision of Engineer – in- charge shall be final and binding on the contractor.

**SPECIAL CONDITIONS OF CONTRACT**

2.0 COMPLETION SCHEDULE

- 2.1 The works shall be executed strictly as per the completion schedule, attached as Annexure-IV to this section in the Bid document.
- 2.2 The time shall be reckoned from the date of Letter of Acceptance unless and otherwise specified in the letter of acceptance.
- 2.3 Daily / Weekly / Monthly construction programs will be drawn up by the Engineer-in-charge jointly with the contractor based on availability of materials, work fronts and the joint programs of execution as referred to above. The Contractor shall scrupulously adhere to the Targets / programs by deploying adequate personnel, construction equipment, tools and tackles and also by timely supply of required materials coming within scope of supply as per contract. In all matters concerning the extent of targets set out in the monthly /weekly programs and the degree of achievement, the decision of Engineer-in-charge will be final and binding on the contractor.
- 2.4 Bidder has to follow out line Bar chart enclosed as annexure VI to this section and for further split up of activities, the Contractor shall furnish detailed Primavera Schedule / network for the same along with the techno-commercial offer.
- 2.5 Contractor shall give every day category-wise labour and equipment's report along with the progress of work done on previous day in the proforma prescribed by the Engineer-in-charge.

3.0 SCOPE OF WORK**3.1 General**

- 3.1.1 The Contractor shall carry out all activities required to execute and complete the work with full responsibility and in a self-supporting manner unless otherwise specified as supplied and/or performed by others in this tender. Contractor shall plan, execute and complete the work in a professional manner to ensure compliance with the requirements of quality, schedule and safety.
- 3.1.2 Contractor shall do whatsoever necessary to become familiar with all existing and anticipated conditions and matters including inspection of the job/ construction site, which might in anyway affect the cost and/or the performance of the work as the proposed work is to be carried out within the vicinity of running units of the MRPL Mangalore Refinery.

**SPECIAL CONDITIONS OF CONTRACT**

- 3.1.3 Contractor should get fully acquainted with the site and note that there will be no shutdown in the MRPL Mangalore Refinery and all construction related activities shall be carried out without disturbing operation of any existing unit. Some part of work is to be executed during shut down.
- 3.1.4 During the execution of the work, other agencies/ contractors may be working simultaneously at the job site. Contractor shall carry out the work in such a manner that the work of other agencies is not hampered. Contractor shall ensure proper co-ordination and cordial relations with other agencies/ contractors working within the proposed job site and near-by. In the event of any dispute between the Contractor and other agencies/ contractors, arising out of or related to the performance of the work, decision of Owner /Consultant shall be binding on the Contractor. The Contractor shall comply with the instructions or arrangements given by the Owner/ Consultant in order to minimize the delay in the work.
- 3.2 Scope of work shall be as per Annexure- II to SCC.

4.0 SCOPE OF SUPPLY

- 4.1 The Scope of Supply between owner and the contractor shall be as per Annexure -III of this section.

5.0 PAYMENT TERMS AND MOBILIZATION ADVANCE**PAYMENT TERMS :**

100% Payment shall be released, after completion of all works, submission of relevant reports [by Contractor and Approval of all reports by OWNER / LTC, in all respects.](#)

Notes :

1. TDS as per prevailing statutory rules
2. PBG to be submitted within 15 days from date of LoA / PO
3. Payment shall be done after 30 calendar days after certified by [OWNER / LTC](#)

MOBILIZATION ADVANCE:

No Mobilization advance shall be paid.

No advance against materials brought at site shall be paid to the contractor.

**SPECIAL CONDITIONS OF CONTRACT**

6.0 INCOME TAX

- 6.1 Attested copy of the latest Income Tax Clearance Certificate in the Performa prescribed by the Government of India should accompany the Tender. The ITC certificate should be in the name of the firm/ individual quoting for the tender. In the absence of the above ITC Certificate, Tenderer may not be awarded work tendered for in the light of central Government Directive / instructions.
- 6.2 Income tax deduction will be made from the contractor's bill as per the Rules & Regulations in force in accordance with the Income Tax Act prevailing from time to time.

7.0 TAXES & DUTIES

- 7.1 The Lumpsum price quoted in the tender shall be **inclusive of all applicable taxes and duties but excluding service tax, Swachh Bharat Cess & Krishi Kalyan Cess which shall be payable extra**, with respect to Contractors scope of work/scope of supply, till the completion of the work and shall be borne and paid by the contractor.
- 7.2 Any statutory variation and imposition of new taxes after last price bid submission date, during the execution within the contract period shall also be borne by the Owner. Any new or additional taxes / duties/ cess and any increase in the existing taxes / duties / cess imposed after contractual period shall be to contractor account whereas any corresponding decrease shall be passed on to the Owner. Tax shall be deducted at source as per statute.
- 7.3 Taxes, duties, & cess shall be reimbursed by the OWNER to CONTRACTOR against production of documentary evidence (s) and furnishing all necessary documents (e.g. proper tax invoices, bill or challans, etc). In case Contractor does not furnish such requisite documents then such amount shall not be reimbursed to the Contractor irrespective of whether the contractor has paid such amount to the Tax Authorities.

8.0 PROVIDENT FUND

- 8.1 The contractor shall strictly comply with the provisions of Employees provident Fund Act and register themselves with RPFC before commencing work. The contractor shall deposit Employees and Employers contributions to RPFC every month.

**SPECIAL CONDITIONS OF CONTRACT**

9.0 LABOUR LAWS

- 9.1 Person below the age of 18 years shall not be employed for the work.
- 9.2 The contractor shall maintain a valid Labour license under the contract Labour Act (Regulation & Abolition) for employing necessary manpower.
- 9.3 Contractor shall at their own expense comply with Labour laws and MRPL Mangalore Refinery indemnified in respect thereof some of the major liability under the various Labour and industrial laws which the contract shall comply are as under:
- 9.3.1 Payment of contribution by way of employees contribution towards provident fund, family pension, administrative charges etc at the rates made applicable from time to time by the Government of India / Government of Karnataka or Statutory Authorities.
- 9.3.2 Payment of deposit in respect of each contract Labour at the rate prescribed under the contract Labour (Regulation & Abolition) Act by office of the Labour Commissioner.
- 9.3.3 License fee as prescribed under the contract Labour (Regulation & Abolition) Act and the rules framed there under depending upon the number of workmen employed by the contractor.
- 9.3.4 The payment of wages and other facilities as per the provisions of Minimum Wages Act as announced by Ministry of Labour from time to time, shall be adhered by the contractor. All wage payment of Secondary workforce / contract workers engaged by Contractors be made through bank payment only.

10.0 FIRE, SAFETY & SECURITY REGULATIONS

- 10.1 MRPL Mangalore Refinery is an operational area, therefore, contractor and their employee shall observe all fire & safety regulations of the MRPL Mangalore Refinery and shall so organize the work as not to interfere with the running of the MRPL Mangalore Refinery in any manner whatsoever.
- 10.2 Before starting any work at site, contractor shall apply one day ahead for fire & safety permit for excavation, Electrical, gas welding and cutting work etc. to OWNER of work / works who in turn will arrange for such permits. The contractor shall make all the precautions given in the permit before starting of the work to the full satisfaction of the Engineering -in-charge of the sections on account of operational problem. It is possible that the clearance and permit

**SPECIAL CONDITIONS OF CONTRACT**

may get delayed for which the contractor shall not ask for the idle Labour for that work and no such claim will be entertained by the MRPL.

- 10.3 The Engineer-in-charge reserves the right to terminate the contract and forfeit any or all amounts due to them in case he finds that the precautions written on the permit are not strictly adhered to by the contractor.
- 10.4 The Engineer-in-charge reserves the right to stop any servant or labour employed by the contractor from entering the construction area, if the Engineer –in-charge feels that the said person is an undesirable element and is likely to create mischief. In exercising this right the Engineer-in-charge will not be required to assign any reason and the contractor shall take such decision of the Engineer-in-charge as final and binding on them.
- 10.5 The complete job is to be carried out within the running units of MRPL Mangalore Refinery. The Contractor shall take all necessary safety precautions and obtain required certificate/ fire permits/ safety/ work permits etc from the competent authority before carrying out any hot work during the execution of the entire works covered by this Tender. Safety barricade wherever necessary are to be put up at their own cost.
- 10.6 Contractor's employees shall abide by the fire & safety rules & regulations of the MRPL Mangalore Refinery since the job is to be done in the operational area. The contractor shall ensure smooth construction activities/ hot works may be suspended temporarily as per the instruction of the Engineering-in-charge / Site Engineer. Any extra claim for whatsoever reasons for such suspension of the work will not be entertained.
- 10.7 The Contractor shall make their own arrangements of Gate pass with photo for their employees as prescribed and instructed by the Security Department i.e. MRPL Mangalore Refinery at their own cost. Each gate pass has to be endorsed by the security office of the MRPL Mangalore Refinery before the pass be used by any employee. In case of termination of the service of any of their employee during the contractual period, the contractor shall have to surrender the gate pass issued to the employee to the Security Department. At the end of the project, all gate passes endorsed by the Security Department for use of the contractor's employees shall have to be returned.
- 10.8 For any damage done by the contractor's employees to the existing facilities of the MRPL Mangalore Refinery, the contractor shall be solely responsible to make good as per the instruction of the Engineering-in-charge or full satisfaction of the MRPL Mangalore Refinery authority.
- 10.9 For any hazardous / overhead work, Contractor has to arrange necessary safety belt for their workmen at their own cost.

**SPECIAL CONDITIONS OF CONTRACT**

11.0 CO-ORDINATION WITH OTHER AGENCIES

11.1 The work shall be carried out in such manner that the work of other agencies operating at the site is not hampered due to any action of the Contractor. The Contractor will be responsible for ensuring proper coordination with other agencies. In the event of any dispute between the Contractor and any other agency employed at the job site arising out of or related to the performance of the work, the decision of the Engineer - in-charge shall be final and binding on the Contractor.

12.0 MEDICAL & CANTEEN FACILITIES TO THE CONTRACTOR:

The contractor shall make their own arrangement of medical and canteen facilities to their employees and as required by the statutory laws. The contractor shall make their own arrangements for canteen facilities outside the MRPL Mangalore Refinery premises for serving tea and snacks to their employee and under no circumstances the same shall be served from the permanent canteen of the MRPL Mangalore Refinery.

13.0 INSURANCE POLICY OF WORKMEN

The Contractor shall obtain the Insurance Policy in respect of the workmen engaged by them for the job. The contractor shall indemnify MRPL under the workmen's compensation Act 1923 and its amendment of all liabilities like death / disablement of the workmen. The contractor shall be permitted to start the job only after obtaining required insurance policies.

14.0 INDEMNITY AND INSURANCE

Not Applicable

15.0 PERSONNEL GATE PASS

The contractor shall ensure that their staff/ workmen carry with them passes / work permits etc for proper identification inside the battery area.

16.0 LAND FOR RESIDENTIAL ACCOMMODATION

Contractor shall arrange land for residential accommodation for their staff and workers at their own cost and the contracted price shall be deemed to include the same. No land shall be given by MRPL.

**SPECIAL CONDITIONS OF CONTRACT**

17.0 REGISTRATION OF THE CONTRACTOR UNDER KARNATAKA SALES TAX ACT.

- 17.1 Attested copy of certificate of registration under Karnataka Sales Govt. of Karnataka should accompany the tender. The registration under Karnataka Sales Tax Act should be in the name of the FIRM/INDIVIDUAL quoting for the work . In the absence of the above registration, tender may not be awarded the work tendered for, in the light of State Govt. directive / instruction.
- 17.2 Within 30 days of execution of the contract agreement, the contractor shall register themselves at their own cost with such other statutory authority as may be required under the rules and regulations governing in Karnataka State. The Contract Price shall be deemed to include all costs towards the same. A copy of all documents related to all such registration shall be submitted to MRPL for record.

18.0 DEDUCTIONS FROM CONTRACT PRICE

All costs, damages or expenses which the Owner may have paid, for which under the Contract the contractor is liable, shall be claimed by Owner. All such claims shall be billed by the owner to the Contractor, regularly as and when they fall due. Such bills shall be supported by appropriate and certified vouchers or explanations, to enable the Contractor to properly identify such claims. Such claims shall be paid by the Contractor within 15 (Fifteen) days of the receipt of corresponding bills and if not paid by the contractor with in the said period, the MRPL may recover amount, from any amount due or becoming due to the contractor under the contract or may be recovered by actions of law or otherwise, if the contractor fails to satisfy the MRPL of such claims.

19.0 LIMITATION OF LIABILITIES

The final payment by the MRPL in pursuance of the CONTRACT terms shall not mean releases of the Contractor from all their liabilities under the contract. The Contractor will be liable and committed under this contract to fulfill all their liabilities and responsibilities, till such time Contract Performance Guarantee is released by the Owner.

**SPECIAL CONDITIONS OF CONTRACT**

20.0 ARBITRATION**• Sole Arbitration:**

For indigenous contracts upto Rs.1.00 crore 'Sole Arbitration' clause will be applicable.

"Except as otherwise provided elsewhere in the contract, if any dispute, difference, question or disagreement arises between the parties hereto or their respective representatives or assignees, at any time, in connection with construction, meaning, operation, effect, interpretation or out of the contract or breach thereof, the same shall be referred to Arbitration of a Sole Arbitrator appointed by the Managing Director of MRPL.

It is also agreed that there will be no objection for appointment of an employee of MRPL as a Sole Arbitrator who also may or may not hold shares of MRPL.

- a) Appointment of Arbitrator shall be made within 30 days of the receipt of the arbitration notice.
- b) If the Arbitrator so appointed dies, resigns, incapacitated or withdraws for any reason from proceedings, it shall be lawful for the Managing Director of MRPL to appoint another person in his place in the same manner as aforesaid. Such person shall proceed with the reference from the stage where his predecessor had left if both parties consent for the same, otherwise, he shall proceed de novo.
- c) It is a term of the contract that the party invoking arbitration shall specify all disputes to be referred to arbitration at the time of invocation of arbitration and not thereafter.
- d) It is also a term of the contract that neither party to the contract shall be entitled for any interest on the amount of the award.
- e) The arbitrator shall give reasoned award and the same shall be final, conclusive and binding on the parties.
- f) The venue of the arbitration shall be the place from where the purchase order/contract has been placed/made.
- g) The fees of the arbitrator, costs and other expenses incidental to the

SPECIAL CONDITIONS OF CONTRACT

arbitration proceedings shall be borne equally by the parties.

- h) Subject to as aforesaid, the provisions of the Arbitration and Conciliation Act, 1996 and any statutory modifications or re-enactment in lieu thereof shall apply to the arbitration proceedings under this clause.”

- **Two Arbitrators And An Umpire:**

For Global tenders and Indigenous Contracts above Rs. 1 (one) Crore, the following Arbitration clause will be applicable.

- “Except as otherwise provided elsewhere in the contract if any dispute, difference, question or disagreement arises between the parties hereto or their respective representatives or assignees, at any time in connection with construction, meaning, operation, effect, interpretation or out of the contract or breach thereof the same shall be decided by an Arbitral Tribunal consisting of three Arbitrators. Each party shall appoint one Arbitrator and the Arbitrators so appointed shall appoint the third Arbitrator who will act as Presiding Arbitrator.
- In case a party fails to appoint an arbitrator within 30 days from the receipt of the request to do so by the other party or the two Arbitrators so appointed fail to agree on the appointment of third Arbitrator within 30 days from the date of their appointment, upon request of a party, the Chief Justice of India or any person or institution designated by him (in case of International Commercial Arbitration) shall appoint the Arbitrators/ Presiding Arbitrator. In case of domestic contracts, the Chief Justice of the High Court or any person or institution designated by him within whose jurisdiction the subject purchase order/contract has been placed/made, shall appoint the arbitrator/Presiding Arbitrator upon request of one of the parties.
- If any of the Arbitrators so appointed dies, resigns, incapacitated or withdraws for any reason from the proceedings, it shall be lawful for the concerned party/arbitrators to appoint another person in his place in the same manner as aforesaid. Such person shall proceed with the reference from the stage where his predecessor had left if both parties consent for the same, otherwise, he shall proceed de novo.
- It is a term of the contract that the party invoking arbitration shall specify all disputes to be referred to arbitration at the time of invocation of arbitration and not thereafter.
- It is also a term of the contract that neither party to the contract shall be entitled for any interest on the amount of the award.

**SPECIAL CONDITIONS OF CONTRACT**

- vi. The Arbitral Tribunal shall give reasoned award and the same shall be final, conclusive and binding on the parties.
- vii. The venue of the arbitration shall be the place from where the purchase order/contract has been placed/made.
- viii. The fees of the arbitrators shall be borne by the parties nominating them and the fee of the Presiding Arbitrator, costs and other expenses incidental to the arbitration proceedings shall be borne equally by the parties.
- ix. Subject to as aforesaid the provisions of the Arbitration and Conciliation Act, 1996 and any statutory modifications or re-enactment in lieu thereof shall apply to the arbitration proceedings under this clause.”

- **Arbitration Clause applicable in case of Purchase Orders/ Contracts on Public Sector Enterprises**

In the event of any dispute or difference relating to, arising from or connected with the contract, such dispute or difference shall be referred by either party to the arbitration of one of the Arbitrators in the Department of Public Enterprises to be nominated by the Secretary to the Government of India, Incharge of Bureau of Public Enterprises. The Arbitration and conciliation Act 1996 shall not be applicable to the arbitration under this clause. The award of the arbitrator shall be binding upon the parties to the dispute, provided, however, any party aggrieved by such award may make a further reference for setting aside on revision of award to the Law Secretary, Department of Legal Affairs, Ministry of Law & Justice, Government of India. Upon such reference, the dispute shall be decided by the Law Secretary or the Special Secretary/ Additional Secretary, when so authorised by Law Secretary, whose decision shall bind the parties finally and conclusively. The parties in the dispute will share equally the cost of arbitration as intimated by the Arbitrator.

- **Applicable Law and Jurisdiction:**

- a) The Purchase Order, including all matters connected with this Purchase Order shall be governed by the Indian law both substantive and procedural, for the time being in force and shall be subject to the exclusive jurisdiction of Indian Courts at Mangalore.
- b) Foreign companies, operating in India or entering into Joint ventures in India, Shall have to obey the law of the Land and there shall be no compromise or excuse for the ignorance of the Indian legal system in any way.

**SPECIAL CONDITIONS OF CONTRACT**

21.0 RESPONSIBILITY OF CONTRACTOR

- 21.1 It shall be the responsibility of the contractor to obtain the approval for any revision and/ or modifications decided by the contractor from the Owner/ Engineer-in-Charge before implementation. Also such revision and/ or modifications if accepted/ approved by the Owner/ Engineer-in-Charge shall be carried out at no extra cost to the owner. Any change required during functional requirements or for efficient running of system, keeping the basic parameters unchanged and which has not been indicated by the contractor in the data/drawings furnished along with the offer will be carried out by the contractor at no extra cost to the owner.
- 21.2 All expenses towards mobilization at site and demobilization including bringing in equipment work force, materials, dismantling the equipment , clearing the site etc. shall be deemed to be included in the prices quoted and no separate payments on account of such expenses shall be entertained.
- 21.3 It shall be entirely the contractor's responsibility to provide, operate and maintain all necessary construction equipment, steel scaffoldings and safety gadgets, cranes and other lifting tackles, tools and appliances to perform the work in a workman like and efficient manner and complete all the jobs as per time schedules.
- 21.4 Preparing approaches and working area for the movement and operation of the cranes, leveling the areas for assembly and erection shall also be responsibility of the contractor. The contractor shall acquaint themselves with access availability facilities, such as railway siding, local labour etc. to provide suitable allowances in their quotation. The contractor may have to build temporary access roads to aid their own work which shall also be taken care of while quoting for the work.
- 21.5 The procurement and supply in sequence and at the appropriate time of all materials and consumables shall be entirely the contractor's responsibility and their rates for execution of work will be inclusive of supply of all these items. Contractor shall not use any of the equipment or materials issued to them by owner for installation purposes for laying temporary lines, manufacturing erection aids etc. Misuse of materials will be seriously viewed and deductions at penal rates will be made from contractor's bills for such quantities that are misuse.

22.0 FRONTS FOR WORKS WHERE OTHER AGENCIES ARE ALSO INVOLVED

- 22.1 The work involved under this contract include such, works where other agencies might also be working within the same area and part of the job shall

**SPECIAL CONDITIONS OF CONTRACT**

have to be taken up and completed after other agencies have completed their job. The contractor will be required and bound to take-up and complete such works as and when the fronts are available for the same and no claim of any nature whatsoever shall be admissible to the contractor on this accounts.

24.0 ADDITIONAL WORKS/EXTRA WORKS

- 24.1 Owner reserves their right to execute any additional works/ extra works, during the execution of work, either by themselves or by appointing any other agency, even though such works are incidental to and necessary for the completion of work awarded to the Contractor. In the event of such decisions taken by Owner, Contractor is required to extend necessary cooperation, and act as per the instructions of Engineer-in-charge.

25.0 STATUTORY APPROVALS

- 25.1 The approval from any authority such as CCE, TAC etc. required as per statutory rules and regulations of Central/ State Government shall be the Contractor's responsibility unless otherwise specified in the tender document. The application on behalf of the Owner for submission to relevant authorities alongwith copies of required certificate complete in all respect shall be prepared and submitted by the Contractor well ahead of time so that the actual construction / commissioning of the Contractor of the work is not delayed for want of the approval inspection by concerned authorities The inspection of the works by the authorities shall be arranged by the contractor and necessary coordination and liason work in this respect shall be the responsibility of the contractor. However statutory fees paid if any , for all inspections and approvals by such authorities shall be reimbursed at actual by the OWNER to the contractor on production of documentary evidence
- 25.2 Any change/ addition required to be made to meet the requirements of the statutory authorities shall be carried out by the contractor free of charge. The inspection and acceptance of the work by statutory authorities shall however, not absolve the contractor from any of their responsibilities under this contract.



SPECIAL CONDITIONS OF CONTRACT

26.0 DECLARATION TO BE FURNISHED IN RESPECT OF TENDERER'S ORGANIZATION

I / We here by state that nobody of my / our organization is /are a relative of any Director Of MRPL. and also further state that no Director / member of MRPL is/ are a Director/ partner of my/ our company / organization / partnership / proprietary concern in any way.

I / We have read the MRPL's Safety Rules and Regulations.

I / We hereby give an undertaking that I/ We shall abide by all precautions/ Rules and Regulations / directives, Entry / Fire / Safety / Work permits etc. and any other instruction pertaining to safety of the MRPL Mangalore Refinery and safe working at the job site and also hereby declare that I/ We shall strictly enforce the same during the entire execution of this work including mobilization period, if any.

Signature of Bidder
with Seal and Date



SPECIAL CONDITIONS OF CONTRACT

Annexure I to SCC

MANGALORE REFINERY AND PETROCHEMICALS LTD.

CONTRACT WORKER'S SAFETY POLICY

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SPECIAL CONDITIONS OF CONTRACT

MANGALORE REFINERY AND PETROCHEMICALS LTD.

CONTRACT WORKER'S SAFETY POLICY

1.SCOPE :

This policy is applicable to all the contractors and their employees working in MRPL. This is also applicable to sub-contractors, suppliers, vendors and visitors. All the contractors are required to ensure that they and their employees comply with relevant safety requirements as mentioned in this Safety Policy depending on the nature of work. This policy is not a substitute to the statutory rules and regulations and also the prevailing MRPL Safety Requirements. This is to further reinforce the existing Safety Standards in Refinery.

2.REFERENCE : This document should be read in conjunction with following :

- General Conditions of contract (GCC)
- Special Conditions of Contract (SCC)
- Job specifications

3.SAFETY REQUIREMENTS FOR CONTRACTORS:

-Contractor shall furnish Safety policy and Safety Manual of their Company and his track record in safety for past three years to the Engineer Incharge.

Contractor shall furnish details of their safety department with CVs of safety officers in his bid document to Engineer Incharge.

-The contractor MUST employ Qualified Safety Officers as per the table below, having about 5 years of relevant experience in chemical units or Petrochemical Plants or refineries, as per The Factories Act 1948 / Building and other construction workers (Regulation of Employment and conditions of service) Act 1996 and Central Rules 1998 / The Karnataka Factories Rules 1969. Contractor shall ensure that all his workmen are aware about the nature of risk involved in their work and have adequate training for carrying out their work safely. Such Safety Officers appointed shall be dedicated and responsible only for safety. They should not be given any other



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responsibility. The contractor and his sub-contractor, if any, shall comply with the instructions given by MRPL Engineer In- Charge or his authorized nominee regarding safety precautions, protective measures, house-keeping requirements etc. Engineer-In-Charge from MRPL shall have the right to stop the work of the contractor, if in his opinion, proceeding with the work will lead to an unsafe and dangerous condition. Engineer-In-Charge shall get the unsafe condition removed or provide protective equipment at the contractors cost, which ever is applicable.

Table

Max. no. of employees < 30	One discipline (Engr. / Supervisor) with safety experience can function as Safety Staff on part time basis.
No. of employees : 30 – 100	One Safety Supervisor on full time responsibility.
No. of employees : 101 – 250	For Manpower Supply – Oriented Maintenance contract – One Safety Supervisor on full time responsibility. For Service – Oriented Maintenance / Project contract One Safety Engineer on full time responsibility + One Safety Supervisor on full time responsibility
Upto 250 Persons deployed by him at site	Deploy one Safety Officer and additionally deploy Three Safety Supervisors
For 251 to 500 Persons	Two Safety Officers, Six Safety Supervisors and Ten Safety Stewards
For more than 500 persons	Three Safety Officers, Ten Safety Supervisors and Twenty Safety Stewards

Qualification criteria of safety officer:

BSc (Physics Chemistry only)/Diploma (Mech/Elect/Civil only) with post graduate Diploma in Industrial safety with min of 5 years experience in supervisory cadre.

OR

BE/BTech (Mechanical/Electrical/Civil only) with post graduate Diploma in Industrial safety with min of 2 years experience in supervisory cadre.

Qualification criteria of safety supervisor:

BSc (Physics Chemistry only)/Diploma (Mech/Elect/Civil only) with qualification in industrial safety with relevant experience.



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4.PERSONNEL :

- Personnel / workmen (age 18 years & above) deployed at site should be physically / medically fit. Labours/workers shall not bring children/babies inside the refinery.

SMOKING IS STRICTLY prohibited inside the refinery.

- Contractors and their workmen should restrict their activities to the site allocated to them.

- All contract men shall wear IS make PPEs like gloves, goggles, face shields, full body safety harness, safety belt, Safety Helmets, Safety Shoes etc during the work. They will not be permitted to enter the Refinery without wearing Safety Helmet, Safety Goggles & Safety Shoes. Damaged PPEs shall be taken out from use and disposed off properly.

- The contractor shall ensure that their men do not tamper with the facilities in operation. They shall not operate any Valves/ Switches etc.

- The contractor shall ensure that his workmen do not move around freely inside refinery premises other than the assigned place of work & also do not sleep anywhere (Below piperacks / equipments / trucks / etc.) inside refinery premises.

- The personnel engaged by the Contractor shall maintain good conduct and discipline commensurate with Industrial standard. If in the opinion of the Engineer-in-charge any of the personnel have not maintained good conduct and discipline, the Contractor shall remove such personnel immediately from MRPL premises and provide alternate personnel.

- The contractor Supervisors and Engineers must get themselves conversant with MRPL's Standard Operating Procedures (SOP), safety norms, Rules and Regulations that are in force. They must also be conversant with the MRPL's Emergency Procedures and Emergency telephone numbers and should ensure display of same at prominent place.

- Special safety precautions to be taken by the contractor or their personnel working in an operating refinery are given below. The safety procedure may undergo a change from time to time, which will be intimated to the contractor to follow and implement them.

- In addition to the following minimum safety requirements, the contractor must comply with the safety requirements, norms, rules and regulations as per the Factories Act 1948 and Karnataka Factories Rules 1969, OISD Guidelines 207 and other OISD standards / guidelines and Indian Standards.



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- The contractor must prepare a detailed “Safety Programme” and submit it to Engineer In-charge of MRPL immediately after the finalization of contract / placing of LOI / order. This will include Safety Policy, Safety Responsibilities at various levels, Formations of Safety Committees and meetings, Method statements, Job Safety Analysis (JSA), Safety inspections, various pre-inspection checklists, Safety manuals, Safety Audits, Emergency Plans, Safety procedures to be implemented for all the activities, deputation of Safety Officers, enforcement of safety practices.
- Contractor shall devise a procedure on Accident Reporting. All accidents including Near Misses and property damages to be reported as per the MRPL’s Accident Reporting Procedure in force. All Accidents including Near Misses to be communicated immediately to Engineer Incharge over telephone / verbally / and later submit the accident report. All accidents must be investigated, classified, analysed & comply with the recommendations to avoid its recurrence. Monthly Accident statistics must be developed and circulated. Contractor shall maintain a register of all such accidents.
- During the mobilization, equipments, machines, tools, tackles etc. to be inspected at the site from where it is being mobilized. Damaged ones should be discarded and ensured not mobilized at MRPL site. The statutory checks, inspections and certification is carried out before mobilizing at MRPL site. Necessary repairs and maintenance to be carried out and equipment, machine, tools, tackles etc. is mobilized at MRPL site in working condition. The previous records of maintenance and the competent person’s certificates to be made available during mobilization and submitted to MRPL Engineer Incharge. The equipments, machines, tools, tackles, etc to be tagged and mobilized.
- A Safety Committee must be formed to discuss accidents, Unsafe Acts and Unsafe conditions. This should be chaired by the High ranking Official / Site-In-Charge with equal participation both from supervisory and non-supervisory cadres of employees. Engineer In-Charge of MRPL also should be involved in such meetings as an observer. The frequency of meetings shall be once in a month minimum and actions taken to avoid recurrence of Nearmiss, Minor injuries etc. Circular of the meeting must also be issued to MRPL Engineer Incharge at least one week in advance. Minutes of the meetings to be prepared on the same day and submitted on next day of the meeting.



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The contractor shall take all safety precautions during the execution of awarded work and shall maintain and leave the site safe at all times. At the end of each working day and at all times when the work is temporarily, suspended, he shall ensure that all materials, equipment and facilities will not cause damage to existing property, personal injury or interfere with other works of the Refinery. The contractor shall comply with all applicable provisions of the safety regulations, clean up programme and other measures that are in force at the site.

- Safety Inspections of the site to be conducted daily and Safety Audits to be conducted once in three months by a team of Senior Officials of the contractor. Report on findings of such Audit to be submitted to the Engineer Incharge and compliance report of the suggestions on findings to be submitted weekly to Engineer Incharge.

Daily Safety Inspection of jobs and safety audit to be conducted every month and the report and protocol signed by all parties, Contractor's safety officers with signatures of Site Incharges of contractor shall be part of subsequent RA bill.

- Method statement along with Job Safety Analysis to be submitted at least 15 days in advance before starting of any activity.

Prior information of high risk jobs as planned shall be informed with short details of the work, job safety analysis report to the Engineer Incharge at least 48 hours before starting of such jobs.

High risk jobs like fabrication at height, lifting and shifting, erection of equipments etc shall be video recorded by the contractor.

- The contractor shall provide and maintain all lights, guards, fencing, warning sign, caution boards, other safety measures and provide for vigilance as and where necessary or as required by the Engineer-In-Charge or by any duly constituted authority for the protection of workers or for the safety of others. The caution boards shall also have appropriate symbols visible during night also.

- Adequate lighting facilities, including emergency lighting, such as floodlights, hand lights and area lighting shall be provided along with ELCBs by the contractor at the site of work with isolation switch known to all at site with proper display, storage area of materials and equipment and temporary access roads within his working area. The contractor shall obtain written approval of the Engineer-In-Charge to the lighting scheme and place of tapping prior to its installation.



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Use of devices like Distress alarm system for all personnel entering into confined space to be mandatory. Biometric attendance of personnel entering confined space should be maintained. Necessary Biometric punch machine to be arranged by the contractor at his own cost for this purpose. Staircases shall have temporary hand rail and guard till permanent handrails are fabricated and installed.

The contractor shall plan his operations so as to avoid interference with the other departmental works, other contractors or sub-contractors at the site. In case of any interference, necessary coordination shall be sought by the contractor from the Department for safe and smooth working.

The contractor shall be held fully responsible for non-compliance of any of the safety measures, procedures and delays, implications, injuries, fatalities, property damage and environmental degradation and compensation arising out of such situations or incidents. The contractor should device a procedure to maintain head count of his personnel manually or with an installation of punching machine at site and ensure evacuation of his personnel through defined emergency exit in case if situation demands and also during confined space entry.

- Smoking is prohibited in the Refinery / work site / offices.

Consumption of alcohol and any other intoxicating material shall be also treated as safety violation and heavy penalty shall be levied on the main contractor.

- Radiography source and also the Explosives used for controlled blasting will not be permitted to be stored at site. Detailed accident report with photographs to be submitted to factory manager and Engineer In-charge from MRPL immediately.

- Contractor's Vehicles/Engines and approved electrical / mechanical equipments & lifting tools / tackles, welding generator that are to be used inside refinery are to be certified by competent authority. Statutory checks are to be carried out and records are to be maintained by contractors to ensure healthiness. These certificates will be regularly checked by MRPL engineer in-charge.

- The Contractor shall ensure that all industrial consumables such as Oxygen, Acetylene, Argon, Nitrogen, welding electrodes etc. are approved by MRPL, tested and records maintained by the contractor as per Gas Cylinder Rules before they are used for the job. LPG for gas cutting purpose is not allowed.



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- The Fire prevention / protection and safety equipments (including Personal Protective Equipments) should be certified by MRPL engineer in-charge.

5.HEALTH AND HYGIENE :

- Sufficient number of toilets shall be provided by the contractor for its workmen and hygiene standard should be maintained.

Contractor to ensure no water stagnation at site.

Potable water facility for all workers shall be provided and maintained by the contractor.

Inspection of drinking water, sanitation, shall be done by MRPL. Availability of dust masks shall be ensured by the contractor at site.

Contractor to maintain affordable hygienic canteen for the workers.

- The contractor must maintain record of medical examinations of its employees as per The Factories Act 1948 and The Karnataka Factories Rules, 1969 and The Building and other construction workers (Regulation of Employment and conditions of service) Act 1996 and Central Rules 1998. This will include eye test of crane operators, vehicle drivers and all others. Also Fitness certificate by the Medical Officer for working at height to be produced for each employee requiring to work at height.

- Adequate means and personnel for rendering first aid should be readily available at site and during working hours at places where work is carried out.

- Medical aid for First-Aid should be available.

- First Aid kits or boxes, as appropriate, should be provided at the workplaces and on motor vehicles, cranes, etc. and be protected against contamination by dust, moisture, etc.

- When workers are employed underground or beneath structures or pits or other conditions in which they may need to be rescued, suitable rescue equipment like tripod with pulley and safety belt should be readily available at site at or near the work site along with trained rescue workers.

6.VEHICLE MOVEMENT :

- The contractor shall conduct his operation so as not to interfere with the use of existing roads at or near locations where the work is being performed.

- Speed limit inside the refinery is 16 KMPH which should be strictly followed. For heavy machinery like cranes / forklift / RMC trucks, etc. the speed limit is 5 KMPH maximum.



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- Special precautionary measures should be taken during transportation of long sized cargo, route as defined should be followed and for safety of personnel (with proper escort) and damages to the facilities should be avoided. Procedure for vehicle entry and Speed limits in Refinery should be strictly followed. Vehicles and cargos passing through refinery should have PESO approved spark arrestor fitted.

- When interference to traffic is inevitable, notice of such shall be given to the Engineer- In-Charge of MRPL well in advance with the details of start of the work and time required, storage of materials, and details of the proposed methods of providing the required facilities for safe and continuous use of roads and obtain his clearance.

- The contractor shall exercise full care to ensure that no damage is caused by him or his workmen, during the operation, to the existing water supply, sewerage, power or telecommunication lines or any other services or works. The contractor shall be required to provide and erect before starting of the work, substantial barricades, guardrails and warning signs. He shall furnish, place and maintain adequate warning lights, signals etc, as required by the Engineer-In-Charge.

- Vehicles must have green red flags and whistles for the cleaner to guide driver. All vehicles entering MRPL premises shall have cleaner / helper.

- The vehicles must be maintained as per the preventive maintenance schedule of the manufacturer / supplier. Only Drivers that are trained in Defensive Driving shall be deployed inside Refinery.

- Vehicles to be inspected fortnightly by trained technicians as per the inspection checklist.

Pre-inspection checklist to be formed to that effect.

- All vehicles to bear a sticker. "If you notice this vehicle is over speeding then please inform on telephone no 08242882192 / 2191 / 2194 / 2771 / 2731".

- Tractors and trucks / cranes / forklift should not be used for transporting personnel.

- Every vehicle should have the contractor's name prominently displayed on Tractor Trolleys, trucks, jeeps, cranes, JCBs, Poclains, trailers. The display board should be put on front and rear side of each of the vehicle.

Tractor trolleys must have independent brake systems both on tractor as well as on trolleys.

- All vehicles must be fitted with PESO approved spark arrestors.



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Tippers/trucks carrying debris and soil/mud/sand shall ensure that there is no spillage of material on road. If any such spillage observed the same need to be cleaned and cleared by the contractor immediately. Wheels of the trucks and vehicles shall be clean and free from mud.

- Contractor to maintain Inspection and maintenance logs for every vehicle.
- Any kind of repair work on contractor's vehicle is to be carried out only inside the work shop or designated place and not allowed inside the battery area or any where at on road or at site.

7.SAFE MEANS OF ACCESS :

- The contractor must possess adequate numbers of self retractable type fall arrestors (of different sizes viz. 6 m, 20m, 40m, and 60 m), Safety nets and Safety Belts (Full Body Safety Harness) (ISI approved).
- Adequate and safe means of access and exits shall be provided for all work places, at all elevations. Using of scaffolding members (avoiding a ladder) for approach to high elevation shall not be permitted.
- Suitable scaffolds shall be provided for workmen for all works that cannot be done safely from the ground, or from solid construction except such short duration work as can be done safely from ladders. Ladder shall be of rigid construction having sufficient strength for the intended loads and made of metal and all ladders shall be maintained well for safe working condition. If the ladder is used for carrying materials as well, suitable foot holds and handholds shall be provided on the ladder. Ladders shall not be used for climbing carrying materials in hands. While climbing both the hands shall be free. Ensure positioning of person at base / grade level while it is in use. All ladders, platforms, full body safety harness and safety nets should be inspected regularly and records should be maintained. Damaged items shall immediately be taken out of service and disposed off.
- Scaffolding staging more than 1.5 m above the ground or floor, swung or suspended from an overhead support or erected with stationary support and ladder shall conform to relevant IS specification. Timber bamboo scaffolding is not allowed inside the Refinery.
- Working platforms of scaffolds shall have toe boards 15cms in height to prevent materials from falling down.



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- A sketch of the scaffolding proposed to be used shall be prepared and approval of the contractor's Mechanical Engineer obtained prior to start of erection of scaffolding. All scaffolds shall be examined and certified with proper display of tags by contractor's Mechanical Engineer before use.
- Safe means of access shall be provided to all working platforms and other elevated working places. Every ladder shall be securely fixed. No single portable ladder shall be over 9m in length. For ladders upto 3m in length the width between side rails in the ladder shall in no case be less than 300mm. For longer ladders this width shall be increased by atleast 20mm for each additional metre of length. Step shall be uniform and shall not exceed 300mm.
- Working platform and gangway along the side of pipe racks shall be provided. Under no circumstance the contractor employees should step on pipes at pipe racks.

8.EXCAVATION, TRENCHING AND EARTH REMOVAL :

- A Work Permit must be taken for any excavation or earth removal inside the existing refinery premises from Engineer In-Charge MRPL, as the area of work has underground pipelines, cables etc.
- All trenches 1.2m or more in depth shall at times be supplied with at least one ladder for each spacing of 3.0m in length or fraction thereof. Ladder shall be extended from bottom of the trench to at least 1m above the surface of the ground.
- The sides of the trench which are 1.2m or more in depth shall be stepped back to give suitable slope (angle of repose) or securely held by timber bracing (i.e. shoring of the excavated trench or pit should be done), so as to avoid the danger of sides from collapsing. The excavated material shall not be placed within 2m of the edges of the trench or half of the depth of the trench, whichever is more. Cutting shall be done from top to bottom. Under no circumstances undercutting shall be done.
- The contractor shall ensure the stability and safety of the excavation, adjacent structures, services and the works.
- Open excavations shall be fenced off by railing (ledger pipes) and warning signals installed at well-lit places so as to prevent persons falling into the excavations.
- All blasting operations shall be carried out on the basis of procedures approved by Inspector of explosives. All works in this connection shall be carried out as per IS code of practice. Barricades,



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Warning signs etc. shall be placed on the roads / open area. Prior approval of such operation shall be obtained from Engineer-In-Charge of works. The blasting procedure being followed by the contractor must be submitted with MRPL engineer in-charge.

- The contractor must submit the methodology, safety aspects, schedule, License and other relevant features of control blasting operations.
- Wherever manual removal of earth is involved, earth shall be removed from the top by maintaining the proper slope equal to the angle of re-pose of the earth. Manual removal of earth / lowering of person in a pit should be done with tripod and pulley besides use of Full body Safety Harness by person.
- Such work shall be constantly supervised by the contractor's responsible persons.

9.DEMOLITION :

Before any demolition work is commenced and also during the progress of the work :

- Proper approvals shall be taken from Engineer in-Charge MRPL before commencing demolition.
- Area around shall be barricaded with cautionary signs and posting of security guards or supervisors for preventing unauthorised entries of personnel.
- All roads and open area adjacent to the work site shall either be closed or suitably protected. Appropriate warning signs shall be displayed for cautioning approaching persons.
- No floor, roof or other part of the building shall be overloaded with debris or materials as to render it unsafe.
- Entries to the demolition area shall be restricted to authorized persons only.

Contractor to place separate collection facility of waste like metal, on metal non degradable and bio degradable wastes and shall dispose to designated place daily basis.

Contractor shall be responsible to clear dry grass and wooden items etc from and around his working site/storage/fabrication yard etc to prevent any fire accidents.

10.PERSONAL PROTECTIVE EQUIPMENTS :

- All proper "ISI" marked Personal Protective Equipments (PPEs) as considered necessary by the Engineer-In-Charge shall be kept available by contractor for the use of the persons employed on the site and maintained in a condition suitable for immediate use. Also the contractor shall take



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adequate steps to ensure proper use of equipment by those concerned. The PPEs are to be provided by the contractor.

- All persons employed at Refinery shall use safety helmets, safety shoes and safety goggles as minimum safety gears. For other types of works, persons working in that area shall also use the required PPEs, as advised by the Engineer-In-Charge of MRPL.

- Workers employed on mixing asphaltic materials, cement and lime mortars shall use Gumboots, safety goggles, hand gloves and proper respirator.

- Persons engaged in welding and gas-cutting works shall use suitable welding face shields with welder's helmet. The persons assisting the welders shall use suitable goggles. Protective goggles shall be worn while chipping and grinding.

- Stonebreakers shall use protective goggles. They shall be seated at sufficiently safe intervals or distance.

- Persons engaged in or assisting in shot blasting (Sand blasting is prohibited) operations and cleaning the equipment after shot blasting shall use suitable gauntlets, overalls, dust mask, dust proof goggles, safety shoes and protective hood supplied with fresh air.

- All persons working with 3M lifeline and hook at height above ground or floor and exposed to risk of falling down shall use safety belts (Full Body Safety Harness with double life line and scaffolding hooks, ISI marked) which should be properly secured to solid object unless otherwise protected by cages, guard railings, etc. In places where the use of full body safety harness is impractical, suitable safety net of adequate strength fastened to substantial supports shall be employed under proper valid permit.

- When workers are employed in sewers and inside manholes, which are in use, the contractor shall ensure that the manholes are opened and are adequately ventilated at least for an hour. The atmosphere inside the space shall be checked for the presence of any toxic gas or oxygen deficiency and recorded in the confined space entry permit, availability of standby person at manhole must be ensured before the personnel are allowed to get into the man-holes. The manholes opened shall be cordoned off with suitable railing and provided with warning signals or caution boards or barricade tape to prevent accidents. There shall be proper illumination in the night.



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11.PAINTING :

- Respirators shall be provided by the contractor for use when paint is applied, safety of personnel in vicinity also should be considered while painting.
- Overalls shall be supplied by the contractor to the workmen and adequate facilities shall be provided to enable the painters for decontamination at the cessation of work.
- All solvent-based paints, thinners shall be stored in separate well ventilated storage kept under proper surveillance.
- Smoking, open flames or sources of ignition / hot work shall not be allowed in places where paints and other flammable substances are stored, mixed or used. A caution board, with the instructions written in national / regional language, “SMOKING / HOT WORK – STRICTLY PROHIBITED” shall be displayed in the vicinity where painting is in progress or where paints are stored. Symbols shall also be used for caution boards.
- Suitable IS marked First Aid Fire Fighting equipments shall be kept available at a place where flammable paints are stored, handled or used.
- When painting work is done in a closed room or in a confined space, adequate ventilation shall be provided. Workers shall wear suitable supplied air type breathing apparatus. Work shall be carried out under a valid work permit.
- Epoxy resins and their formations used for painting shall not be allowed to come in contact with the skin. The workers shall use PVC gloves and / suitable barrier creams.
- Adequate ventilation shall be provided especially when working with hot resin mixes.
- Increased personal hygiene shall be practiced to control inadvertent contact with the resin and eliminate its effects.
- Workers shall thoroughly wash hands and feet before leaving the work. Work clothes shall be changed and laundered frequently.
- Care must be taken while carrying out painting inside confined space. There shall be safety devices to monitor the personnel working inside confined space like vessels during painting of internal surface. Suitable painting methods shall be adopted as specified elsewhere. It should not be clubbed with hot work and proper ventilation should be available to draw out the solvent vapours. Manual painting is to be adopted instead of spray painting.



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12.LIFTING MACHINES TOOLS AND TACKLES :

- Supplier's / Manufacturer's manual for operations / safety / periodical maintenance of all Cranes, winches, JCBs, Poclains, Excavators, Trucks, tractors, Vehicles, etc. MUST be made available at site from the moment it is brought at site and the same should be strictly adhere to.

- Lifting machines, tools and tackles shall be of good mechanical construction, sound material, adequate strength, free from any defects and shall be kept in good working condition.

- Lifting machines, tools, tackles, equipments etc. to have identification tags of steel plate of size 2"x 2" tied to it using steel wire of 4 mm size. The details like reference number, Safe Working Load (SWL), date of testing, next due date of testing, etc. to be punched on this plate.

- Contractor must produce Competent Authority's (Authorised by The Directorate of Factories, Karnataka state) Certificate of testing in the prescribed form of Lifting Machines, Chains, ropes and lifting tackles well in advance. Only valid Lifting Machines, tools etc. to be used and to be re-certified before expiry of certificate. Also, these equipments will be inspected by Engineer In-Charge of MRPL as and when required. The same procedure is applicable for all other Electrical Equipments, tools, machines, D.G sets, compressors, etc.

Lifting equipments for testing by competent authority to include JCB, Poclain, Excavators, etc.

The ringer crane to be tested and certified every time by Competent Person it is dismantled and reassembled. This certification must also include stability of soil on which it is assembled.

Use of Hydra is not permitted inside refinery/construction premises. Hydraulically jacked lifting machines to be used.

- Lifting machines, tools, tackles, equipments etc. to be inspected in addition to the Competent Authority's certification. This should be done fortnightly by experienced trained mechanical foreman and technicians and record of such inspection to be maintained.

- Every rope and sling used in hoisting or lowering of materials or as a means of suspension shall be of good quality and adequate strength and free from any defect.

- Every crane operator or lifting appliance operator shall have a driving License for Heavy Vehicle, proper physical fitness such as eye sight etc. and with adequate experience. No persons under the age of 21 years shall be in charge of any hoisting machine or give signal to operator of such machine.



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- In case of every lifting machine (and of every chain, ring, hook, shackle, swivel and pulley block used in hoisting or as means of suspensions) the safe working load shall be ascertained and clearly marked. In case of a lifting machine having a variable safe working load, each safe working load and the conditions under which it is applicable shall be clearly indicated. No part of any machine or any gear referred to above in this paragraph shall be loaded beyond the safe working load.
- The contractor shall notify the safe working load of the machine to the Engineer-In- Charge whenever he brings any machinery to site for work and get it verified by the Engineer-In-Charge, supported by a valid test certificate by the competent person.
- Motors, gearing transmission, couplings, belts, chain drives and other moving parts of hoisting appliances shall be provided with adequate safeguards. Hoisting appliances shall be provided with such means as to reduce to the minimum risk of any part on a suspended load becoming accidentally displaced or lowered.
- The contractor must have a team of Experienced Mechanical Personnel (having minimum of 5 yrs. experience in carrying out safety inspection and testing of Lifting machines, Tools and Tackles etc.), to conduct periodical (Daily, fortnightly, monthly and quarterly) inspection and testing of Lifting machines, Tools and Tackles and to maintain its records.
- Crane shall not be used as hoist. In case cranes are used as hoist then factory Inspector's permission to be taken in advance and to be subject to biannual testing by competent person as required for hoist under Factories Act 1948. Also, the design of cage to be got approved by the competent person well in advance. Two ropes or chains to be provided to the cage, separately connected with the cage, suspended independently and capable of carrying the whole weight of the cage.
- Contractor to maintain operation, inspection and maintenance logs for every lifting equipment, tool and tackle.

13. TEMPORARY SHEDS :

- Before erecting temporary shelters like sheds or tents anywhere at site, written permission of the concerned Engineer In-charge must be obtained.
- Temporary sheds for site office should be avoided. Instead contractor shall arrange for portal cabins for site office / stores.



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- Temporary shed should not be erected using scaffolding pipes. The shed should be made of safe construction material.
- The temporary shed should be erected after proper designing following engineering design practices in conformance with normal safety standards to ensure the stability and safety.
- Temporary shed should bear the contractor's name.
- Temporary piping, hose connections and electrical wiring to these temporary sheds must be laid in such manner that they do not cause tripping, hitting or electrocution hazards.

14.ERECTION :

- At the planning stage consideration should be given, by those responsible for the design, to the safety of the workers who will subsequently be employed in the erection of such structures. A detailed erection scheme / schedule shall be furnished well in advance for all the critical erections.
- Care should be exercised by design engineers and other professional persons, not to include anything in the design which would necessitate the use of unwarrantably dangerous structural procedures and undue hazards, which could be avoided by design modifications.
- Facilities should be included in the design for such work to be performed with the minimum risk.
- Detailed Safety Procedure should be submitted as a part of Heavy Equipment erection scheme. Heavy Equipment erection scheme must be submitted at least one month in advance.
- Erection engineer to conduct training on rigging before every heavy lift / erection for crane operator, foreman and riggers.
- Erection of structural platforms, gratings and hand rails to be done on priority. The procurement of gratings, structural members for hand rails to be done on priority.
- Prefabricated parts should be so designed and made that they can be safely transported and erected.
- As far as practicable the safety of prefabricated parts while erection should be ensured by appropriate means, such as provision and use of :
 - a) Ladders;
 - b) Gangways;
 - c) Fixed platforms;
 - d) Platforms, Buckets, boatswain's chairs, etc. suspended from lifting appliances;



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- e) Safety belts and lifelines; and
- f) Safety nets or catch platforms.
- Ladders to be inspected fortnightly by experienced trained mechanical foreman and mechanical technicians and record of such inspection to be maintained.
- The boatswain's chairs/ platforms used in structural erection to be inspected and checked once in fortnight and record maintained.
- In addition to the conditions of stability of the part when erected, when necessary to prevent danger the design should explicitly take into account:
 - a) the conditions and methods of attachment in the operations of stripping, transport, storing and temporary support during erection; and
 - b) Methods for the provision of safeguards such as railings and working platforms, and, when necessary, for mounting them easily or prefabricated parts.
- The hooks and other devices incorporated in prefabricated parts that are required for lifting and transporting them should be so shaped, dimensioned and positioned as:
 - a) to withstand with a sufficient margin the stresses to which they are subjected; and
 - b) not set up in the part stresses that could cause failures, or stresses in the building not provided for in the plans.
- Prefabricated parts made of concrete should not be stripped before the concrete has set and hardened sufficiently to ensure the safety of the operation.
- Store places should be so constructed that:
 - a) There is no risk of prefabricated parts falling or overturning; and
 - b) Storage conditions generally ensure stability having regard to the method of storage and atmospheric conditions.
- Prefabricated parts made of concrete should not be erected before the concrete has set and hardened to the extent provided for in the plans.
- While they are being stored, transported, raised or set down, prefabricated parts should not be subjected to stresses prejudicial to their stability.
- Trailers only to be used for transportation of pipes. Crane to be used for erection at site.
- Every lifting appliance should :



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- a) be suitable for the operation; and
 - b) be approved by a competent person, or tested under a roof load 20 percent heavier than the heaviest prefabricated part.
 - c) Ringer mode of a heavy crane MUST be inspected, checked and certified by competent person every time it is dismantled and erected. The report must bear the stability of the soil on which it is erected.
- Lifting hooks should have the maximum permissible load marked on them.
 - Tongs, clamps and other appliances for lifting prefabricated parts should :
 - a) be of such shape and dimensions as to ensure a secure grip without damaging the part ; and
 - b) be marked with the maximum permissible load in the most unfavourable lifting conditions.
 - Prefabricated parts should be lifted by methods or appliances that prevent them from spinning accidentally.
 - The temporary basket cages / Platforms / Buckets / boatswain's chairs, etc. used for lifting / working at height suspended from lifting appliances or suspended from structures or beams MUST be certified by competent person and provisions or conditions as stipulated during certification to be adhere to.
 - While prefabricated parts are being lifted measures should be taken to prevent workers from being struck by objects falling from a height and area around such site should be barricaded with cautionary signs.
 - When necessary to prevent danger, before they are raised from the ground, prefabricated parts should be provided with safety devices such as railings and working platforms to prevent falls of persons.
 - If workers are exposed to danger when releasing prefabricated parts from lifting appliances, adequate safety measures should be taken.
 - At workplaces adequate instructions should be given to the workers on the methods, arrangements and means required for the construction, storage, transport, lifting and erection of prefabricated parts.
 - When it is not practicable to install protective guardrails and toe boards the workers should be provided with and use safety belts and lifelines to limit the height of the fall.



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- Overhead screens to be provided to prevent workers from being struck by falling objects.
- The safety devices (guard-rails, toe-boards, safety belts and lifelines) should not be removed so long as the risk remains.
- Precautions should be taken to prevent fires being caused by rivet-heating equipment.
- Rivet heaters should extinguish their fires before leaving work.
- Extra care should be taken to prevent fall of objects, tools, etc. from height.
- Before structural steel parts are lifted, care should be taken that any object that could fall is fastened or removed.
- Structural steel parts should not be dragged while being lifted if that could cause danger.
- Steel trusses that are being erected should be adequately shored, braced or guyed until they are permanently secured in position.
- While structural members are being moved into place the load should not be released from the hoisting rope until the members are securely fastened in place.
- Structural members should not be forced into place by the hoisting machine while any worker is in such a position that he could be injured by the operation.
- No load should be placed on open-web steel joists until they have been placed in position and secured.
- Erection of pipes to be done using web belts only. Web belts must be inspected and checked fortnightly internally by the contractor and records maintained. Damaged ones to be cut to pieces and record to be maintained.
- Nipples and other accessories used for hydrotest and subject to high pressures to be inspected, checked and tested by experienced trained mechanical foreman and mechanical technicians and records maintained. Damaged parts to be replaced immediately with the new ones.
- Discarding criteria of web belts to be procured from the supplier / manufacturer by the contractor and submitted to MRPL Engineer Incharge.

15.WORK ON TALL CHIMNEYS :

SCAFFOLDS :

- All workmen should be certified medically fit by medical practitioner before working at height. Mock up drills MUST be conducted by the contractor for all these workmen and issue Working at



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Height passes to only those who has experience of working at height, is declared medically fit and shows confidence during mock up drills.

- For the erection and repair / painting of tall chimneys and vertical structures scaffolding should be provided. Scaffolds after erection should be certified by competent mechanical engineer for its strength before use and be displayed with a tag “Certified for use”.

-Scaffolds should confirm to relevant Indian Standards. Contractor MUST have a team of trained scaffolders including trained Scaffolding engineer.

- Fixed inside scaffolding should be securely anchored in the chimney wall.

- The scaffold floor should always be at least 65 cm (26 in) below the top of the chimney.

- Under the working floor of the scaffolding the next lower floor should be left in position as a catch platform.

- Suspended outside platform (inspection scaffolds) should be provided as per the relevant standards as stated above.

- Use of Catch platforms, stairs, ladders and Iron rung, lifting tools, tackles and work with hot asphalt, tar should be carried out as per the procedures outlined in relevant ILO manual.

- Full Body Safety Harness (Safety Belt) with lifelines (of various sizes 2’, 5’ and 9’ double lanyards) and safety nets being used should confirm to relevant standards and are to be inspected, tested, periodically and records be maintained. Damaged safety belts and nets should be discarded, taken out of service and disposed off.

- Safety belts must be used while working at height. The life lines (lanyard) MUST be tied to firm support. Incase of absence of firm support provision of wire rope of adequate size tied with lifting tackles to be made to tie the safety belt life line (lanyard).

- All Safety belts to be inspected once in a month and damaged ones to be discarded. Suppliers / Manufacturers Discarding criteria of safety belts to be submitted to MRPL. The record of inspection and the results to be maintained. And a copy to be submitted to Engineer Incharge.

- The scaffolds to be inspected and certified by the competent mechanical Engineer before use and subsequently, at least once in a week.

16.Safety of Electrical works:

Before starting work in live electrical panels, proper electrical isolation shall be ensured. The same



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to be inspected by the electrical in charge and necessary isolation tag shall be attached. Proper electrical isolation permit system along with LOTO (Locking Out / Tagging Out) system shall be maintained by the contractor. Triplicate copy of such permits shall be submitted to MRPL.

17.CATCH NETS :

- Where workers cannot be protected against falls from heights by other means they should be protected by catch nets.
- Catch nets should be made of good quality fiber cordage, wire or woven fabric or material of equivalent strength and durability.
- The perimeter of catch nets should be reinforced with cloth-covered wire rope, manila rope or equivalent material.
- Catch nets should be provided with adequate means of attachment to anchorage.
- Catch nets to be inspected fortnightly, tested and records maintained. Damaged safety nets should be discarded and record maintained.

18.PROTECTION AGAINST MOVING VEHICLES :

Workers who are regularly exposed to danger from moving vehicles should wear;

- a) distinguishing clothing, preferably bright yellow or orange in colour; or
- b) devices of reflecting or otherwise conspicuously visible material.

Light Vehicle shall have reverse horn and Heavy Vehicles shall have trained helpers with whistle and red and green flags for directing the driver.

19.HANDLING MATERIALS :

- Mechanical means should be provided and used for lifting and carrying loads.
- Personnel should have knowledge of safe ways of material handling.

20.STACKING AND PILING :

- Materials and objects should be so stacked and unstacked that no person can be injured by materials or objects falling, rolling, overturning, falling apart or breaking.
- Area earmarked for stacking and piling should be barricaded and only authorised personnel be allowed to carry out stacking and piling jobs.
- Proper stacking and piling should be done as per the guidelines of ILO.

21.WELDING AND GAS CUTTING :



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- Welding and gas cutting operations shall be done only by qualified and authorised persons and as per IS specification and code of practice.
- All the hoses used on compressed gas cylinders (Acetylene, Oxygen etc.) to be as per IS.
- Welding and gas cutting shall not be carried out in places where flammable or combustible materials are kept and where there is danger of explosion due to presence of flammable / gaseous mixtures. Contractor shall continuously monitor the area with Explosimeter / H₂S meters.
- Welding and gas cutting equipments including hoses and cables shall be maintained in good condition. It should be checked daily by the user and fortnightly by the supervisor and recorded.
- Barriers shall be erected to protect other persons from harmful rays from the work. When welding or gas cutting is done in elevated positions / on trenches / inside refinery units, precautions shall be taken to prevent sparks or hot metals falling on persons or flammable materials (Welding booths shall be constructed).
- Use of proper PPEs by personnel involved in Gas cutting / Electric Arc welding should be ensured. Use of Welders Helmet with face shield by the welders is a MUST.
- Fire extinguisher shall be available near the location of welding operations. Valid permit shall be obtained before flame cutting / welding is taken up & comply with all the permit requirements.
- Contact of personnel with the electrode or other live parts of electric welding equipment shall be avoided.
- Extreme caution shall be exercised to prevent accidental contact of electrodes with ground.
- The welding cables shall not be allowed to get entangled with power cables. It shall be ensured that movement of materials does not damage the cables.
- Oxy-Acetylene cylinders must be mounted on trolley with chain holding the compressed gas cylinders. The compressed gas cylinders must have pressure gauges fitted over it and Oxy-Acetylene Gas cutting set should be fitted with flash back arrestor at both the torch and cylinder ends.
- Under no circumstance the compressed gas cylinder should be taken inside the confined space or excavated pits. Hydraulic test certificates of all compressed gas cylinders should be maintained and furnished as and when required.

22.GRINDING :



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- All portable grinders shall be used only with their wheel guards in position to reduce the danger from flying fragments should the wheel break during the use.
- Grinding wheels of specified diameter only shall be used on a grinder – portable or pedestal- in order not to exceed the prescribed peripheral speed.
- Helmet with face shield shall be used during grinding operation.

23.HOUSE KEEPING :

The contractor shall at times keep his work spot, site office and surroundings clean and tidy from rubbish, scrap, surplus materials and unwanted tools and equipment.

- Welding and other electrical cables shall be routed as to allow safe traffic by all concerned.
- No materials on any of the sites of works shall be so stacked or placed as to cause danger or inconvenience to any person or the public. The Engineer-In-Charge may require the contractor to remove any materials which, are considered to be of danger or cause inconvenience to the public.
- At the completion of the work, the contractor shall have removed from the work premises all scaffoldings, surplus materials, rubbish and all sheds and sanitary arrangements used / installed for his workmen on the site.
- House keeping of the workplace shall be done strictly by the Contractor on daily basis or as required by the Engineer-in-charge. Contractor to collect all debris/ scrap and dump at designated Scrap Yard as defined by MRPL authorities.
- A separate house keeping team to be formed and made available round the clock.

24.FIRE SAFETY :

- Adequate number of duly calibrated Explosimeters, Oxygen meters, Hydrogen Sulphide detectors (Portable / Fixed) or any other multiple gas detector should be made available at site by the contractor.
- Combustible materials like timber, bamboos, paints etc. shall not be used at MRPL site for scaffolding or for supports.

Containers of paints, thinners and allied materials shall be stored in a separate room, which shall be well ventilated, and free from excessive heat, sparks, flame or direct rays of the sun. The containers of paint shall be covered or properly fitted with lid shall not be kept open except while using.

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- Fire extinguishers as approved by Engineer-In-Charge shall be located at the work site at appropriate places.
- Adequate number of contract workmen shall be given education and training in fire fighting and extinguishing methods.

25. WORK PERMIT SYSTEM :

- MRPL's Work Permit system (As per MRPL Safety Manual) to be strictly followed.
- All jobs within refinery should be executed with a safety work permit only. These will be issued by the concerned operating personnel of MRPL (Refinery Shift Manager or any authorised person). However, he can withdraw the permit when the stipulated conditions are not complied with at the work spot.
- Area is safe for performing the Work. Job is continuously supervised by qualified supervisor.

Responsibility of Performing Authority :

To obtain an approved Work Permit duly filled and signed by authorities as per the MRPL's Work Permit System before starting the work in the area.

- To visit job sites and ensure that it is prepared accordingly.
- The person performing the job shall be in possession of the permit till the completion of the job. The permit should be produced for inspection at any time. The Work Permit shall be displayed at job site in the plastic folder.
- To understand the scope of the work and implications involved.
- To restrict the work to the area / equipment specified in the work permit.
- To comply with the instructions given on the Work Permit.
- To follow Plant Safety Rules and Procedures.
- To be alert at all times for the development of unexpected situations.

To stop the work immediately on detecting any unsafe condition and promptly inform the Issuing Authority. Follow MRPL's Onsite Disaster Management Plan (DMP).

- To return the Permit duly signed after completion of the job to the Issuing Authority. Contractor must adhere to work permit system and other safety regulations.

26. WORK IN AND AROUND WATER BODIES:



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When the work is done near any place, where there is a risk of drowning, all necessary rescue equipment such as life buoys and life jackets shall be provided and kept ready for use and all necessary steps taken for prompt rescue of any person in danger and adequate provision shall be made for prompt first-aid treatment of all injuries likely to be sustained during the course of the work. Persons who do not know swimming shall not be engaged alone for any work where risk of drowning exists. Sufficient number of life buoys or life jackets shall be provided.

27.PUBLIC PROTECTION :

The contractor shall make all necessary provisions to protect the public. He shall be bound to bear the expenses for defense of every action or other proceedings of law that may be brought by any person for injury sustained owing to neglect of any precaution required to be taken to protect the public. He shall pay the damage and cost which may be awarded in any such suit, action or proceedings to any such person, or the amount which may be fixed as a compromise by any such person.

28.OTHER STATUTORY PROVISIONS :

Notwithstanding the above clauses there is nothing in these to exempt the contractor from the provisions of any other Act or Rules or Indian Standards or OISD standards or OISD guidelines in force in the Republic of India. In particular all operations involving the transport, handling, storage and use of explosives shall be as per the standing instructions and conform with Indian Explosives Act, 1884 and the explosives Rules, 1983. The Factories Act 1948 and The Karnataka Factories Rules, 1969, Handling, transport, storage and use of Compressed gas cylinders and Pressure vessels shall conform with the Gas Cylinders rules 1981 and Static and Mobile pressure Vessels (Unfired) Rules 1981. In addition, The Building and other construction workers (Regulation of Employment and conditions of service) Act 1996, The Indian Electricity Act, 1910 and Indian Electricity Rules 1956, The Atomic Energy Act 1962, The Radiation Protection Rules 1971, Radiation Protection Manual of Nuclear Facilities and the Atomic Energy (Factories) Rules 1988 and various rules and Act relevant to the activities being performed shall also be strictly complied with.

- No Child labour should be brought in for work.



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- MRPL holds the right to issue warnings / Heavy penalties (monetary fine) / suspend work at any time or terminate the contract for a loss / damage and a pattern of frequent failure to adhere to Safety Laws, regulations and Onsite Safety procedures. In general a heavy monetary fine will be deducted straight from the contractor's bill for each violation of Safety Rules / Unsafe Act / Unsafe Condition observed, for each First-Aid injury, for each Lost Time injury / Near Miss Accident and for each fatality.

29.GUIDELINES AND GENERAL PROCEDURES FOR SUPPLY AND USE OF ELECTRICITY AT SITE :

Following safety requirements shall be complied with before the contractor uses the power supply.

- The contractor shall submit a list of licensed electrical staff to be posted at site.
- It shall be the responsibility of the contractor to provide and maintain complete installation on the load side of the supply point with regard to the safety requirements at site. All cabling and installation shall comply with the appropriate statutory requirements given below and shall be subject to approval of the Departmental Engineer-In-Charge / Electrical Engineer.
 - (a) Indian Electricity Act, 1910
 - (b) Indian Electricity Rules, 1956
 - (c) National Electric code, 1985
 - (d) Other relevant rules of Local bodies and Electricity Boards.
- Where distribution boards are located at different places the contractor shall submit schematic drawing indicating all details like size of wires, overhead of cable feeders, earthing etc. The position and location of all equipment and switches be given.
- The contractor shall make his own arrangements for main earth electrode and tapings thereof. The existing earth points available at site can be used at the discretion of the Departmental Electrical Engineer with prior permission. Method of earthing, installation and earth testing results shall conform to relevant I.S. Specifications.
- Overhead High Tension (HT) cable routes to be marked and physically barricaded to prevent crane coming in contact with it.
- All three-phase equipment shall be provided with double earthing. All light fixtures and portable equipment shall be effectively earthed to main earthing.



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- All earth terminals shall be visible. No gas pipes and water pipes shall be used for earth connection. Neutral conductor shall not be treated as earth wire.
- Every electrically operated machine or equipment to be independently earthed.
- Earth pits to be provided near DG sets, electrically operated machines, equipments etc.
DG sets used in Refinery shall be installed inside acoustic enclosure to minimise noise pollution.
Exhaust of DG sets shall be routed to safe height.
- Continuity and resistance of all earth connections to be inspected and checked and tested fortnightly and records to be maintained.
- The contractor shall not connect any additional load without prior permission of Departmental Electrical Engineer.
- Joints in earthing conductors shall be avoided. Loop earthing of equipment shall not be allowed. However, tapings from an earth bus may be done.
- The entire installation shall be subjected to the following tests before energisation of installation including portable equipment :
 - a) Insulation resistance test
 - b) Polarity test of switches
 - c) Earth continuity test
 - d) Earth electrode resistance
- The test procedures and their results shall conform to relevant IS specifications. The contractor shall submit a test report for his complete installation every 2 months or after rectifying any faulty section in the specimen test report. One such test report for the complete installation shall be submitted before onset of monsoon.
- Only persons having valid wireman's license shall be employed for carrying out electrical work and repair of electrical equipment installation and maintenance at site. The job shall be supervised by a qualified licensed supervisor.
- Electricians to be provided with red helmet for easy identification.
- Electrical equipment and installations shall be installed and maintained as to prevent danger from contact with live conductors and to prevent fires originating from electrical causes like short



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circuits, overheating etc. Installation shall not cause any hindrance to movement of men and materials.

- Materials for all electrical equipment shall be selected with regard to working voltage, load and working environment. Such equipment shall conform to the relevant Indian Standards.

- The minimum clearance to be maintained for all overhead lines along roads and across roads shall be as per the statutory requirements.

- Grounding conductor of wiring system shall be of copper or other corrosion-resistant material. An extra grounding connection shall be made in appliances / equipment where chances of electric shock is high.

- Electric fuses and / or circuit breakers installed in equipment circuits for short circuit protection shall be of proper rating. It is also recommended that high rupturing capacity (HRC) fuses are used in all circuits. The Earth Leakage Circuit Breaker (ELCB) of 30mA max capacity shall be provided in the circuits. (ELCB) of 30mA max shall be provided on each Extension board.

- Wherever cables or wires are laid on poles, a guard wire of adequate size shall be run along the cables / wire and earthed effectively. Metallic poles as a general rule, shall be avoided and if used shall be earthed individually. Anticlimbing guards and danger notices shall be provided on poles. Each equipment shall have individual isolating switches.

- Wires and cables shall be properly supported and an approved method of fixing shall be adopted. Loose hanging of wires and cables shall be avoided. Lighting and power circuits shall be kept distinct and separate.

- Reinforcement rods or any metallic part of structure shall not be used for supporting wires and cables, fixtures, equipment, earthing etc.

- All cables and wires shall be adequately protected mechanically against damages. In case the cable is required to be laid underground, it shall be adequately protected by covering the same with bricks, Plain Cement Concrete (PCC) tile or any other approved means and provided with cable markers.

- All armored cables shall be properly terminated by using, suitable cable glands. Multistranded conductor cables shall be connected by using cable lugs/sockets. Cable lugs shall preferably be



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crimped. They shall be of proper size and shall correspond to the current rating and size of the cable. Twisted connections will not be allowed.

- All cable glands, armoring and sheathing of electric cables, metal circuits and their fittings, metallic fittings and other non-current carrying parts of electrical equipment and apparatus shall be effectively grounded.

- All the Distribution Boards, switches, fuse units, bus bar chambers, ducts, cubicles etc. shall have MS enclosures and shall be dust, vermin and water proof. The Distribution Boards, switches etc. shall be so fixed that they shall be easily accessible, change shall be done only after the approval of the Departmental Electrical Engineer. Distribution Boards used inside the process units shall be of Flame Proof type (Intrinsically safe type).

- Each Distribution Board shall have ELCB of 30mA max capacity.

- The contractor shall provide proper enclosures / covers of approved size and shape for protection of all the switchboards, equipment etc. against rain. Exposed live parts of all electrical circuits and equipment shall be enclosed permanently. Crane trolley wires and other conductors which cannot be completely insulated shall be placed such that they are inaccessible under normal working conditions.

- Iron soclad industrial type plug outlets are preferred for additional safety.

- Open type Distribution Boards shall be placed only in dry and ventilated rooms; they shall not be placed in the process units, vicinity of storage batteries or otherwise exposed to chemical fumes.

- Isolating switches shall be provided close to equipment for easy disconnection of electrical equipment or conductors from the source of supply when repair or maintenance work has to be done on them.

- In front of distribution boards a clear space of 90cm shall be maintained in order to have easy access during emergency.

- Adequate working space shall be provided around electrical equipment, which require adjustment or examination during operation.

- As far as possible electrical switches shall be excluded from a place where there is danger of explosion. All electrical equipment such as motors, switches and lighting fittings installed in workroom where there is possibility of explosion hazard shall be explosion proof.



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- All connections to lighting fixtures, starters or other power supplies shall be provided with PVC insulated, PVC sheathed twin/three/four core wires to have better mechanical protection for preventing possible damage to equipment or injury to personnel. Taped joints shall not be allowed. Electric starter of motors, switches shall not be mounted on wooden boards. Only sheet mounting or iron framework shall be used.
- All the lighting fixtures and lamp holders shall be of good quality and in good condition. Badly repaired or broken holders, etc. shall not be used.
- Only PVC insulated and PVC sheathed wires or armoured PVC insulated and sheathed cables shall be used for external power supply connections of temporary nature. Weatherproof rubber wires shall not be used for any temporary power supply connections.
- Taped joints in the wires shall not be used. In case joints are required on electrical cables then only heat shrinkable PVC sleeves will be allowed.
- The bulbs/lamps used for illumination and testing purpose shall have cover or guard to protect them from accidental breakages. Only 24V supply system shall be used for hand lamps etc. while working inside metallic tanks or conducting vessels(Confined spaces).
- After installation of new electric system and or other extensive extensions to existing installations, thorough inspection shall be made by Contractor's Electrical Engineer before the new system or new extension is put in use.
- All persons who work with electrical installation/equipment shall be aware of the electrical hazards, use of protective devices and safe operational procedures. They shall be given training in fire fighting, first aid and artificial resuscitation techniques, location of isolation switches, etc.
- The supervisor shall instruct the workers in the proper procedure, specify and enforce the use of necessary protective equipment such as adequately insulated pliers, screw drivers, fuse pullers, testing lamps and similar hand tools. Only wooden ladders shall be used to reach the heights in electrical work.
- No material or earthwork shall be allowed to be dumped below or in the vicinity of the bare overhead line conductors.
- Separate work permits shall be issued for individual group leaders working on the same system which shall be returned after the completion of the work to the Engineer-In-Charge.



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- Before any maintenance work is commenced on electrical installations/equipment, the circuits shall be de-energised and ascertained to be dead by positive test with an approved voltage testing device. Switches shall be tagged or the fuse holders withdrawn before starting the work. Adequate precautions shall be taken in two important aspects viz. LOTO system to be followed.
- That there shall be no danger from any adjacent live parts and
- That there shall be no chances of re-energisation of the equipments on which the persons are working. (Tag out and lock out LOTO system to be strictly followed).
- While working on or near a circuit, whenever possible the use of one hand may be practiced even though the circuit is supposed to be dead. The other hand may preferably be kept in pocket.
- When it is necessary to touch electrical equipment (for example when checking for overload of motors) back of the hand may be used. Thus, if accidental shock were to cause muscular contractions, one would not “freeze” to the conductor.
- Operation of electrical equipment shall be avoided when standing on wet floor or when hands are wet. Rubber mats should be placed in front of Panels / Distribution Boards as per Indian Standards.
- Before blown fuses are replaced, the circuit shall be locked out and an investigation shall be made for the cause of the short circuit or overload.
- When two persons are working within reach of each other, they shall never work on different phases of the supply.
- When structural repairs, modification or painting work are to be undertaken, appropriate measures shall be taken for the protection of persons whose work may bring them into the proximity of live equipment / circuit.
- It shall be ensured that the insulation and wire size of extension cords is adequate for the voltage and current to be carried.
- While tapping electricity from the socket, plug top must be used. It shall be ensured that no extension boards are over loaded while tapping. Only standard three pin plugs (Naked Wire is prohibited) shall be used for tapping electricity. Broken sockets/plugs shall be replaced immediately with good ones. Only joint free cables shall be used for connecting equipment/Use of apparatus.
- Floors shall be kept free from trailing electrical cables to avoid tripping hazard.



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- Power supply to all the machines and lighting fixture shall be switched off when not in use.
- Temporary electrical connections shall be removed as soon as the stipulated work is over. After completion of the works, the contractor shall dismantle the distribution boards and the other facilities he may have erected.
- Unauthorised tapping of power by others from distribution boards under the control of the contractor shall be prohibited at all circumstances.
- No flammable materials shall be stored in any working area near the switchboards.
- Safety work permits shall be used for switching off the main feeder and equipment by the contractor.
- “MEN ON LINE” “DO NOT SWITCH ON” “DANGER” or “CAUTION” boards as applicable shall be used during maintenance works on the electrical equipment.

30.PORTABLE ELECTRICAL EQUIPMENT :

- Portable electrical tools must be examined, maintained and tested daily, fortnightly and quarterly so that the equipment and its leads are in good order. Register shall be maintained for inspection recording the testing dates and results of the equipments. Inspection checklists to be formed to that effect. The recertification of lifting tools, tackles, equipments etc. must be carried out well before the expiry of its validity period.
- All portable appliances shall be provided with three core cable and three pin plugs. The third pin of the plug shall invariably be earthed. It shall be ensured that the metal part of the equipment shall be effectively earthed.
- All connections to portable equipment or machines from the panel/distribution board/extension board shall be taken using 3 core double insulated PVC flexible copper wire in one length. No joints shall be allowed in this flexible wire. In case length of wire is not sufficient for a particular location then the supply can be tapped by providing another extension board comprising of switch, socket and ELCB of 30mA max..
- Flexible cables for portable lamps, tools and apparatus shall be regularly examined, tested periodically and maintained to ensure safety.
- For excavations, one time clearance from electrical is required for a particular area.
- Contractor shall get their welding machine / Stress Relieving (SR) electrical equipment / all



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portable machine certified by MRPL / MRPL authorised contractor and seal will be fixed on machine to that effect. Certificate from third party mentioning the checks carried out, repairs carried out and safe to use to be submitted to Engineer Incharge.

Revalidation to be done once in 4 months. Incase contractor does not comply, it will be done by MRPL and four times the cost of repair will be back charged to contractor.

- Incase of welding, separate return cable from job piece to welding machine to be connected. Wires not to be used. PVC insulated cables only to be used.

- All lighting circuits/temporary connections for portable machine should have ELCB's of 30mA capacity max.

- All ELCBs to be tested once in 15 days using ELCB testers (and not by the lamp with open wires) and record maintained. Also separate register for ELCB trips (TRIP REGISTER) shall be maintained. It shall be daily signed by the site Incharge of the contractor.

- Earthing of Neutral, which will act as return path, is not allowed.

- Electricians should have wireman license.

- During monsoons, monsoon protection for electrical equipment to be done.

- All feeders in contractor distribution panel to be clearly lettered with load details for isolation incase of emergency.

- Insulated tools like screwdriver, cutting plier, tester to be used.

- Each contractor should have one set of multimeter, ELCB tester and tong tester.

- First aid kit to be available.

- The contractor must have a team of Experienced Electricians (having minimum of 10 yrs. experience in carrying out safety inspection and testing of Electrical Equipments, tools, portable electrical machines and appliances etc.). to conduct periodical (Daily, fortnightly, monthly and quarterly) inspection and testing of Electrical Equipments, tools and portable electrical machines, tools and appliances and to maintain its records.

- All power cable ends should have industrial plug on one side and other end directly into the machine. (No naked end pinning into will be permitted).

- For any job within MCC / SRR a work permit will be issued by MRPL operation. Job should not be started without these permits.



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31.ROLE OF CONTRACTOR INCASE OF EMERGENCY AND SIREN :

- Contractor shall instruct his workers to follow instructions strictly in case of fire siren / emergency or if advised or felt necessary by Engg. In-charge. If evacuation is ordered they must leave the work site and proceed towards the nearest designated assembly point. The contractor and its employees MUST follow specific instructions (Roles and Responsibilities incase of fire / onsite emergency) that will be given during training from time to time. All contractor employees MUST undergo such training, before their deployment at the work site. Contractor shall arrange & conduct such trainings for his employees and also employees of sub-contractors.
- Contractor shall instruct his workers to stop all jobs immediately incase release of liquid/gas/toxic/hazardous chemicals etc, and inform the concerned MRPL personnel available at site.

32.TRAINING :

- The contractor to conduct Induction training of all employees and record maintained.
- The contractor will have to depute all his employees (including Engineers, supervisors and workmen), before they commence work for the first time at MRPL site and subsequently once in a year, to undergo Safety training. They will get photo gate passes only after the completion of the training. Contractors MUST have and get conversant with Material Safety Data Sheets of all the Chemicals in MRPL. It is a MUST for them to carry the photo passes with them and produce it when demanded at site.
- Tool box talks to be conducted every day before starting of each shift and before commencing of work after lunch break by the concerned Engineer.

33.LIST OF PERSONAL PROTECTIVE EQUIPMENTS

The contractor must poses the following minimum safety Items cum Personal Protective Equipments. All Personal Protective Equipments used at site to be of approved make.

34.MANDATORY FOR THE CONTRACTOR EMPLOYEES WHILE WORKING INSIDE REFINERY :



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* Deployment of adequate nos. of safety officers as per table above and making available the mandatory items as per the minimum list below is a MUST as a part of mobilization activity.

1. Safety Helmet.
2. Safety shoes (Conforming to IS standards with ankle protection, steel toe and anti-skid / acid, alkali and water proof soles).
3. Hand gloves (Leather impregnated cotton hand gloves).
4. Spectacle type goggles with toughened glass lenses, plain face shields with and without chin guards.

The contractor must use the “ISI” marked Personal Protective Equipments specific to the job .

It is mandatory to have minimum backup stock of all the PPEs in addition to what is already in use at site.

35.SPECIFICATIONS FOR SAFETY HELMETS-HDPE.

- 1) Helmet Safety Industrial HDPE white colour.
- 2) Contractor’s Logo at front side.
- 3) Conforming to IS 2925, ISI marked & DGMS approved.
- 4) Nape strap type adj. type 6 point adj. head band & sweat band with 3/4" Cotton Chin strap.

* Green helmets for Safety Personnel and Red helmets for electricians to be provided and used by them.

36.SPECIFICATION FOR 9FULL BODY SAFETY HARNESS) SAFETY BELT

Full Body Safety Harness (Safety belts) must be double lanyard type with scaffolding hook having self closing latch (spring type).

Different type of hooks to be available based on the nature of job / type of support. Safety belts should be ISI marked and should conform to IS 3521 and DGMS approved and stamped.

Safety belts, safety straps, lifelines, permanent anchors and connections should both separately and when assembled :

- a) be capable of supporting safely a suspended load of at least 450 kg (1,000 lb) ; and
- b) have a breaking strength of at least 1,150 kg (2,500 lb).



SPECIAL CONDITIONS OF CONTRACT

If hooks are used for attaching safety belts to fixed anchors, they should be self closing safety hooks of various types and sizes.

When a lifeline or safety strap is liable to be served, cut, abraded or burned, it should consist of a wire rope or a wire-cored fiber rope.

Safety straps should be so fastened to safety belts that they cannot pass through the belt fittings if either end comes loose from its anchorage.

Metal thimbles should be used for connecting ropes or straps to eyes, rings and snaps. Safety belts, safety straps and lifelines should be so fitted as to limit the free fall of the wearer to 1m (3ft 3in).

37.SPECIFICATION FOR FALL ARRESSTOR DEVICE

Fall arresstor device with self-retracting cable integrating locking mechanism combined with an energy deception element fully automatic having cables of various lengths, ISI and DGMS and or any international approval. Only Poly Amide rope shall be used.

38.SPECIFICATION FOR DUST MASK

Dust Mask made of superior quality non-aging chemical-resistant rubber half face piece with reflex sealing flaps for protection against nuisance dust, (<0.5 micron) toxic dusts, gases and vapours with replaceable filters.

39.SPECIFICATION FOR REPLACEABLE FILTERS

For protection against nuisance dust, toxic dusts, gases and vapours upto a concentration of 500 ppm. To be fitted on aforesaid Dust Mask.

40.SPECIFICATION FOR SAFETY SHOES

1. Safety Shoes, Jodhpury style- as per is 11226- 1985 with guarantee for 1& 1/2 years (all weather).
2. Acid/ alkali/ waterproof heat resistant, antiskid green PVC Nitrile sole.
3. Steel toe cap as per relevant "IS".
4. Upper plain leather, high ankle, with metallic 4 eyelets.
5. ISI marked.
6. The supplier should give guarantee of use of safety shoes during rainy season.

41.STANDARD SPECIFICATION FOR PVC HAND GLOVES

Hand contoured for greater comfort & feature an embossed nonslip grip for handling wet



SPECIAL CONDITIONS OF CONTRACT

or greasy objects cotton flock lining absorbs perspiration maximises easy on/off black with straight cuff each pair pack.

42.SPECIFICATION FOR ELECTRICAL PPE (SHOCK PROOF)

Hand gloves used for live electrical works shall be of proper electrical rating.

Electrical (shock proof) Safety Shoes (Jodhpury type) with acid/ alkali/ water proof, heat resistant, antiskid sole with guarantee for 1&1/2 years (all weather).

1. Upper plain leather.
2. ISI marked & latest certificate of testing from any of the govt. recognised institution for electrical resistance.

GUMBOOTS with steel toe should be used by personnel during rainy season.

The aforesaid guidelines are the minimum safety requirements and the contractor should exceed them so as to achieve “ZERO ACCIDENT” which is our MOTO.

43.PENALTY / FINE :

Heavy penalty / fine will be imposed on contractor for the following safety violations.

1. Any accident, near misses resulting into serious bodily injury, property damage and degradation of environment on and around MRPL.
2. Violation of standard safety practices, norms and Rules, carelessness and negligence.
3. Violation of proper use of PPEs by workmen.
4. Lack of supervision.
5. Violation of work permit procedures inside Refinery and process plant areas.
6. Improper planning of critical jobs if resulted into Accident, Injury or Fire.
7. Failure to take corrective actions as advised by Engineering In-charge.
8. Frequency or Severity Rate of Accident is found to be high.
9. Improper planning of activity / ies if results into nearmiss and bodily injury to personnel.
10. Unauthorised entries into process plant areas.
11. Horseplay.
12. Failure in taking corrective actions on unsafe conditions / acts as and when noticed and advised by Engineer In-Charge.



SPECIAL CONDITIONS OF CONTRACT

- 13. Misuse of Fire Prevention / Protection and safety equipments.
- 14. Personnel working under intoxication.
- 15. Smoking.
- 16. Deployment of child labours.
- 17. Penalty charges are as below

TYPE OF SAFETY VIOLATIONS AND PENALTY SYSTEM :

Penalty clause	Type of Safety Violations	Penalty
1	For not using Personal Protective Equipment like (Safety Helmet, Safety Goggles, Safety Shoes, Hand gloves, Boiler suit, etc)	Rs. 250/- Per day / per item / per person.
2	Working without permit / Clearance (Cold Work)	Rs.5,000/- per occasion
3	Hot work without proper permit / Clearance	Rs. 10,000/- per occasion and delisting /holiday listing for 3 years.
4	Non-use of safe electricity at work site (non installation of ELCB, using poor joints of cables, using naked wire without top plug into socket, laying wire / cables on the roads, electrical jobs by incompetent persons).	Rs. 3,000/ per item per day.
5	Working at heights without safety belt (Full Body Safety Harness), using non-standard scaffolding and not arranging fall protection arrangement as required.	Rs. 1,000/ per case per day.
6	Unsafe handling of compressed gas cylinders (No trolley, jubilee clips, double gauge regulator, Improper storage / handling).	Rs 100/- per item per day.
7	Non fencing / barricading of excavated areas.	Rs. 1,000/- per occasion.
8	Use of LPG for cutting purpose.	Rs. 1,000/- per occasion.
9	Non-display of name board, permit, etc. at site.	Rs. 500/- per occasion.
10	Not providing shoring / strutting / proper slope and not keeping the excavated earth at least 1.5 m away from the excavated area.	Rs. 5000/- per occasion.
11	Wrong parking of vehicles or parking the vehicles at non-designated places inside refinery.	Rs. 1,000/- per occasion.
12	Absence of contractor representative in refinery safety meetings whenever called.	Rs. 1,000/- per meeting.
13	Non-deployment of safety supervisor / supervisor responsible for safety at work site required as per	Rs. 7,500/- per week.



SPECIAL CONDITIONS OF CONTRACT

Special Safety Conditions.		
14	Failure to maintain safety register and records by contract Safety Supervisor or the Supervisor responsible for safety.	Rs. 1,000/- per month.
15	Failure to have daily safety site inspection / audits, monthly safety meetings and maintain records (by contractors themselves).	Rs. 1,000/- per week or month and Rs. 100/- per day.
16	Failure to submit monthly safety report by the 5 th of the next month to the Engineer -in -Charge.	Rs. 1,000/- per month and Rs. 100/- per day for further delay.
17	Poor Housekeeping.	Rs. 1,000/- per site / per day.
18	Failure to follow injury reporting system.	Rs. 10,000/- per occasion.
19	Violation of any other safety condition as per Job Safety Analysis (JSA), work permit and safety conditions of contract such as using crowbar on cable trenches improper welding booth, not keeping fire hose, extinguisher ready at hot work site, unsafe rigging etc.	Rs. 1,000/- per Occasion.
20	Over-speeding of vehicle i.e speed > 16 KMPH while driving inside refinery.	1.The driver will be removed and gate pass will be withdrawn. 2.Contract will be cancelled upon repeated three violations.
21	Overtaking of vehicles while driving inside refinery.	1.The driver will be removed and gate pass will be withdrawn. 2.Contract will be cancelled upon repeated three violations.
22	Driving of vehicle without valid license.	1.The driver will be removed and gate pass will be withdrawn. 2.Contract will be cancelled upon repeated three violations.
23	Driving vehicle without PESO approved or PESO approved but damaged spark arrester.	1.The driver will be removed and gate pass will be withdrawn. 2.Contract will be cancelled upon repeated three violations.
24	Driving vehicle on “NO ENTRY ROADS”.	1.The driver will be removed and gate pass will be withdrawn. 2.Contract will be cancelled



SPECIAL CONDITIONS OF CONTRACT

		upon repeated three violations.
25	Denying to produce the photo Gate Pass on demand.	Rs. 500/- per person per occasion
26	Consumption of alcohol and any other intoxicating material shall be treated as Safety Violation.	INR 15000 / - per person per occasion.

Note : The contractor is solely responsible for any accident and under any circumstance MRPL will not be responsible / held responsible for the accident to his contract labours. Incase of repeated violation for three times or Reportable Lost Time Injury the contract will be terminated and the contractor will be considered for holiday listing.

Disclaimer Clause : “The Contractor’s Safety Policy is not a comprehensive collection of statutory obligations, Rules or compendium of safety practices. This is for general Guidelines and Contractor, sub-contractor, vendors and visitors are not absolved from obligations to follow all relevant and applicable statutory obligations, safety compliances and practices not absolved from their accountability and obligations due to any statements of omissions and commissions in this document”.



L&T-CHIYODA LIMITED

Tender Number : MCCR-OC-ZH-B1-004

SCOPE OF WORK

Annexure II to SCC

SCOPE OF WORK

**Please refer to
Volume – II
Technical**



SCOPE OF SUPPLY

1.0 SUPPLY BY OWNER

SINCE THIS TENDER BEING SERVICE TYPE, THEREFORE, NO FREE SUPPLY ITEM BY OWNER.

2.0 SUPPLY BY CONTRACTOR

SINCE THIS TENDER BEING SERVICE TYPE, THEREFORE, NO PROCUREMENT ITEM BY CONTRACTOR.



Annexure-IV to SCC

COMPLETION SCHEDULE

NAME OF WORK : 3D LASER SCANNING AND MAPPING WORKS FOR CAPACITY ENHANCEMENT / REVAMP OF NHT-2 / PLATFORMER-2 / CCR-2 / PSA-2 / RSU AT MRPL'S MANGALURU (KARNATAKA) REFINERY

TENDER NOTICE NO. : MCCR-OC-ZH-B1-004

TIME FOR COMPLETION : **42 (Forty Two) Calendar Days** from Date of Letter of Acceptance (LoA) / Purchase Order (PO), for all the obligations as per this Tender to the entire satisfaction of OWNER / LTC

NOTES :

- a) The date for completion indicated is for completing all the works in all respects as per specifications, codes, drawings and instructions of OWNER / LTC.

SIGNATURE OF BIDDER

NAME OF BIDDER:

**COMMERCIAL QUESTIONNAIRE**

Annexure V to SCC

COMMERCIAL QUESTIONNAIRE

Bidder's reply/confirmation as furnished in the Commercial Questionnaire (CQ) shall supersede the stipulations mentioned elsewhere in the bid.

SL. NO.	LTC'S QUERY	BIDDER'S REPLY/CONFIRMATION
1.0	Confirm that your Bid is valid for 120 days from the last date of submission of Bid.	
2.0	Confirm that Earnest Money Deposit (EMD) as per bid stipulations has been furnished along with bid.	
3.0	Confirm that the following documents are submitted with Part-1:	
a)	All documents as per CHECK LIST.	
b)	Master Index as enclosed with NIT is submitted in un-priced part duly signed and stamped on each page.	
c)	Compliance letter for Addendum/Amendments as a token of acceptance (Applicable, if issued)	
d)	Un-priced techno-commercial bid hard copies (one original + 2 photo copies) is submitted as per the provisions of the Bidding Document.	
4.0	Confirm that "PART- 1 TECHNO-COMMERCIAL / UNPRICED BID" and "PART- 2 PRICED BID" are submitted in two separate envelopes.	
5.0	Schedule of Price	
a)	Price must be filled in format for SOR enclosed as part of Bidding Document. If price quoted in separate typed sheets and any variation in item description, unit or quantity is noticed and no deviations are specified by bidder in un-priced bid, confirm that Owner/LTC shall presume that the price quoted are as per the price format attached with bidding document.	
b)	Confirm that rate/price has been quoted for all items of SOR.	

**COMMERCIAL QUESTIONNAIRE**

SL. NO.	LTC'S QUERY	BIDDER'S REPLY/CONFIRMATION
c)	Confirm that deviation/terms & conditions are not mentioned in the price part. In case any terms and conditions is mentioned in the price part, the same shall be treated as null and void.	
d)	Confirm that correction fluid shall not be used in the price part. (In case of any correction, the same shall be signed and stamped by authorized signatory. No overwriting or erasure of original writings by use of 'white fluid' or otherwise is permitted. In case any erasure using 'white correcting fluid' is found, the tender shall be liable to be rejected. All corrections/cuttings/alterations shall be signed in full by the bidder with date. Numerical figures shall be written both in figures as well as in words).	
6.0	Confirm that your Bid is responsive to the requirements of the Bidding Document, and you have <u>not</u> stipulated any deviations.	
7.0	Confirm that you have studied complete Bidding Document including Technical and Commercial part and your Bid is in accordance with the requirements of the Bidding Document.	
8.0	Confirm your compliance to total Scope of Work mentioned in the Bidding Document.	
9.0	Confirm your acceptance for Time Schedule as mentioned in Bidding Document.	
10.0	Confirm that your quoted price includes all taxes, duties, levies etc. except Service Tax, as applicable for this Work in accordance with the provision of General Conditions of Contract and Special Conditions of Contract.	
11.0	Confirm that your quoted price includes all types of insurance as per the provisions of General Conditions of Contract and Special Conditions of Contract.	
12.0	Confirm your acceptance to the Notes mentioned in all Proposal Forms.	
13.0	Confirm that while submitting your price, you have taken consideration of scope of supplies, scope of work and all requirements of the Bidding Document.	

**COMMERCIAL QUESTIONNAIRE**

SL. NO.	LTC'S QUERY	BIDDER'S REPLY/CONFIRMATION
14.0	(a) Confirm that Bidder is not involved in any Litigation/Arbitration, (b) otherwise, If involved, then please furnish information about the same.	
15.0	Confirm the following:	
	I / We here by state that nobody of my / our organization is /are a relative of any Director Of MRPL. and also further state that no Director / member of MRPL is/ are a Director/ partner of my/ our company / organization / partnership / proprietary concern in any way.	
16.0	All direct and indirect costs associated with the preparation and submission of bid (including clarification meetings, any test, investigations, consultations and site visit, if any), shall be in Bidder's account and the OWNER / CONSULTANT will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.	

SIGNATURE OF BIDDER : _____

NAME OF BIDDER : _____

COMPANY SEAL : _____



MANGALORE REFINERY AND PETROCHEMICALS LIMITED

**Kuthethoor P.O., Via Katipalla,
MANGALURU- 575 030,
KARNATAKA, INDIA**

**Tender Document No.:
MCCR-OC-ZH-B1-004**

TENDER DOCUMENT

FOR

**3D LASER SCANNING AND MAPPING WORKS FOR
CAPACITY ENHANCEMENT / REVAMP OF NHT-
2/PLATFORMER-2/CCR-2/PSA-2/ RSU AT MRPL'S
MANGALORE (KARNATAKA) REFINERY**

(Volume - II)

TECHNICAL

Prepared and Issued
For and on behalf of MRPL
By

L&T-CHIYODA LIMITED,
N. H. No.8. Vadodara, Gujarat



REQUISITION FOR 3D LASER SCANNING AND MAPPING WORKS

OWNER : MANGALORE REFINERY AND PETROCHEMICALS LIMITED

PROJECT : CAPACITY ENHANCEMENT / REVAMP OF NHT – 2 / PLATFORMER-2 / CCR – 2/ PSA – 2/ RSU

MRPL JOB NO : 3300003484

EPCM CONSULTANT : L&T-CHIYODA LIMITED

DOCUMENT SUBMISSION STATUS - LTC	REVIEW STATUS - MRPL								
DOC. CATEGORY: (USE TICK MARK) <input type="checkbox"/> A <input type="checkbox"/> R <input type="checkbox"/> I	[1] REVIEWED – NO COMMENTS [2] REVIEWED, AS COMMENTED, REVISED DRAWING REQUIRED [3] NOT MEETING SPECIFICATION, RESUBMIT [1] FOR INFORMATION								
ISSUED FOR <input type="checkbox"/> INFORMATION <input type="checkbox"/> INQUIRY <input type="checkbox"/> REVIEW <input type="checkbox"/> ORDER <input type="checkbox"/> APPROVAL <input type="checkbox"/> CONSTRUCTION									
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NAME	DISCIPLINE	SIGN.	DATE						

1	Issued with incorporating MRPL Comments						27-Dec-2016
0	Issued for Review	SR	SJP	ACG			23-Nov-2016
Rev.	Description	Prepared By	Reviewed By	Approved By	Reviewed By	Approved By	Date

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**REQUISITION FOR 3D LASER SCANNING AND MAPPING WORKS**

1. INTRODUCTION

The following scope of work is required for Mangalore Refinery And Petrochemicals Limited, Kuthethur, Karnataka, India with respect Capacity Enhancement / Revamp of NHT2/Platformer2/CCR-2/PSA-2/RSU Unit & utility project (MCCR) in accordance with the requirement specified in this requisition and documents attached herewith.

This requisition is prepared for the purpose of carrying out 3D Laser Scanning & conversion of scan data to intelligent PDS 3D model data files and Navisworks Design Review files for site where existing facilities needs to be revamped and are to be developed within the existing facilities.

OWNER	Mangalore Refinery And Petrochemicals Limited (MRPL)
LICENSOR	UOP
EPCM	L & T Chiyoda Limited.(LTC)
PURCHASER	MRPL & LTC
SUPPLIER / VENDOR	The Entity, Manufacturer, Fabricator or Vendor that supplies material and services specified for 3D Laser Scanning & mapping.
REQUISITION	This document along with all 'Tables', 'Annexures', and 'Attachments' attached

2. SCOPE OF WORK

The scope of work for 3D Laser Scanning & Mapping includes collection of the existing plant site data, which is required to capture, register and generate into 3D Plant Model data and review files.

The VENDOR shall perform the Laser Scanning and Data Capture with sub-sequent development of accurate 3D CAD model based on the point cloud data for the plant area as specified in the indicative attached plot plan.

The extent of the Laser Scanning required at the facility encompasses the full envelope between the Grade and the highest level of the Structure or Equipment of the entire process plant within the area of interest including but not limited to access road, associated pipe racks, firefighting rings, if any, associated with such facility and earmarked as area of interest, with the desired accuracy level.

The Laser Scanning tool shall be deployed for obtaining accurate Point Cloud Data within area of interest. The accurately developed Point Cloud Data (PCD) shall be converted into PDS 3D CAD model output files for use in PDS 3D environment. The 3D model must contain relevant details with sizes and should be in a position to re-extract/update the drawings/model files.

The scope shall include the following but not limited to:

**REQUISITION FOR 3D LASER SCANNING AND MAPPING WORKS**

- Deployment of all required equipment tools and tackles.
- Deployment of all manpower.
- Co-ordination and management.
- Obtaining all necessary work permits as applicable.
- Continuous scanning for pipe racks/cables.
- Preparation of site observation mark-up & submission of report to EPCM\PURCHASER (Revision and updates' shall be mutually agreed).
- Consolidation of scan data, registration, etc. up to generation of 3D Model data
- Project closeout.
- Follow all HSE requirements, Management and Supervision.

The Laser scanner shall capture the as-built condition of all the items within the area specified for the majority of the work irrespective of the requirement of details to be captured. Scans shall be oriented to the Project reference by utilizing the Primary or Secondary survey control targets or by common targets between scans or by a combination of both these methods.

Recording of all scanned data shall be executed within the data registration targets placed as part of the survey control. The scanner shall be moved to different locations throughout the facility so as to achieve the complete coverage of the facility defined within the scope. In areas where details are complex, a number of overlapping scans may be performed to capture complete details for that area.

VENDOR is responsible to offer best suitable methodology to carry out scanning & generating accurate 3D model data based on his past experience and state-of-the-art-technology as desired. The 3D Model data of scanned cloud data shall be segregated discipline wise i.e. Structure / Piping / Equipment etc. for submission. VENDOR shall ensure that the method/s used shall be suitable to identify all types of objects. Also it should be ensured that the use of such method/s do not interfere with the existing refinery operations including signal interference, if any.

VENDOR is responsible to take prior approvals from concerned authorities before starting actual laser scanning processes.

The model shall be created to a minimum extent with markup and size as described in the Table-1 below:

Items by discipline	Min size/ Detail
Piping	
All permanent piping (Process and Utilities)	3/4" & Above
Connection details (flanges, welded and screwed fittings and components)	All – 3/4" & Above
Valves (associated with modeled piping)	All – 3/4" & Above
Pipe Supports	All
Equipment	
Equipment	All - (with thickness details)

REQUISITION FOR 3D LASER SCANNING AND MAPPING WORKS

Structural/ Civil	
All Reinforced Concrete (RC)/structural steel work	All
Pipe racks / Equipment Structure / Operating Structures / Shelters	All
Civil foundations / Pedestals projecting above Finished Floor / Ground Level	All
Pipe supports & Stanchions	All
Other Misc. Items like Walkways & Interconnection platforms between structures- Handrail, Ladder & Stairs	All
Electrical	
Control panels, boxes, switches, Meters	All
Motors	All
Cable Trays	All – 100mm & Above
Lighting stanchions Fixture, poles	All
Instrument	
Instrument Stanchions	All
Instrument Junction Box	All
Cable Trays	All – 100mm & Above
Telephone, CCTV	All
Local Control Panel	All
Analyzer Shelter / Analyzer Panel	All
Inline Instrument such as Control Valve, Level Gauge, Pressure Gauge , Tension Gauge, etc. and Others	All
Features to be shown as outline only	
Buildings etc.	All
Any Other	All

Table 1: Extent of Modeling

3. DELIVERABLES REQUIRED FROM 3D LASER SCANNING VENDOR

3.1 Documents required with Quotation:

VENDOR is responsible for submission of following documents for review and acceptance.

- Company Profile
- Qualification & experience of proposed staff
- Proven Track Record (PTR) for similar works of 3D laser scan carried out within and outside India.
- Proposed methodology with work-flow.
- List of inputs required by VENDOR to develop fully intelligent 3D model and deliverables mentioned as per Clause 3.3
- Proposed time frame for completion of scanning & generation of 3D Model and preliminary schedule of work.
- Man-power deployment schedule with task details.
- List of tools, equipment with technical specifications to be deployed for survey work.

REQUISITION FOR 3D LASER SCANNING AND MAPPING WORKS

- Brief description on working principles/limitations of equipment/instrument proposed to be used for scanning.
- Health, Safety & Environmental (HSE) records

3.2 Documents required prior to commencement of work:

VENDOR is responsible for submission of following documents for review and acceptance before commencement of actual work at site.

- Detail Method Statement for execution of 3D laser scanning, process of registration and generation of 3D model data.
- Planned execution schedule of work.
- Qualification & experience certificates of staff employed at site and at office.
- Man-power deployment schedule with task assignment details.
- Detail list of equipment to be deployed for scanning & 3D Model generation work, along with their serial numbers and valid calibration certificates.

3.3 Requirement during/on completion of work –3D Laser Scan Report:

VENDOR shall submit a preliminary 3D laser scan data and 3D Model data generated at agreed interim period to check merging with PDS 3D environment.

3D Laser Scan data & Model data shall contain and not limited to the following:

- General description of the work carried out.
- Procedure of investigation employed.
- Description of field activity and methodology.
- VENDOR shall submit the 3D Laser scan data (stitched native files) and respective site snapshots (JPGs/ JPEGs/PNGs) along with intelligent PDS 3D Model data files (PDS Version 11.00.01 & Microstation J (v7)) and Navisworks review files (Navisworks Simulate 2016). PDS 3D model data files include complete PDS project – Directory dumps and RIS dump files. The PDS 3D structure created for generation of 3D model shall be pre-approved from EPCM.
- Validation / confirmatory check report with respect to actual site\scope of work defined to ensure correctness of scanning / model generation.
- Report on any physical distortion / visually high deflection observed while 3D scanning shall be brought to the notice with actual site photo evidence.

4. OTHER INDIRECT REQUIREMENTS

Apart from VENDOR's direct scope of work as mentioned in Section 2 & 3 of this document, all indirect requirements mentioned below shall be treated as part of scope of work and not as additional work/s.

- VENDOR shall make his own arrangement for whatever provision may be needed in order to complete the Contract Work.
- Mobilization & Demobilization is the responsibility of VENDOR.
- Provision of facilities such as consumables, water, power, site office, storage of instruments and construction materials, maintenance of access roads, etc. shall be VENDOR's responsibility and cost of these should be included within quoted price/rates.

**REQUISITION FOR 3D LASER SCANNING AND MAPPING WORKS**

- All the required permits, security clearance, etc. for the personnel & other items, for completing the said work, shall be arranged by the VENDOR. Site timing shall be required to be followed as necessary. Necessary support shall be given by PURCHASER.
- Travel including proper visas, if any, accommodation and other logistics, scaffolding requirement, permissions etc. shall be the responsibility of VENDOR.
- Submission of Safety certificate for Scaffolding is mandatory by the VENDOR.
- Insurance and safety of concerned manpower staff shall be the responsibility of VENDOR.
- The intention to start the fieldwork shall be notified to the Engineer In-Charge (EIC), appointed by PURCHASER and the VENDOR shall obtain necessary approvals before start of the work.
- VENDOR shall fully adhere to safety and other regulations imposed by concerned EIC and OWNER for working at the site. VENDOR shall have to undergo any HSE related training as felt necessary by OWNER.
- VENDOR shall ensure that all third party software licenses required to view, interface and integrate captured data during the survey, are genuine software licensed to the VENDOR for use at the working geographical location and other terms of use as per the software supplier license agreement. PURCHASER reserves the right to audit license agreements and ensure that current licenses are valid and compliant.

5. SCHEDULE

Period of execution and reporting in calendar days shall be as mentioned below & shall be strictly adhering to:

SCHEDULE REPORT	FIELD WORK (Calendar Days)	PRELIMINARY REPORT (Calendar Days)	FINAL DELIVERABLE (Calendar Days)
3D Laser Scanning & Providing fully-intelligent 3D model data	7	7	28

All above mentioned period shall be applicable from the issue of Letter / FAX / e-mail of Intent.

6. SPECIAL REQUIREMENTS

Special requirements for Work Execution:

- VENDOR shall use the devices capable enough to work in environment at the specified site location. VENDOR shall also take care of operating environmental parameters like Operating temperature, storage temperature, humidity, dust, radiations, vibrations due to base platform, rain, noisy effect due to range of measurement and class of laser while performing the scanning activity.
- VENDOR shall make provision of necessary inventory of items e.g. batteries to be used during scanning process so as to continue the work without any delay. E.g. charging of batteries in off-hours, etc.

**REQUISITION FOR 3D LASER SCANNING AND MAPPING WORKS**

- Work is required to be carried out close to / within operational plant and all necessary precautions, safety norms of OWNER as required from safety and operation shall be STRICTLY adhered to. VENDOR shall carry out all activities in a systematic and sequential manner in order to have minimum hurdles, disturbances or obstructions to on-going plant functional activities. If during the scanning work, any obstruction is met with, the same shall be brought to the notice of EIC/OWNER immediately and suitable modified locations shall be established in due consultation with EIC/OWNER. VENDOR is responsible to make clean and bring the site to original condition after satisfactory completion of work and transport any scrap material and/or any equipment employed during investigation work, outside the plant at his own expense as directed by OWNER.
- Costs incurred on restoration/repair required for the damage, if any, caused by the VENDOR to Plant or related facilities shall be borne by the VENDOR.
- Any work performed for the above measures shall be considered part of the scope of work and shall not be considered as change in work or additional scope of work.
- VENDOR shall furnish Health, Safety & Environmental (HSE) records in pre-qualification/quotation for evaluation. An unsatisfactory HSE record shall be ground to disqualify the VENDOR. Also during execution, all requirements related to HSE as per Project Specification, shall be adhered to.
- If any items are found to have been missed or excluded from the agreed area of survey during post survey stage, during subsequent modeling period or during QA/QC checking or use of the model in the PDS 3D environment, then the VENDOR shall at its own cost return to the site and re-survey / model the missing items within the agreed time.
- VENDOR shall sign a Non-Disclosure Agreement for secrecy of data/information being generated out of the whole project activity.

7. QA/QC

The various quality checks undertaken will be:

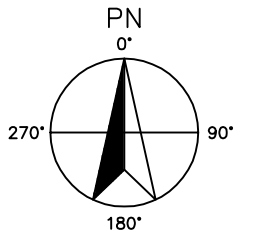
- The 3D model will be checked with overlay of scans for dimensional accuracy and completeness during the modeling process.
- The merged model will be checked against complete Laser scan data.
- The VENDOR should provide a full set of QA/QC inspection documentation to show that completeness of model has been achieved within the scope of work.

8. LIST OF ATTACHMENTS

- a. Overall Area Plot Plan with cloud-marked area to be scanned as per the attachment 1

DWG. NO. MCCR-PP-L4L-004

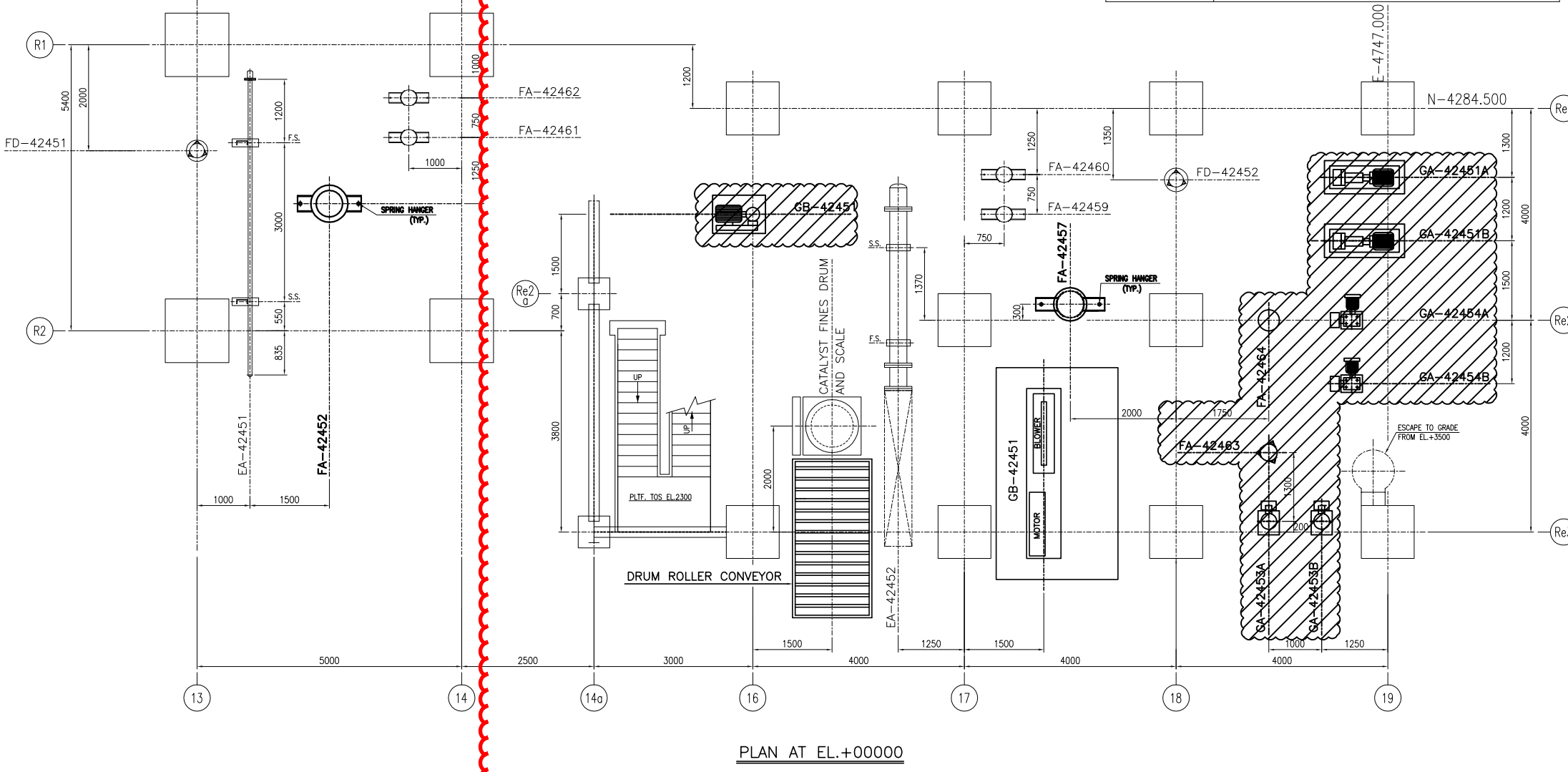
EQUIPMENT LIST			
ITEM NO.	SERVICE	ITEM NO.	SERVICE
BI-42451	CHLORINATION HEATER	FA-42455	SURGE HOPPER (MODIFIED)
BI-42452	REGENERATION HEATER	FA-42456	LOCK HOPPER NO 2
BI-42453	AIR HEATER (EXISTING) NOTE-4	FA-42457	LIFT ENGAGER NO 2 (MODIFIED)
BI-42453	AIR HEATER (NEW)	FA-42458	CATALYST ADDITION LOCK HOPPER
CD-42451	DUST COLLECTOR (MODIFIED)	FA-42459	VENT DRUM NO 1
DA-42451	VENT GAS WASH TOWER (EXISTING)	FA-42460	VENT DRUM NO 2
DC-42401	REACTOR NO. 1	FA-42461	VENT DRUM NO 3
DC-42402	REACTOR NO. 2	FA-42462	VENT DRUM NO 4
DC-42403	REACTOR NO. 3	FA-42463	CAUSTIC BREAK TANK (EXISTING)
DC-42404	REACTOR NO. 4	FA-42464	WATER BREAK TANK (EXISTING)
DC-42451	REGENERATION TOWER (MODIFIED)	FD-42451	RECYCLE GAS COALESCER
EA-42451	RECYCLE GAS COOLER	FD-42452	BOOSTER GAS COALESCER
EA-42452	LIFT GAS BLOWER SPILLBACK COOLER	FE-42451	CATALYST ADDITION FUNNEL
EA-42453	CAUSTIC COOLER (EXISTING)	FF-42451	AIR DRIER PACKAGE
EA-42454	PREHEAT GAS HEATER (NEW)	FF-42451	AIR DRIER PACKAGE (IF REQUIRED)
EA-42455	VENT GAS COOLER (NEW)	FG-42452	CAUSTIC INJECTION SUCTION FILTER (EXISTING) (NOT SHOWN)
EA-42456	AIR PREHEATER (NEW)	GA-42451A/B	SCRUBBER CIRCULATING PUMP (EXISTING)
EC-42451	REGENERATION COOLER	GA-42453A/B	CAUSTIC INJECTION PUMP (EXISTING)
EC-42451B	REGENERATION COOLER NO 2 (NEW)	GA-42454A/B	WATER INJECTION PUMP (EXISTING)
FA-42451	LOCK HOPPER NO 1	GB-42451	LIFT GAS BLOWER (EXISTING)
FA-42452	LIFT ENGAGER NO 1 (MODIFIED)	GB-42451	LIFT GAS BLOWER (NEW)
FA-42453	DISENGAGING HOPPER (WITH RVG CHLORSORB) (EXISTING) NOTE-4	GB-42452	CHLORINATION BLOWER
FA-42453	DISENGAGING HOPPER (WITH RVG CHLORSORB) (NEW)	GB-42453	REGENERATION BLOWER
FA-42454	FLOW CONTROL HOPPER (EXISTING) NOTE-4	GB-42454	REGENERATION COOLER BLOWER
FA-42454	FLOW CONTROL HOPPER (NEW)	GA-42453	VENTURI SCRUBBER (EXISTING) (NOT SHOWN)
		XX-42XXX	DRUM ROLLER CONVEYOR



- NOTES :
- 1) ALL CO-ORDINATES ARE IN METERS.
 - 2) ALL DIMENSIONS AND ELEVATIONS ARE IN MM.
 - 3) ELEVATION 000 IDENTIFIES THE HIGHEST POINT OF PAVED AREA AND CORRESPONDS WITH ABSOLUTE ELEVATION OF 68.2 MTRS. ABOVE SEA LEVEL.
 - 4) NEW EQUIPMENT IS LOCATED AT SAME LOCATION OF EXISTING EQUIPMENT. DEMOLITION OF EXISTING EQUIPMENT IS NOT SHOWN.

- LEGEND :
- DEMOLITION
 - NEW EQUIPMENT/STRUCTURE
 - MODIFICATION IN EXISTING EQUIPMENT/ADEQUACY CHECK
 - F.S. FIXED SADDLE
 - S.S. SLIDING SADDLE

AREA TO BE 3D LASER SCANNED



DE-31857-00-26-001	REGENERATION AREA VIEW LOOKING NORTH & SOUTH	00
****	P&ID / CCR REGENERATION SECTION	-
DE-00635-00-16-101	PIPING PLAN AT EL.-0000 TO +3500	02
DRAWING NO.	DRAWING TITLE	REV.
REFERENCE DOCUMENTS/DRAWINGS		
DRG. CATEGORY: (USE TICK MARK)	MRPL REVIEW CODE:	VPTL NO.:
SCH. DATE OF SUBMISSION	DOCUMENT STATUS	
STATEMENT OF SUB: <input type="checkbox"/> 1st <input type="checkbox"/> 2nd <input type="checkbox"/> 3rd	<input type="checkbox"/> 1 REVIEWED, NO COMMENTS <input type="checkbox"/> 2 REVIEWED AS COMMENTED, BUT REVISED DRAWING REQUIRED <input type="checkbox"/> 3 NOT MEETING SPECIFICATION, RESUBMIT <input type="checkbox"/> 1 RETAINED FOR INFORMATION/RECORDS	
<input type="checkbox"/> FINAL FOR CODE-1 <input type="checkbox"/> AS BUILT <input type="checkbox"/> INFORMATION <input type="checkbox"/> APPROVAL <input type="checkbox"/> ENQUIRY <input type="checkbox"/> ORDER <input type="checkbox"/> CONSTRUCTION <input checked="" type="checkbox"/> REVIEW	SIGN: _____ DATE: _____	
REV. NO.	REVISIONS	DATE DRN CHK APP APP
0	ISSUED FOR REVIEW	15/07/16 RJM SM HDP DBR
OWNER		
MANGALORE REFINERY & PETROCHEMICALS LTD.		
CAPACITY ENHANCEMENT/REVAMP OF NHT-2/ PLATFORMER-2/CCR-2/ PSA-2/RSU UNITS		
EPCM CONSULTANT: L&T - CHYODA LIMITED		
DATE: 15/07/2016	SCALE: 1:100	TITLE: EQUIPMENT LAYOUT CCR REGENERATION AND REACTOR SECTION
DEPT: PP	DRG. NO.: MCCR-PP-L4L-004	SH. 1 OF 12
DRN BY: RJM	CHK BY: SM	REV. NO. 0
APP BY: HDP	CAD	FILE: MCCR-PP-L4L-004_01.dwg

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MANGALORE REFINERY AND PETROCHEMICALS LIMITED

**Kuthethoor P.O., Via Katipalla,
MANGALURU- 575 030,
KARNATAKA, INDIA**

**Tender Document No.:
MCCR-OC-ZH-B1-004**

TENDER DOCUMENT

FOR

**3D LASER SCANNING AND MAPPING WORKS FOR
CAPACITY ENHANCEMENT / REVAMP OF NHT-
2/PLATFORMER-2/CCR-2/PSA-2/ RSU AT MRPL'S
MANGALORE (KARNATAKA) REFINERY**

(Volume - III)

PRICED PART

Prepared and Issued
For and on behalf of MRPL
By

L&T-CHIYODA LIMITED,
N. H. No.8. Vadodara, Gujarat

Volume-III :PRICED PART

3D Laser Scanning & Providing fully-intelligent 3D model data

SR. NO.	ITEM DISCRIPTION	UNIT	UNIT RATE	TOTAL AMOUNT
1	3D laser scan activity, stitching of 3D laser scans and consolidating the complete scanned area as per scope defined in Annexure-II of SCC	1 Lot	_____	_____
2	Conversion of raw 3D laser scan data to the 3D Model data format pluggable enough to be used as per the scope defined in Annexure-II of SCC	1 Lot	_____	_____
TOTAL BASE PRICE (A) <i>Refer Note-1</i>				
ADD SERVICE TAX, SWACHH BHARAT CESS, KRISHI KALYAN CESS(B),				
GRAND TOTAL (C = A + B)				

Note :

- 1) Techno- Commercially accepted bids will be evaluated on overall L1 basis i.e. Lowest Landed Cost to OWNER
- 2) The quoted rates shall be inclusive of all applicable taxes and duties but excluding service tax, Swachh Bharat Cess & Krishi Kalyan Cess which shall be payable extra.

Signature of Bidder
with Seal and Date