(VOLUME –I OF III)

GENERAL & SOR

TENDER NO. - PC00037-PVPM-601

TENDER DOCUMENT

FOR

LAYING OF 8"X7.2 KM U/G PIGGABLE LPG PIPELINE FROM ONGC TO BPCL LPG BOTTLING PLANT AT URAN, MUMBAI

PROJECT

8"X7.2 KM LPG PIPELINE PROJECT ONGC- BPCL URAN, BPCL MUMBAI

OWNER

BHARAT PETROLEUM CORPORATION LIMITED, URAN, MUMBAI

PMC

PROJECTS & DEVELOPMENT INDIA LIMITED, VADODARA
PROJECT NAME: 8” X 7.2 KM LPG PIPELINE PROJECT ONGC-BPCL URAN, BPCL MUMBAI

NAME OF WORK: LAYING OF 8” X 7.2 KM U/G PIGGABLE LPG PIPELINE FROM ONGC TO BPCL LPG BOTTLING PLANT AT URAN

TENDER NO.: PC00037-PVPM-601

1. This Tender covers the scope and responsibility of the Bidders for LAYING OF 8” U/G PIGGABLE LPG PIPELINE FROM ONGC TO BPCL LPG BOTTLING PLANT AT URAN on Item rate basis. The Commercial / Techno-commercial & the technical specification, relevant codes and standards, requirements and the specific details of all the above are covered separately as per the following index / details:

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TENDER NO.: PC-0037-PVPM-601

PRE QUALIFICATION CRITERIA

FOR

LAYING OF 8Xx 7.2 KM U/G 8’ LPG PIPELINE
FROM ONGC TERMINAL TO LPG PLANT
URAN, BPCL MUMBAI (ITEM RATE CONTRACT)

PROJECT

LPG PIPELINE PROJECT, BPCL, URAN MUMBAI

OWNER

BHARAT PETROLEUM CORPORATION LIMITED,
MUMBAI

PMC

PROJECTS & DEVELOPMENT INDIA LIMITED, VADODARA
1.0 PRE QUALIFICATION CRITERIA:

Bidders bidding for this tender enquiry shall meet the following Pre-Qualification (PQ) criteria to qualify for opening techno-commercial bids;

**Technical criteria**

a) The established bidder shall have the experience of executing similar jobs i.e. laying of U/G petroleum Product Pipeline (Pipeline of at least 6” to 12” in size and 5 to 10 KM in length) in India or abroad in the last Seven (07) years reckoned from date of this notice.

b) The bidders should have experience of having successfully completed similar works during last Seven (07) years ending last day of month previous to the one in which applications are invited should be either of the following:-

- Three similar completed works costing not less than Rs. 2.5 Crore

  Or

- Two similar completed works costing not less than Rs 3.15 Crore

  Or

- One similar completed work costing not less than Rs 5.05 Crore

Bidder shall submit the following documents in support of full filling the above pre-qualification:-

- PO copy for the similar works done in the past indicating value of work.
- Completion Certificate indicating P.O No & date from User.

**Financial criteria**

a) The bidder should submit audited report copy of the Balance sheet / Profit loss a/c for the last 3 financial years.

b) The bidders should have positive net worth as per the latest audited financial statement. However bidders having negative net worth will also be considered, provided all their annual reports for last three financial years indicate profit after tax

c) The Annual Turn Over (ATO) of the bidders during any of the preceding three financial years should be at least Rs 6.3 Crore.

d) Bidder should have latest and valid PF, Sales Tax Registration Number and Service Tax Registration Number.

e) The bidder shall have PAN & TIN Registration Number for WCT in Maharashtra.

**NOTE**: All the above mentioned documents should be duly notarized.
General:

Besides above mentioned pre-qualification criteria, the following general conditions will also form a part of pre-qualification:

a. The contractors who are already enlisted with BPCL should also apply fresh.

b. BPCL reserves the right to accept / reject any or all pre-qualification documents at their sole discretion without assigning any reason whatsoever.

c. BPCL, at its discretion reserves the right to verify information submitted and inspect the facilities at party’s work to confirm their capabilities.

d. The bidder would be pre-qualified based on data and documents provided by him and also based on information available with BPCL with regard to the bidder’s credentials.

e. BPCL reserves the right to change the quantity (increase or decrease) to be tendered before opening the price bid.

f. BPCL decision on any matter regarding short listing of bidders shall be final and any applicant shall not enter into any correspondence with BPCL unless asked for.

f. The bidder should not be on the Holiday list of BPCL.

2.0 EVALUATION METHODOLOGY

a. The generic information required by the bidders for quoting the said pre-qualification and Techno-commercial bid would be provided on Govt. of India web site http://procure.gov.in, BPCL web site www.bharatpetroleum.in and PDIL web site www.pdilin.com in a downloadable form.

b. A Pre-Bid meeting before Pre Qualification (techno-commercial) bid due date shall be held with bidders.

c. The Pre-Qualification bids will be evaluated as per the specified PQ Criteria. The Bids for vendors qualifying the PQ Criteria shall be considered for further Techno-Commercial Evaluation.
TENDER NO. - PC-37-PVPM-601

NOTICE INVITING TENDER

FOR

LAYING OF 8”X7.2 KM U/G PIGGABLE LPG PIPELINE FROM ONGC TO BPCL LPG BOTTLING PLANT AT URAN, MUMBAI

PROJECT

8”X7.2 KM LPG PIPELINE PROJECT ONGC- BPCL URAN, BPCL MUMBAI

OWNER

BHARAT PETROLEUM CORPORATION LIMITED,
URAN, MUMBAI

PMC

PROJECT & DEVELOPMENT INDIA LIMITED,
VADODARA
1.0 BPCL is having an LPG Bottling plant at Uran, Navi Mumbai. BPCL uplifts 100% of LPG produced at ONGC Terminal at Uran. This LPG is being transferred through 8” underground pipeline (Length – approx.7200 M). The existing pipeline was designed for about 30 years of life span and the same pipelines was laid in the year 1989. BPCL evacuates about 40000 MT of LPG on monthly basis. In case of any eventuality with existing pipeline, ONGC terminal need to be shut down since LPG production at ONGC is on continuous basis. The existing pipeline is protected with CP System which is monitored & maintain by BPCL on regular basis.

Keeping in view the critical and importance of existing pipelines, BPCL proposed to lay another 8” underground LPG pipeline in same ROU from ONGC Terminal to BPCL LPG Bottling plant at Uran.

2.0 The project envisages PMC services for laying 7.2 KM 8” LPG pipeline along with existing pipeline from ONGC terminal, crossing part of Uran Town & CIDCO area till BPCL LPG Bottling Plant and inside BPCL Terminal.

3.0 The design capacity of this pipeline will be approximately 4.8 MMTPA. The pipeline will be a piggable pipeline. Existing pumping facility of ONGC will be used. Scope of this project will include new pig launching facility at ONGC terminal. Pig receiving facility at BPCL Terminal and laying the pipeline between ONGC & BPCL as stated above.

PDIL shall invite sealed bids for complete the Piggable Pipeline & Civil work on Item Rate basis under single stage three bid system Part-I: EMD & PQC, Part-II: Techno-commercial part and Part-III: Price part from eligible bidders with sound technical and financial capabilities.

4.0 EARNEST MONEY DEPOSIT (EMD) / BID SECURITY:

For Indian Bidder INR 1, 00, 000/- (Indian Rupees One Lakh only)

Bids must be accompanied with Earnest Money Deposit. Bids not accompanied with requisite Earnest Money deposit shall be considered as non-responsive and such Bids shall be rejected. EMD shall be paid in favour of BPCL, payable at BPCL Mumbai in the form of crossed demand draft / non-revocable Bank Guarantee on non-judicial stamp paper of value not less than Rs.100 and in the prescribed proforma, from any Indian Nationalized Bank (other than Cooperative Bank). Bid not accompanied by EMD as stated above will be rejected and such bidders will not be allowed to attend the bid opening. However, Indian Central Public Sector Enterprises are exempted from furnishing EMD subject to submission of declaration to that effect.
5.0 **TIME FOR COMPLETION:** 5 Months from the date of Issue of LOI including commissioning and stabilization. Completion period includes mobilization period & rainy seasons.

6.0 **EVALUATION OF QUOTATION**

The following conditions shall be considered in the evaluation of quotations:-

- a) Rate quoted.
- b) Experience for having executed laying of UG/AG Piggable Pipeline work as per PQC criteria.
- c) Acceptance to terms of enquiry documents.
- d) Availability & deployment of suitable resources in sufficient number.

OWNER/CONSULTANT reserves the right to review and verify all statements and to inspect tenderer's facilities for the purpose of allowing the tendered to establish, to OWNER/CONSULTANT’S satisfaction, his capability to perform the work.

7.0 **PROCEDURE FOR SUBMISSION OF TENDERS**

The following procedure shall be adopted for submission of tender by the tenderers. The sealed envelopes shall be submitted as follows:-

**Envelope – I** Shall contain [Two+ One (If applicable)] sealed envelope superscribed as follows:-

- Envelope-IA – Part-I, Earnest Money Deposit (EMD)
  - Tender No PC00037-PVPM-601
  - Title- Laying of 8”X7.2 Km U/G Piggable LPG Pipeline From ONGC Terminal to BPCL LPG Bottling Plant at Uran, Navi Mumbai, Dist Raigad.
  - Due Date-

- Envelope-IB- Part-I, Pre qualification Criteria (PQC)
  - Tender No PC00037-PVPM-601
  - Title- Laying of 8”X7.2 Km U/G Piggable LPG Pipeline From ONGC Terminal to BPCL LPG Bottling Plant at Uran, Navi Mumbai, Dist Raigad.
  - Due Date-

**Envelope – II**

- Part-II, Technical & Unpriced Commercial Bid
  - Tender No PC00037-PVPM-601
  - Title- Laying of 8”X7.2 Km U/G Piggable LPG Pipeline From ONGC Terminal to BPCL LPG Plant at Uran, Navi Mumbai, Dist Raigad.
  - Due Date-
Envelope – III
Part-III, Price Bid
Tender No PC00037-PVPM-601
Title—Laying of 8”X7.2 Km U/G Piggable LPG Pipeline From ONGC Terminal To BPCL LPG Bottling Plant at Uran, Navi Mumbai, Dist Raigad.
Due Date—
Tenderer should sign and stamp one set of complete tender documents and submit the same in Envelope - II.

ENVELOPE NO. II

To be super scribed "TECHNICAL AND UNPRICED COMMERCIAL BID" and to contain the following:-

i) One set of “ORIGINAL TENDER DOCUMENT” including Drawings duly signed and stamped;

ii) Proposal forms (Form A-O) duly filled, signed and stamped.

Documents at Sl. No. (ii) shall be in six sets (i.e. one original + 5 copies).

Total Unpriced Commercial Bid as detailed in Clause 3.4.2 of Instructions to Bidders in addition to the clauses indicated below :-

a) Terms of payment
b) Confirmations that firm prices have been quoted.
c) Confirmation that validity of bid is for 180 days from bid closure date.
d) Solvency Certificate
e) Integrity pact agreement.

Envelope No. III

To be superscribed "PRICED BID" and to contain schedule of Rates with quoted rates and amounts duly filled in, signed and stamped. (As per SOR only attached with the tender)

Envelope No.IA containing EMD will be opened first and the tender shall be considered further only if the EMD is submitted and found acceptable.

Bid Qualification part shall be opened in the presence of representatives of Bidders on the scheduled date and time as specified.

Envelope No.II PART-II i.e. Un-Priced Techno-Commercial part of only qualified bidders, meeting the bid qualifying criteria shall be opened for further evaluation. However, qualified bidders will be called for Pre-bid meeting before opening of Un-Priced Techno-Commercial bids. Bidders selected for Pre-bid meeting and opening of their technical bids shall be
informed about the date of Pre-bid meeting and technical bid opening for deputing their authorised representative to attend the opening. After the study of tender of qualified tenderers, discussions will be carried out, if required, with respective tenderers for clarifications of the conditions put forth by the tenderer. The tenderer shall send their authorized representative to participate in discussions who should be able to take immediate decisions on all matters pertaining to this tender.

After pre-qualification and techno-commercial acceptance of the bid, Envelope III containing price Part of only such bidder(s) whose bid is pre-qualified and found technically acceptable shall be opened, at a date and time which shall be notified to such bidder(s).

The PRICE BID should be submitted in separate envelope super scribed as “PRICE BID” consisting of only the Schedule of quantity duly filled, seal and signed by the Contractor, without any terms & conditions.

EMD, PQC, Techno-commercial bid and Price bid together should be posted in separate sealed envelope and sent to BPCL Sewree office before the closing date.

8.0 **SALIENT FEATURES OF THE BIDDING DOCUMENT ARE AS FOLLOWS:**

a) Tender Document No. : - PC00037-PVPM-601
c) Last Date and time of submission of Bids: 11.10.2012 (15:00 Hrs , IST)
d) Opening of Part-I: EMD & PQC: 11.10.2012 (15 :30 Hrs IST) 
e) Techno commercial part of Tender: On the date & time to be intimated later. 
    (In presence of authorized representatives of attending Bidders)
f) Opening of Part-III, Price part: On the date & time to be intimated later. 

The detailed NIT & Tender Documents can be downloaded from BPCL/ CPP Portal or PDIL website: http://bharatpetroleum.in/tender/tender.asp., http://eprocure.gov.in or "www.pdilin.com."

We request you to carefully go through all tender documents before submitting your offer in three parts i.e. EMD & PQC , Technical Bid and Price Bid. Any clarification regarding the work can be had from our PDIL, Vadodara Office on any working day during normal working hours (Monday to Friday—9.30AM to 6.00 PM & (I and III) Saturday 9.30 Am to 6.00 PM).Contact person any query are as under :-

Mr P. Vishwakarma, Project Coordinator-
(Phone no- 0265-2388418, Ext -118),
Email ID:- pvishwakarma@wro.pdilin.com
Sealed bids will be received at the following address:

“TENDER NOT TO BE OPENED BEFORE DUE DATE AND TIME”

TENDER NO: PC00037-PVPM-601
DUE DATE
TIME

To,

DGM (ENGG.) - WEST
BHARAT PETROLEUM CORPORATION LTD.
‘A’ INSTALLATION, SEWREE FORT ROAD,
SEWREE (EAST), MUMBAI -400 015

Tender Document is non-transferable.

Bids not received by the due date and time shall be rejected and representative of such bidders shall not be allowed to attend the bid opening.

Central Government Public Sector Undertaking/ Enterprises shall be extended purchase preference as per Government of India guidelines in force from time to time.

Fax/ e-mail bids shall not be accepted. Consortium/Joint bids shall not be accepted.

BPCL/PDIL reserves the right to accept or reject the lowest or any or all the offers without assigning any reason thereof, whatsoever.
TENDER NO.: PC00037-PVPM-601

GENERAL SCOPE OF WORK

TENDER DOCUMENT

FOR

LAYING OF 8"X7.2 KM U/G PIGGABLE LPG PIPELINE FROM ONGC TO BPCL LPG BOTTLING PLANT AT URAN, MUMBAI

PROJECT

8"X7.2 KM LPG PIPELINE PROJECT ONGC- BPCL URAN, BPCL MUMBAI

OWNER

BHARAT PETROLEUM CORPORATION LIMITED, URAN, MUMBAI

PMC

PROJECT & DEVELOPMENT INDIA LIMITED, VADODARA
1.0 The project envisages PMC services for laying 7.2 KM 8” LPG pipeline along with existing pipeline from ONGC terminal, crossing part of Uran Town & CIDCO area till BPCL LPG Bottling Plant and inside BPCL Terminal.

BPCL, have now desired to complete the laying UG/AG pipeline from ONGC Terminal to BPCL Terminal, Uran Mumbai.

2.0 GENERAL SCOPE OF WORK INCLUDING SUPPLIES FOR THE BIDDER:

Scope of work shall include, but not be limited to, the following:-

I. Pre Engineering Survey / Route Survey.

II. Residual Engineering pertaining to site related works

III. Preparation of construction drawing/ document after carrying out route survey and procedure.

IV. All major imported materials /items, if any, will be inspected and certified by TPI to be appointed and paid by Contractor whereas domestic material/items shall be inspected by PDIL at no cost to Contractor.

V. Procurement of all items as indicated in SOR ( 3 LPE coated Line Pipe & bare pipe for fabrication of bends as free issue materials.

VI. PMI (Positive material identification) of the pipeline.

VII. Temporary Cathodic protection

VIII. Fabrication, Construction, installation, testing etc. of

IX. Trial Run, Pre-commissioning and commissioning.

X. Coordinate with statutory authorities.

XI. Progress Reporting.

XII. Expediting, Suppliers and Vendors.

XIII. Supply of all Test report.

XIV. Management of HS

Main Pipeline (ONGC terminal -BPCL LPG Plant)
Pipeline Size & Material- 200 mm (8 “) & API 5L Gr X52 (SMLS)
Pipeline length -7.2 KM Feeder Line

Major Crossing :
- River Crossing : NIL
- Nallah crossing : 03
- Major Road Crossing : 02
- Minor Road Crossing : 05

3.0 Procurement of Pipes of small sizes, piping elements, construction of foundation, necessary civil works, Cutting, Dismantling of RCC Pavements & making good the same, coating at joints, painting, cathodic protection as per specifications, all piping work as defined in Piping Layout Drawing, Procurement & Laying of OFC conduits laying of Cables, layout and specifications, piping etc. as defined in respective enclosures.
4.0 The total single point responsibility of satisfactory execution of entire work shall rest with the selected bidder. The detailed scope of work is given in the tender document enclosed elsewhere.

UG Piggable Pipeline laying (Line pipe as free-issue materials), related LR bends, laying of conduits for OFC cables & OFC Cables along the route, Procurement & installation of Pig launcher & pig receiving system, hydro testing, flushing, cleaning and integration of pipeline with the job already executed, commissioning of total pipeline System & handing over.

5.0 The work to be performed under the Scope of Work consists of providing all labor, materials except if indicated in Schedule of Rates, supervision, construction equipment, tools, tackles and plants, supplies, transportation, all incidental items though not indicated or specified, but reasonably implied or necessary for successful completion of the work including Contractor’s supervision strictly in accordance with the “Good for Construction” Drawings & Piping layout drawing to be supplied progressively by the Owner / Consultant. “Technical Specifications” and “Schedule of Rates” of this Tender including sampling and testing on item rate basis.

The enclosed drawings are preliminary drawings, which are for bidding purposes only and are by no means the final drawings or show the full range of the work under the scope.

The scope of work under this includes construction / execution, providing necessary engineering supervision through qualified and technical personnel, skilled and unskilled labor, etc. and mobilization of all relevant and adequate plants, tools and tackles, equipment, machinery’s, etc. to carry out all civil, mechanical piping, etc. related job for successful completion of the proposed pipeline from ONGC to BPCL LPG bottling plant work including Contractor’s supervision strictly in accordance with the Drawings, “Technical Specifications” and “Schedule of Rates” of this Tender including sampling and testing on item rate basis.

6.0 REMARKS / GUIDELINES TO VENDORS

The number of sets of Documents included in Vendors scope of supply are as given below.

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Description</th>
<th>To PDIL</th>
<th>To Client</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Vendors Docs. / Drgs. For approval</td>
<td>4 Copies</td>
<td>2 Copies</td>
</tr>
</tbody>
</table>
7.0 **RIGHT OF WAY (ROW)**

The company will acquire ROW from the concerned authorities for laying of pipeline from ONGC to BPCL LPG Bottling Plant and handover it to contractor for the execution of work. However, day to day co-ordination shall be done by Contractor at their cost.

The Contractor shall, before starting any clearing operations, familiarize himself with all the requirements of the Authorities having jurisdiction over the ROW for work along the pipeline route or in connection with the use of other lands or roads for construction purposes. Any damage or encroachment to adjacent land shall be at his own risk and cost. Approach road to the ROW shall be at contractor’s cost.

The Contractor shall restore ROW and all sites used for the construction of pipelines, crossings, and other structures to original condition and deliver them to the satisfaction of the owner. A certificate of satisfactory clean up and satisfactory crossing executed, in case of crossing of any pipe line, road, nallah, river, HT line, etc, to be obtained from the owners of these assets, land owners and furnished to Company.

8.0 It is the responsibility of the successful bidder directly to address and resolves all local issues related to contract Management, where local villagers/Statutory authorities are involved. All issues related to managing the external environment, Labour Relationship, Labour Laws/factory acts including maintaining the proper records/Display of labour rates and dispersal of labour dues should be the responsibility of the successful bidder.

9.0 8” Pipes PE coated pipes, 8” Bare Pipe Seamless, Casing Pipe 12”, HDPE Conduit, Ball Valves, Globe Valves, shall be supplied as free issue by M/s. BPCL at their yard. Loading at BPCL’s Uran yard shall be done by Contractor at their cost. Unloading & storage of above items to the site shall be under contractor scope & cost.

10.0 Route survey of the complete pipeline shall be in contractor scope. All required tools & tackles & pipe line locators shall be arranged by the bidders for carrying out route survey.

After carrying out the route survey, bidders have to prepare & submit the all drawings/Doc including isometrics to PDIL/BPCL for approval. No separate payment will be applicable.
To,

Project Manager
Projects & development India Ltd
PDIL Bhavan, Samta, Subhanpura
Vadodara - 390 023
(Gujarat – India)
E Mail ID-mksinha@wro.pdilin.com
Direct line-(0265) 2388404,
TEL NO. EPBX – (0265) 2388418, 419, 420, 421
FAX NO. – (0265) 2388398, 399

Subject: LAYING OF 8"x7.2 km U/G PIGGABLE LPG PIPELINE FROM ONGC TO BPCL LPG BOTTLING PLANT AT URAN, BPCL MUMBAI on SOR basis. (Tender Document No. PC-37-PVPM-601)

We hereby acknowledge receipt of a complete set of subject Bidding Document along with all enclosures as per Table of Contents for preparation and submission of our Bid. We undertake that the contents of the above documents, witness of Technical & Price Bid opening shall be kept confidential. We also acknowledge to attend opening of Technical & Price Bid as per Tender conditions. We further confirm that the documents shall not be transferred and shall be used for the purpose for which they are intended.

A. We intend to bid as requested and furnish following details with respect to our quoting office:
   i] Postal Address: ___________________________________________
   ii] Telephone: ___________________ Fax : ____________________
   iii] Email Address: ________________________________________
   iv] Contact Person: ________________________________

B. Contact Person
   i] At Baroda, if any Name : _______________
      Address: ___________________________________________
      Telephone: ___________________ Fax : ____________________

C. We are unable to bid for the reasons given below and are returning the complete set of Bidding Document.
   Reasons for non-submission of Bid: ________________________________
      Company Name:______________________________
      Signature : ________________________________
      Name : ________________________________
      Designation: ______________________________

Notes: Bidder is requested to furnish the details mentioned at (A) & (B) or (C) immediately upon receipt of the Bidding Document.
INSTRUCTIONS TO BIDDERS

TENDER DOCUMENT

FOR

LAYING OF 8”X7.2 KM U/G PIGGABLE LPG PIPELINE FROM ONGC TO BPCL LPG BOTTLING PLANT AT URAN, MUMBAI

PROJECT

8”X7.2 KM LPG PIPELINE PROJECT ONGC- BPCL URAN, BPCL MUMBAI

OWNER

BHARAT PETROLEUM CORPORATION LIMITED, URAN, MUMBAI

PMC

PROJECT & DEVELOPMENT INDIA LIMITED, VADODARA
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6.1 AWARD OF WORK
6.2 CONTRACT DOCUMENT
1.0 GENERAL

1.1 Introduction

1.1.1 M/s Bharat Petroleum Corporation Ltd. (BPCL) hereinafter referred to as “Owner” has appointed M/s Projects & Development India Ltd.(PDIL) as Project Management Consultant who is inviting sealed Bids, under single stage two-bid system, to contract the work for execution of LAYING PIPELINE FROM ONGC TO BPCL LPG BOTTLING PLANT, on SOR basis at Mumbai.

1.1.2 It shall be bidder’s responsibility to have thorough understanding of the reference documents, site conditions and specifications included in the Tender Document.

1.2 Definitions

With respect to this document, the following definitions shall apply:

[i] “Instructions to Bidders” shall mean the documents describing in which manner Bidder shall prepare and submit his bid.

[ii] “Notice Inviting Bid” (NIB) / “Notice Inviting Tender” (NIT) shall mean PDIL’s request to Bidder for a Bid / Tender together with the Tender Document.

[iii] “Tender” or “Bid” shall mean Bidder’s offer to perform the work in accordance with Tender Document.

[iv] “Tender Document” or “Bidding Document” shall mean the documents listed herein and any subsequent addenda.

[v] “Bidder” or “Tenderer” shall mean the person or company who receives the Tender Document or Bidding Document and submits Tender or Bid to BPCL/PDIL.

1.3 Acknowledgement & Confirmation to Bid

1.3.1 Immediately on receipt of Tender Document, Bidder shall acknowledge receipt and confirm his intention to bid for the subject work as per Acknowledgement-cum-Consent Letter proforma enclosed in Tender Document.

1.4 Confidentiality of Document

1.4.1 Bidder shall treat the Tender Document and contents thereof as confidential. If at any time, during the bid preparation stage, bidders decide to decline to bid, all documents must be immediately returned to PDIL.

1.5 Cost of Tender Preparation and Submission

1.5.1 All direct and indirect costs associated with the preparation and submission of bid (including clarification meetings and site visit, if any), shall be to Bidder’s account and BPCL / PDIL will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the Tender process.

1.6 Site Visit
1.6.1 Bidder is advised to visit and examine the site, its surroundings and familiarise himself with the existing facilities and environment, and collect all other information which he may require for preparing and submitting the bid and entering into the Contract. Claims and objections due to ignorance of existing conditions or inadequacy of information will not be considered after submission of the bid and during implementation.

1.6.2 The site of work is located within the premises of the existing BPCL bottling plant, existing ONGC plant at URAN NAVI Mumbai (Maharashtra). Any loss to the property / life of the visitor due to visitor’s negligence shall be the visitor’s responsibility. Visitor shall keep BPCL indemnified from any legal consequences arising there from.

2.0 TENDER DOCUMENT, CLARIFICATION AND AMENDMENT

2.1 Tender Document
2.1.1 Each copy of Tender Document shall consist of the following and should be read in conjunction with any amendment issued subsequently.

<table>
<thead>
<tr>
<th>SL.NO.</th>
<th>VOLUME NO.</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I of II</td>
<td>GENERAL &amp; SOR</td>
</tr>
<tr>
<td>2</td>
<td>II of II</td>
<td>MECHANICAL WORKS</td>
</tr>
<tr>
<td>3</td>
<td>III of III</td>
<td>CIVIL, TCP &amp; ELECTRICAL WORKS</td>
</tr>
</tbody>
</table>

2.1.2 The Bidder is expected to examine the Tender Document, including all instructions, terms, specifications and drawings in the Tender Document. Failure to furnish all information required as per the Tender Document or submission of a bid not substantially responsive to the Tender Document in every respect could result in rejection of the Bid.

2.1.3 Tender documents once issued are non-transferable in other name and shall at all times remain the exclusive property of BPCL / PDIL with a license to the Bidder to use the Tender Documents for the limited purpose of submitting the bid.

2.2 Clarification Requests by Bidder
2.2.1 The details presented in this Tender Document have been compiled with all reasonable care. However, it is the Bidder’s responsibility to ensure that the information provided is adequate, clearly understood and it includes all documents as per the Index.

2.2.2 Bidder shall examine the Tender Document thoroughly in all respects and if any conflict, discrepancy, error or omission is observed, Bidder may request clarification, if any, as per format enclosed (FORM-N) by the date as stated in NIT. Such clarification/ requests shall be directed to the address, from where the Tender Document is issued with a copy to BPCL, Mumbai.
2.2.3 Response to queries / clarifications raised will be sent as expeditiously as possible to whom Tender Documents are issued. The response shall not form part of Tender Document unless issued as an Amendment / Addendum.

2.2.4 Bidders are expected to resolve all their clarifications / queries to the Tender Document and are requested to submit their bid in total compliance to Tender Document without any deviation / stipulation / clarification.

2.2.5 Any failure by Bidder to comply with the aforesaid requirement shall not excuse the Bidder, after subsequent award of Contract, from performing the work in accordance with the Contract.

2.3 **Amendment of Tender Document**

2.3.1 BPCL / PDIL may for any reason whether at their own initiative or in response to the clarification requested by the prospective bidder(s), issue amendment in the form of Addendum during the Tender period or subsequent to receiving the bids. Any Addendum thus issued shall become part of Tender Document and Bidder shall submit a copy of the Addendum duly signed and stamped in token of his acceptance. Addendum shall be issued to only those bidders, who have purchased the Tender Document or submitted acknowledgement cum consent letter as per the Performa enclosed in the Tender Document.

2.3.2 In case Addendum is issued during the Tender period, Bidder shall consider its impact in his bid. In case Addendum is issued subsequent to receipt of bids, Bidder shall follow the instructions issued along with Addendum with regard to submission of impact on quoted price / revised price, if any.

3.0 **PREPARATION OF BIDS**

3.1 **Language of Bid**

3.1.1 The Bid, all correspondence and documents relating to the bid, between Bidder and PDIL, shall be written in English language only. Any printed literature furnished by Bidder may be written in other language provided that this literature is accompanied by an authenticated English translation in which case, for purpose of interpretation of the Bid, the English translation shall govern.

3.2 **Compliance to Tender Document Requirement**

3.2.1 BPCL / PDIL expect Bidder’s compliance to the requirements of Tender Document without any deviation. Any Bid containing exceptions / deviations to the following stipulations / conditions shall be liable for rejection:

- [a] Time Schedule
- [b] Schedule of Rates / Schedule of Prices
- [c] Defect Liability Period
- [d] Arbitration
- [e] Scope of Work and Scope of Supply
- [f] Security Deposit
- [g] Suspension & Termination
- [h] Force Majeure
3.2.2 Deviation on other conditions, if unavoidable, should be furnished as per Format for Exceptions / Deviations included in the Section titled Proposal Forms in the Tender Document. BPCL / PDIL shall not take cognisance of any deviation stipulated elsewhere in the bid. If no deviations are stipulated, then the same shall be confirmed as per Bid Compliance Statement included in the Section titled Proposal Forms in the Tender Document.

3.3 Unsolicited Post Tender Modifications
3.3.1 Bidders are advised to quote as per terms and conditions of the Tender Document and not to stipulate deviations / exceptions. Once quoted, the bidder shall not make any subsequent price changes, whether resulting or arising out of any technical / commercial clarifications and details sought on any deviations, exceptions or stipulations mentioned in the bid unless any amendment to Tender Document is issued by BPCL / PDIL. Similarly no revision in quoted price shall be allowed should the deviations stipulated by him are not accepted by BPCL and are required to be withdrawn by him in favour of stipulation of the Tender Document. Any unsolicited proposed price change is likely to render the bid liable to rejection.

3.4 Documents Comprising the Bid
3.4.1 Bidder is required to make a Bid / proposal in a format as outlined below in order to achieve the objective of maintaining uniform proposal structure from all the Bidders:

[A] The bid should be prepared by the Bidder and shall be submitted in three parts viz PART-I to PART-III in separate envelopes:

[i] PART-I of the bid shall contain the following:
   a. Earnest Money Deposit as specified in Instructions to Bidders.
   b. Pre Qualification criteria as specified in the tender

3.4.2 Techno-commercial / Un-priced Bid (PART-II) will contain the following documents (Each copy properly filled in separately file cover / bound volume):

[i] Covering letter and Index of Bid


[iv] Copies of document defining constitution or legal status, place of registration and principal place of business of the company.

[v] Declaration by Bidder that they have not been banned or delisted by any Indian Government or quasi – Indian Government agency or Indian PSU. Bidder may note that if this declaration is not given the bid will be considered as non-responsive

[vi] Declaration by Bidder that they have not been under liquidation, court receivership or similar proceedings.

[vii] Details of concurrent commitments of Bidder as per Format enclosed (Form-D).
[viii] Details of equipment, tools & tackles proposed to be deployed on the work site in case of award of work as per Format enclosed including deployment schedule (Form-E).

[ix] Details of Site Organization proposed for the execution of this work along with the bio-data of key personnel including deployment schedule (Form-G).

[x] Compliance to Bid Requirement Statement or Statement of Exceptions / Deviations as per Format enclosed (Forms-M & I).

[xi] Income Tax PAN No., PF Registration No., Sales Tax Registration No. including copies of Registration Certificate applicable for Domestic Bidders (Form-F).

[xii] Latest Solvency Certificate issued by your Banker during last 12 months.

[xiii] Schedule for completion of major activities in the form of bar chart (Form-A).

[xiv] Validity of bid as per requirement.

[xv] Copy of the full Schedule of rate with the rate blanked out.

[xvi] Commercial Questionnaire duly filled in, as per Format enclosed (Form-K).

[xvii] Check List for submission of bid as per Format enclosed (Form-O).

[xviii] A set of complete Tender Document marked “Original” duly stamped and signed by bid signatory in token of acceptance of the same (only one copy).

[xix] Any other information / details required as per provisions of Tender Document or considered relevant by the bidder.

(XX) INTEGRITY PACT AGREEMENT

3.4.3 PART-III (Priced Bid) of the bid shall consist of following attached with the Tender Document, duly filled in stamped & signed. No. stipulation, deviation, terms & conditions, presumption, basis etc. shall be stipulated in Priced Bid. BPCL / PDIL shall not take cognisance of any such statement and may at their discretion reject such Priced Bid.

[i] Hard copy Schedule of Prices which shall only be considered for evaluation.

[ii] Rate & amount in the formats provided in Tender Document.

3.6 Bid Prices

3.6.1 Unless otherwise permitted in the Tender document, the bid shall be for the whole works. Bidder shall quote rate after careful analysis of cost involved for the performance of the work considering all parts of the Tender Document. In case any activity though specifically not covered in description of item under Schedule of Rate (SOR) / Schedule of Prices (SOP) but is required to complete the work as per scope of work, scope of supply, specifications, standards, drawings, General conditions of Contract, Special Conditions of Contract or any other part of Tender Document, the prices quoted shall be deemed to be inclusive of cost incurred for such activity.
3.6.2 The quoted Item rate shall be inclusive of all taxes and duties including custom duty at merit rate, works contract tax, service tax, VAT and other levies or any other cause payable by the contractor under this contract. However, Service Tax % shall be mentioned separately in Abstract of Prices.

3.6.3 The quoted rate shall remain firm and fixed until completion of all the works under this contract and will not be subject to variation on any account whatsoever.

3.6.4 Alternative bids shall not be considered.

3.7 Currencies of Bid & Payment

3.8.1 Currency of Bid

Indian Bidders shall quote the prices only in Indian Rupees.

3.8.2 Payment shall be made in the currency quoted by the bidder as per above para 3.8.1.

3.9 Arrangement of Bid

3.9.1 The bid shall be neatly arranged, and typewritten on white paper with consecutively numbered pages. It should not contain any terms and conditions, which are not applicable to the bid. All documents shall be properly indexed and flag marked for easy identification as per the requirements of the Tender document.

3.9.2 The bid and all details submitted by the Bidder subsequently shall be signed and stamped on each page by a person legally authorised to enter into agreement on behalf of the Bidder. Corrections / alteration, if any, shall also be signed by the same person. Bidder shall submit Power of Attorney in favour of the person who signs the bid and subsequent submission on behalf of the Bidder.

3.10 Bid Validity

3.10.1 Bid shall remain valid for acceptance for a period of Six Months (180 days) from the due date / extended bid due date of submission of the bid. The Bidder shall not be entitled during the said period to revoke or cancel his bid or to vary the bid except and to the extent required by BPCL / PDIL in writing.

3.10.2 BPCL / PDIL may request the bidder for extension of the period of validity of bid. Bidder may refuse the request of extension of bid validity without forfeiting his EMD / Bid Security. However, bidders agreeing to the request for extension of validity of bid shall not be permitted to modify the bid because of extension, unless specifically invited to do so.

3.11 Earnest Money Deposit

3.11.1 The bid must be accompanied by Earnest Money (Interest free) for the amount indicated in Notice Inviting Bid / Notice Inviting Tender in the form of Crossed Demand Draft/ non-revocable Bank Guarantee on non-judicial stamp paper of value not less than Rs.100 and in the prescribed proforma in favour of BPCL, Payable at BPCL Mumbai. from any Nationalized Bank (other than Cooperative Bank) Validity shall be kept upto Six Months from the date of opening of Part-I of Bids. Claim
INSTRUCTIONS TO BIDDERS

period shall be another two months from the date of expiry of the Bank Guarantee
EMD shall be submitted in a separate envelope marked EARNEST MONEY
DEPOSIT, with Part-I of the Bid. Any bid not accompanied by EMD as stated above
will be rejected and such bidders will not be allowed to attend the bid opening.
However, Indian Central Public Sector Enterprises are exempted from furnishing
EMD subject to submission of declaration to that effect.

3.11.2 If the Bidder, after submission, revokes his bid or modifies the terms and conditions
thereof during the validity of his bid except where BPCL / PDIL has given opportunity
to do so, the earnest money shall be liable to be forfeited. BPCL / PDIL may at any
time cancel or withdraw the Invitation to Bid without assigning any reason and in
such cases the earnest money submitted by Bidder will be returned to him.

3.11.3 The successful Bidder shall be required to submit Security Deposit / Initial Security
Deposit / Performance Bank Guarantee with BPCL in the manner and within the time
period indicated in General Conditions of Contract / Special Conditions of Contract.
Should the successful Bidder fail or refuse to sign the agreement or furnish the
Security deposit / Initial Security Deposit within the specified period, the earnest
money shall be forfeited without prejudice to his being liable to any further loss or
damage incurred in consequences by BPCL.

3.11.4 After acceptance of order by successful Bidder, BPCL / PDIL will return the Earnest
Money to all unsuccessful bidders. Earnest Money shall be returned to the
successful Bidder after he has furnished the Security Deposit / Initial Security
Deposit to BPCL.

4.0  DELETED

5.2  Clarification & Additional Information
5.2.1 During evaluation, BPCL / PDIL may request Bidder for any clarification on the bid,
additional or outstanding documents. Bidder shall submit all additional documents in
one original and 4 copies.

5.3  Techno-Commercial Discussions
5.3.1 Techno-Commercial discussion with Bidder shall be arranged, if needed. Bidder
shall depute his authorised representative(s) for attending the discussions. The
representative(s) attending the discussions shall produce authorisation from his
organisation to attend the discussions and sign the minutes of meeting (MOM) on
behalf of his organisation. The authorised representatives must be competent and
empowered to settle all technical and commercial issues.

5.4  Opening of Price Part of Bid
5.4.1 Priced bid of only those bidders, whose bids are considered techno-commericially
acceptable, shall be opened. Bidders selected for opening of their price bids shall be
informed about the date of price bid opening and deputing their authorised
representative to attend the opening. During price bid opening, only total quoted
prices and rebates, if any, shall be read out.
5.5. **Rebate**

If any unconditional rebate has been offered, the same shall be considered in arriving at the net quoted price. Such rebate shall be indicated in the space provided in the Summary of Prices. No cognisance shall be taken for any conditional rebate, for the purpose of evaluation of offer.

Any uncalled lump sum / percentage reduction by the Bidder after the due date shall not be considered for evaluation. However, such rebate shall be taken into account while recommending for award of work, if such reduction / rebate is from the recommended bidder.

5.6 **Evaluation of Priced Bid**

5.6.1 The bidder shall fill the Item rate both in figures as well as in words in the price schedule forming part of the Tender document. The tendered amount for the work shall be entered in the price schedule and duly signed by the bidder.

5.6.2 When there is a difference between the prices in figures and words, the amount, which corresponds to it in words, shall prevail.

5.6.3 Owner / PDIL shall allow purchase preference to Indian Central Government Public Sector undertaking / Enterprises as & if admissible under the existing/present policies of Government of India.

5.6.4 The Item rate quoted by the bidders who have retained deviations to the terms and conditions, if any, which are otherwise considered acceptable and can be quantified shall be loaded.

5.7 **Bid Evaluation Process to be confidential**

5.7.1 Information related to the examination, clarification, evaluation and comparison of bids and recommendations for award of contract shall not be disclosed to Bidder or other person not officially concerned with such process. Any effort by Bidder to influence BPCL’s / PDIL’s processing of Tender or award decisions may result in rejection of such Bidder’s bid.

5.8 **BPCL’s Right to accept or Reject a Bid**

5.8.1 BPCL reserves the right to accept any bid or reject and bid in whole or part, to annul the Tender process or to reject all bids with or without notice or reasons. Such decisions by BPCL shall bear no liability whatsoever consequent upon such decisions.

4.0 **NEGOTIATION AND AWARD OF WORK**

6.1 **Award of Work**

6.1.1 The Bidder, whose bid is accepted by BPCL, shall be issued Letter of Intent / Fax of Intent (LOI / FOI) prior to expiry of bid validity. Bidder shall confirm acceptance by returning a signed copy of the LOI / FOI.

6.1.2 BPCL / PDIL shall not be obliged to furnish any information / clarification / explanation to the unsuccessful bidders as regards non-acceptance of their bids.
Except for refund of EMD / Bid Security to unsuccessful bidders, BPCL / PDIL shall correspond only with the successful bidder(s).

6.2 Contract Document
6.2.1 The successful Bidder shall be required to execute a format Agreement as per the Form of Contract, with BPCL within 15 days from the date of issue of Letter of Acceptance. For execution of the Agreement, the successful bidder shall provide Stamp Paper of appropriate value. The cost of non-judicial stamp paper shall be borne by the Contractor.

6.2.2 The contract document shall consist of the following:

i] Agreement (Form of Contract) signed on non-judicial stamp paper by BPCL and Contractor.
ii] Letter of Intent / Fax of Intent
iii] Detailed Letter of Award / Acceptance along with enclosures.
iv] The Tender Document along with Tender drawings
v] Amendments to Tender Document, if any

6.2.3 The successful Bidder shall be required to submit security deposit as detailed in the GENERAL CONDITION OF TENDER (Clause no.17 d, page 10 A.)
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1.0 GENERAL:

1.1 Special Conditions of contract shall be read in conjunction with General Conditions of contract, technical specifications of work, drawings and any other document forming part of this contract wherever the context so requires.

1.2 Notwithstanding the subdivision of the documents into these separate sections and volumes every part of each shall be deemed to be supplementary to and complementary to 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 a different intention appears, provisions of the Special Conditions of Contract shall be deemed to override the provisions of the General Conditions of Contract only to the extent that such repugnancy or variance cannot be reconciled with the General Conditions of Contract and shall to the extent of such repugnancy or variation prevail; it being understood that the provisions of the General conditions of Contract shall otherwise prevail.

1.4 Wherever it is mentioned in the specifications that the contractor shall perform certain work and provide certain facilities, it is understood that the contractor shall do so at his own cost.

1.5 The material, design and workmanship shall satisfy the relevant Indian standards, the job specifications stipulate requirement in addition to those contained in the Standard codes and specifications, these additional requirements shall also be satisfied. In the absence of any Standard/specifications/code of practice for detailed specifications covering any part of the work covered in this tender, the instructions/directions of the Engineer-in-charge will be binding on the contractor.

2.0 SCOPE OF WORK/ SCOPE OF SUPPLY

2.0 General

2.0.1 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.

2.0.2 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 inside and outside the BPCL/ONGC plant premises.

2.0.3 Inside BPCL/ONGC, there may be restriction in working hours inside BPCL & ONGC plant area. Storage of material may or may not be allowed inside BPCL/ONGC. Contractors may have to bring the material/tools/equipments/tackles inside BPCL/ONGC as per their guidelines on day to day basis.

2.1 SCOPE OF WORK:

2.2.1 The scope of work of the CONTRACTOR shall be as per enclosed General Scope of Work, Technical specifications, Drawings, Schedule of Rates and terms and conditions of the bidding documents. The following related work, shall also be part of CONTRACTOR'S scope of work

2.2.2 Construction of CONTRACTOR site office, storage area and fabrication yard.
2.2.3 Maintaining and complying all applicable central, state, municipal and local laws & regulations, local labour law etc.

2.2.4 Co-ordinate, inspect and expedite the WORK of his sub-contractors' in order to secure completion of contracts in conformity with plans, specifications and approved schedule.

2.3 SCOPE OF SUPPLY
2.3.1 The scope of supply between owner and the contractor shall be as per enclosed Technical specifications, Drawings, Schedule of Rates and terms and conditions of the bidding documents.

3.0 RATES
3.0 The rates shall be deemed to allow for all minor extras and constructional details which are not specifically shown on drawings or given in the specifications but are essential in the opinion of the Owner/consultant to the execution of works to conform to good workmanship and sound engineering practice. The Owner/consultant reserves the right to make any minor changes during the execution without any extra payment.

3.1 The Owner/consultant decision to classify any item 'minor changes', 'minor extras' and 'constructional details' shall be final conclusive and binding on the contractor.

3.2 Rates quoted shall include for payment of royalties for obtaining morum, sand, aggregates, stones, etc.. Nothing extra shall be paid to the contractor on this account.

3.3 The rates quoted should be inclusive of all materiel, labour, water, electricity, power equipment tools/tackles, centering, shoring, lifts, leads, scaffolding, excise/customs/octroi duties, sales tax, works contract tax etc.. levied by state/central authorities. All materials are to be supplied by the tenderer unless otherwise stated, and all other miscellaneous expenditure for or incidental to in connection with the execution of the contract including all types of taxes, duties, royalty, octroi, Maharashtra Sales Tax on work contract, etc.. Payment of taxes, etc.. is the responsibility of the contractor and shall not be payable by OWNER/CONSULTANT. The tenderer must quote keeping in view the full requirements of the tender document. Except where it has been clearly stated that extra shall be paid, it is to be understood that nothing extra shall be paid even though it may not have been specifically pointed out that nothing extra shall be paid. Therefore, the rates to be quoted in the "Schedule of rate" by the tenderer are to be fully inclusive of the value of work described under several items including all costs and expenses which may be required in and for the construction of the work described, together with all taxes, general risks, liabilities and obligation (e.g. temporary buildings, fencing, watching, lighting, insurance the like) and the prices are also to be inclusive of all labour, materials, tools, plants, equipments, hoists, tackles, scaffoldings and the sundries, etc.. as may be necessary for full and entire completion of the work.

The rates quoted shall be valid for a period of six months. Once the quotation is accepted, the rates quoted shall be firm till the entire work is completed in all respects.

4.0 SPECIFICATIONS
4.0 If specification for an item of work is not covered by CPWD/BIS specifications or Technical Specifications, the same shall be decided by the Owner/consultant and shall be binding on the contractor.

4.1 The Owner/consultant shall have the power to cause the contractor to purchase and use such materials of particular make or from a particular source which may in his opinion be necessary for proper and reasonable compliance with the specifications and execution of work.
4.2  a) As required by the Owner/consultant, the contractor shall provide all facilities at site or at manufacture's works or in approved laboratory for testing of materials and / or workmanship. All the expenditure in respect of this shall be borne by the contractor unless specified otherwise in the contract. The contractor shall, when required to do so by the Owner/consultant, submit that the materials have been tested in accordance with requirements of the specifications.

b) Neither the omission by the Owner/consultant to test the materials nor the production of manufacturer(s) certificate, etc. as aforesaid shall affect the right of the Owner/consultant to reject, after delivery, the materials found not in accordance with the specifications.

5.0  GATE PASSES
For BPCL/ONGC PRIMISES

All tools and plant and materials shall be brought by the contractor to the works site through a covering note to be submitted in 3 copies. One copy of the covering note will be delivered to the security staff, one copy to the Owner/consultant, the third copy shall be retained by the contractor. The contractor shall follow all rules and regulations for entry/exit of their men and materials in/from project site as framed by Owner/consultant.

6.0  CONSTRUCTION SCHEDULE
If at any time, the Owner/consultant /Engineer-in-charge determines that the contractor has fallen behind the approved construction schedule, the Owner/consultant may, without any extra cost to Owner/consultant, require the contractor to take such steps as may be necessary to improve his progress, especially require him to employ overtime operations, increase the number of shifts, work on holidays and Sundays or increase the capacity of his construction plant and equipment and require him to submit evidence demonstrating the manner in which the contractor proposes to comply with the construction schedule. Failure of the contractor to comply with the above will be considered a failure to execute the work with due diligence.

7.0  CONTRACTOR TO BE LIABLE FOR ALL TAXES ETC.
The rates specified in the tender shall be inclusive of sales taxes or any other taxes, toll, customs duty of any kind, fees, octroi, royalty, etc., in respect of the contract and the rates shall be firm irrespective of any variation in the prevailing rates of taxes, duties, levies, octroi etc., and any fresh imposition of any of these by State/Central/Statutory bodies. The contractor shall indemnify Owner/consultant against levy of any taxes, etc., in regard to this contract and in the event of Owner/consultant being assessed for any of the said levy or taxes, Owner/consultant shall have the right to recover the total amount so assessed from the contractor's dues and the contractor shall also be responsible for all costs or expenses that may be incurred by Owner/Consultant in connection with any proceeding or litigation in respect of the same.

8.0  GUARANTEE FOR REGULAR ISSUE OF WORKING DRAWINGS
Approved working drawings marked "Good for execution/construction" shall be issued by Owner/consultant to the contractor progressively during the pendency of the contract. Sufficient quantum of workings drawings will be issued at the beginning to start with. Owner/consultant will try their best to issue the entire working drawings well in time but cannot give any guarantee to this effect. The contractor on this account shall not be entitled to put forth any claim whatsoever.
9.0 **COST OF TRANSPORT OF MATERIALS ISSUED BY OWNER**
Cost of transport, loading, unloading etc. from Owner's stores to work site etc., will be on contractor's account.

10.0 **ROLE OF OWNER/CONSULTANT**
10.0 The Owner/consultant shall have authority to stop the work, whenever such stoppage may become necessary to ensure the proper execution of the contract. He shall also have authority to inspect and reject all work and materials which do not conform to the specification, to direct the application of contractor's forces to any portion of the work, as in his judgment is required, and to order the said force increased or diminished and to decide questions which arise in the execution of the work.

10.1 The Owner/consultant reserves the right to suspend the work or part thereof at any time and no claim whatsoever on this account shall be entertained. In case of any clarification the contractor may appeal to the Owner/consultant whose decision shall be final and binding.

10.2 The above inspection shall, however, not relieve the contractor of his responsibilities in regard to defective materials or workmanship and the necessity for rectifying or replacing the same.

10.3 The judgment of Owner/consultant for determining the category of an item not mentioned in the schedule shall be final.

11.0 **SERVICE OF NOTICES OF CONTRACT**
The contractor shall furnish to the Owner/consultant the name, designation and address of his authorised Agent having power of attorney duly registered in a Court of Law and all complaints, notices, communications and references shall be deemed to have been duly given to the contractor if delivered to the contractor or his authorised agent or left at or posted to the address so given and shall be deemed to have been so given in case of posting on the day on which they would have reached such address in the ordinary course of post or on the day on which they were so delivered or left. In the case of contract by partners, any change in the constitution of the firm shall be forthwith noticed by the contractor to the Owner/consultant.

12.0 **CONTRACTOR'S GUARANTEE**
It shall always prevail upon all else that the contractor agrees to give the guarantee of his works in the following manner which shall remain valid till the validity of performance guarantee.

i) All materials incorporated in the work shall be new and both workmanship and materials shall be of good quality.

ii) Should, at a subsequent date, any inside honeycomb/ hollowness been detected within a concrete member, he shall investigate other nearby section for similar occurrence and shall rectify all these members by Pressure grouting at his own cost and as per direction of the Owner/consultant.

iii) Should any element of the structure been detected afterwards not exactly tallying with the working drawing, he shall redo the element at his own cost and as per instruction of the Owner/consultant / Engineer-in-charge.

iv) Should, at a subsequent date, any materials or fittings or workmanship on any element of the structure been detected as of substandard quality he shall either remove the same and shall redo at his own cost or shall accept an equitable deduction in the contract price had the Owner/consultant deemed it inexpedient to correct the work, all as per instruction of the Owner/consultant.
13.0 CONTRACTOR FULLY RESPONSIBLE FOR LAYOUT OF WORK
The contractor shall remain fully responsible to provide detailed layout of different structures according to the coordinates and reduced levels incorporated in the working drawings by taking reference from the Bench Marks of both the coordinates and the reduced levels which shall be given at a convenient place in the worksite by Owner/consultant. The contractor shall provide necessary protection to keep the Bench Marks Undisturbed throughout the pendency of the contract. The accuracy of detailed layout of any element of a structure shall remain exclusively with the contractor. The contractor shall have to maintain a number of theodolites and levels in good working conditions at site for the above purpose throughout the pendency of the contract, and shall make them available to Owner/consultant for their use.

14.0 NOTHING EXTRA FOR ADVERSE SUBSOIL CONDITION
There may be variation in nature of subsoil both horizontally and vertically. The contractor shall have to take necessary precaution during excavation against any happening like collapsing of sides etc.. Any slip or fall in excavation shall have to be cleared by the contractor at his own cost. In case of excessive heaving, it shall have to be cut and refilled with lean concrete by the contractor at his own cost. The contractor shall have to adopt underwater work in case of occurrence of piping/quick conditions without any additional cost to Owner/consultant.

15.0 CONTRACTOR SHALL SUBMIT FABRICATION DRAWING FOR OBTAINING APPROVAL:

- FABRICATION DRAWINGS FOR STRUCTURALS
The CONTRACTOR shall prepare and submit fabrication drawings in triplicate for preliminary approval of ENGINEER-IN-CHARGE. Fabrication drawings shall be based on design drawings issued by ENGINEER-IN-CHARGE. One copy of this preliminary drawing duly corrected and signed wherever necessary shall be returned to CONTRACTOR for incorporation of the corrections. After incorporating the corrections, the CONTRACTOR shall submit in 6 (Six) copies of the drawings for final approval. Each drawing shall be accompanied by:-

i) Bill of materials giving all details including sizes, numbers and weights.
ii) Four copies of design calculations for the design of joints. All the joints shall be designed for full strength of members; unless otherwise specified.

Nothing extra shall be payable to contractor for preparation of fabrication drawings, material lists design calculation etc...

Approval of fabrication drawings, however, will not absolve the CONTRACTOR of his responsibility for the safety and correctness of the fabrication details.

iii) In case the CONTRACTOR wants to get the fabrication drawings prepared from other agencies, Owner/Consultant’s approval for appointing such agencies shall be obtained by CONTRACTOR before appointing the agency. For this, CONTRACTOR must submit the credentials of the agency alongwith the request for approval.

16.0 CONTRACTOR SHALL SUBMIT BAR BENDING SCHEDULE
The contractor shall prepare bar bending schedule from the detailed RCC working drawings supplied by Owner/consultant for execution of work and nothing extra shall be paid on this account. Four copies of such bar-bending schedule shall be made available to the Owner/consultant for his approval and affecting payment of reinforcement.

** Nothing extra shall be payable to contractor for preparation of bar bending schedule.
17.0 CONTRACTOR'S RESPONSIBILITY FOR THE MANNER OF EXECUTION OF WORKS
The contractor shall be solely responsible for the manner and the method of executing the work. The work shall be subject to the approval of Owner/consultant from time to time for purposes of determination of the question whether the work is executed by the contractor in accordance with the contract.

18.0 NO WORK SHALL BE UNDERTAKEN WITHOUT APPROVED WORKING DRAWINGS
No work shall be undertaken at Site by the contractor until detailed approved working drawings marked "Good for execution / construction" for the same is issued by Owner/consultant. Any work done without the aforesaid working drawing shall be at the contractor's own risk and costs.

19.0 CONTRACTOR SHALL KEEP FOUNDATION PITS / TRENCHES DRY
The contractor, during the pendency of contract, shall keep the foundation pits, trenches, which are not yet back filled due to technical reasons, dry and shall bail out/pump all accumulation at his own cost for the safety of the structure/element. During pumping, the contractor shall have to ensure that 'Loss of Ground' does not occur. Other approved methods shall be taken by the contractor to avoid 'Loss of Ground' if occurred, at his own cost.

20.0 NOTHING EXTRA FOR INTRICATE CONCRETE SHUTTERING OR REINFORCEMENT WORK
Nothing extra shall be paid for any intricate concrete, shuttering or reinforcement work for foundations of equipment and machinery and for other foundation / superstructure works or for any delay inherent in concreting in small and thin sections in concrete or RCC works etc..

21.0 NOTHING EXTRA FOR REBATING ETC.
Nothing extra shall be paid in concrete/RCC works for all rebating, chamfering, grooving, sinking, weathering, moulding, etc. to accord with the details shown on the working drawings.

22.0 CONSTRUCTION JOINTS
22.0 In case of massive concrete elements both in foundation and in superstructure and in some other locations as would be permitted except where specified in the working drawings, the work shall be carried out in one single operation without any break in concreting within time limit that would be specified by the Owner/consultant without any additional cost to Owner.

22.1 All specified construction joints, either horizontal or vertical, in any element of concrete member shall be provided with shear keys of such dimensions as would be determined by the Owner/consultant. Before adopting the next operation for the other half of the element these shear keys alongwith the entire surface of the joint shall be roughened and deepened to above 20 mm by chipping and cleaned and washed thoroughly. The contractor shall provide cement slurry in sufficient quantity over the cleaned surface for proper bond as per the direction of Owner/consultant. The contractor shall not be entitled to any extra payment; on this account.

23.0 SUBMISSION OF BILLS
Contractor is to submit the bills and record of measurements in quadruplicate on approved pro-forma for works executed by him.

Detailed measurements of works carried out shall be taken jointly by the successful tenderer and our Site Engineer at every stage of work, before proceeding to the next stage. All works shall be measured as per the procedure laid down and payments will be as per measured quantities and not as per Tender Schedule quantities.
24.0 CONTRACTOR SHALL LIBERALLY CURE THE WORK
Curing for super-structure shall be done by Membrane curing method whereas curing for sub-
structure, up to P.L. to be done by Moist curing method."

25.0 PROVISION FOR MULTIFARIOUS CHECKING OF WORK
Before commencement of the actual concreting operation the position and layout of
foundations, pedestals, inserts, pockets, recess, reinforcement and form work shall be
checked repeatedly by Owner/consultant. No claim whatsoever shall be entertained on this
account. The level of foundations shall be accurately maintained as shown in the drawings or
as directed by the Owner/consultant. No padding, plastering or chipping shall be allowed for
achieving the results.

26.0 ADDITION OF CONCRETE ADMIXTURE
Addition of concrete admixture if found desirable by the contractor for obtaining the water
proofness etc. to meet the obligations on his part as contained in the contract may be
adopted by the contractor with prior approval of the Owner/consultant.

27.0 CLEARING, FILLING AND LEVELING OF SITE
The site shown on the layout plan shall be cleared by the contractor of all obstructions, loose
stones, materials, rubbish of all kinds of bushes, trees, grass as well as brush wood. All
holes/hollow, whether originally existing or produced by removal of loose stones or brush
wood, shall be carefully filled up with earth, well rammed and leveled off as directed by the
Owner/consultant. The contractor will not be entitled to any extra payment in his regard.

28.0 CONTRACTOR TO COMPLY ALL LAWS
28.0 The contract shall be governed by the law in force in the Republic of India.
28.1 The contractor undertakes to ensure due and complete compliance with all laws regulation,
rules etc. whether of the Central Government or the State Government or MIAL or of any
other competent authority applicable to the workmen employed or whose services are
otherwise availed of by the contractor, whether in connection with the construction work at
the site or otherwise. The employer shall have the right to inspect the records maintained by
the contractor concerning such workman from time to time and the contractor shall whenever
required by the employer, produce such records as the employer may call upon the
contractor to produce for the employer's inspection in order to ascertain whether or not the
requirements of all such laws, regulations, rules etc. have been complied with by the
Contractor. In the event of any contravention of such laws, regulations, rules etc. coming to
light whether as a result of such inspection or otherwise, the employer shall have the right to
require the contractor to effect such compliance within such time as the employer may
prescribe in that behalf and in the event of the contractor failing to effect such compliance
within the time prescribed by the employer then the employer shall without prejudice to his
rights be entitled to withhold from the amount payable: to the Contractor any amount payable
to the workmen under any such laws, regulations or rules and to make payment thereof to
the workmen. The employer shall also have in that event the right to terminate the contract
with immediate effect and to exercise powers reserved to the employer under the contract as
a result of termination.
28.2 The contractor shall use the materials only after the approval of Owner/consultant, before
incorporation of the same in the works.

29.0 COMPLIANCE OF ENTIRE PROVISIONS IS OBLIGATORY TO CONTRACTOR
It shall always prevail, unless otherwise specifically stated, that the entire provisions of the
Tender Document have been opened upon and accepted for compliance by the contractor
without any reservation.
30.0 **MAHARASHTRA SALES TAX REGISTRATION**

The Contractor shall be required to get himself registered with Maharashtra Sales Tax Deptt. and he shall be responsible for arranging form 31 etc. from Sales Tax Deptt. for bringing the plant machinery and material etc. from other State. In no case OWNER/CONSULTANT shall issue any form 31, etc.

31.0 **GENERAL**

31.0 The location and general information regarding site on which the proposed work is to be executed is furnished in tender drawings.

31.1 Contractor shall acquaint himself with access to Site, availability of local facilities such as railway siding, transport facilities, materials and labour and shall provide suitable allowances in his Bid. Contractor's quoted price shall take into account all expenses likely to arise in this regard.

31.2 Contractor shall be deemed to have visited Site and familiarized himself thoroughly with site conditions before submitting his Bid. Non-familiarity with Site conditions will not be considered a reason either for extra claims or for not carrying out work in strict conformity with drawings and specifications.

31.3 All fabrication work shall be done by contractor in fabrication yard, land and all other arrangements for the same has to be made by contractor at his own cost.

31.4 In principle approval will be obtained by BPCL for laying of proposed pipeline between ONGC to BPCL route, however day-to-day working permission from all the concerns will required to be obtained by the party.

**No reimbursement of any expenses born by Bidder shall be done by BPCL.**

31.5 All the safety precautions should be taken in line with the requirement of BPCL/ONGC including safety supervisor, First Aid trained safety personnel and emergency rescue vehicle.

All the workers, Supervisors of contractor have to undergo safety/working condition training by BPCL/ONGC before issuance of gate passes. Contractor has to arrange Police verification report of their workers/supervisors at their own cost.

31.6 **SAFETY AT WORK SITE:**

Contractor's workmen/supervisors working at site should wear personnel protective equipment viz. Hand gloves, safety shoes, etc. as per the requirement/conditions of the job and ensure compliance without any extra coat to the Corporation. Contractor should make available adequate first aid facility including a vehicle at site at all times. If he fails to comply with safety requirement as mentioned above, his failure will be breach of contract, and the site Engineer may at his discretion, stop all the works or cancel the contract or BPCL will supply the PPE equipment and recover the cost of supplied PPE equipment @150% of the landed cost from the parties R.A Bill.

Contractor's workmen/supervisors working at site should wear a good quality boiler suit type dress which shall be approved by BPCL for colour code and type.

31.7 Power & water and disposal of water are in the scope of the Contractor.

31.8 Debris generated (Civil part) from the dismantling/excavation etc. will be disposed off as per instruction of Site-In charge of BPCL/PDIL and should be dumped in approved MCGM (Municipal Corporation of Greater Mumbai) area. The quote should be inclusive of the above charges.
31.9 Contractor shall ensure programme furnished to BPCL/ONGC is strictly adhered to by contractor and same is displayed on the Notice Board at work site in the prescribed format of BPCL.

31.10 For barricading the working area from the main road/operational area of runways /sensitive areas GI sheet with sufficient height with zebra marking with red flag & red lamp at regular interval should be provided to avoid the accident at night.

31.11 Strong communication system to be provided to all supervisory personal along the pipeline route while work is in progress for effective communication.

31.12 The completion schedule is inclusive of monsoon period.

31.13 Pipeline needs to be laid in day or night time in coordination with BPCL/ONGC (only day times) and other related authorities. Suitable schedule of timing (either in day or night) for carrying out the work for laying the pipeline will be obtained from concerned authorities. However contractor had to coordinate with concern authorities for smooth execution of the job and no additional payment and extension of time limit will be made on this account. This will form essence of the NIT.

31.14 Site supervision shall be carried out by PDIL / BPCL representative.

31.15 For temporary stoppage nothing is paid towards compensation. Contractors have to maintain hindrance register duly certified by PDIL & BPCL after occurrence of hindrance and suitable consideration may be given for time extension on the merit of reasons of stopping. The party has to consider the cost of de-mobilisation/re-mobilisation of machinery and manpower as required during such stoppage of work. Nothing extra shall be paid on this account.

32.0 WORK AND WORKMANSHIP GUARANTEE

32.0 Contractor shall make arrangements for provide at no extra charge all temporary approaches, if required at site, after obtaining prior approval of Owner/consultant of the layout of such approaches.

32.1 To determine the acceptable standard of workmanship, Owner/consultant may order Contractor to execute certain portions of work and services such as wall, flooring, joinery, finishes, roads and the like under the close supervision of Owner/consultant. On approval, these items shall be labeled as guiding samples and work shall be executed to conform to these samples.

32.2 Workmanship shall be of best possible quality and all the work shall be carried out by skilled workmen except for those which normally require unskilled persons. If by laws of local government, municipal or other authorities require employment of licensed or registered workmen of various trades, contractor shall arrange to have the work done by such registered or licensed persons. In case of manufactured materials being used in work, contractor shall arrange to have at site at his own cost, the services of the supervisors of the respective manufacturers to ensure that work is performed in accordance with Manufacturer's specifications.

32.3 Workmanship shall be in accordance with the specifications, standards and codes which are part of this tender as well as the established engineering practices for this type of work. Any portion of work executed by Contractor and considered defective by Owner/consultant / Engineer-in-charge, the contractor shall have to take necessary remedial measures, to the complete satisfaction of Owner/consultant, to make the defects good at his own cost without any liability to Owner/consultant.

The Contractor shall be responsible for the proper workmanship and shall not be relieved of his obligation in this regard just because no objection was raised by Owner/consultant during the progress of work. The workmanship guarantee period will be 12 months from the date of completion for civil and structural work. If any defects are found due to bad workmanship...
during this period, the contractor shall undertake to rectify the same at his cost, most expeditiously. The workmanship guarantee for rectified portion of work shall commence from the date of rectification for a subsequent period of 12 months. The decision of Owner/consultant regarding bad workmanship shall be final, binding and conclusive. The contractor shall be required to submit the performance guarantee accordingly.

33.0 TIME SCHEDULE
33.0 Time of completion including mobilization period, shall be as specify anywhere else from the date of the letter/telex of.
33.1 Above time schedule shall be supported by a resource schedule giving phasing of men/machines deployment, month wise as per Form B.
33.2 Contractor shall submit a Master Network within 2 (two) weeks of date of issue of Letter of Intent.
33.3 The Master Network will be in the form of event-oriented PERT/CPM Network, prepared system-wise, containing major milestones of all phases for execution of work at various stages for timely completion of work. Each event will be represented in proper sequence of occurrence in number of weeks. Each event will also have earliest completion date; latest completion date and float in number of weeks.
33.4 The final Master Network, as mutually agreed upon shall form the basic document from which schedule for design, engineering, procurement, construction and commissioning will be arrived at. These schedules will be prepared discipline-wise or system-wise. This network shall be reviewed by Owner/consultant periodically and CONTRACTOR shall be required to keep updating the same (as per instructions from Owner/consultant) to take care of any changes in the availability of fronts & materials (to be support by Owner/consultant) and to complete all jobs as per overall Project schedule. Owner/consultant shall in no way be held responsible for such changes. Contractor shall make all out efforts to complete the jobs as per latest network without any extra charges to Owner/consultant.
33.5 The final Master Network shall also form the basis for review of schedule, short-term programmes and progress reporting for the entire period of Contract. The frequency, periodicity of programming and reporting will be mutually agreed upon.
33.6 Progress reporting shall be done by Contractor for design, engineering, procurement and construction activities on mutually agreed formats. Reports on such formats will be sent regularly in reproducible with 6 (six) copies of prints per frequency/periodicity agreed upon from time to time.

34.0 PRIORITY OF DOCUMENTS
The following is the order of priority in descending order. High priority document shall take precedence over low priority document in case of any conflict: -
1. Drawings
2. Sch. of Rates.
3. Terms of Payment
4. Scope of work & Technical Specifications
5. Special condition of contract
6. General Conditions of Contract
7. Site working and safety conditions

35.0 PROGRESS REPORTING
Contractor will be required to submit weekly progress reports and men/machinery deployment status report in the format to be mutually finalized at site during execution on the following basis (minimum):
   a) Progress planning and review report
   b) Manpower deployment report
   c) Machinery deployment report
d) Lost time report and steps taken to make up the lost time

36.0 WEATHER CONDITIONS
Owner/consultant/Engineer-in-charge may order contractor to suspend any work, which in the opinion of Owner/consultant may be subject to damage by prevailing weather conditions. No claim whatsoever on this account shall be entertained.

37.0 TAXES/DUTIES AND LEVIES IN FOREIGN COUNTRIES - DELETED

38.0 IMPORT LICENCE - DELETED

39.0 CENVAT:
39.0 BPCL would like to avail the benefit of CENVAT against excise duty on various goods involved in the project. All tenderers are required to indicate, in the Techno-commercial Bid (Part-II), the items for which necessary documents in the name of BPCL can be furnished for the purpose of availing CENVAT by us alongwith percentage of excise duty as per present duty structure. The amount of excise duty may be indicated in the price-bid (Part-III). Evaluation of bids shall be done after taking into account the CENVAT benefit available. The tenderers shall be responsible to ensure submission of eligible documents for CENVAT purpose and in case the CENVAT availed by BPCL is less than the guaranteed amount indicated in the price bid either due to deficiency in the documents or due to non-submission of documents, the amount so availed less shall be deducted from the payments due to the tenderer.

39.1 It is to be noted that CONTRACTOR shall be required to submit the documentary evidence(s) for Excise duty paid and countervailing duty (Additional duty) paid by them to the concerned authorities to the Owner to claim CENVAT benefit. The amount to be considered for evaluation shall be the minimum guaranteed amount indicated by the Bidder in Price bid.

39.2 Necessary documents such as transporter’s copy of Invoice indicating consignee as BPCL for excise duty, copy of Registration with Central Excise Authority & Invoices under relevant rules for additional duty and any other document required by the OWNER shall be furnished by contractor to enable owner to claim CENVAT.

39.3 The contractor shall ensure that materials are accompanied by duty-paying documents prescribed under Central Excise and CENVAT Rules, containing the particulars prescribed under Rule 52A or Rule 57GG as the case may be, so that Central Excise Duty or countervailing duty reimbursable to the owner become eligible for CENVAT claims of the owner.

39.4 For materials imported into India without warehousing by registered dealer, the Bill of Entry should be in favour of the BPCL Refinery Sewree, Mumbai. The goods must necessarily be consigned to the account of the owner since this is a legal requirement.

39.5 The classification of the goods as per the central Excise/Custom Tariff should be correctly done to ensure that CENVAT credit is not lost by the owner on accounts of any error on the party of the contractor.

39.6 The owner shall withhold reimbursement of Central Excise Duty/ Countervailing duty of customs if the requirements as mentioned above are not fulfilled by the contractor and such non-fulfilment of requirement disables the owner from claiming CENVAT Credit otherwise entitled under the Rules.

39.7 In case any statutory regulation or enactment disables BPCL from claiming CENVAT, the contractor will not be liable for making good such benefit. However, the contractor shall still be required to submit all relevant documents to BPCL.

40.0 EXCISE DUTY ON WORKS CONTRACT AND SERVICE TAX:
40.0 Excise duty, if applicable on works/job-works done/performed at owner’s premises at the job-site shall be reimbursed to the contractor at actual on production of documentary evidence of payment to the owner’s satisfaction. In such case, CENVAT benefit shall be availed by BPCL and the amount of CENVAT-able documents to be passed on to BPCL shall stand increased accordingly over and above the amount already indicated in the offer and be governed by CENVAT clause mentioned above. Except this, all other taxes and duties shall be deemed to be included in the Schedule of Rates/prices and no extra claim shall be entertained on this account.

41.0 MOBILISATION ADVANCE:
No mobilisation advance is payable by BPCL.

42.0 MATERIALS TO BE SUPPLIED BY THE OWNER
8” API 5L GRX-52 PE coated pipes shall be supplied by owner as free issue material at BPCL’s Uran Yard Mumbai. Loading & unloading at worksite/storage/yard shall be done by contractor on their cost. Clause no. 4 of special condition of contract Part A is also applicable.

43.0 INSURANCE POLICY OF WORKMEN
The Contractor shall obtain the Insurance Policy in respect of the workmen engaged by him for the job. The Contractor shall indemnify the Owner (BPCL) 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 adequate insurance policies.

44.0 GUARANTEES:
Contractor shall be responsible for following guarantees:
1) Workmanship Guarantees
2) Performance Guarantees

44.0 Workmanship Guarantee:
The Contractor agrees to ensure that all materials, equipment and components used in execution of the works under this contract, shall be new and unused (not reconditioned) and of recent manufacture. The Contractor shall Guarantee that every work including materials, workmanship, performance and handling etc. executed under this contract shall be free from all defects and faults and shall be consistent with established and accepted standards for materials and workmanship of the type ordered and in full conformity with the design drawings, specifications, sample if any, and shall if operable, as per design, drawings, specifications and samples if any, and other stipulated conditions in accordance with the Contract.

44.0.1 The contractor shall guarantee efficient working of all the equipment’s for a period of 12 months from the date of successful commissioning of the system or 18 months from the date of successful completion of pre-commissioning and acceptance whichever is earlier.

44.0.2 All manufacturer’s guarantees for all bought out items / equipments / instruments etc. shall be made available to BPCL and shall be valid for the entire period of performance guarantee as specified in the clause No. 21.1.1. if such guarantees are not issued normally by the manufacturer, the contractor shall guarantee the bought out items for the entire defects liability period alongwith his guarantee for the unit as a whole.

44.0.3 In the event of failure of any particular part of any equipment, the contractor shall take necessary action for its replacement/repair. However, in case any equipment or part thereof fails more than three times during the guarantee period, it shall not be repaired but the
complete part shall be replaced by the contractor and guarantee for this particular part shall be extended by one year from the date of last replacement.

44.1 Performance Guarantee:

44.1.1 Contractor shall guarantee that the performance of the equipment/plant/services supplied under the contract shall be strictly in conformity with the specification and shall perform the duties specified under the contract.

44.1.2 If the performance of the equipment/plant/services fail to prove the guarantee set forth in the specifications, the contractor shall investigate the causes and provide free of cost to the owner material, equipment/plant/services within a reasonable period to prove the guarantee. The Contractor's liability in this respect shall be to make good the complete equipment/plant/services.

44.1.3 If the contractor fails to prove the guarantee within a reasonable period or period specified in contract, then owner shall have the option to take over the equipment/plant/services and rectify the same if possible, to fulfill the guarantee and / or to make necessary additions to make up the deficiency at contractor's risk and cost. All expenditure incurred by the owner in this regard shall be to contractor's account.

45.0 PROJECT PLANNING AND MONITORING:

This section deals with the various types of documents/ outputs to be generated by the Contractor for planning and achieving the overall target(s) set out in the contract.

45.0 The Owner or his authorized representative shall have the access to all related documents/ work centers. It will be obligatory on the party of the contractor to add/change/alter certain formats/outputs as desired by the Owner or Engineer-in-Charge. The Contractor shall maintain professionally qualified and experienced persons for performing planning and progress measurement functions.

45.1 Bidder shall submit alongwith the offer an overall schedule in the form of a bar chart or PERT network indicating schedule of each function i.e. ordering, delivery, construction and commissioning. Important milestones of each function shall be highlighted. Construction schedule shall further elaborate into each unit/system completion maintaining logical sequence of commissioning within overall completion dates. Summary resource deployment schedule shall also be furnished alongwith the bid showing mobilization of critical resources at various job centers.

45.2 Planning & Scheduling Documents:

The CONTRACTOR within 2 weeks from the date of issue of LOI/TOI shall submit overall project schedule in form of network preferably on time scale high highlighting all major milestones of the project. This document shall be approved by OWNER or his representative which would form the basis for monitoring as well as dovetailing functional schedules.

The CONTRACTOR shall update this document once in every quarter and submit to client without affecting the end dates.

45.3 Functional Schedules

The CONTRACTOR shall, within 2 weeks after approval of overall schedule shall develop various functional schedules viz. ordering & delivery and construction schedules in the form of bar chart detailed to work package level indicating the following:

- Allotment of weighted values for assessing progress.
- Quantum schedule i.e. scheduling of quantities or percentage by each month on the bar charts.
- Target completion (in phases as required).
- The CONTRACTOR shall develop the schedule either on quantum basis i.e. on physical quantity targeted in each period specified on or percentage distribution. However, each work schedule shall contain total physical quantity involved and weighted value for reporting progress.
- The functional schedules so developed shall be co-related with the milestones identified in the network, so that monitoring or the project could be carried out.

45.3.1 On the basis of above, the contractor shall develop target curve of each function with monthly target progress.

45.3.2 The construction activities of the project shall be blown up from the overall project schedule in the bar chart form. The schedule may be prepared either discipline wise/ agency-wise or unit/ system-wise. However in each case Physical quantity of the item of work, physical completion target month wise, wtd. value allotted and input reference from functional schedules shall be made. The schedule shall be detailed minimum to the level of discipline-wise structure/group of equipment of a system.

45.4 Construction Schedule:

The CONTRACTOR shall, within 2 weeks after approval of overall schedule shall submit the construction schedule.

45.4.1 Monthly Programme:

Depending on the real time situation, constraints as well as backlog activities, monthly programme for each function shall be made. Monthly programme shall indicate Drawing/ MR No./ P.O. No. and/or equipment/material delivery targeted for achievement alongwith function-wise monthly target percentage.

45.4.2 In case of construction, such details would be worked out at site depending on the work front availability as well as resources available. Depending on the merit, the Engineer-in-charge may request to submit weekly programme/progress for closer monitoring at site. However the weekly progress/programme shall be limited to physical quantity only.

45.5 Progress Report:

45.5.1 The CONTRACTOR shall submit every month on a prefixed date monthly progress report about the works executed upto 10th of every month.

45.5.2 The monthly report shall mainly contain the following features:

i) Achievements of the month.
ii) Major constraints having impact on project.
iii) Overall progress statistics.
iv) Functionwise progress details.
v) Major milestone completed this month.
vi) Major Milestone-Current + due 2 months.
vii) Resource deployment status.
viii) List of document/materials released this month.
ix) Project status and action plan.
x) Any other information/data relevant to project control.

45.6 Purchasing Status Report:

CONTRACTOR shall furnish to the OWNER a monthly expediting report covering purchasing progress which shall indicate purchase order numbers, description of item, supplier, date of order, original promised delivery date, latest revised delivery date, the name of the carrier or shipper, name of the vessel, and any other information pertinent to the Purchasing Status.

45.6.1 If the contractor is operating computer based project control, related computer outputs may be annexed along with monthly report to cover item Nos. (iii) through (viii).

46.0 CONSTRUCTION EQUIPMENT & SITE ORGANISATION:

46.0 Construction Equipment: The Contractor shall without prejudice to his overall responsibility to execute and complete the work as per specifications and time schedule, progressively deploy adequate equipment’s and tools and tackles and augment the same as decided by the Engineer-in-Charge depending on the exigencies of the work so as to complete all works within the contracted time schedule and without any additional cost to Owner. No Construction Equipment shall be supplied by the Owner.

46.1 Site Organization: Subject to the provisions in the contract document and without prejudice to Contractor’s liabilities and responsibilities to provide adequate qualified and skilled personnel on the work, contractor shall deploy site organization and augment the same as decided by the Engineer-in-charge depending on the exigencies of work so as to complete all works within the contracted time schedule and without any additional cost to Owner.

47.0 CONSTRUCTION:

47.0 Contractor shall observe in addition to Codes specified in respective specifications, all national and local laws, ordinances, rules and regulations and requirements pertaining to the work and shall be responsible for extra costs arising from violations of the same.

47.1 Various procedures and methods stated to be adopted by Contractor during the construction as required in the respective specifications shall be submitted to Owner in due time for approval. No such construction activity shall commence unless approved by Owner in writing.

48.0 CO-ORDINATION PROCEDURES

48.0 Contractor shall establish and maintain fully equipped Liaison offices with telex, Telephones fax at nearby vicinity etc.

48.1 Contractor shall submit a co-ordination procedure to Owner within 15 (fifteen) days of letter of acceptance of bid for approval.

49.0 ACCEPTANCE/REJECTION OF TENDER:
The Owner reserves the right to accept or reject any tender in part of full without assigning any reason whatsoever. The Owner also reserves the right not to accept the lowest rates quoted by the Tenderers.

The whole work be split up between two or more contractor if considered expedient by the Owner/Consultant on their sole and absolute discretion. The tenderer shall have no claim in this regards whatsoever.
a) All payments to/receipts from the contractor shall be rounded off to the nearest rupee. Wherever the amount to be paid/received consists of fraction in (paisa), the amount shall be rounded off to the next higher rupee if the fraction consists of 50 paisa or more and if the fraction of a rupee is less than 50 paisa, the same shall be ignored.

51.0 BID PRICES:

a) Bidders shall quote the prices for materials and services whether to be provided or procured from India or to be imported into India only in Indian Rupees. Such bidders shall, however, separately indicate in a list the materials and services to be imported into India and their price in Indian Rupees.

52.0 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 within the said period, the BPCL 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 BPCL of such claims.

53.0 RESPONSIBILITY OF CONTRACTOR

53.0 It shall be the responsibility of the contractor to obtain the approval for any revision and/ or modifications decided by the contractor from the Consultant / Engineer-in-Charge before implementation. Also such revision and/ or modifications if accepted/ approved by the Consultant / 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.

53.1 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.

53.2 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.

53.3 Preparing approaches and working area for the movement and operation of the cranes, rollers, vehicles etc. leveling the areas for assembly shall also be responsibility of the contractor. The contractor shall acquaint himself with access availability facilities, such as railway siding, local labour etc. to provide suitable allowances in his quotation. The contractor may have to build temporary access roads to aid his own work, which shall also be taken care of while quoting for the work.

53.4 The procurement and supply in sequence and at the appropriate time of all materials and consumables shall be entirely the contractor's responsibility and his 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 him 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.

54.0 **CO-ORDINATION WITH OTHER AGENCIES**

54.0 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.

55.0 **FIELD INSPECTION**

55.0 CONTRACTOR shall have at all times during the performance of the work, a competent superintendent on the premises. Any instruction given to such superintendent shall be construed as having been given to the CONTRACTOR.

55.1 Fabrication

The Contractor shall carry out required supervision as per Quality Assurance Plan and furnish all assistance required by the Owner in carrying out inspection work. Owner reserves the right to inspect all phases of Contractor's operations including field and shop fabrication, equipment assembly, testing etc. to ensure conformity to the specification. Owner will have engineers, inspectors or other duly authorized representatives, made known to the contractor, present during progress of the work and such representatives shall have free access to the work at all times. The presence or absence of Owner's representative does not relieve the contractor of the responsibility for quality control in all phases of the work. In the event that any of the work being done by Contractor's representative be unsatisfactory or not in accordance with the drawings, procedures and specifications, the contractor shall, upon verbal notice of such discrepancy or deficiency, take immediate steps to revise the work in a manner to confirm to the relevant drawings, procedures and specifications.

56.0 **APPROVAL OF VENDORS**

56.0 The materials required to be supplied by the contractor shall be procured only from Owner approved vendors. The contractor should obtain prior approval for vendors/ sub-vendors from Engineer-in-charge before placing order in case approved vendor list is not available.

56.1 Above clause shall be applicable to all sub-vendor and sub-contractors.

57.0 **TEST AND INSPECTION OF THE WORK**

57.0 The Contractor shall carry out the various tests as enumerated in the Technical Specification of this Tender and technical documents that will be furnished to him during the performance of the work and no separate payment shall be made unless otherwise specified in schedule of rates.

57.1 All the test either on the field or at outside laboratory concerning the execution of the work and supply of materials by the contractor shall be carried out by the contractor at his own cost.

57.2 The work is subject to inspection at all times by the Engineer-in-charge. The Contractor shall carry out all instructions given during inspection and shall ensure that the work is being carried out according to the technical specifications of this tender the technical documents that will be furnished to him during performance of work and the relevant codes of practice furnished to him during the performance of the work.
57.3 The contractor shall provide for purposes of inspection, access ladders, lighting and necessary instruments at his own including Low Voltage (24V) lighting equipment for inspection of work. Compressed air for carrying out works shall be arranged by the contractor at his own cost. Before erection all prefabricated spool pieces, pipes, fittings, valves etc. shall be cleaned inside and outside by compressed air or by suitable means as specified in Technical specification at no extra cost to owner.

57.4 Any work not conforming to the execution drawings, specifications or codes shall be rejected forthwith and the contractor shall carry out the rectification at his own cost.

57.5 All results of inspection and test will be recorded in the inspection reports, proforma of which will be approved by the Engineer-in-charge. These reports shall form part of the Completion Documents.

57.6 For materials supplied by owner, contractor shall carry out the tests, if required by the Engineer-in-charge, and the cost of such tests shall be reimbursed by the owner at actuals to the contractor on production of documentary evidence.

57.7 Inspection and acceptance of the work shall not relieve the contractor from any of his responsibilities under this contract.

57.8 Cost towards repeat tests and inspection due to failures, repairs etc. for reasons attributable to the contractor shall be borne by the Contractor.

57.9 Various tests as specified in specifications shall be carried out to the entire satisfaction of owner / Engineer in charge.

57.10 Materials procured by contractor shall be stage-wise inspected by PDIL representative. Contractors have to inform the nearest Inspection offices of PDIL.

58.0 STIPULATIONS & DEVIATIONS TO TENDER CLAUSES:
Tenderers are advised to submit the quotations strictly based on the terms and conditions and specifications contained in the tender documents and not to stipulate any deviations. However, incase it becomes unavoidable, deviations should be stipulated with reference to the clause number and page number of the tender documents and only in the prescribed format.

59.0 MEDICAL & CANTEEN FACILITIES TO THE CONTRACTOR:
The contractor shall make his own arrangements of Medical and canteen facilities to his employees or as required by the statutory laws.

60.0 MATERIAL SUPPLY:
60.0 The procurement and supply in sequence and at appropriate time, of all equipment, accessories, materials and consumables required for completion of WORK under this CONTRACT shall be entirely CONTRACTOR’S responsibility. CONTRACTOR shall be responsible for material and equipment delivery, receipt, storage and handling as well as the necessary inspection as to its condition when received from suppliers. Damage claims and replacement or repairs shall also be handled by the CONTRACTOR.

60.1 All materials shall be taken delivery of, held, stored and utilized by the CONTRACTOR as trustee of the OWNER and delivery of the material to the CONTRACTOR shall constitute an entrustment thereof to the CONTRACTOR, with the intent that any utilization, application or disposal thereof by the CONTRACTOR otherwise than for permanent incorporation in the
contractual works in terms of the contract shall constitute a breach of trust by the CONTRACTOR.

61.0 SUE MOTTO REDUCTION:
Any sue motto reduction after opening the price bid shall make the tender liable for rejection.

62.0 LIFTING TOOLS AND TACKLES:
All the lifting tools and tackles shall be tested by the Contractor with his own equipment's and manpower. The test shall be witnessed by the Inspector and only the lifting tools and tackles approved by the Engineer-in-Charge shall be used for construction purposes.

63.0 RADIOGRAPHY:
The radiography agency employed by the contractor shall be duly approved the BARC. The contractor shall ensure all safety precautions for the work to be done by radiography agency. Specific approval from the Engineer-in-Charge for the radiography agency shall be obtained by the Contractor prior to any radiography work. 100% Radiography shall be applicable for all weld joints.

Radiography shall be done by GAMMA RAY as stated in tender document.

64.0 COMPLETION DOCUMENTS
64.0 AS BUILT DRAWINGS
Notwithstanding the provisions contained in standard specification, upon completion of work, the Contractor shall complete all of the related drawings to the “AS BUILT” stage (including all vendor/ sub-vendor drawings for bought out items) and provide the Owner, the following:

a) One complete set of all original tracings.
b) One complete set of full size reproducible.
c) One complete set of reduced size (279mm x 432mm) prints.
d) One complete set of microfilm of all original drawings/ floppies (in AutoCAD).
e) Six complete sets of reduced size (279mm x 432mm) prints.
f) Six complete bound sets of Contractor’s specification including design calculations.
g) Any other drawing/ document/ report specified elsewhere in the bidding document.

64.1 Completion document
In addition to the above, the following documents shall be submitted in hard binder by the Contractor in 6 (Six) sets, as a part of completion documents.

b) Welder Qualification Report.
c) Radiographic Procedure Qualification.
d) Radiographic Report alongwith radiographs (Radiographs only with the original).
e) Batch Test Certificates from manufacturers for electrodes.
f) Hydrostatic and other test results & reports.
g) Precommissioning/ Commissioning checklist.
h) All other requirements as specified in the respective specifications.
i) As built drawings.
j) Material Inspection/ Test report for supply of all material.
l) Other documents listed in special condition of contract, Part A.
The contractor has to submit all as built drawing & drawing as asked by engineer-in-charge, mentioning bill of material in it shall be prepared in AUTO CAD.

65.0 STATEMENT OF FINAL BILLS-ISSUE OF NO DEMAND CERTIFICATE:
65.0 The final bill of contractor shall be accompanied by no-demand certificate from the owner.
   1) Regarding vacation of land, housing accommodation, recovery of rents etc.
   2) Regarding recoveries for hire charges of equipment, water and electricity charges etc.
      if any.
   The contractor shall obtain such no-demand certificates from the concerned authorities and furnish the same to the Engineer-in-charge.

66.0 LIMITATION OF LIABILITY:
The final payment by the OWNER in pursuance of the CONTRACT terms shall not mean release of the Contractor from all his liabilities under the contract. The Contractor will be liable and committed under this contract to fulfill all his liabilities and responsibilities, till such time Contract Performance Guarantee is released by the Owner.

67.0 It is the responsibility of the successful bidder directly to address and resolves all local issues related to contract Management, where local villagers/Statutory authorities are involved. All issues related to managing the external environment, Labour Relationship, Labour Laws/factory acts including maintaining the proper records/Display of labour rates and dispersal of labour dues should be the responsibility of the successful bidder.

68.0 TERMS OF PAYMENT
1. The basis and terms of payment without prejudice to any other mode of recovery available to BPCL, shall be as given below:
2. Payment will be made monthly against running account bills for the work done during the preceding month on the basis of accepted break of lump sum price as per contract. The progressive payments are subject to deductions towards materials issued on chargeable basis, if any, Retention Money, Security Deposit, rent charges, income tax and other deductions as applicable as per terms of contract.
3. For invoicing, Contractor shall prepare and submit within one month from award of work, a Detailed Billing Schedule/ Bill of Material, for approval of PDIL. The Billing Schedule shall be worked out based on the payment terms indicated herein and identify specific milestones and related milestone payments. Any payments to Contractor against Lumpsum contract value shall be released only after approval of the Detailed Billing Schedule. The approved Billing Schedule shall not be amended in any way during performance of the contract.
4. PAYMENT TERMS

PAYMENT TERMS U/G PIPELINE LAYING /INSTALLATION
- 5% on Site development, stacking, clearing, and grading of ROU on Prorata basis.
- 8% on completion of trenching by excavation on Prorata basis
- 25% on completion of alignment stringing, bending, and field welding including N.D.T. on prorate basis.
- 25% on completion of joint coating on field joints, holiday testing before lowering, repairing of shop/field coating, if any and lowering of Pipeline secting trench/providing padding support wherever necessary on prorate basis.
- 15% on backfilling of trench as per specification on prorate basis.
- 10% on completion of successful hydro testing and dewatering on prorate basis.
- 5% on final cleanup and restoration of ROU.
- 2% on finalization of material reconciliation.
- 5% on completion of integration and acceptance of the system by PDIL/BPCL

**PAYMENT TERMS FOR LUMSUM ITEMS:**
For all lumpsum items included in Schedule of rate, Contractor shall furnish breakup of lumpsum prices for the approval of PDIL/BPCL. Payment of such items shall be made accordingly.

**PAYMENT TERMS FOR ALL SUPPLIES**
- 95% Against supply of materials reaching at site, accepted by Engineer-in-charge & erect, on prorate basis as certified in monthly progress bill.
- 05% On completion of all works in all respects and final acceptance by Engineer-in-charge.

**PAYMENT TERMS FOR ALL OTHER TYPE OF WORKS OF SOR NOT COVERED SPECIFICALLY ABOVE:**
- 95% On completion of works on prorate basis as certified in monthly progress bill.
- 5% On completion of all works in all respects and final acceptance by Engineer-in-charge.

NOTE- The above progress payment are subjected to deductions towards chargeable materials issued, if any, security deposit, rent charges, income-tax and other deduction as applicable as per terms of the contract.

69.0 **QUANTITY VARIATIONS FOR AHR (Abnormally High Rate) ITEMS**
If the prices quoted for certain items by the lowest bidder are abnormally high in comparison with the cost estimate and quotations of other bidders, these items will be specifically identified (as AHR Items) and mentioned in the letter of award. In the event of increase in quantity of such item beyond the tender quantity, a market rate analysis will be done (by PMC/OWNER) and contractor will be paid either

If the rate contract where the quoted rate for the items exceed 25% of PMC/OWNER's estimated rates, such items will be considered as abnormally high rates items.

70.0 **VARIATIONS, EXTRA/SUBSTITUTED ITEMS/ NEW ITEM.**
Please refer BPCL's SCC (PART A) scopes of work SL no1 a (first sentence) is modified as under:-

"The Tenderers shall note that the quantities of the different Items, as given in the "Schedule of Rates" are tentative based on tentative tender drawings and are subject to variation and they shall not be entitled to claim any higher rate or compensation on this account. Owner / Consultant reserve the right to change / modify the size and type of sections at any time. Owner / Consultant do not guarantee work under each item of the Schedule of Quantities. Quantum of individual items may vary to any extent. Variations permitted for total contract value shall be ± 10%.

71.0 **LIQUIDATED DAMAGES**
In case of delay in completing the work beyond the period of contract the contractor shall be liable to pay liquidated damages by the contractor. The LD for beyond the period of contract schedule shall be at the rate of 0.5% (Half percent) of the contract value for every week of the delay or part thereof of the delay subject to a maximum of 5 % of the total contract value.
The Bidders total liability towards the LD clause shall be limited to 5 % of the total contract value.

Bidder to note the following:-

i. Contractor shall be allowed to work round the clock provided that they meet all the requirements of statutory bodies, local legal bodies and safety rules and regulations of BPCL /ONGC outside plant battery limit of ONGC & BPCL. Within ONGC & BPCL plant, normal working hours are applicable pertaining to availability of permit from BPCL & ONGC.

ii. For the work inside ONGC plant separate work force shall be arranged by the Bidders to carry out the job.

iii. All workers should have Police verification whoever are to be deployed to site by Successful bidder to enter the ONGC & BPCL premises. Bidders to note that ONGC security controlled by CISF.

iv. Bidders to note that no revision/Deviation in technical & price bid shall be permitted after submission of techno-commercial bid. Bidder agreed for the same.

v. Any upward variation in increase of taxes & duties shall be reimbursable during contractual period and downward variation to be passed on to BPCL.

vi. BPCL will be able to provide Land for Temporary Store & Office under BPCL premises in delicense area only.

vii. Contractor to note that where as duplication of item are found only one item of lower rate shall be considered & payment shall be made accordingly.
INDEX

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2. RESOURCE SCHEDULE FORM - B
3. DETAILS OF SIMILAR WORKS DONE FORM - C
4. CONCURRENT COMMITMENTS FORM - D
5. BIDDER’S TOOLS, TACKLES & EQUIPMENTS FORM - E
6. LIST OF ENCLOSURES FORM - F
7. PROPOSED PROJECT AND SITE ORGANISATION FORM - G
8. INFORMATION ABOUT BIDDER FORM - H
9. EXCEPTIONS & DEVIATIONS FORM - I
10. QUALIFICATION QUESTIONNAIRE FORM - J
11. COMMERCIAL QUESTIONNAIRE FORM - K
12. CERTIFICATE INDEMNIFYING GOVT. OF INDIA FORM - L
13. COMPLAINCE TO BID REQUIREMENT FORM - M
14. BIDDERS QUERIES FORM - N
15. CHECKLIST FORM - O
16. INTEGRITY PACT AGREEMENT Provided in BPCL’s Booklet as annexure-V.
**FORM-A: TIME SCHEDULE**

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Activity/Item (* )</th>
<th>Qty.</th>
<th>Unit</th>
<th>Period in months</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Bidder shall give Execution Schedule for completion in 5 months for Commissioning &amp; stabilization. For the work inside ONGC plant &amp; BPCL Plant separate work force shall be arranged by the Bidders to carry out the job.</td>
<td></td>
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<td>2</td>
<td>* Tentative Activity/ items-*</td>
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<tr>
<td>3</td>
<td><strong>Mechanical Jobs including Painting</strong></td>
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<tr>
<td>4</td>
<td>1. Mobilization of Personnel-</td>
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<tr>
<td>5</td>
<td>2. Mobilization of Key Group</td>
<td></td>
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<tr>
<td>6</td>
<td>3. Delivery of Supply items</td>
<td></td>
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<tr>
<td>7</td>
<td>4. Piping fab. In inch dia</td>
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<tr>
<td>8</td>
<td>5. Piping erection in inch meter</td>
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<tr>
<td>9</td>
<td>6. Crossing in meter</td>
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<tr>
<td>10</td>
<td>7. Fabrication of supports</td>
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<tr>
<td>11</td>
<td>8. Hydro testing of Piping in inch-meter</td>
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<tr>
<td>12</td>
<td>9. Cleaning of pipe</td>
<td></td>
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<tr>
<td>13</td>
<td>10. Delivery of primers, paints, thinner shots etc</td>
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<tr>
<td>14</td>
<td>11. Painting of piping</td>
<td></td>
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<tr>
<td>15</td>
<td>12. Painting of structural, supports</td>
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<tr>
<td>16</td>
<td>13. Commissioning</td>
<td></td>
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<tr>
<td>17</td>
<td>14. Demobilization of Site</td>
<td></td>
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<tr>
<td>18</td>
<td><strong>Electrical jobs</strong></td>
<td></td>
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<tr>
<td>19</td>
<td>1. Mobilization</td>
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<tr>
<td>20</td>
<td>2. Delivery of Supply items</td>
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<td>21</td>
<td>3. Structural</td>
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<td>5. earthing</td>
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<tr>
<td>24</td>
<td><strong>T.C.P. System</strong></td>
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<tr>
<td>25</td>
<td>1. Mobilizations of Site</td>
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<tr>
<td>26</td>
<td>2. Delivery of Supply Items</td>
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<tr>
<td>27</td>
<td>3. Laying of Cables</td>
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<tr>
<td>28</td>
<td>4. Laying of Anode/Flex ets</td>
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<tr>
<td>29</td>
<td>5. Installation of AJB/CJB/Test Station etc</td>
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<td>30</td>
<td>6. Commissioning of TCP System</td>
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<tr>
<td>31</td>
<td><strong>Civil jobs</strong></td>
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<tr>
<td>32</td>
<td>1. Mobilizations of Site</td>
<td></td>
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<tr>
<td>33</td>
<td>2. Supply of Materials</td>
<td></td>
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<tr>
<td>34</td>
<td>3. Earth Work</td>
<td></td>
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<tr>
<td>35</td>
<td>4. PCC work</td>
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<tr>
<td>36</td>
<td>5. RCC work</td>
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<tr>
<td>37</td>
<td>6. Finishing work</td>
<td></td>
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<tr>
<td>38</td>
<td><strong>Pigging System</strong></td>
<td></td>
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<tr>
<td>39</td>
<td>1. Supply of System</td>
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<tr>
<td>40</td>
<td>2. Erection</td>
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<tr>
<td>41</td>
<td>3. Commissioning</td>
<td></td>
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</tr>
</tbody>
</table>
FORM-B:

RESOURCE SCHEDULE (PROPOSED TO BE DEPLOYED FOR THIS JOB)

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Activity/Item</th>
<th>Qty.</th>
<th>Unit</th>
<th>Period in months</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Manpower</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Tools &amp; Tackles</td>
<td></td>
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<tr>
<td></td>
<td>Equipment &amp; Machineries</td>
<td></td>
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</tbody>
</table>

* Contractor to indicate category of manpower and type of tools and tackles proposed to be deployed works separately.

SIGNATURE OF BIDDER
### FORM-C: DETAILS OF SIMILAR WORK DONE BY BIDDER

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Description of work including &amp; consultant</th>
<th>Contract</th>
<th>Valve as per</th>
<th>Completion time</th>
<th>Date of work for Starting Completion</th>
<th>Work order</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
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</tr>
</tbody>
</table>

SIGNATURE OF BIDDER
**FORM-D: CONCURRENT COMMITMENTS OF BIDDERS**

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Description</th>
<th>Name of owner</th>
<th>Contract value</th>
<th>Date of commencement</th>
<th>Expected completion</th>
<th>Sch. completion</th>
<th>Percentage (%)</th>
</tr>
</thead>
</table>

---

**SIGNATURE OF BIDDER**
**FORM - E**

BIDDERS TOOLS, TACKLES & EQUIPMENT  
(PROPOSED TO BE DEPLOYED FOR THIS JOB)

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Description</th>
<th>Company &amp; Model</th>
<th>Year of manufacture</th>
<th>Nos.</th>
<th>Remarks</th>
</tr>
</thead>
</table>

SIGNATURE OF BIDDERS
FORM-F: LIST OF ENCLOSURES

Bidder is required to enclose the following documents as part of his Bid:

1. Power of Attorney of the signatory of Bidder

2. PAN and sales tax clearance certificates in proforma prescribed by Government of India.

3. Document showing annual turnover for similar work for the past three years such as annual report, profit and loss account etc.


5. Cash flow as per the format below:

   **MONTHLY CASH FLOW IN PERCENTAGE OF CONTRACT VALUE PERIOD IN MONTHS**

<table>
<thead>
<tr>
<th>PARTICULARS</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXPENSES MADE</td>
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<tr>
<td>BILLS RECD.</td>
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<td></td>
</tr>
<tr>
<td>CASH SURPLUS/DEFICIT</td>
<td></td>
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<td></td>
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<td></td>
</tr>
</tbody>
</table>

6. DELETED.

7. Cash credit limit and how much has been consumed as on date of submission of tender.

SIGNATURE OF BIDDER
FORM-G: PROPOSED PROJECT & SITE ORGANISATION OF BIDDER

1. Bidder shall indicate here the details of site organisation proposed to be set up by him for execution of this work. It is understood that this will be augmented from time to time depending on the requirement for timely completion of work, as directed by owner/consultant.

2. Bidder must attach a description of the organization proposed to be committed for execution of the work. Organization chart must include numbers and titles of key personnel. Numbers and categories of home office and field personnel to be indicated separately.

3. The description shall show lines of authority / responsibility / communication together with a written description of the overall working of the organization with particular emphasis on the home office / site.

4. Please indicate below the Bio-Data of Key Personnel Proposed to be deployed by the bidders for the site, such as:
   a. Resident Engineer
   b. Civil Engineer
   c. Mechanical Engineer
   d. Electrical/CP Engineer
   e. Supervisors (Civil)
   f. Supervisors (Mech)
   g. Supervisors (Elect)

SIGNATURE OF BIDDER
FORM-H: INFORMATION ABOUT BIDDER

1.0 IN CASE OF INDIVIDUAL

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 each of the partners of the firm pays Income Tax over Rs.1,00,000/- a year and if not, which of them pays the same. 

3.0 IN CASE OF LIMITED LIABILITY: COMPANY OR COMPANY LIMITED BY GUARANTEES

3.1 Amount of paid up capital : 

3.2 Name of Directors : 

3.3 Date of Registration of company : 

3.4 Copies of Balance sheet of the company for the last three years : 

SIGNATURE OF BIDDER
FORM - I: EXCEPTIONS AND DEVIATIONS

As pointed out in the Enquiry, Bidder may stipulate here exceptions and Deviations to Enquiry specifications / conditions, if considered unavoidable in Form-I only. Exceptions & Deviations indicated elsewhere in the offer shall be considered null and void.

All exceptions / deviations retained by Bidder to the stipulations of the Tender Document shall be brought out in the Techno-Commercial Bid (and not in the Price Bid) as per this format. Any exceptions / deviations brought out elsewhere in the Bid shall not be construed as valid.

SIGNATURE OF BIDDER
FORM J
(IN ENVELOPE-II)

QUALIFICATION QUESTIONNAIRE
(Qualification details)
## FORM-K

### COMMERCIAL QUESTIONNAIRE

The Bidders reply/confirmation as furnished in the commercial questionnaire shall supercede the stipulations mentioned elsewhere in their bid.

<table>
<thead>
<tr>
<th>SL.</th>
<th>OWNER’S QUERY</th>
<th>BIDDERS CONFIRMATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Confirm that your Bid is valid for acceptance upto Six Months from the last date for bid submission.</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Confirm that you have studied complete Tender Document including Technical and Commercial Part and your Bid is in accordance with the requirements of the Tender Document.</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Confirm that all details, in Unpriced part i.e. PART-II&amp; PART-III has been submitted in FIVE copies (Original + 4 Copies) under separate file covers and the ORIGINAL Tender documents and drawings have been signed, stamped and submitted.</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Confirm that Price Bid has been submitted in one original in a separate sealed envelope marked &quot;PRICE PART - DO NOT OPEN&quot;</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>DELETED</td>
<td></td>
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<tr>
<td>6.</td>
<td>Confirm your compliance to total scope of work mentioned in the Tender Document.</td>
<td></td>
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<tr>
<td>7.</td>
<td>Confirm that all materials shall be supplied as per standards &amp; specifications and approved vendor list provided in the Tender Document.</td>
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<tr>
<td>8.</td>
<td>Confirm your acceptance for 'SCOPE OF SUPPLY' mentioned in the Tender Document. Please note that scope of supply mentioned in the Tender Document is not limitative CONTRACTOR's scope shall include supply of all materials required for completion of Work irrespective of whether such materials are mentioned in the Tender Document or not.</td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>Confirm that the quoted Price includes the cost for carrying out complete work as per drawing/specific requirement/ schedule of rate/ scope of work, scope of supply mentioned in Tender Document.</td>
<td></td>
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<tr>
<td>10.</td>
<td>Confirm that the quoted rate includes all taxes, duties and Insurance as specified in General &amp; Special Conditions of contract.</td>
<td></td>
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<tr>
<td>11.</td>
<td>Confirm that rate have been filled in &quot;Schedule of rate&quot; format and submitted accordingly.</td>
<td></td>
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<tr>
<td>12.</td>
<td>Confirm that there are no terms and conditions in the Price-Part and in case any terms and conditions are mentioned, the same shall be treated as null &amp; void.</td>
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<tr>
<td>13.</td>
<td>Confirm that any corrections in Price Part have been signed and stamped by Bid signatory.</td>
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<tr>
<td>14.</td>
<td>Confirm that all the proposal forms are filled and submitted along with Part-III of offer strictly as per formats provided.</td>
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<tr>
<td>15.</td>
<td>Confirm that adequate equipments, tools, tackles, etc. have been proposed which will be sufficient to complete the work as per the time schedule.</td>
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<tr>
<td>16.</td>
<td>Confirm that you have proposed adequate Project/Site organization with supervisory personnel having good experience and the chart is enclosed.</td>
<td></td>
</tr>
<tr>
<td>17.</td>
<td>Confirm that your rates are fixed till completion of work in all respects (except for statutory variation) as specified in Special Conditions of Contract.</td>
<td></td>
</tr>
</tbody>
</table>
### PROPOSAL FORMS

| 18. | Confirm your acceptance for Time Schedule as mentioned in to Special Conditions of Contract. |
| 19. | Please confirm that all safety rules & regulations as mentioned in Tender Document or notified at later date by OWNER during execution shall be adhered by CONTRACTOR. |
| 20. | Please confirm that your rate includes cost towards third party inspection, if any. |
| 21. | Please note that the scope of this bid package is Item rate basis, with single point responsibility to CONTRACTOR including, procurement, supply, fabrication, project management, inspection, expediting, construction, erection, installation, testing, and start-up pre-commissioning, commissioning and handing over the plant to OWNER. The scope of work mentioned under various sections shall not be considered as limitative and CONTRACTOR's scope shall include completion of any activities of work not mentioned in the bid package but required to complete the Work in all respects and making it functional. |
| 22. | Confirmed that you have submitted Integrity Pact agreement. |

(Stamp & Signature of Bidder)
FORM-L

CERTIFICATE INDEMNIFYING GOVT. OF INDIA

It is expressly understood and agreed by and between the Contractor and the Owner that the Owner is entering into this agreement solely on its own behalf and not on behalf of any other person or entity. In particular, it is expressly understood and agreed that the Government of India is not a party to this agreement and has no liabilities that the Owner is an independent legal entity with power and authority to enter into contracts, solely in its own behalf under the applicable laws of India and general principles of Contract Law. The Contractor expressly agrees, acknowledges and understands that the Owner is not an agent, representative or delegate of the Government of India. It is further understood and agreed that the Government of India is not and shall not be liable for any acts, omissions, commissions, breaches or other wrongs arising out of the contract. Accordingly, contractor hereby expressly waives, releases and foregoes any and all actions or claims, including cross claims, impleader claims or counter claims against the Government of India arising out of this contract and covenants not to sue to Government of India as to any manner, claim, cause of action or things whatsoever arising of or under this agreement.

(STAMP & SIGNATURE OF BIDDER)
FORM-M

COMPLIANCE TO BID REQUIREMENT

We confirm that our Bid complies with the total Techno-Commercial requirements of Tender Document without any deviation.

(STAMP & SIGNATURE OF BIDDER)
## FOR Bidders QUERIES FOR DISCUSSION

<table>
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<tr>
<th>Sl.No.</th>
<th>Reference of tender Document</th>
<th>Bidder’s query</th>
<th>Owner’s Reply</th>
</tr>
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Note: The Bid Queries may be sent by fax (Fax. No. +91-265-2388404, EPABX 2388418, Ext 118 & Fax no- 0265 2388398 and also by e-mail pvishwakarma@wro.pdilin.com and mksinha@wro.pdilin.com.
**CHECK LIST**

Bidders are requested to duly fill in this checklist. This checklist gives only certain important items to facilitate the bidder to make sure that the necessary data/information as called for in the Tender Document has been submitted in their offer. This, however, shall not relieve Bidder of his responsibilities to make sure that his offer is otherwise complete in all respects. Please ensure compliance and tick (✓ 1) against following points, sign each page of this checklist, and attach the original checklist over the original offer and copies over each copy of the offer:

<table>
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<tr>
<th>SL</th>
<th>ITEM</th>
<th>(√ 1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Confirm that each sheet of Offer including Original Tender Document and addendum (if any) have been Signed and stamped</td>
<td></td>
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<tr>
<td>2</td>
<td>Confirm that all the details in the Unpriced part have been submitted in FIVE copies (one original + 4 copies) under separate file covers.</td>
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<tr>
<td>3</td>
<td>Confirm that the following details have been submitted in the Unpriced part:</td>
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<tr>
<td>a.)</td>
<td>Covering Letter with index of bid</td>
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<td>b.)</td>
<td>Earnest Money Deposit/Security Deposit</td>
<td></td>
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<tr>
<td>c.)</td>
<td>Original Bidding Document and addendum (if any) duly stamped and signed by bid signatory (one copy)</td>
<td></td>
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<tr>
<td>d.)</td>
<td>Commercial Questionnaire duly filled up.</td>
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<td>e.)</td>
<td>Details of past experience of similar nature as per format including copies of work orders and completion certificates.</td>
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<tr>
<td>f.)</td>
<td>Qualification Questionnaire duly filled along with supporting documents</td>
<td></td>
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<td>g.)</td>
<td>Present commitments indicating percentage completion as on the date of submission of offer.</td>
<td></td>
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<tr>
<td>h.)</td>
<td>List of equipment, tools, tackles, proposed to be deployed indicating the year of manufacture, present location and numbers.</td>
<td></td>
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<tr>
<td>i.)</td>
<td>Site/Head Office Organisation Chart and bio data of key personnel.</td>
<td></td>
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<td>j.)</td>
<td>Financial details including Audited balance sheets and profit and loss account statements for last 3 years.</td>
<td></td>
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<td>k.)</td>
<td>Bid Compliance Statement or Exception Deviation statement, if applicable</td>
<td></td>
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<td>l.)</td>
<td>Schedule for completion of major activities in the form of a bar chart.</td>
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<td>m.)</td>
<td>DELETED</td>
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<tr>
<td>n.)</td>
<td>HSE Program</td>
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<tr>
<td>o.)</td>
<td>Power of Attorney in favor of the person signing the bid.</td>
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<td>p.)</td>
<td>Latest Solvency Certificate issued by your banker during last 12 months.</td>
<td></td>
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<tr>
<td>q.)</td>
<td>Sales tax &amp; PF Registration Nos. and PAN No(applicable for domestic bidder).</td>
<td></td>
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<tr>
<td>Step</td>
<td>Description</td>
<td></td>
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<td>------</td>
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<tr>
<td>1</td>
<td>Declaration regarding Non-involvement of Indian Agent or Details of Indian agent, if applicable.</td>
<td></td>
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<tr>
<td>2</td>
<td>Copies of document defining constitution or legal status, place of registration and principal place of business of the company.</td>
<td></td>
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<tr>
<td>3</td>
<td>Declaration by Bidder that they have not been under liquidation, court receivership or similar proceedings.</td>
<td></td>
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<tr>
<td>4</td>
<td>Declaration by Bidder that they have not been banned or delisted by any Indian government or quasi – Indian government agency or Indian PSU. Bidder may note that if this declaration is not given the bid will be rejected as non-responsive.</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Copy of complete Schedule of rate with the Prices blanked out.</td>
<td></td>
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<tr>
<td>6</td>
<td>Certificate indemnifying Govt. of India as per Form -J</td>
<td></td>
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<tr>
<td>7</td>
<td>Commercial Questionnaire duly filled in, as per format enclosed</td>
<td></td>
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<tr>
<td>8</td>
<td>Technical offer and Engineering details, if any, required as per Bidding Document.</td>
<td></td>
</tr>
</tbody>
</table>

4. Confirm that the price bid has been submitted duly filled in for each item, signed and stamped on each page, in a separate sealed envelope superscribing "PRICE PART DO NOT OPEN" (Rates should be filled up in figures as well as in words).

5. Confirm that proper page nos. have been given in sequential way in all the documents submitted with offer with Index.

6. Confirm that any cutting/overwriting in the Unpriced part has been initialed and stamped.

7. Confirm that any cutting/overwriting in the "PRICE-PART" has been signed in full and stamped.

8. Integrity pact agreement submitted. (Yes/ No)

(STAMP & SIGNATURE OF BIDDER)
Dear Sir,

SUBJECT:
(SINGLE BID/TWO PART BID)

We are pleased to invite your most competitive offer for the captioned item/job No.................................in complete accordance with the tender documents attached herewith. The following documents are enclosed to enable you to fill your quotation:

1. General conditions of tender
2. Special conditions of tender Part ‘A’ & Part ‘B’
3. Technical specifications along with in Annexure-I to mentioned Deviation Statement, if any.
4. Schedule of quantities (in duplicate) / Price-Bid along with Annexure-II & III.
5. Standard Payment Terms – Annexure-IV
6. Integrity Pact – Annexure-V
8. Safety Requirements at Construction sites
9. Grievance Redressal Mechanism
10. Drawings.

In case of single bid the above set of documents shall be submitted in full in the envelope enclosed.

In case of two part bids, the respective documents should be submitted in two parts in separate sealed covers “Part-I (Technical Bid comprising of GCC, Special Conditions of Contract, Integrity Pact, Technical specifications and Schedule of Quantities/price
schedule WITH PRICES BLANKED OUT and marked “quoted” against each item. These should be duly stamped and signed by the authorized signatory.

Part –II (Price bid) should contain only the prices in the proforma prescribed in a separate sealed envelope. Both Part-I and Part-II covers shall be sealed in one envelope super scribed with the above tender number, due date and time, description.

Completion time of the job is ……….days from the date of issuance of LOI.

Your Bank Draft / Bank Guarantee for the requisite Earnest Money deposit should be forwarded along with the above documents. However this clause is not applicable to the contractors registered with BPCL. The bids should be for valid for six months from the bid due date.

Please ensure that Integrity Pact is signed on all the pages by the authorized signatory (same as that of signatory to the bid). This document is essential and binding. Bidder failure to return the Integrity Pact duly signed along with the bid documents shall result in the bid not being considered for further evaluation and deemed to be rejected.

The above sealed envelope containing both technical and price bids should reach us positively on or before the due date at the address given below:-

Deputy General Manager (Engg)/Chief Engineering Manager (NR/ER/WR/SRs)  
Engineering & Projects Department  
Bharat Petroleum Corporation Limited  

……………  
……………  
PIN CODE  

However, in cases where tenders are required to be submitted by hand, they should be dropped inside tender box as designated. In case of bulky size tenders, the following persons with their designations as mentioned may be contacted to ensure their receipt. The names of the officers are …………..  
Located on …………. floor……….Room No…….. (Address of the Regional office)

We request you to carefully go through all tender documents before submitting your quotations in two parts i.e. Technical Bid and Price Bid. Any clarification regarding the work can be had from our Engineering Department on any working day during normal working hours.

Please note that any exceptions or deviations to the tender documents is necessarily to be recorded in the deviation statement attached as Annexure-I. Any exceptions/deviations brought out elsewhere in the bid shall not be considered.

Please send your valuable quote before the deadline

The bids received after the due date and time and without EMD wherever applicable are liable to be rejected.
Please ensure that your name or any other identification mark does not appear on the envelope as otherwise your tender is liable to be disqualified.

All the bidders to provide their bank details / PAN / Sales Tax / WCT Registration numbers / Service Tax Reg No. / VAT reg. No. for updating vendor master file.

You are also requested to keep us informed of any change in address / status of your business / contact details including email address etc.

Please note that Due date of opening of the tender ............... is after 2.30 PM on ................. In case you are unable to quote for this tender please send us your regret letter preferably citing reasons for not participating.

BPCL reserves the right to accept or reject, any or all tenders received at its absolute discretion without assigning any reason whatsoever.

Thanking you,
Yours faithfully,

For BHARAT PETROLEUM CORPORATION LTD.,

PROJECT LEADER

P.S. :- Consecutive three non responses (including regrets to our RFQs) will delist you from our registered vendor list.

Encl : as above
CHECKLIST FOR TENDER SUBMISSION

Common Index for whole of the documents submitted with page numbering Tick □ (yes) in column ‘submitted’ if items included in the Tender submission Performance Bank guarantee shall be submitted by us in lieu of retention money (✓ Tick mark box to exercise the option of PBG against reduction from bill).

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<tr>
<th>SR. NO.</th>
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<td>Deviation Statement if any, (Annexure I)</td>
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<td>3</td>
<td>Integrity Pact (Mandatory as per Annexure-V)</td>
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<td>4</td>
<td>Confirmation of Site Visit, Attachment</td>
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<td>5</td>
<td>Overall Project Execution Plan (Bar Chart / Deployment etc)</td>
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<td>6</td>
<td>Outline of Manning Plan</td>
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<td>7</td>
<td>Proposed Organization Chart.</td>
<td></td>
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<td>8</td>
<td>Resumes of Key Personnel.</td>
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<td>9</td>
<td>General Terms Accepted By Tenderer</td>
<td></td>
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<td>10</td>
<td>Machinery Deployment Plan</td>
<td></td>
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<td>List of Equipment and Machinery proposed for the Works</td>
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<td>Schedule of Tools Included in the Bid</td>
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<td>13</td>
<td>Details of Information Technology (IT) requirements, (Reporting weekly progress against planned progress)</td>
<td></td>
<td></td>
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<td>14</td>
<td>List of Sub-Contractors &amp; Suppliers etc. for the Works</td>
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<td>15</td>
<td>Information on Current Projects</td>
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<td>16</td>
<td>Quality Assurance Plan and Control Programme</td>
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<td>Site Safety and Health Requirement Programme</td>
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<td>18</td>
<td>Performance Bank guarantee shall be submitted by us in lieu of retention money</td>
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<td></td>
<td>(✓ Tick mark box to exercise the option of PBG against reduction from bill)</td>
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<td>Grievance Redressal Mechanism</td>
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GENERAL CONDITIONS OF TENDER

FILLING AND SUBMITTING TENDERS:

1. Quotations should be submitted only in the prescribed tender schedule forms supplied by the Company together with Drawings and General Conditions of Tender duly signed by the tenderer along with a Bank Draft, it required, as per covering letter ...................... dated ......................for the amount mentioned in Clause 17, on or before the due date/time of closing of the tender. Quotations received after the due date/time will not be considered.

2. The tenderer should study all the tender documents carefully and understand the conditions, drawings specifications etc. before quoting. If there are any doubts, he should obtain clarifications, but this shall not be justification for late submission or extension of opening date/time of the tenders.

3. The tenderer should visit the site and acquaint himself with site conditions, availability of water, electricity, approach road, construction materials as per specifications, shelter for his staff etc. since these are to be provided/arranged by the tenderer (unless otherwise specified) at his cost.

4. The tenderer should quote for all items in the tender schedule. The rates should be expressed both in figures- and in words: where discrepancy exists between the two, the rates expressed in words will prevail. Similarly if there is any discrepancy exists between the unit rate and the amount, the unit rate will prevail. The final amount again should be both in words and figures.

5. The rates should be quoted in the same units as mentioned in the tender schedule.

6. All entries in the Tender Documents should be in Ink/Typed. Corrections, if any, should be attested by full signature of the Tenderer. Use of white fluid is not permitted.

7. Every page of the tender documents shall be signed by the tenderer or his authorized representative.

8. The tenderer should indicate the time required to complete the entire work from the date of receiving the order. The time indicated in tender may have a bearing on awarding the contract.

a. The Price bids of technically acceptable offers in case of two-part bids and the price offers of single-part bid tenders for all values more than Rs. 10 Lakhs (BPCL In-house estimates) shall be opened in the presence of bidder’s representative (duly authorized and having a letter of authority from the bidder’s Competent authority)
b. In case of Single-part bid tenders, where the BPCL In-house estimate is less than Rs. 10.00 Lakhs, tenders will be opened in-house, on the due date and time mentioned in the tender form.

c. The bidders may be present at the time of opening of commercial & Technical bids at the venue intimated. Tenderers are requested to be in the designated tender opening room at least 30 minutes before the scheduled opening time. BPCL shall advise either by e-mail / fax / letter and display it in the BPCL website, www.bharatpetroleum.in, the venue / date / time of opening of the price bids. Please note that no separate intimation shall be sent in this regard, unless there is change in the data / time / place of opening. The bidders' representatives, who are present, shall sign in the Statement of tenderer’s presence, evidencing their attendance.” Tenderer shall specifically mention in covering letter, the name, address, tel. no., e-mail ID, fax of the authorized person’s for further communication on the above tender.

d. BPCL will subsequently examine the bid to determine whether they are complete, whether any computational errors have been made, whether the documents have properly been signed and whether the bids are generally in order. The bids shall also be loaded as per the loading criteria given in the NIT. BPCL will award the contract to the successful bidders whose bid has been determined to be the lowest evaluated bidder after all corrections / loading if any.

9. COST OF BIDDING

The Bidder shall bear all costs associated with the preparation and submission of the Bid, and BPCL will in no case, be responsible or liable for these costs, regardless of the conduct or outcome of the bidding process.

10. BID DOCUMENT

The Bidder is expected to examine all the instructions, forms and specifications in the bid document. The invitation for the Bids (IFB) together with the bid document and all its attachments thereto, shall be considered to be read, understood and accepted by the bidder unless deviations are specifically stated seriatim by the bidder. Failure to furnish all information required by the bid document or submission of a bid not substantially responsive to the bid document in every respect will be at Bidder's risk and may result in the rejection of his Bid. Bidder must return the Agreed Terms and Conditions duly filled, signed and stamped along with the unpriced part of Bid.

11. BID PRICE-

a. Prices shall be quoted, in the prescribed price schedule by the bidder separately for each item of scope and in strict compliance to the format of the price schedule.

b. Bidders should also submit summary of tenderer’s price both in words and figures and shall include rebate offered, if any, also in percentage, figures and in words as Annexure-II.
c. Grand total price in the summary shall be net of discount, if any

d. Prices quoted should be inclusive of all rates, duties, taxes, levies, cess, fees etc towards complete scope of work. However, the applicable rate of statutory taxes & duties must be indicated as per Annexure-III. i.e. rates of Excise duty, custom duty, CVD, VAT (WCT), Service Tax, any other taxes & levies etc.

e. Conditional Discounts, if offered by the Bidder, shall not be considered for evaluation.

12. TAXES AND DUTIES

a. All Bidders should have VAT/CST registration in concerned state and provide a copy of their sales tax registration certificate quoting their TIN no. along with the Bid Document.

b. BPCL may issue concessional form “C” for Central Sales Tax or any concessional form for State Sales Tax as applicable.

c. CENVAT credit of duty on capital goods put to use for manufacture shall be considered on excise duty, CVD as well as the Cess applicable and accordingly excise duty/ CVD/ Cess should be quoted separately.

d. BPCL may claim Cenvat credit on service tax. The bidder should quote service tax separately (In rates and in values).

e. Bidder is required to furnish serially numbered and signed invoice/ bill / challan containing the following details:
   i. Name, address and registration number of service provider.
   ii. Name and address of person receiving taxable service.
   iii. Description, classification and value of taxable service provided.
   iv. Service Tax Payable.

f. Bidders are required to quote rates showing VAT (WCT), as applicable in the respective state, separately in their quote. VAT Credit shall be considered while evaluation.

g. The Bidders should mention clearly in his bids whether he has opted for composition scheme or standard deduction method or Actual non-materials value method. Rate and amount of such VAT (WCT) being quoted, has to be given for evaluation. Preferred option to be followed is Composition Scheme.

h. Any other taxes, duties, levies, if applicable, should be mentioned separately.

i. The taxes, duties, rates and cess shall be final and no variation/reimbursement for any new tax /levy is permissible.

13. RATES:

The rate quoted should be inclusive of all material, labour, water, electricity, power equipment tools/ tackles, centering, shoring, lifts, leads, scaffolding etc. Once the
quotation is accepted, the rates quoted shall be firm till the entire work is completed in all respects.

14. PERIOD OF VALIDITY OF BIDS

The validity of the bids shall be fixed from the last date of submission of bids. The bidder shall not be entitled during the said period of 6 months, to revoke or cancel its bid to vary the bid given or any term thereof.

15. ACCEPTANCE OF TENDER:

a. Incomplete/Conditional tender quotations or without valid EMD (whenever applicable) those received late and/not confirming to the standard terms and conditions, the tender documents will be rejected.

b. The Company reserves the right to reject any or every tender without assigning any reason whatsoever and/or to negotiate with the tenderer (s) in the manner the Company considers suitable.

c. The Company further reserves its rights to allow to the Public enterprises ‘Purchase Preference’ (facilities as admissible under the existing policy) as may be decided by the Government.

d. BPCL reserves its right to award the job to bidders quoting lowest in one or more parts individually or collectively, wherever it is commercially viable and prudent.

Similarly BPCL reserves the right to add one or more parts into one consolidated job on commercially prudent considerations.

16. BIDS BY EMAIL/FAX

Fax/E-mail Offers will not be considered and shall be rejected.

17. EARNEST MONEY DEPOSIT / SECURITY DEPOSIT: (Applicable only for work costing Rs.50,000/- and above in value).

a. EMD is not applicable to vendor with valid registration with BPCL. For job whose quoted amount is more than the registration value limit, EMD shall be submitted.

b. The tenderer shall be required to submit along with this quotation a Bank Draft in favour of Bharat Petroleum Corporation Ltd. for a sum equivalent to 5% of the total tendered value of works as earnest money deposit, subject to a minimum of Rs. 5,000/- and a maximum of Rs.1,00,000/-

c. The earnest money deposit shall be returned to the unsuccessful tenderer/s within one month after due date for opening of the tender. The earnest money deposit of the successful tenderer will be retained till the commencement of the work. Thereafter the tenderer may opt to adjust the earnest money deposit against security deposit as a money deposit or request return of the earnest money deposit. No interest will be payable on earnest money deposit.
d. **Security Deposit: (Applicable only for works costing Rs. 50,000/- and above in value).** The successful tenderer before commencement of the work, shall have to provide to the Company, by way of security, a money deposit or a Bank Guarantee in the standard format provided by the Company, for an amount equivalent to 5% of the total tendered value of the works, subject to a minimum of Rs. 5,000/- and a maximum of Rs. 1,00,000/-. The tenderer shall have the option to adjust the earnest money towards security deposit if he so desires.

e. The security deposit will be retained till the successful completion of the work. In the case of security deposit in the form of a Bank Guarantee, the same shall be kept valid by the tenderer at his cost till the completion of the work under contract and shall be extended from time to time. No interest will be payable on security deposit.

f. Bidders will be required to submit bid security in the form of demand draft/bank guarantee from any Indian scheduled bank or an international bank of repute having a branch in India or having correspondent banking relationship with an India scheduled bank. The bid security shall be in US $ for foreign bidders and in Indian Rupees for Domestic Bidders. The bid security shall be valid for six months beyond the bid validity date.

18. **INTEGRITY PACT (IP) – Applicable for jobs above Rs.1.00 Crore.**

Bidders are requested to sign & return our pre-signed IP document as per Annexure V. This document is essential & binding. Bidder’s failure to return the IP duly signed along with Bid Document shall result in the bid not being considered for further evaluation.

19. **EXECUTION OF AGREEMENT:**

The successful tenderer shall within 15 days of the Company’s communication to him of the acceptance of his tender, execute a formal Agreement with the Company, on the Company’s format and on the stamp paper of appropriate value.

20. **EXECUTION OF WORKS:**

a. The successful tenderer should submit detailed construction programme adhering to the completion time quoted in the Agreement. The programme will form part of the contract. However, the Company reserves the right to alter the programme, if necessary, from time to time and no claim of successful tenderer on account of such alteration will be entertained.

b. All materials required for the execution of work should conform to the standard specification and approved by the Engineer in Charge before actually put to use. Commencement of work without prior approval shall be entirely at the risk and cost of the contractor. No delay due to non-availability of materials, tools, equipment etc. will be entertained by the Company. In the case of certain machinery/equipment, the Company’s site Engineer may inspect the items for approval before they are brought to the site.
c. The responsibility for the safety, security and accounting of the materials and equipment brought or installed by the successful tenderer or handed over to him by the Company for completion of the work will remain with him till the acceptance of the work by the Company. Any damage caused to the material/equipment during the execution of work will be made good by the successful tenderer at his cost. The Company may require the successful tenderer to have guarantee/indemnity bond executed for the value of the materials supplied to him free of cost, as per terms of the Agreement.

d. Quantities shown in the Tender Schedule are approximate and payment shall be made as per actual measurements. The successful tenderer is not entitled for any sort of compensation toward materials procured/stored in excess of the measured quantities.

e. The Company reserves the right to increase or decrease the tendered quantity or revise specifications, drawing, designs of any or every item or delete them at any stage of work. The successful tenderer’s claim for compensation or damages on account of these shall not be entertained. Such deviations will be adjusted at the rates contained in the Agreement or at prevailing market rates, if the rates are not available in the Agreement, by issuing variation order(s). In case it becomes necessary for the Company to temporarily suspend or postpone the work, partly, or fully due to unforeseen circumstances, the Company shall not be liable for any compensation on account of resultant delays.

f. The entire work will be carried out under the supervision of the authorized representative of the Company, but this will not detract successful tenderer’s) full responsibility for quality/period of execution of work.

g. Detailed measurements of works carried out shall be taken jointly by the successful tenderer and our site Engineer at every stage of work, before proceeding to the next stage. All works shall be measured as per the procedure laid down. Payments will be made as per measured quantities and not as per Tender Schedule quantities.

h. The successful tenderer shall submit to the office which has awarded the contract, periodic progress reports of his work as stipulated by our Site Engineer.

i. The successful tenderer shall not undertake himself any change in specifications mentioned in the tender documents. In case of doubts he will refer the matter in writing to the Company and act as per clarifications given by the Company. Any changes in the work involving changes in original specifications quantities/additional items of work, should be covered by obtaining suitable variation order(s) form the Company immediately.

j. If the performance of the successful tenderer is found to be unsatisfactory, the Company reserves the right to cancel in part or the whole of the contract and get the work executed through alternative means at the entire risk and cost of the successful tenderer.
k. If the successful tenderer does not complete the work in the stipulated time, the Company reserves the right to recover liquidated damages at 0.5% of the total contract value for every week of delay or part thereof of subject to a maximum of 5% of the total contract value until the work is satisfactorily completed and handed over. However for delay in completion of a specific urgent job the maximum compensation will be increased to 15% of the total contract value. Such damages may be deducted by the Company from any money due to the tenderer and any further amount due from the tenderer shall be paid by the tenderer to the company forthwith.

This is a specific urgent job (☐ Tick box if applicable)

21. SAFETY, SECURITY & RISKS

a. Hot work is carried out only in the areas earmarked for the purpose, after required safety precautions have been taken and only after obtaining written permission from the Site Engineer.

b. Any provision required to be made e.g. wind screens of G.C.I. Sheets etc. to make the area safe for hot work, will be made the successful tenderer at his own cost.

c. The successful tenderer and his man/men shall abide by all security/safety rules regulations in force at location and the laws, bye-laws and statutes of Government, semi-Government and other local authorities such as requirements/liability under enactments like the Workmen’s Compensation Act, Contract Labour Act etc. and the Company shall stand indemnified against any claims on these scores. The successful tenderer and his men shall strictly abide by ‘no smoking’ and other petroleum regulations on the premises.

22. WORKING HOURS

The work in the existing Company’s premises should be carried out during the Company’s normal working hours and without obstructing day-to-day work in the establishment. If any work is required to be carried out beyond normal working hours, prior permission should be obtained before undertaking such work.

23. FAILURE TO COMPLETE WORK

a. In the event of the successful tenderer failing to complete the work within the stipulated time, the Company shall have the right to employ any other agency to complete the remaining work at the risk & cost of the successful tenderer.

b. If will be the successful tenderer’s responsibility to get the works approved and obtain all certificates for plumbing, electrical, civil works from local, municipal, Governmental or other required authorities.

24. FREE ISSUE ITEMS BY COMPANY

Tanks, Pumps, pipelines, Posts, Equipments and/or any other materials to be supplied by the Company will be supplied anywhere within the site premises. Safekeeping, transporting and handling of the same to actual location of the site will
be the successful tenderer’s responsibility for which no extra payment will be made. Any damage or theft during his handling shall be on contractor’s account.

The Contractor shall furnish an Bank Guarantee covering cost of free issue items like Steel plates, line pipes etc while the materials are taken outside BPCL premises for fabrication/execution and are in custody of Contractor at given point of time.

25. RETURN OF UNUSED COMPANY ISSUED MATERIAL

Unless otherwise specified in the tender, all the unused serviceable scrap materials shall be the property of the owner and shall be returned in good and acceptable condition size wise, category wise by the Contractor at his own cost to Owner’s Store(s).

No credit will be given to the Contractor for the return of scrap. The Contractor should quote the rates accordingly.

In case the contractor fails to return unused/scrap materials, then recovery for such quantity of materials, not returned by the contractor shall be affected at 1.5 times of the landed cost of the material or current market price which ever is higher as the penal rates from the Contractor’s bills or from any other dues of the Contractor to the owner. Contractor shall make his own arrangements for weighing the off cuts to be returned to Owner’s stores.

26. OTHER CONDITIONS

During execution of work if it is found necessary to dismantle a portion of existing bund wall, enclosure wall, compound wall, fencing etc. to facilitate the movement of materials and equipment, the same shall be carried out after obtaining permission in writing from Company’s authorized representative and also made good by the contractor at his own cost.

The successful tenderer is expected to co-operate/co-ordinate with other contractor’s carrying out the work allocated to them so as to avoid breaking up of work already done by them or causing any hindrance in the progress of their work. In case there is any difficulty/dispute, the same should be immediately brought to the notice of the Site engineer.

If the work is required to be carried out in a working Depot, Installation, retail outlet etc. the progress of work is likely to be interrupted on account of operations in such units. Stowage of work under such circumstances shall not entitle the successful tenderer to claim any compensation for idling, machinery etc. during such interruptions.

The successful tenderer shall arrange for at least one competent supervisor to be present at site at all times during the progress of the work, which shall be duly authorized to take instructions and execute them on his behalf.

The successful tenderer and his man shall abide by all security / Safety rules / regulations in force at locations and the laws, bye laws, and statues of Government, semi-Government and other local authorities such as requirements / liability under enactment like the workmen’s Compensation Act, Contract Labour Act etc. and the
Company shall stand indemnified against any claims on these scores. The successful tenderer and his men shall strictly abide by “No Smoking” and other petroleum regulations on the premises.

a. “All contractors who employ more than 50 workers or where the contract value exceeds Rs. 50.00 crores, the following facilities are to be provided by the contractor at his own cost”:
   i. Arrangement for first aid
   ii. Arrangement for clean drinking water
   iii. Toilet facilities
   iv. Canteen where tea and snacks are available
   v. A crèche where 10 or more women workers are having children below the age of 6 years.

b. “The contractor shall ensure use of protective clothing, safety shoes, uniform, hard hats, safety harness, etc. for workmen employed by them.

c. “The services of a doctor shall be made available by contractor, at site, on a part time basis”.

Contractor will be responsible to provide all statutory benefits to the employees appointed by them and in case the Corporation is liable to make payment of any such statutory benefits to the employees of the Contractor as the principle employer, the contractor will be liable to indemnify the damage and loss suffered by the Corporation to that extent and corporation shall have liberty, without referring to the contractor to deduct such sum as may be suffered as loss or damage due to the aforesaid reason out of the pending bills of the contractor lying with the Corporation.

27. LOCAL CONDITIONS

a. Bidders are expected to be fully informed about all local conditions and factors, related acts and laws prevalent in India.

b. No claim for financial adjustment to the Contract/Purchase Order awarded under these specifications and documents will be entertained by BPCL.

28. INSURANCE

BPCL will arrange insurance policy covering Marine cum erection policy.

29. INTERIM PAYMENTS:

At the sole discretion of the Company, the contractor can receive up to 90% of the payment for the cost of work done. Interim bills should be duly supported by the measurements of work actually done. (All payments shall be subjected to deduction of Income Tax and any other statutory deduction as may be applicable from time to time).

30. FINAL BILLS / RETENTION MONEY:

a. On completion of the work to the satisfaction of the Company’s authorized representative and after clearing the debris, tools, tackles, shoring, centering, materials etc. from the site and obtaining necessary certificates as required from
the local authorities, the successful tenderer shall submit his final bill based on the jointly recorded measurements of actual work done.

b. The final bill of the job done should be raised, unless otherwise agreed by the Corporation in writing, within one month from the date of completion of the total job as per contract. Whether the job has been completed or not will be decided at the sole discretion of the Corporation. Payments of the final bill will be made after adjusting interim payments and retention amount deducted and retained.

c. The Corporation will be entitled to deduct 10% value of all Interim/running bills and in final bills as Retention Money for all jobs exceeding Rs.1,00,000/- and no interest will be paid on money retained by the Company.

d. The said retention money will be retained for a period of one year and paid to the Contractor after adjusting any dues of the Corporation against the Contractor under the workmanship/materials provided to the Contractor and/or against any other claims for any reason whatsoever under the Agreement which may arise within the said period of one year. The retention period of one year will commence from the date of completion of the job (as reckoned by BPCL).

e. Retention money shall be released against Performance Bank Guarantee of equivalent value, provided the tenderer opts for the same at the time submission of tender.

f. The successful tenderer shall not subject or assign any part of the work to another party, without the prior written consent of the Company. In any event the successful tenderer will be solely responsible for the work so sublet or assigned.

g. The Contractor undertakes to ensure due and complete compliance with all laws regulations, rules etc. whether of the Central Government or the State Government or any other competent authority applicable to the workmen employed or whose services are otherwise availed of by the Contractor, whether in connection with the construction work at the site or otherwise. The Employer shall have the right to inspect the records maintained by the Contractor concerning such workman from time to time and the Contractor to produce of the Employer’s inspection in order to ascertain whether or not the requirements of all such laws regulations, rules etc. have been complied by the Contractor. In the event of the any contravention of such laws, regulations rules etc. coming to light whether as a result of such inspection or otherwise, the Employer shall have the right to require the Contractor to effect such compliance within such time as the Employer may prescribe in that behalf and in the event of the Contractor failing to effect such compliance within the time prescribed by the Employer then the Employer shall without prejudice to his rights be entitled to withhold from the amount payable to the Contractor any amount payable to the workmen under any such laws, regulations or rules and to make payment thereof to the workmen. The Employer shall also have in that event the right to terminate the contract with immediate effect and to exercise powers reserved to the Employer under the contract as result of termination.

h. Special conditions, if any, pertaining to the tender is shown in Tender Schedule.
31. ARBITRATION CLAUSE

a) Any dispute or difference of any nature whatsoever, any claim, cross-claim, counterclaim or set off of the Company against the Contractor or regarding any right, liability, act, omission or account of any of the parties hereto arising out of or in relation to this agreement shall be referred to the Sole Arbitration of the Director (Marketing) of the Company or of some Officer of the Company who may be nominated by the Director (Marketing). The contractor will not be entitled to raise any objection to any such arbitrator on the ground that the arbitrator is an officer of the Company or that he has dealt with the matters to which the contract relates or that in the course of his duties as an Officer of the Company, he had expressed view on all or any other matters in dispute or difference. In the event of the arbitrator to whom the matter is originally referred being transferred or vacating his office or being unable to act for any reason, the Director (Marketing) as aforesaid at the time of such transfer, vacation of office or inability to act may in the discretion of the Director (Marketing) designate another person to act as arbitrator in accordance with the terms of the agreement to the end and intent that the original Arbitrator shall be entitled to continue the arbitration proceedings notwithstanding his transfer or vacation of office as an officer of the Company if the Director (Marketing) does not designate another person to act as arbitrator on such transfer, vacation of office or inability of original arbitrator. Such person shall be entitled to proceed with the reference from the point at which it was left by his predecessor. It is also a term of this contract that no person other than the Director (Marketing) of the Company or a person nominated by such Director (Marketing) as aforesaid shall act as arbitrator hereunder. The award of the arbitrator so appointed shall be final, conclusive and binding on all parties to the agreement subject to the provisions of the Arbitration & Conciliation Act, 1996 or any statutory modification or re-enactment thereof and the rules made there under for the time being in force shall apply to the arbitration proceedings under this clause.

b) The arbitrator shall have power to order and direct either of the parties to abide by, observe and perform all such directions as the arbitrator may think fit having regard to the matters in difference i.e. dispute, before him. The arbitrator shall have all summary powers and may take such evidence oral and/or documentary, as the arbitrator in his absolute discretion thinks fit and shall be entitled to exercise all powers under the Indian Arbitration & Conciliation Act 1996 including admission of any affidavit as evidence concerning the matter in difference i.e. dispute before him.

c) The parties against whom the arbitration proceedings have been initiated, that is to say, the Respondents in the proceeding, shall be entitled to prefer a cross-claim, counter claim or set off before the Arbitrator in respect of any matter in issue arising out of or in relation to the Agreement without seeking a formal reference of arbitration to the Director (Marketing) for such counter-claim, or set off and the Arbitrator shall be entitled to consider and deal with the same as if the matters arising therefore has been referred to him originally and deemed to form part of the reference made by the Director (Marketing).
d) The arbitrator shall be at liberty to appoint, if necessary any accountant or engineering or other technical person to assist him, and to act by the opinion so taken.

e) The arbitrator shall have power to make one or more awards whether interim or otherwise in respect of the dispute and difference and in particular will be entitled to make separate awards in respect of claims of cross claims of the parties.

f) The arbitrator shall be entitled to direct any one of parties to pay the costs to the other party in such manner and to such extent as the arbitrator may in his discretion determine and shall also be entitled to require one or both the parties to deposit funds in such proportion to meet the arbitrators expenses whenever called upon to do so.

g) The parties hereby agree that the courts in the city of Mumbai alone shall have jurisdiction to entertain any application or other proceedings in respect of anything arising under this agreement and any award of awards made by the Sole Arbitration hereunder shall be filed (if so required) in the concerned courts in the city of Mumbai only.

Tenderer should mention estimate of time for Weeks/ Months : completing the work shown in the tender.

I/We have read carefully the above terms and conditions of Tender and agree to abide by the same.

Signature of the Contractor (Or his Authorized representative)

Date:

Name / Seal of the Contractor:

Address:

STAMP & SIGNATURE OF BIDDER
SPECIAL CONDITIONS OF CONTRACT
PART ‘A’

1. GENERAL

a. Special Conditions of contract shall be read in conjunction with general conditions of the Contract, Scope of Work, Deliverables, SOR and any other document forming part of this contract wherever the contract so requires.

b. Notwithstanding the subdivision 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.

c. Where any portion of the general conditions of the contract repugnant to or at variance with any provision of special conditions of the contract, then unless a different intention appears, the provision(s) of the Special Conditions of contract shall be deemed to override the provisions of General Conditions of the contract only to the extent that such repugnancies of variations in the Special Conditions of the Contract as are not possible of being reconciled with the provisions of general conditions of contract.

d. The materials, designs and workmanship shall satisfy the applicable relevant Indian & International 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 requirements shall also be satisfied.

e. The manpower deployed for the project shall be qualified, experienced in the similar field and number of people shall be sufficient to carry out the activities without any delay.

f. Any addition or deletion from the scope will be regulated through pre-quoted rate by the bidder during execution of the contract.

2. SERVICE CONTRACT

The entire work as per scope of work, deliverables & included in the SOR covered under this contract shall be treated as "Service Contract".

3. SITE PARTICULARS

a. The intending to be tendered shall be deemed to have visited the site and familiarized him- self thoroughly with the site conditions before submitting the tender. Non- familiarity with the site conditions will not be considered & reasons other for extra claims or for not carrying out the work in strict conformity with the drawings and specifications.

b. Non-availability of access roads or railway siding or permits for entry of vehicles and equipment to any specific area shall in no case be the cause to condone any
delay in the execution of the works or be the cause for any claims or extra compensations.

4. SCHEDULE OF RATES

SOR shall be read in conjunction with special conditions of contract, general conditions of contract, technical specifications and any other document forming a part of this contract

5. TREASURE GROVE

If treasure, fossils, minerals of art or of antique interest be found during excavation or while carrying out the works, the contractor shall give immediate notice to the site engineer of any such discovery and shall hand over such finds in the custody of the Corporation.

6. ACCESS FOR INSPECTION

The contractor is to provide at all times during the progress of the works and the maintenance period proper means of access, with ladders, gangways etc. and the necessary attendance to move and adapt as directed for the inspector or measurement of the works by the Site Engineer.

7. GATEKEEPER AND WATCHMEN

The contractor from the time of being placed in possession of the site must make arrangement for watching, lighting and protecting all works, materials and workmen on all days including Sundays and holidays at his own cost.

8. SHEDS AND MATERIALS

The contractor shall provide sheds of adequate dimensions for storage and protection of all materials like cement, lime, timber and such other materials including tools and equipment which are likely to deteriorate by the action of sun, wind, rain or other natural causes due to exposure in the open.

All such sheds shall be cleared away and the whole area left in good order on completion of the contract to the satisfaction of the site engineer. All materials, which are stored on the site, shall be stacked in such a manner as to facilitate rapid and easy checking of quantities of such materials.

9. COST OF TRANSPORTATION

The contractor shall include in his quotation the cost of transportation, unloading, stacking and storing of all types of materials for their work on the site and at the places approved by the site engineer.

10. MATERIAL WORKMANSHIP AND SAMPLES

Materials shall be of approved quality and the best of their kind available and shall generally confirm to IS specification. The contractor shall order all materials required
to the execution of work as early as necessary and ensure that such materials are
on site well ahead of requirement for use in the work. The work-involved calls for
high standard of workmanship combined with speed and to the entire satisfaction of
the site engineer.

11. RATES TO INCLUDE

The quoted rate shall include cost of all material, like cement structural and
reinforcement steel, bitumen, tools, equipment/machinery, manpower for all leads
and lifts. The rates shall include all statutory taxes, duties, levies, Dctroi, and
turnover tax, work contract tax. * Please refer clause 9, on page 2 of this booklet.

12. TEST OF WORK AND MATERIALS

The contract shall, if required by the site engineer arrange to test materials and / or
portions of the works at his own cost in order to prove their soundness and
efficiency. If after any such test and work or portion of works are found in opinion of
the Site Engineer to be defective or unsound, the Contractor shall pull down and
redo the same at his own cost. Defective materials shall be immediately removed
from the site.

Please refer covering letter

13. FORMEN AND TRADESMEN

All tradesmen shall be experienced men and properly equipped with suitable tools
for carrying out all the work in a first class manner. Where the site in charge deem
necessary, the contractors shall provide any such tools, special or ordinary, which
are considered necessary for carrying out the work in proper manner. All such
tradesmen shall work under experienced and trained foremen, who shall be capable
of reading and understanding all drawing, pertaining to this work.

14. DRAWINGS

Drawings accompanying the tender document are indicative of scope of work and
issued for tendering purpose only. Purpose of these drawings is to enable the
tendered to make an offer in line with the requirements of the owner.

The contractor shall prepare Fabrication / Construction drawings for fabrication of
panel’s cable routing internal wiring diagram of panels etc. based on relevant
standards and get it approved from BPCL. General arrangements drawings on the
basis of which actual execution of work is to proceed will be furnished to the
contractor progressively based on the detailed execution drawing to be prepared by
the contractor. Approval of fabrication drawings, however, will not absolve the
contractor of his responsibility for the safety and correctness of the fabrication
details. No payment shall be made against fabrication drawings.
15. **TOOLS & TACKLES**

Contractor shall provide at his cost all types of construction equipment, crane, tools, tackles and all such materials required for timely completion of job in all respects to the entire satisfaction of engineer in charge.

16. **INCOME TAX RETURN**

Attested copy of the latest income tax return filed should accompany the tender.

17. **TENDER DOCUMENTS**

Tender should be submitted in the prescribed format supplied by the Corporation. All entries in the tender documents should be in ink and there should be no erasing or over writing. All corrections should be attested under the full signature of the contractor.

The contractor should study carefully all the tender documents and understand tender / contracts condition and quote their rates. All the rates given in the tender schedule should be expressed both in words and figures and where there is difference between the two, the rates given in words will be taken as authentic.

The rates quoted against the tender shall be valid up to 180 days from the date of opening of the tender and once the quotation is accepted and the order placed on the successful tendered, the rates shall be valid till the entire work is 100% complete.

18. **SCHEDULE OF QUANTITIES/RATES**

All transport and handling charges are on contractor account. Corporation will not reimburse any amount paid by contractor as Excise duty for any contract job including fabrication/erection/tank construction/bullets etc.

19. **PAYMENT**

The payment terms shall be as per Standard payment terms for each tender package as given in Annexure IV.*

Income tax deductions and any other statutory deductions shall be made as per existing practice.

20. **FIRM PRICE**

The prices quoted by the BIDDER should be firm and not subject to any price escalation.

21. **INFORMATION REQUIRED**

The following details are required for submission in Two (2) copies along with technical bid of tender
a. Details of similar works executed in last Two (2) years in the pro forma given in the document with names and postal address of clients along with copies of Letter of Intent work and other documents in evidence of award of work on the tender.

b. List of equipment proposed to be committed for work in pro forma given in Tender.

c. Site organization chart with bio-data of resident Engineer. Details of progressive built up envisaged skilled personnel at site.

d. Details of present commitments giving contract values details of work date of commencement of work, percentage completion as on date and schedule of completion.

e. Information about tendered in the pro forma given in the tender.

f. Income tax clearance and sales tax clearance certificate.

g. Power of Attorney in the name of person who has signed the tender document.

h. Solvency certificate from bankers.

i. Audited Balance Sheets and Profit and Loss Account Statements duly certified by Chartered Accountant in practice for the last three (3) years

22. STIPULATIONS AND DEVIATIONS TO TENDER CLAUSES

Tenderer are advised to submit quotations strictly based on the terms and conditions and specifications contained in the tender documents and are not to stipulate any deviations.

23. MEASUREMENT OF WORK

The contractor in the presence of the Engineer in charge or his representative will take the Measurement jointly. Payment will be made on the basis of these measurements. Measurements of weight will be the metric tons corrected to the nearest kilogram and will be made based on execution drawings. (Where weights are not indicated on the working drawings, packing lists as received from the suppliers will be consulted for determining the weights). All other measurements will be as per actual work executed at site. The weld metal weight will not be taken into consideration. Linear measurement will be in meters corrected to the nearest centimeter. If physical measurement is not practicable dimensions as given in the execution drawings shall be adopted.

24. LEADS

In case of variation between the leads mentioned in the specification and schedule of rates, the leads given in the schedule of rates shall prevail.
25. RECRUITMENT OF PERSONNEL BY CONTRACTOR

The contractor shall not recruit personnel of any category from among those who are already employed by other agencies working at site.

26. UNDERGROUND AND OVERHEAD STRUCTURES

All existing structures overhead lines, existing pipeline and utilities will be intimated to the contractor before taking up the execution of work. Contractor shall execute the work in such a manner that the said structure utilities, pipelines etc. are not disturbed / damaged.

27. BOUGHT OUT ITEMS

Regarding bought out items like pressure switches, inline inductor, foam tank, pressure / vacuum gauges, tendered to specify the brand name, Model no., Technical literature along with technical bid. Further the tenderer to specify the makes of the items -structural steel, bolts/studs/nuts in technical bid. Tenderer will be responsible for the guarantee of the supplied material and will be responsible for any correction during the guarantee period. Guarantee given by the manufacturer will not be sufficient. All test certificates for bought out items to be produced and submitted to BPCL.

28. COMPLETION DOCUMENTS

As a part of completion documents, the contractor shall submit in triplicate the following documents.

a. The technical documents according to which work was carried out.

b. Test/Calibration report certifying the details of test / calibration carried out on equipment/materials.

c. Materials appropriation statement for the materials issued by Owner for work, list of surplus materials returned to Owner’s store duly supported by necessary documents.

d. Six sets of as built drawings include Single line diagrams, Cabling layout, earth layout, lighting layout, internal wiring for all the panels, equipment manuals for all the suitable gears like ACBs etc. duly approved by engineer in charge and one set of reproducible on polyester film (dregs. Prepared by contractor, No payment is payable on this part)

e. The following documents will be deemed to form the completion documents, as applicable.

   i. The technical documents according to which the WORK was carried out.

   ii. Three sets of construction drawings showing therein the modifications and corrections made during the course of execution of work, duly signed by the ENGINEER-IN-CHARGE.
iii. Completion Certificate for ‘embedded’ and ‘covered up’ works.
iv. Certificate of final levels as set out for various works.
v. Certificates of tests performed for various works.
vi. Material appropriation statement for the materials issued by OWNER for the WORK and list of surplus materials returned to Owner’s stores duly supported by necessary documents.
vii. Manufacturing drawings of parts which need frequent replacements due to normal wear and tear during operation, if any.
viii. Any other documents as stated elsewhere and as per instruction of ENGINEER.
ix. Inspection Release notes / Material test certificate / batch certificates for the equipments materials / electrodes etc. supplied and incorporated by the contractor in the work.
x. 3 sets of the as-built construction drawings made by the contractor including one set of the original tracing sheets, duly certified by Engineer-in-Charge.
xi. Pre-commissioning / Commissioning check list.

29. FINAL DECISION AND FINAL CERTIFICATE

Upon the expiration of the DEFECT LIABILITY PERIOD and subject to the ENGINEER-IN-CHARGE being satisfied that the WORK has been duly completed by the CONTRACTOR and performed all his obligations under the CONTRACT, the ENGINEER-IN-CHARGE shall (without prejudice to the rights of OWNER to retain the provisions of relevant clause thereof) otherwise give a certificate herein referred to as the FINAL CERTIFICATE to that effect and the CONTRACTOR shall be not considered to have fulfilled the whole of his obligations under the CONTRACT until FINAL ACCEPTANCE CERTIFICATE shall have been given by the ENGINEER-IN-CHARGE notwithstanding any previous entry upon the WORK and taking possession, working or using of the same or any part thereof by the OWNER.

30. CERTIFICATE AND PAYMENTS NO EVIDENCE OF COMPLETION

Except the FINAL CERTIFICATE no other certificates or payment against a certificate or on general account shall be taken to be an admission by OWNER of the due performance of the CONTRACT or any part thereof or of occupancy or validity of any claim by the CONTRACTOR.

31. LIMITATION OF LIABILITIES

The final payment by the OWNER in pursuance of the CONTRACT terms shall not mean release of the CONTRACTOR from all his liabilities under the CONTRACT. The CONTRACTOR will be liable and committed under this CONTRACT to fulfill all his liabilities and responsibilities, till such time Contract-cum-Equipment Performance Bank Guarantee is released by the OWNER. The total liability of the contractor shall be limited to the contract value and the contractor shall not be held liable for consequential damages.
32. SITE CLEANING

The contractor shall take care for cleaning the site from time to time for easy access to work site and also from safely point of view. Working site should be always kept cleaned up to the entire satisfaction of the engineer in charge. Before handing over any work to owner, the contractor in addition to other formalities to be observed as detailed in the document shall clear the site to entire satisfaction of engineer in charge.

33. QUALITY ASSURANCE / QUALITY CONTROL FOR ITEM WORKS CONTRACTS

Tenderness shall include in his offer the quality assurance program containing the overall quality management and procedure, which is required to be adhered to during the execution of contract. After the award of the contract detailed quality assurance program to be followed for the execution of contract under various divisions of words will be mutually discussed and agree to. The contractor shall establish document and maintain an effective quality assurance system as quoted in recognized codes.

Quality Assurance system plans/ procedures of the contractor shall be furnished in the form of QA manual. This document should cover details of the personnel responsible for Quality Assurance, Plans or procedures responsible for quality control in respect design. Engineer procurement, supply, installation, testing and commissioning. The quality assurance system should indicate organizational approach for quality control and quality assurance of the construction activities at all stages of work at site as well as at manufacturer’s works and dispatch of materials. The owner or their representative shall reserve the right to inspect/witness review any or all stages of work at shop/site as deemed necessary for quality assurance.

34. FINAL INSPECTION

After completion of all tests as per specification, the work will be subject to a final inspection to ensure that job has been completed as per requirement. If any defects noticed in the work are attributable to contractor the contractor at his own cost as and when the owner brings them to his notice shall attend these. The owner shall have the right to have these defects rectified at the risk and cost of the contractor if he fails to attend to these defects immediately.

35. ADDENDA/CORRIGENDA

Addenda / Corrigenda to the tender documents may be issued prior to the date of opening of the tenders to clarify documents or to effect modification in the design or contract term. Each addenda / corrigenda will be issued to each person or organization to which a set of tender document has been issued. All addenda /corrigenda issued shall become part of tender document.

36. FIELD MANAGEMENT

The field management will be responsibility in charge that will be nominated by the owner. The engineer in-charge may also authorize his representative to perform his duties and function. Co-ordination of work: The engineer in-charge shall coordinate
the work of various agencies engaged at site to ensure minimum disruption of work
carried out by different agencies. It shall be responsibility of the contractor to plan
and execute strictly in accordance with the site instructions to avoid hindrance to the
works being executed by other agencies.

37. INTERPRETATION OF CONTRACT DOCUMENT

Except if and the extent otherwise provided by the contract, the provisions of the
General conditions of contract and special conditions shall prevail over those of any
other documents forming part of the contract. Several documents forming the
contract are to be taken as mutually explanatory. Should there be any discrepancy
inconsistency error or omission in the contracts or any of them the matter may be
referred to engineer in-charge, who shall give his decisions and issue to the
contractor, the instructions directing in what manner the work is to be carried out.
The decision of the engineer in-charge shall be final and conclusive and the
contractor shall carry out in accordance with this decision. Works shown upon the
drawing but not mentioned in the specifications or described in the specifications
without being shown on the drawings shall nevertheless beheld to be included in the
same manner as if they had been specially shown upon the drawing and described
in the specifications. Headings and marginal notes to be clauses of the General
conditions of Contract or to specifications or to any other tender documents are
solely for the purpose of giving a concise indication and to a summary of the
contents thereof. And they shall never be deemed to be part thereof or be used in
the interpretation or construction there of the contract.

In these contract documents unless otherwise stated specially, the singular shall
include the plural and vice-versa wherever the context so requires. Words indicating
persons shall include relevant corporate companies registered as association’s body
of individuals / firm or partnership.

38. FORCE MAJEURE

Any delay in or failure of the performance of either part hereto shall not constitute
default hereunder or give rise to any claims of damages, if any to the extent such
delays of failure of performance is caused by occurrences such as Acts of God or
public enemy or confiscation of facilities as Govt. Authorities compliance with any
order or request of any Government authorities acts of war, rebellion or sabotage or
fires, floods, explosions, riots or strikes. The contractor shall keep records of the
circumstance referred to above and bring these to the notice of engineer in charge
in writing immediate on such occasions.

39. OWNER’S RISK AND COMPENSATION EVENTS

a. Owners Risks: The owner is responsible for the excepted risks, which are

i. War, hostilities, invasion, act of foreign enemies, rebellion, revolution,
   insurrection of military or usurped power, or civil war;
   ii. Riot, commotion, disorder, unless solely restricted to employees of the
       contractor or his sub-contractor and arising from the conduct of the works;
   iii. Contamination by radio activity from any nuclear fuel, or from any nuclear w
       radioactive toxic explosive;
iv. A cause due solely to the design of the Works, other than the Contractors' design;
v. Pressure waves caused by aircraft or other aerial devices traveling at sonic or supersonic speeds;
vi. Flood, tornadoes, earthquakes and landslides;
vii. Loss or damage due to the use or occupation by the Employer of any Section or part of the Permanent Works except as may be provided for in the Contract;
viii. Any operation of the forces of nature (in so far as it occurs on the site) which an experienced contractors could: * not have reasonably foreseen or could * reasonably have foreseen, but against which he could not reasonable have taken at least one of the following measures:

I. Prevent loss or damage to physical property from occurring by taking appropriate measures; and
II. Insure against.

b. Compensation Events: The compensation events mutually agreed should be provided in the contract document.

c. In the event of any such loss or damage happening from any of the owners risks defined in (a) above, as in combination with other risks, the contractor shall, if so required by the owner, rectify the loss or damage. An addition to the contract price shall be determined treating the work done as variation / extra / substituted item, as given in the relevant clauses.

d. Whenever any compensation event occurs, the contractor will notify the owner, within 14 days and provide a forecast cost of the compensation event. As soon as information demonstrating the effect of such event is available, the owner shall assess the compensation to be paid. In case contractors forecast is deemed unreasonable, the owner shall adjust the contract price and/or extend the completion date based on his assessment.

40. CONTRACTOR'S OFFICE AT SITE

The contractor shall provide and maintain an office at his own cost at the site for the accommodation of his agent and staff and such office shall be open at all reasonable hours to receive instruction, notice or other communications. After the job is over, contractor should remove all the structure, material and hand over the clean site to owner.

41. COMPLETION CERTIFICATE

Within a month of the completion of the work in all respects the contractor shall be furnished with a certificate by the engineer in charge of such completion, but no certificate shall be give nor shall the work be deemed to have been executed until all scaffolding surplus materials and rubbish are cleared off the site completely or until the work shall have been measured by the engineer in charge whose measurement shall be binding and conclusive. The work will not be considered complete and taken over by the owner, until all the temporary works, labour and staff colonies etc. constructed are removed and the work site cleaned to the satisfaction of the engineer in charge.
If the contractor shall fail to comply with the requirements of this clause on or before the date fixed for the completion of the work, the engineer in charge maybe at the expense of the contractor remove such scaffolding, surplus materials and rubbish and dispose of the same as he thinks fit and clean off such dirt as aforesaid and the contractor shall forthwith pay the amount of all expenses so incurred and have no claim in respect of any such scaffolding or surplus materials as aforesaid except for any sum actually realized by the sale thereof.

42. COMPLETION CERTIFICATE DOCUMENTS

a. The technical documents according to which the work was carried out.
b. The sets of construction drawing/as built drawing showing therein the modification and corrections made during the course of execution signed by the engineer in charge along with one set of non-terrible tracing.
c. Completion certificate for embedded and covered up works.
d. Certificates of tests performed for various works.
e. Certificates of final levels as set out for various works.
f. Material appropriation statement for the materials issued by the owner for the works and list of surplus materials returned to the owner’s store duly supported by necessary documents.
g. Test certificate of materials supplied by contractor.

43. WATER AND POWER

The owner will provide no water and power. Contractor shall make his own arrangements for the same at his own cost.

44. TIME SCHEDULE

The works shall be executed strictly as per the time schedule. Monthly / weekly construction programs will be drawn up by the engineer in-charge jointly with the contractor based on availability of materials. Work fronts etc. The contractor shall scrupulously adhere to the targets / programs by deploying adequate personnel, construction equipment, tools and tackles and also timely supply of required materials coming within his scope of supply as per contact. In all matters concerning the extent of targets set out in the monthly weekly program and the degree of achievements. The decision of engineer in-charge will be final and binding on the contractor.

45. PROOF OF PAYMENT IN CASE OF STATUTORY OBLIGATIONS

Payment will be released on production of documentary evidence for deposit of provident fund and ESI, as applicable.

46. RETENTION MONEY

This shall be applicable to all Works Contracts above Rs. 1 Lakhs. Payment for each of the running bills of the Contractors shall be limited to 90% of the value of work certified. At the end of the contracted work, 10% retained value as above will be converted to retention money to protect the company from loss arising from any defects in the contracted work, for a period of not less than 6/12 months as the case
may be. On specific confirmation from the USER Department and authorization by the Project Leader, Retention money may be refunded on the completion of retention period. This amount can be paid before the retention period against Bank guarantee for the like amount as per the proforma as per Annexure-IX.

47. EXCISE DUTY ON WORKS CONTRACT

No excise duty on works contracts for the work done at owner’s premises is applicable. BPCL will neither entertain any claim nor reimburse any such amount paid by contractor for the subject work.

48. ESCALATION

The prices quoted shall be kept firm till the completion of the work and no escalation of whatsoever nature will be allowed on the subject work. The bidders are expected to quote reasonable prices in respect of all unit rate items. They shall be able to explain wherever rates are abnormally very high or very low.

49. USE OF PRODUCT WITH STANDARD SPECIFICATION

Bidders are advised to provide the product as per the standard specification as laid down in NIT.

50. ABNORMAL RATES

The Contractor is expected to quote rate for each item after careful analysis of the cost involved for the completion of item, considering all specifications and conditions of contract. This will avoid loss of profit or gain, in case of curtailment or change of specification for any item. In case it is noticed that the rates for any item quoted by the tenderer unusually are high or unusually low it will be sufficient cause for the rejection of tender unless the owner is convinced about the reasonableness of the rates on scrutiny of the analysis for such rate to be furnished by the tenderer on demand. In the rate contract where the quoted rates for the items exceed 25 % of the owner’s estimated rates, such items will be considered as abnormally high rates items(AHRs) and payments of AHR items beyond the SOR stipulated quantities shall be made at the least of the following rates:

I. Rates as per SOR , quoted by the contractor

II. Rates of the items , which shall be derived as follows:

a. Based on the rates of machines and labour as available from the contract (which includes contractor’s supervision, profit, overheads and other expenses)

b. In case rates are not available in the contract , rates will be calculated based on prevailing market rates of machine, material and labour plus reasonable escalation to cover contractor’s supervision profit, Transportation, overhead and other expenses.
SCOPE OF WORK

1. VARIATIONS, EXTRA / SUBSTITUTED ITEMS / NEW ITEMS

   a. Variation permitted should be ± 25% in quantity of each individual item, and ± 10% of the total contract price. Within 14 days of the date of instruction for executing varied work, extra work or substitution, and before the commencement of such work, notice shall be given either (a) by the contractor to the owner of his intention to claim extra payment or a varied rate or price or (b) by the owner to the contractor of his intention to vary a rate or price.

   b. For items not existing in the Bill of Quantities or substitutions to items in the Bill of Quantities, rate payable should be determined by methods given below and in the order given below:
      i. Rates and prices in Contract, if applicable;
      ii. Rates and prices in the Schedule of Rates applicable to the Contract +/- tendered percentage, where appropriate;
      iii. Market rates of materials and labor, plus 10% for overheads and profits of contractor.

   c. If there is delay in the owner and the contractor coming to an agreement on the rate of an extra item, provisional rates as proposed by the owner should be payable to such time as the rates are finally determined.

   d. For items existing in the Bill of Quantities but where quantities have increased beyond the variation limits, the rate payable for quantity in excess of the quantity in the Bill of Quantity shall be Rates and prices in contract, itself.

   e. All those items which are not covered in the schedule of rates of the contract document shall be treated as “new item / extra item”.

   f. The rates for these items shall be derived based on mutual understanding between the contractor and BPCL on the basis of either of the following or in combination with one another method:
      i. By extrapolating from the available SOR of the contract to derive the new rate.
      ii. Adopting the rates of similar items from any other contract being executed in the same vicinity.
      iii. Adopting the rates of similar items from any other contract being executed in the same area / region by any other oil industry / PSU.
      iv. Adopting the rates from an old / completed contract with suitable escalation.
      v. Working out the new rates from the first principles and surveying the prevailing market rate in the region.

2. CONTRACTOR’S SCOPE OF SUPPLY

   The procurement and supply in sequence and at the appropriate time of all materials and consumables including structural steel required for completion of works as per drawing and specification except the materials specification listed under owner’s scope of supply shall entirely be the contractor’s responsibility. All these materials are to be supplied at site with Test Certificate heat mark and all other related papers. The items to be supplied by the contractor are in general but not limited to the following.
3. MATERIALS FOR CONSTRUCTION

As per the technical specifications enclosed along with the tenders.

4. FREE ISSUE MATERIALS:

a. Contractor to arrange for taking delivery of free issue materials from BPCL storage yard / stores to fabrication site.
   b. The Contractor has to furnish indemnity bond (format enclosed) equivalent to the cost of the materials prior to issuance of pipes, pipe fitting, values etc.
   c. The responsibility of the free issue items rests with the fabricator against theft, damage during transit / fabrication once they have been issued to the contractor.

B. ACCOUNTING

1. Surplus Material and Scrap

For Material Supplied by Owner

STANDARD PAYMENT TERMS FOR WORKS CONTRACTS

The payment terms given below are subjected to the following condition:

a) Monthly progressive payments shall be made towards the work completed as per the payment terms and as per agreed rates, against running account bills submitted by the contractors.
   b) There will be a deduction of 10% towards retention amount from every running account bills, which may be released against equivalent performance bank guarantee on completion of all jobs. PBG shall be submitted at the time of making agreement (option for PBG in lieu of retention money shall be exercised at the time of submitting bid.
   c) Necessary deductions shall be made towards income tax, works contract tax etc. as applicable as per terms of contract.
   d) All bank charges towards Demand draft, payment through banks etc. if any shall be borne by the contractor.
   e) Payment shall be effected in Electronic mode only.

PLEASE ensure you provide us the Bank details with a copy of crossed cheque to capture MICR CODE. NEFT mandate form duly signed and verified by banker shall be submitted for effecting payments.
1. CONTRACT

The contractor shall mean the totality of the agreement between BPCL and the successful contractor for the execution of work including all documents such as general condition of contracts, special conditions of contract, specifications, drawings, schedule of rates / quantities, all correspondences between BPCL & Contractor and LOI etc.

2. INTERIM PAYMENTS

At the sole discretion of the Company, the contractor can receive upto 90% of the payment for the cost of the work done. Interim bills should be duly supported by the measurements of work actually done. (All payments shall be subjected to deduction of Income Tax and any other statutory deduction as may be applicable from time to time)

3. FINAL BILL / RETENTION MONEY

On completion of the work to the satisfaction of BPCL and after clearing the debris, tools, tackles, materials, etc. from the site, the contractor shall submit his final bill based on the jointly recorded measurements of actual work done. Payment of final bill will be made after adjusting interim payments, outstanding mobilisation advance, recoveries (if any), and retention amount deducted and retained.

a. Retention Money equivalent to 10% of the total cost of works done will be deducted from the final bill. NO interest will be paid on money retained by the Company. Retention money shall be paid to the contractor after 12 months from the date of completion of job after adjusting any dues / claims of the Corporation against the Contractor for any reason whatsoever under the agreement which may arise within the period of 12 months. On specific request of the contractor, BPCL may agree to release the retention money on submission of Bank Guarantee (in approved format) of equivalent amount valid till 12 months from the date of completion of job.

b. On specific request of the contractor, BPCL may agree to release Retention Money of Running/Final Bill against Performance Bank Guarantee (in approve format), valid till 12 months from the date of completion of job plus a lodgment period of 6 months, provided such request is received in writing at the time of responding to the Tender Enquiry and PBG is submitted along with the duly acknowledged agreement. No mid-course release of Retention Money shall be entertained till the end of defect liability period.

4. SETTING OUT

The contractor shall set out the facility in accordance with the plans. All grid / centerlines shall be pegged out to the satisfaction of the Site Engineer. The contractor shall be responsible for the correctness of the lining out and any inaccuracies are to be rectified at his own expense". 
5. INSPECTION OF SITE

The contractor shall visit the examine the construction, site and satisfy himself about the Nature of the existing roads or other means of communication, the characteristics of the soil and excavations, the extent and magnitude of the work required and facilities available for obtaining materials and shall obtain generally, his own information on all matters affecting the execution of the work. No extra charge made in consequence of any understanding of incorrect information or any of the point or on the grounds of insufficient description will be allowed. All expenses incurred by the contractor in connection with obtaining, information for submitting this tender shall be borne by the contractor and no claims for reimbursement, whatsoever shall be entertained.

6. ACCESS FOR INSPECTION

The contractor is to provide at all times during the progress of the works and the maintenance period proper means of access, with ladders, gangways etc. and the necessary attendance to move and adapt as directed for the inspection or measurement of the works by the Site Engineer.

7. WATER AND ELECTRIC SUPPLY

The contractor will make their own arrangement for water and power required, to complete the job under the scope of this tender. Contractor shall include the cost of water and power in their quotation and no additional payment will be made on this account. If need be the contractor shall mobilize DG sets to complete the work within stipulated time at their own cost.

8. GATEKEEPER AND WATCHMAN

The contractor from the time of being placed in possession of the site must make arrangements for watching, lighting and protecting all the works, materials and workmen on all days including Sundays and holidays at his own cost.

9. SHEDS FOR MATERIALS

The Contractor shall provide sheds of adequate dimension for storage and protection of all materials like cement, lime, timber and such other materials including tools and equipment which are likely to deteriorate by the action of sun, wind, rain or other natural causes due to exposure in the open. All such sheds shall be cleared away and the whole area left in good order on completion of the contract to the satisfaction of the Site Engineer. All materials which are stored on the site, shall be stacked in such a manner as to facilitate rapid and easy checking of quantities of such materials.

10. COST OF TRANSPORTING

The contractor shall include in his quotation the cost of transportation, unloading, stacking and storing of all types of free issue materials issued for their work on the site and at the places approved by the Site Engineer.
11. MATERIALS, WORKMANSHIP & SAMPLES

Materials shall be of approved quality and the best of their kind available and shall generally conform to IS specifications. The contractor shall order all the materials required for the execution of work as early as necessary and ensure that such materials are on site well ahead of requirement for use in the work. The work involved calls for high standard of workmanship combined with speed and to the entire satisfaction of the Site Engineer.

12. TESTING OF WORK AND MATERIALS

The contractors shall, if required by the Inspector / Site Engineer, arrange to test materials and / or portions of the works at his own cost in order to prove their soundness and efficiency. If after any such test the work or portion of works are found in the opinion of the Site Engineer to be defective or unsound, the contractor shall pull down and redo the same at his own cost. Defective materials shall be immediately removed from the site.

13. MECHANICAL PLANT

The contractor will be required to provide and maintain in working order the following power driven equipments during the construction work

a. Concrete Mixers Hopper type of at least 200 litre capacity.

b. Immersion type vibrators for consolidating concrete in RCC ring for foundation. Vibrators shall be adequate in number, A set of stand by vibrator shall also be maintained on the site of work

c. Pumps for bailing out water / pumping in tanks.

d. Plate rolling m/c, welding equipments, gas cutters.

e. All equipments required for shot blasting like air compressors, spray guns etc.

f. Any other machinery ordered by the Site Engineer.

14. WORK PROGRAMME

After mobilization at site successful contractor shall submit the detail bar chart in consultation with the Site Engineer for approval.

15. CLEARING OF SITE

The contractor shall after completion of the work, clear all debris and left over materials at site at his own expenses and to the entire satisfaction of the Site Engineer.

16. INSPECTION OF RECORDS

The owner shall have the right to inspect the records maintained by the contractor concerning workmen and labour laws and regulation from time to time. In the event of any contravention of such laws, regulations, rules etc. the owner shall have the right to require the contractor to effect such compliance within such time as the owner may prescribe in the behalf and in the event of the contract failing to effect
such compliance within the time prescribed by the owner then the owner shall without prejudice to his other rights, be entitled to withheld form the amount payable to the workmen under any such laws, regulations or rules and to make payment thereof to the workmen.

The owner shall also have in that event the right to terminate the contract with immediate effect and to exercise powers reserved to the owner under the contract as a result of termination.

17. PERFORMANCE / FAILURE OF CONTRACTOR

a. If the performance of the successful tenderer is found to be unsatisfactory, the Owner reserves the right to cancel in part or whole the contract and get the work executed through alternate means at the entire risk and cost of the successful tenderer.

b. The successful tenderer shall not undertake on his own any change in specifications mentioned in the tender documents. In case of doubt he will refer the matter the work involving change in original specifications, quantities / additional items of work should be covered by obtaining suitable variation order(s) from the Owner / Site-in-charge immediately.

c. If the contractor after receipt of written notice from the site-in-charge requiring compliance within 10 days fails to carry out and execute any work in accordance with this contract and or to comply with site-in-charge’s instructions then the owner with the consent of the site-in-charge.

And without prejudice to its right to terminate his contract and may employ and pay other persons to execute any such work what so ever that may be necessary to give effect there of, and all costs incurred in connection there with shall be recoverable from the contractor by the owner as a debt and may at the option of the owner be deducted from any money due or to become due to the contractor.

18. TERMINATION OF CONTRACT BY THE OWNER

If the contractor being an individual or a firm commits any “Act of Insolvency” or .shall be adjudged as insolvent or being incorporated Company shall have an order for compulsory winding up made against it, or pass an effective resolution for winding up voluntarily unable to carry out and fulfill the contract and to give security therefore, if so required by the Site-in-charge, or if the Contractor (whether an individual firm or Incorporated Company) shall suffer execution to be issued, or shall suffer any payment under this contractor to be attached by or on behalf of the creditors of the Contractor, or shall assign or charge encumber or sublet this contract without the consent in writing of the Owner first obtained or shall charge or encumber due to contractor there under, or if the Site-in-charge shall certify in writing to the owner that the Contractor:

A. has abandoned the contract, or
B. has failed to commence the works or has without any lawful excuse under these conditions, suspended the progress of the works for 14 days after receiving from the site-in-charge written notice to proceed, or

C. has failed to proceed with the works with such due diligence and failed to make such due progress as would enable the works to be completed within the time agreed upon or

D. has failed to remove materials from the site or to pull down and replace work for seven days after receiving from the site-in-charge written notice that the said materials or work were condemned and rejected by the site-in-charge under these conditions.

E. has used sub-standard or inferior material or materials not conforming to the specifications or has employed inferior workmanship in carrying out the works or part thereof or has not exercised due diligence in execution of the said works, or

F. has neglected or failed persistently to observe and perform all or any of the acts, deeds, matters or things by this contract to be observed and performed by the contractor for three days after written notice shall have received by the Contractor requiring the contractor to observe or perform the same.

G. has to be detriment of good workmanship or in defiance of the site-in-charge’s instructions to the contrary, sublet or subcontracted any part of the contract, or

H. has failed to comply with the site-in-charge instructions or

I. has in the opinion of site-in-charge committed any breach of this contract then and in any of the said case the Owner with the written consent of the Site-in-charge may notwithstanding any previous waiver, after giving seven days notice to the contractor, terminate the contract, but without hereby affecting the right of the owner or the powers of the Site-in-charge or the obligations and liabilities of the contractors in respect of work, the contract shall continue in force as fully as if the contract has not been so terminated and the obligations of the contractor in respect of work subsequently executed shall continue has if the work subsequently executed has been executed by or on behalf of the contractor. And further, the owner by its agents or servants shall be entitled forthwith to enter upon and take possession of the works and all plant, tools scaffoldings, sheds, machinery, steam and other power implements, machinery, equipments and materials lying upon the site or the adjoining lands of roads and use the same as its own property and to employ the same by means of its own servants and workmen in carrying on and completing the works or by employing any other contractor and the contractor shall not in any way interrupt or do any act, matter of things to prevent intimidate or hinder such other contractor or other person or persons employed for completing and finishing or using Jthe materials and plant for the works, When the works shall be completed and or as soon as thereafter as convenient, the site-in-charge shall give a notice in writing to the contractor to remove his surplus materials and plant, and should the contractor fail to do so within the period of 14 days after receipt thereof by him, the Owner shall sell the same either by public auction or private sale and shall give credit to the contractor for the amount realised. The site-in-charge shall thereafter ascertain
and certify in writing under his hand what (if any thing) shall be due or payable to or by the Owner for the value of the said plant and materials so taken possession of by the Owner, the expenses or loss which the Owner shall have been put to in procuring the works to be completed and the amount if any, owning to the contractor and the amount which shall be so certified, shall thereupon be paid by the Owner to the contractor or by the contractor to the Owner, as the case may be and the certificate of the site-in-charge shall be final and conclusive and binding on the parties hereto. In the event of termination under this clause, the owner shall not be bound by any provision of this contract to make any further payment to the contractor until the said works are completed.

19. INSURANCE

Contractor shall at his own expenses carry out and maintain insurance with reputable Insurance companies to the satisfaction of the Owner as follows:

20. EMPLOYEES STATE INSURANCE ACT

The contractor hereby accepts all liabilities for the due compliance with the provisions of the Employees State Insurance Act 1948. The contractor further agrees to defend, indemnify and hold the Owner harmless against any claim, action, suit or proceedings brought against the Owner by the Central and State Authorities and or any person under the said Employees State Insurance Act. The contractor undertakes to file with the Employees State Insurance Corporation the prescribed forms which may be required in respect of the contractors / sub contractors employees whose or aggregate remuneration is not above Rs.3000/- per month or those covered by the ESI Act or under any amendment of the Act, from time to time. The contractor shall deduct and secure the agreement of the sub contractor to deduct the employee’s contribution as per the act from wages and shall also remit the relevant amount to ESI. The contractor shall ensure proper maintenance of all cards and records as required under the act for contributions made by the employees and expenses incurred in this behalf shall be borne by the Contractor / Sub Contractor. The owner shall retain such sum as may be necessary from the total contract value until the contractor shall furnish satisfactory proof that all contributions as required by ESI Act, 1948 have been paid by the Contractor, and or the owner shall have also the right to demand or deduct a fixed sum from each bill payable and retain the same to pay and meet with or adjust any claim or due claimed by any person, including State and Central Governments, in this respect and the contractor shall have no right claim refund or return of the said money from the Owner except on satisfactorily producing proof of his having already met the same to the Owner.

20.1 WORKMEN’S COMPENSATION AND EMPLOYEE’S LIABILITY INSURANCE

Insurance shall be effective for all Contractors employees engaged in the performance of this contract. If any of the work is sublet, after necessary approval by the owner, the contractor to provide workmen’s compensation and Employer’s liability Insurance for the latter employees, if such employees are not covered under the contractor’s Insurance.
20.2 ANY OTHER INSURANCE REQUIRED UNDER LAW OR REGULATION BY OWNER

Contractor shall also carry and maintain any and all other Insurance, which may be required under any law or regulation from time to time.

20.3 AUTOMOBILE LIABILITY INSURANCE

Contractor will carry and maintain automobile Liability Insurance to cover all risks to Owner for each of his vehicle plying on works of this contract and these insurance shall be valid for the total contract period. No extra payment will be made for this insurance. Owner shall not be liable for any damage or loss not made good by the insurance company should such damage or loss result from unauthorized use of the vehicle.

20.4 LABOUR ACTS

The Contractor shall comply with all provisions of applicable Labour Acts, such as
(a) The Minimum Wages Act 1948.
(b) The Factories Act 1948.
(c) The Contract Labour (Regulations & Abolition) Act 1970.
(d) The Building & other Construction Workers Act 1996.
(e) The Employees State Insurance Act 1948..

20.5 LABOUR WELFARE MEASURES

The contractor shall extend all welfare measures to his workmen in line with provisions given in labour acts mentioned in previous para. Some of those are mentioned below :-

First Aid box Treating injuries by a qualified and experienced medical practitioner.
Arrangement for hospitalization, if needed. Payment of wages / PF / ESI etc. as per relevant labour act and maintaining proof of the same.

Ensuring fitness of workers and maintaining hygiene.

Arrangements for clean & cold drinking water.
Separate toilet and washing facilities for male and female.

Canteen facility, if obligatory under labour act.
Crèche, if obligatory under labour act.

20.6 SALIENT FEATURES OF SOME MAJOR LAWS APPLICABLE TO ESTABLISHMENTS ENGAGED IN BUILDING AND OTHER CONSTRUCTION WORK.

(a) Workmen Compensation Act 1923:- The Act provides for compensation in case of injury by accident arising out of and during the course of employment.
(b) Payment of Gratuity Act 1972 :- Gratuity is payable to an employee under the Act on satisfaction of certain conditions on separation if an employee has completed
5 years service or more on death at the rate of 15 days wages for every completed year of service. The Act is applicable to all establishments employing 10 or more employees.

(c) Employees P.F. and Miscellaneous Provision Act 1952:- The Act provides for monthly contributions by the employer plus workers @ 12%/8.33%. The benefits payable under the Act are:
   i) Pension to family pension on retirement or death, as the case may be.
   ii) Deposit linked insurance on the death in harness of the worker.
   iii) Payment of P.F. accumulation on retirement/death etc.

d) Maternity Benefit Act 1951:- The Act provides for leave and some other benefits to workmen/employees in case of confinement or miscarriage etc.

e) Contract Labour (Regulation & Abolition) Act 1970:- The Act provides for certain welfare measures to be provided by the Contractor to contract labour and in case the Contractor fails to provide, the same are required to be provided, by the Principal Employer by Law. The Principal Employer is required to take Certificate or Registration and the Contractor is required to take license from the designated Officer. The Act is applicable to the establishments or Contractor of Principal Employer if they employ 20 or more contract labor.

f) Minimum Wages Act 1948:- The Employer is supposed to pay not less than the Minimum Wages fixed by appropriate Government as per provisions of the Act if the employment is a scheduled employment construction of Building, Roads, Runways are scheduled employment. No Labour below the age of eighteen years shall be employed on the work.

g) Payment of Wages Act 1936:- It lays down as to by what date the wages are to be paid when it will be paid and what deductions can be made the wages of the workers.

h) Equal remuneration Act 1979:- The Act provides for payment of equal wages for work of equal nature to Male and Female workers and for not making discrimination against Female employees in the matters of transfers, training and promotions etc.

i) Payment of Bonus Act 1965:- The Act is applicable to all establishments employing 20 or more employees. The Act provides for payments of annual bonus subject to a minimum of 8.33% of wages and maximum of 20% of wages to employees drawing Rs. 3500/- per month or less. The bonus to be paid to employees getting Rs. 2500/- per month or above upto Rs. 3500/- per month shall be worked out by taking wages as Rs. 2500/- per month only. The Act does not apply to certain establishments. The newly set-up establishments are exempted for five years in certain circumstances. Some of the State Governments have reduced the employment size from 20 to 10 for the purpose of applicability of this Act.

j) Industrial Disputes Act 1947:- The Act lays down the machinery and procedure for resolution of industrial disputes, in what situations a strike or lock out becomes illegal and what are the requirements for laying off or retrenching the employees or closing down the establishment.

k) Industrial Employment's (Standing Orders) Act 1946:- It is applicable to all establishments employing 100 or more workmen (employment size reduced by some of the States and Central Government to 50). It provides for laying down rules governing the conditions of employment by the Employer on matters provided in the Act and get same certified by the designated Authority.
l) Trade Unions Act 1926:- The Act lays down the procedure for registration of trade union of workmen and employers. The Trade Union registered under the Act has been given certain immunities from civil and criminal liabilities.


n) Inter-State Migrant workmen’s (Regulation of Employment & Conditions of Service) Act 1979:- The Act is applicable to an establishment which employs 5 or more inter-state migrant workers through an Intermediary (who has recruited workers in one state for employment in the establishment situated in another state). The Inter-State migrant workers, in establishments to which this Act becomes applicable, are required to be provided certain facilities such as housing, medical aid, traveling expenses from home upon the establishment and back, etc.

o) The Building and other Construction workers (Regulation of Employment and Conditions of Service) Act 1996 and the Cess Act of 1996 :- All the establishments who carry on any building or other construction work and employs 10 or more workers are covered under this Act. All such establishments are required to pay cess at the rate not exceeding 2% of the cost of construction as may be modified by the Government. The Employer of the establishment is required to provide safety measures at the Building or Construction work and other welfare measures, such as Canteens, First-Aid facilities. Ambulance, Housing, and accommodations for workers near the work place etc. The Employer to whom the Act applies has to obtain a registration certificate from the Registering Office appointed by the Government.

p) Factories Act 1948:- The Act lays down the procedure for approval at plans before setting up a factory, health and safety provisions, and welfare provisions working hours, annual earned leave and rendering information regarding accidents or dangerous occurrences to designated authorities. It is applicable to premises employing 10 persons or more with aid of power or 20 more persons without the aid of power engaged in manufacturing process.

q) Implementation of Apprentices Act 1961

21. SITE SUPERVISION / FACILITIES AND WORK AT NIGHT

21.1 The entire work will be carried out under the supervision of the authorized representatives of the Owner, but this will not absolve the contractors from his responsibilities for quality / period of execution of the work.

21.2 The successful tenderer shall arrange for at least one competent supervisor to be present at site at all times during the progress of the work, who shall be duly authorized to take instructions and execute them on his behalf.

21.3 In the event that the Contractors scope of work does not include erection, the contractor will be required to provide supervisory services for satisfactory erection, installation, testing and commissioning of the equipment / materials supplied by him. Contractor’s supervisory services shall be requisitioned by the
Owner as and when required, on “per diem” basis during erection, installation, testing and commissioning.

The contractor will be intimated in advance regarding the time and like duration of the erection, installation, testing and commissioning of the respective equipment / material(s). It will be the duty of the Contractor to depute his competent supervisory staff who will act independently on behalf of the contractor. The supervision service will be deemed as “part and parcel” of the fabrication and supply contract.

21.4 During the contractor’s supervision at site necessary tools, tackles, implements, labour etc. will be provided. However to maintain uninterrupted progress of work Contractor’s supervisor will prepare a Schedule and forward to the site-in-charge in writing sufficiently in advance.

21.5 The contractor / Contractors supervisor at site may be called upon three shifts basis during erection, installation, testing and commissioning for the over all interest of the project. However no extra cost in this regard will be paid by the owner.

22. OBSERVANCE OF RULES AND REGULATION INFORCE

22.1 The contractor and his men shall abide by all security, safety rules / regulations in force at a location and the laws, bye-laws and statutes of Government / Semi Government and any other local authorities such as requirements / liability under enactments like the Workmen’s Compensation Act, Contract Labour Act, etc. and the Owner shall stand indemnified against any claim on these scores. The contractor and his men shall strictly abide by “no smoking” and other petroleum regulations on the premises.

22.2 The contractor shall conform to the provisions of Acts of Parliament or State Legislatures and to any bye-laws rules, orders or notifications of any government, Municipal or Local Authority for the time being in force affecting the work undertaken by him and will give all necessary notice to and obtain requisite sanction and permits of and from the Municipal and any other authority in respect of the said work or the material to be used there at and generally will comply with the building and other regulations of such authorities and will keep the company indemnified against all claims, penalties and losses that may be incurred by it by reasons of any breach by the contractor of any statues by laws, rules, regulations, notifications etc.

22.3 The contractor and the sub contractors of the contractor shall obtain authority (ties) designated in this behalf under any applicable law, rule or regulation (including but not limited to the Factories Act and Contract Labour (Abolition and Regulation Act 1970) so far as applicable any and all such license (s) from time to time be or become necessary for or relative to the execution of the work or any part of portion thereof or the storage or supply or any materials or otherwise in connection with the performance of the contract, and shall at all times observe and ensure due to observance by the subcontractor servants and agents of all terms and conditions of the said license (s) consents (s) regulation (s) and other authorization (s) and laws, rules and regulations applicable thereto.
22.4 The contractor undertakes to ensure due and complete compliance with all laws, regulations, rules etc. whether of the Central Government or the State government or any other competent authority applicable to the workmen employed or whose services are otherwise availed of by the contractor, whether in connection with the construction work at site or otherwise. The owner shall have the right to inspect the records maintained by the contractor shall when ever required by the owner produce such records and as and when the owner may call upon the contractor to ascertain whether or not the requirements of all such laws, regulations, rules, etc. have been complied with the contractor. In the event of any contravention of such laws, regulations, rules etc. coming to light whether as a result of such inspection or otherwise, the owner shall have the right to make the contractor to affect such compliance within such time as prescribed by the owner and the owners shall without adjudicate to his other right, be entitled to withheld from the amount payable to the workmen under any such laws, recommendation or rules and to make payment thereof to the workmen. The owner shall also have in that event of the right to terminate the contract with immediate effect and to exercise powers reserved to the owner under the contract as a result of termination.

22.5 The contractor shall be responsible at his own cost in and relative to performance of the work and contract to observe and to ensure observance by his subcontractors, if any, agents and servants of the provisions of the safety code as herein after appearing and all fire, safety and security regulations, as may be prescribed by the owner from time to time and such other precautions and measures as shall be necessary and shall employ / deploy all equipment necessary to protect all works, materials, properties, structures, installation, communication facilities, whatsoever from damage, loses or any other hazard (including but not limited to fire and exposition and shall during construction and other operations minimize the disturbance and inconvenience to the owner, other contractors, the public and the adjoining land property, crops and vegetation and shall indemnified the owner from all losses, damages, costs, charges expenses, penalties action, claims demand and proceeding whatsoever suffered or incurred by .or against the owner, as the case may be by virtue of any loss, alternation, displacement, disturbance, destruction or accident to any works, materials properties, structure, equipments installation, communication facilities, land property, crops, trees and vegetation as aforesaid with the intent that the contractor shall be exclusively responsible for any accident, loss, damage, alteration displacement, disturbance or destruction as aforesaid resulting directly or indirectly from any breach by the operation, Act or omission of the contractor, his sub contractor sif any agents or servants.

23. APPROVALS

It will be the successful tenderers responsibility to get the works approved and obtain all certificates for plumbing, electrical, civil works, etc. from local municipal, governmental or other required authorities at no extra cost to the owner.

24. SAFETY / SECURITY OF EQUIPMENT / PROPERTY
24.1 The responsibility for the safety, security of the components, materials, equipments brought or installed by the contractor or handed over to him by the owner for the completion of the work will remain with him till acceptance of the work by the owner. Any damage caused to the materials / equipment during the execution of the work will be made good by the contractor at his cost. The owner may require the contractor to have a guarantee / indemnity bond executed for the value of the material supplied to him free of cost as per the terms of agreement.

24.2 The contractor should ensure that safety of adjoining property and should make good any loss to product property resulting from his negligence.

25. DISMANTLING / DAMAGE TO PROPERTY

25.1 During execution to work if it is found necessary to dismantle a portion of existing bund wall, enclose wall, compound wall, fencing etc. to facilitate the or movement of materials and equipment, the same shall be carried out after obtaining permission in writing from owner’s authorized representative and shall also be made good by the contractor at his own cost.

25.2 Any material obtained by the contractor consequent upon dismantling of any building, structure or construction whatsoever at the job site other than any building, structure or construction dismantled by the contractor pursuant to the contractor’s liabilities for defects as elsewhere herein provided, shall be exclusively property of the owner.

25.3 Contractor shall be responsible for making good to the satisfaction of the owner any loss of and any damage to all structures and properties belonging to the owner or being executed or procured or being procured by the owner or of other agencies within the premises of all the work of the owner, if such loss or damage is due to fault and / or the negligence or will full acts of omission of the contractor, his employees, agents, representative or subcontractor.

25.4 The contractor shall indemnify and keep the owner harmless of all claims for damage to property other than owner’s property arising under or by reason of this agreement, if such claims result from the fault and or negligence or will full acts or omission of the contractor, his employees, agents, representative or subcontractor.

26. WORKING CONDITIONS SAFETY CODE

26.1. GENERAL

Contractor shall adhere to safe construction practice and guard against hazardous and unsafe working conditions and shall comply with owner’s safety rules as set forth herein

26.2 FIRST AID AND INDUSTRIAL INJURIES
Contractor shall maintain first aid facilities for its employees and those of its sub contractor.

A. Contractor shall make outside arrangements for ambulance or suitable service and for the treatment of industrial injuries. Name of those providing these services shall be furnished to site-in-charge prior to start of construction and their telephone numbers shall be prominently posted in Contractor’s field office.

B. All critical industrial injuries shall be reported promptly to site-in-charge and a copy of contractor’s report covering each personal injury requiring the attention of physician shall be furnished to owner.

26.3 GENERAL RULES

Carrying / striking of matches, lighters and smoking inside the hazardous area, is strictly prohibited. Violator of the “No Smoking Rules” shall be discharged immediately. Within the operation area, no hot work shall be permitted without valid gas / safety / fire permits issued by owner. The contractor shall be hold liable and responsible or all lapses of his subcontractor’s employees in this regard.

26.4 CONTRACTORS BARRICADES

A. Contractor shall erect and maintain barricades required in connection with his operations to guard or protect:

   i.    Excavations
   ii.   Hoisting areas
   iii.  Areas adjudged by contractor’s or owner inspectors.
   iv.   Owner’s existing property liable to damage by contractor’s operation, in the opinion of owner / site-in-charge.

B. Contractor’s employees and those of his subcontractor’s shall become acquainted with owner’s barricading practice and shall respect the provision thereof.

C. Barricades and hazardous areas adjacent to put not located in normal routes of travel shall not be marked by red flasher lanterns at nights.

26.5 SCAFFOLDING

A. Suitable scaffolding shall be provided for workmen for all works that cannot safely be done from the ground or from solid constructions except such short period work as can be done safety from ladders. When a ladder is used, an extra workman shall be engaged for holding the ladder and if the ladder is used for carrying material as well suitable foot holds and hand holds shall be provided on the ladder and the ladder shall be given an inclination not steeper that 1 to 4 (1 horizontal and 4 vertical).

B. Scaffolding or staging more than 30 cm above the ground or floor swing or suspended from an overhead support erected with stationary support shall have a guard rail properly attached, bolted braced and otherwise rewarded at least 1 meter high above the floor or platform or scaffolding or staging and extending
along the entire length of the outside and ends thereof with only such opening as may be necessary for the delivery of materials. Such scaffolding or staging shall be so fastened, as to prevent it from swaying from building structure.

C. Working platform, gangway and stairways should be so constructed that they should not sag unduly or unequally and if the height of the platform or the gangway or the stairway is more than 30 cm above ground level or floor level, they should be closely boarded, should have adequate width and should be suitably fastened as described above.

D. Every opening in the floor of a building or in a working platform be provided with suitable beam to prevent the fall of persons or materials by providing suitable fencing or failing whose minimum height shall be 1 meter.

E. Safe means of access shall be provided to all working platform and other working places. Every ladder shall be securely fixed. No portable single ladder shall be over 10 meter in lengths, while the width between the side rails in ring ladder shall in no case be less than 30 cm for ladder up to and including 3 meters in length. For longer ladders this width should be increased by at least 6 mm for each additional 30 cms of length. Uniform step spacing shall not exceed 15 cms. Adequate precautions shall be taken to prevent danger from the electrical equipment. No materials on any of the size of work shall be so stacking or placed as to cause danger or inconvenience to any person or public.

The contractor shall also provide all necessary fencing and lights to protect the workers and staff from accidents and shall be bound to bear the expenses of the defence of every suit, action or other proceedings, at law that may be brought by any person or injury sustained owing negligence of the above precautions and to pay damages and costs which may be awarded in any such suit or action or proceedings to any such person or which may be with the consent of the contractor be paid to compromise any claim by such.

26.6 EXCAVATION AND TRENCHING

A. All trenches 1.3 meters or more in depth shall at all times be supplied with at least one ladder for each 33 meter length or fraction thereof.

B. Ladder shall be extended from bottom of the trench to at least 1 mt. above the surface for the ground.

The sides of the trenches which are 1.5 meters or more in depth shall be stepped back to give suitable slope or securely held by timber bracing so as to avoid the danger of sides to collapse. The excavated materials shall not be placed within 45 cm. Of the edge of the trench or half of the trench depth which ever is more cutting shall be along from top to bottom. Under no circumstances undermining or undercutting should be done.

26.7 DEMOLITION

A. Before any demolition works is commenced and also during the process of the work all roads and open areas adjacent to the work site shall either be closed or suitable protected.
B. No electric cable or apparatus which is liable to be a source of danger over a cable or apparatus used by operator shall remain electrically charged.

C. All practical steps shall be taken to prevent danger to persons, employees, from risk of fire or exposition or flooding. No floor or other part of the building shall be over loaded with debris or materials to render it unsafe.

26.8 SAFETY EQUIPMENTS

A. All necessary personal safety equipments as considered adequate by the site-in-charge should be made available for the use to the persons employed on the site and maintained in a condition suitable for immediate used, and contractor shall take adequate steps to ensure proper use of equipment by those concerned.

B. Workers engaged in white washing, in mixing or staking of cement bags or any materials which are injurious to the eyes shall be provided with protective goggles.

C. Those engaged in welding and cutting works shall be proved with protective face and eye shields, hand gloves etc.

D. Workers employed in asphaltic materials, cement and lime mortars shall be provided with protective footwear and protective gloves.

E. Stone breakers shall be provided with protective goggles and protective clothing, and seated at sufficiently safe intervals.

F. When workers are employed in sewers and manholes which are in use, the contractor shall ensure that the manhole covers are opened and are ventilated at least for two hours before the workers are allowed to get into the manholes, and manholes so opened shall be cordoned off with suitable railing and provided with warning signals or boards to prevent accidents to the public.

G. The contractor shall not employ men below the age of 18 years and women on the work of painting of products containing lead in any form. Wherever men above the age of 18 years are employed on the work of lead painting the following precautions should be taken.

   i. No paint containing lead product shall be used, except in the form of paste or ready made paint.

   ii. Suitable face masks shall be supplied for use by the workers, when paint is applied in the form of spray or a surface having lead paint dry, rubbed and scrapped.

   iii. Overall shall be supplied by the contractor to the workmen and adequate facilities shall be provided to enable the working painter to wash during and on cessation of work.

H. Hot work should be carried out only in the areas earmarked for the purpose after taking required safety precautions and only after obtaining written permission from the Site-in-charge. Any provision required to be made e.g. wind screens of
G.I. sheets etc. to make the area safe for hot work, will be made by the successful tenderer at his own cost.

26.9 RISKY PLACES

When the work is done near any place where there is a risk of drowning, all necessary safety equipment shall be provided and kept ready for use and all necessary steps taken for prompt reduction of any person in danger and adequate provision should be made for prompt first aid treatment of all injuries likely to be sustained during the course of the work.

26.10 HOISTING EQUIPMENT

Use of hoisting machine and tackle including their attachments, anchorage and supports shall conform to the following standards or conditions:

A. These shall be of good mechanical construction sound materials, adequate strength free from patent defect and shall be kept on good conditions and in the good working order.

B. Every rope used in hoisting or lowering material or as a means of suspension shall be of durable quality and adequate strength and free from patent defects.

C. Every crane driver or hoisting appliance operator shall be properly qualified and no person under the age of 21 years should be in-charge of any hoisting machine including any scaffolding, which or give signals to the operator.

D. In case of every hoisting machine and of every chain ring hook, shackle swivel and pulley block used in hoisting or lowering or as means of suspension the safe working load shall be ascertained by adequate means. Every hoisting machine and all gear referred to above shall be clearly marked with the safe working load and the conditions under which it is applicable shall also be indicated. No part of any machine or any gear referred to above in this paragraph shall be beyond the safe working load except for the purpose of testing.

E. In case of departmental machine the safe working load shall be notified by the site-in-charge. As regards contractor’s machines, the contractor shall notify the safe working load of machine to the site-in-charge, whenever he brings any machinery to site of work and get it verified by the site-in-charge concerned.

26.11 ELECTRICAL EQUIPMENT

Motors, gear transmission, electric wiring and other dangerous parts of hoisting appliances shall be provided with efficient safeguards. Hoisting appliances should be provided with such means as will reduce to the minimum the risk of accidental descent of the load, adequate precautions shall be taken to reduce to the minimum the risk of any part of suspended load being accidentally displayed. When workers are employed on electrical installations which are already energized, insulating mats, wearing apparel, such as gloves and boots as may be necessary shall be provided. The workers shall not wear any rings, watches and carry key or other material which are good conductors of electricity.
26.12 MAINTENANCE OF SAFETY DEVICES

All scaffolding, ladders and other safety devices mentioned or described herein shall be maintained in safe conditions and no scaffold, ladder or equipment shall be altered or removed while it is in use. Adequate washing facilities should be provided at or near place or work.

26.13 DISPLAY OF SAFETY INSTRUCTIONS

Safety provisions should be brought to the notice of all concerned by display on the notice board at a prominent place at work spot. The person responsible for compliance of the safety code shall be named therein by the contractor.

26.14 ENFORCEMENT OF SAFETY REGULATIONS

To ensure effective enforcement of the rules and regulations relating to safety precautions, the arrangements made by the contractor shall be open to inspection by the site-in-charge.

26.15 NO EXEMPTION

A. Notwithstanding the above clause 19.1 to 19.14 there is noting in these to exempt the contractor from the operations of any Act or rules in force.

B. The works throughout including any temporary work shall be carried out in such a manner as not to interfere in any whatsoever with the traffic on any roads or footpaths, at the site or in the vicinity there to or any existing works, whether on the property of the owner or of a third party.

C. No men / materials /ent not covered by valid passes shall be permitted within the project area and no material / equipment shall be permitted to be taken out of the project area unless authorized by the concerned authorities of the project. The contractor shall be held fully responsible to any or all delays, losses / damage that may result consequent on any lapse that may occur on the part of his subcontracts / employees in this regard.

27 MISCONDUCT / MISBEHAVIOUR OF CONTRACTOR’S EMPLOYEES

27.1 The contractor is expected to co-operate with other contractors carrying out work allocated to them so as to avoid braking up of the work already done by them or causing any hindrance in the progress of their work. In case there is any difficulty / dispute the same should be immediately brought to the notice of the site-in-charge.

27.2.1 If and whenever the contractor sub contractors employees shall be in the opinion of the site-in-charge be guilty of any misconduct or misbehavior the contractor if so directed by the site-in-charge shall at once remove such person / persons from the employment.
28. PATENTS AND ROYALTIES

28.1 If an equipment, machinery or materials to be sued or supplied or method of processes to be practiced or employed in the performance of the contractor is / are covered by a patent under which the contractor is not licensed the contractor shall before supplying or using the equipment, machinery materials, methods processes as the case may be obtain such license (s) and pay such royalty (ies) and license fee as may be necessary in connection with the performance of the contract. In the event license, the contractor will defend at his own expense any suit for infringement of patent, which is brought against the contractor to the owner, as a result of the failure and shall pay any damage and costs awarded in such a suit and will deep the owner indemnified from the against all other consequences thereof.

28.2 The successful tenderer shall not sublet or assign any part of the work to another party without prior written consent of the owner. In the event, the successful tenderer will be solely responsible for the work so sublet or assigned.

29. JURISDICTION

The successful contractor shall have to enter with an agreement with BPCL. This agreement shall be deemed to have been made in Mumbai and shall be constructed according to the laws of India and the performance by the successful contractor of any act on his part herein contained shall be considered due in MUMBAI for the purpose of jurisdiction.
ANNEXURE - I

DEVIAITION SHEET

1. NIL DEVIATIONS

OR

2. DEVIATIONS AS GIVEN BELOW/ AS PER ATTACHED SHEET

CONTRACTOR'S SIGNATURE
NAME OF WORK:

NAME OF TENDERER:

1. TOTAL PRICE AS SHOWN: RS.
   (IN FIGURES)
   (IN WORDS): RS.

2. REBATE OFFERED (IF ANY) PERCENTAGE OF TOTAL CONTRACT VALUE (WHICH WILL BE APPLICABLE ON EACH ITEM OF SCHEDULE OF RATES) (IN FIGURES): RS...
   (IN WORDS): RS.

3. GRAND TOTAL PRICE AFTER APPLYING REBATE (AS SHOWN ABOVE AT S.NO. 2)
   (IN FIGURES): RS.
   (IN WORDS): RS.

(SIGNATURE & SEAL OF THE AUTHORISED TENDERER)
ANNEXURE III

BREAK UP OF ALL TAXES, DUTIES AND LEVIES AS APPLICABLE FOR THE SUBJECT CONTRACT

As per the current Laws, acts, rules, regulations etc the tariffs considered by the bidder while estimating the incidence of taxes, duties, fees, charges, levies as included in the quote.

<table>
<thead>
<tr>
<th>Item</th>
<th>Laws/acts Rules/ Regulations/referene</th>
<th>Tariff indicating rate of tax/ fee/ charge / levy</th>
<th>Amount included in the lump sum price in the tender</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excise duty</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Customs duty/CVD as per tender document</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sales tax /VAT/Works contract tax / CST</td>
<td></td>
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<tr>
<td>Service tax</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Any other tax /duties/ Levies and cess etc.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:** Bidder may suitably add other heads / columns to indicate all the provisions and related information with regard to above. Strike out the items which are not applicable in this tender or write “Not Applicable”
STANDARD PAYMENT TERMS FOR WORKS CONTRACTS

The payment terms given below are subjected to the following conditions:

a. Monthly progressive payments shall be made towards the work completed as per the payment terms and as per agreed rates, against running account bills submitted by the contractors.

b. There will be a deduction of 10% towards retention amount from every running account bill which may be released against equipment performance bank guarantee on completion of jobs.

c. Necessary deductions shall be made towards income tax, works contract tax etc. as applicable as per terms of contract.

d. All bank charges towards Demand draft, payment through banks etc. if any shall be borne by the contractor.

1.0 CIVIL

- 90% on completed individual item of work.
- 10% on completion of all jobs and final acceptance by site in-charge

2.0 MECHANICAL

2.1 Fabrication & erection of tanks (U/G & A/G)

- 20% after completion of cutting, rolling and fabrication
- 20% after erection
- 40% after welding and radiography
- 10% after hydrotesting calibration and other tests
- 10% on completion of all Jobs and Final acceptance by site in-charge

2.2 Supply, Fabrication & erection of LPG Bullets

- 5% of the total order value on approval of drawings and design calculations for vessel from TPIA/CCOE/owner and submission of bank guarantee for equipment amount valid till completion of job.

Cost of steel plates

- 85% of the cost of steel plates will be paid on receipt of Plates at the contractor’s works all identification of the same by TPIA on prorate weight basis and on furnishing bank guarantee for 100% value of steel Plates valid till completion of job.

Fabrication, erection and transportation

- 30% of cost of fabrication and erection and cost of transportation after fabricating the sections at shop and against proof of despatch of materials.
25% of cost of fabrication and erection and cost of transportation after assembly, welding, stress relieving of bullet, fixing and welding of saddle supports.

20% of cost of fabrication and erection and cost of transportation after erection on the foundation.

10% of cost of fabrication and erection and cost of transportation after hydrotesting and painting of bullets, Balance 10% of total contract value after completion of all jobs, handing over of bullets with all studs, nuts, bolts, gaskets etc. and submission of final acceptance certificate of TPIA and documentation as specified in the tender to the owner including CCOE approved “M built drawings”.

2.3 Fittings

100% after supplying, installation and acceptance by site in-charge

2.4 Structural steel works

60% after supply, inspection, acceptance of material and fabrication
20% after erection and welding
20% on completion of all works and final acceptance by site in-charge

2.5 Painting works

30% after surface preparation and application of one coat of primer
30% after second coat of primer for each tank
40% after application of finish paint, completion of all works and acceptance

2.6 Gas Monitoring system (GMS) In LPG

60% after receipt and acceptance of materials at site
20% after erection
20% on completion, testing, commissioning and final acceptance of the system

2.7 Piping

50% after completion of fabrication
30% on completion of erection including provision of supports, vents, drains etc., alignment and welding including completion of radiography and other examinations as specified
20% after lines are flushed, pressure tested and finally accepted in all respects by site incharge

2.8 Equipment erection (supply In contractor’s scope)

80% on supply and erection of equipment
20% on completion, testing, commissioning and final acceptance

2.9 Conveyor system in LPG plant

60% after supply and acceptance of materials at site
20% after erection
2.10 Fire protection

2.10.1 Pipelines

- 50% after completion of fabrication
- 30% after erection Including provision of supports, vents, drains etc. alignment and welding including completion of radiography and other examinations as specified
- 20% after lines are flushed, pressure tested and finally accepted in all respects by site Incharge

2.10.2 Instrumentation/equipments

- 60% after receipt and acceptance of materials at site
- 20% after erection
- 20% on completion, testing, commissioning and final acceptance of the system

2.10.3 MV spray system

- 50% on design approval and supply of materials as per approval BOM
- 30% after erection
- 20% on completion, testing, commissioning and final acceptance of the system

2.10.4 Cables

- 80% of agreed rates on supply and laying
- 20% of agreed rates on completion, testing, commissioning and final acceptance

3.0 ELECTRICAL/LNSTRUMENTATION/AUTOMATION WORKS

3.1 Instrumentation works

- 80% of agreed rates on receipt of materials and installation at site
- 20% of agreed rates on completion, testing, commissioning and final acceptance

3.2 Automation works

- 60% of agreed rates on factory acceptance test and receipt of materials at site
- 20% of agreed rates after erection
- 20% of agreed rates on completion, testing, commissioning and final site acceptance

3.2.1 Control Room automation job

1. For supply & erection items
   - 70% of agreed rates on factory acceptance and receipt of material at site
   - 10% of agreed rates after erection.
   - 5% of agreed rates after completion of trail run for 15 days. BPCL will release the amount incase trail run could not be done within 30 days from
the date of erection against submission of performance bank guarantee of equivalent amount with validity of 18 months.

- 15% of agreed rates after completion of testing, commissioning and final site acceptance and completion of following activities

  I) Supply of spares as per list

  II) Back to back warranty for two years from the date of system hand over from OEM for major items as per list.

  III) Placement of competent resident engineer at site.

  IV) Written guarantee from the TAS vendor for comprehensive warranty and continued back up support for the entire system for 10 years from the date of system hand over

  V) Handing over of 3 sets of final documents as per the list

2. For design engineering / FAT/SAT/training/documentation & commissioning items only

- 85% of agreed rates on completion of activity

- 15% of agreed rates after completion of testing, commissioning and final site acceptance and completion of following activities

  I) Supply of spares as per the list

  II) Back to back warranty for two years from the date of system hand over from OEM for major items as per the list.

  III) Placement of competent resident engineer at site.

  IV) Written guarantee from the TAS vendor for two years comprehensive warranty and continued back up support for the entire system for 10 years from the date of system hand over

  V) Handing over of 3 sets of final documents as per the list

Note:-

1. Rest of the payment terms as per the original bid document remains same

2. In the event of delay beyond three months from the date of supply/erection, due to reasons not attributable to the TAS vendor, the respective part payment against sat/commissioning will released on submission of PBG of equivalent amount with 18 months of validity.

Payment for supply of materials will be released only on production of routine test certificates, CCE approval; un priced shipping document (for imported materials), OIML/ W&M approval where ever applicable
3.3 HT & LT works & other Jobs

3.3.1 For supply of items by contractor

- 60% of agreed rates on receipt and acceptance of materials at site
- 20% of agreed rates after erection
- 20% of agreed rates on completion, testing, commissioning and final acceptance

3.3.2 For supply of Items by BPCL

- 80% of agreed rates after erection
- 20% of agreed rates on completion, testing, commissioning and final acceptance
INTEGRITY PACT

Between

Bharat Petroleum Corporation Limited (BPCL) hereinafter referred to as "The Principal",

And

.........................hereinafter referred to as "The Bidder/Contractor/Supplier"

Preamble

The Principal intends to award, under laid down organization procedures, contract/s for

.........................The Principal values full compliance with all relevant laws and
regulations, and the principles of economic use of resources, and of fairness and
transparency in its relations with its Bidder/s, Contractor/s and Supplier/s.

In order to achieve these goals, the Principal cooperates with the renowned international Non-Governmental Organisation "Transparency International" (TI). Following TI's national and international experience, the Principal will appoint an Independent External Monitor who will monitor the tender process and the execution of the contract for compliance with the principles mentioned above.

Section 1 - Commitments of the Principal

(1) The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles:

   a) No employee of the Principal, personally or through family members, will in connection with the tender for, or the execution of a contract, demand, take a promise for or accept, for himself/herself or third person, any material or immaterial benefit which he/she is not legally entitled to.

   b) The principal will, during the tender process, treat all Bidders with equity and reason. The Principal will, in particular, before and during the tender process, provide to all Bidders the same information and will not provide to any Bidder confidential / additional information through which the Bidder could obtain an advantage in relation to the tender process or the contract execution.

   c) The Principal will exclude from the process all known prejudiced persons.

(2) If the Principal obtains information on the conduct of any of its employees which is a criminal offence under the relevant Anti-Corruption Laws of India, or if there be a substantive suspicion in this regard, the Principal will inform its Vigilance Office and in addition can initiate disciplinary actions.
Section 2 - Commitments of the Bidder / Contractor/Supplier

(1) The Bidder / Contractor/Supplier commits itself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the tender process and during the contract execution.

a) The Bidder / Contractor/Supplier will not, directly or through any other person or firm, offer, promise or give to any of the Principal's employees involved in the tender process or the execution of the contract or to any third person, any material or immaterial benefit which he/she is not legally entitled to, in order to obtain in exchange, any advantage of any kind whatsoever during the tender process or during the execution of the contract.

b) The Bidder / Contractor/Supplier will not enter with other Bidders into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelisation in the bidding process.

c) The Bidder / Contractor/Supplier will not commit any offence under the relevant Anti-Corruption Laws of India; further the Bidder / Contractor/Supplier will not use improperly, for purposes of competition or personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.

d) The Bidder / Contractor/Supplier will, when presenting his bid, disclose any and all payments he has made, is committed to, or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract.

(2) The Bidder / Contractor/Supplier will not instigate third persons to commit offences outlined above or be an accessory to such offences.

Section 3 - Disqualification from tender process and exclusion from contracts

If the Bidder, before contract award, has committed a transgression through a violation of Section 2 or in any other form such as to put his reliability or credibility as Bidder into question, the Principal is entitled to disqualify the Bidder from the tender process or to terminate the contract, if already signed, for such reason.

(1) If the Bidder/Contractor/Supplier has committed a transgression through a violation of Section 2 such as to put his reliability or credibility into question, the Principal is also entitled to exclude the Bidder / Contractor/Supplier from future contract award processes. The imposition and duration of the exclusion will be the determined by the severity of the transgression. The severity will be determined by the circumstances of the case, in particular the number of transgressions, the position of
the transgressors within the company hierarchy of the Bidder and the amount of the damage. The exclusion will be imposed for a minimum of 6 months and maximum of 3 years.

(2) A transgression is considered to have occurred if the Principal after due consideration of the available evidences, concludes that no reasonable doubt is possible.

(3) The Bidder accepts and undertakes to respect and uphold the Principal's absolute right to resort to and impose such exclusion and further accepts and undertakes not to challenge or question such exclusion on any ground, including the lack of any hearing before the decision to resort to such exclusion is taken. This undertaking is given freely and after obtaining independent legal advice.

(4) If the Bidder / Contractor/Supplier can prove that he has restored / recouped the damage caused by him and has installed a suitable corruption prevention system, the Principal may revoke the exclusion prematurely.

Section 4 - Compensation for Damages

(1) If the Principal has disqualified the Bidder from the tender process prior to the award according to Section 3, the Principal is entitled to demand and recover from the Bidder liquidated damages equivalent to Earnest Money Deposit/Bid Security.

(2) If the Principal has terminated the contract according to Section 3, or if the Principal is entitled to terminate the contract according to Section 3, the Principal shall be entitled to demand and recover from the Contractor/Supplier liquidated damages equivalent to Security Deposit / Performance bank Guarantee.

(3) The Bidder agrees and undertakes to pay the said amounts without protest or demur subject only to condition that if the Bidder / Contractor/Supplier can prove and establish that the exclusion of the Bidder from the tender process or the termination of the contract after the contract award has caused no damage or less damage than the amount of the liquidated damages, the Bidder / Contractor shall compensate the Principal only to the extent of the damage in the amount proved.

Section 5 - Previous Transgression

(1) The Bidder declares that no previous transgression occurred in the last 3 years with any other Company in any country conforming to the TI approach or with any other Public Sector Enterprise in India that could justify his exclusion from the tender process.

(2) If the Bidder makes incorrect statement on this subject, he can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason.
Section 6 - Equal treatment of all Bidders / Contractors / Suppliers / Subcontractors

(1) The Bidder/Contractor/Supplier undertakes to demand from all subcontractors a commitment in conformity with this Integrity Pact, and to submit it to the Principal before contract signing.

(2) The Principal will enter into agreements with identical conditions as this one with all Bidders, Contractors/Suppliers and Subcontractors.

(3) The Principal will disqualify from the tender process all bidders who do not sign this Pact or violate its provisions.

Section 7 – Punitive Action against violating Bidders / Contractors / Suppliers / Subcontractors

If the Principal obtains knowledge of conduct of a Bidder, Contractor, Supplier or Subcontractor, or of an employee or a representative or an associate of a Bidder, Contractor, Supplier or Subcontractor which constitutes corruption, or if the Principal has substantive suspicion in this regard, the Principal will initiate appropriate action.

Section 8 - Independent External Monitor / Monitors (three in number depending on the size of the contract)

(To be decided by the Chairperson of the Principal)

(1) The Principal appoints competent and credible Independent external monitor for this Pact. The task of the Monitor is to review independently and objectively, whether and to what extent the parties comply with the obligations under this agreement.

(2) The Monitor is not subject to instructions by the representatives of the parties and performs his functions neutrally and independently. He reports to the Chairperson of the Board of the Principal.

(3) The Bidder/Contractor/Supplier accepts that the Monitor has the right to access without restriction to all Project documentation of the Principal including that provided by the Bidder/Contractor/Supplier. The Bidder/Contractor/Supplier will also grant the Monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to this project documentation. The same is applicable to Subcontractors. The Monitor is under contractual obligation to treat the information and documents of the Bidder/Contractor/Supplier/ Subcontractor with confidentiality.

(4) The Principal will provide to the Monitor sufficient information about all meetings among the parties related to the Project provided such meetings could have an impact on the contractual relations between the Principal and the Bidder/Contractor/Supplier. The parties offer to the Monitor the option to participate in such meetings.

(5) As soon as the Monitor notices, or believes to notice, a violation of this agreement, he will so inform the Management of the Principal and request the Management to
discontinue or heal the violation, or to take other relevant action. The Monitor can in this regard submit non-binding recommendation. Beyond this, the Monitor has no right to demand from the parties that they act in a specific manner, refrain from action or tolerate action. However, the Independent External Monitor shall give an opportunity to the Bidder/Contractor/Supplier to present its case before making its recommendations to the Principal.

(6) The Monitor will submit a written report to the Chairperson of the Board of the Principal within 8 to 10 weeks from the date of reference or intimation to him by the 'Principal' and, should the occasion arise, submit proposals for correcting problematic situations.

(7) Monitor shall be entitled to compensation on the same terms as being extended to / provided to Outside Expert Committee members / Chairman as prevailing with Principal.

(8) If the Monitor has reported to the Chairperson of the Board a substantiated suspicion of an offence under relevant Anti-Corruption Laws of India, and the Chairperson has not, within reasonable time, taken visible action to proceed against such offence or reported it to the Vigilance Office, the Monitor may also transmit this information directly to the Central Vigilance Commissioner, Government of India.

(9) The word 'Monitor' would include both singular and plural.

Section 9 - Pact Duration

This Pact begins when both parties have legally signed it. It expires for the Contractor/Supplier 12 months after the last payment under the respective contract, and for all other Bidders 6 months after the contract has been awarded.

If any claim is made / lodged during this time, the same shall be binding and continue to be valid despite the lapse of this pact as specified above, unless it is discharged / determined by Chairperson of the Principal.

Section 10 - Other provisions

(1) This agreement is subject to Indian Law. Place of performance and jurisdiction is the Registered Office of the Principal, i.e. Mumbai. The Arbitration clause provided in the main tender document / contract shall not be applicable for any issue / dispute arising under Integrity Pact.

(2) Changes and supplements as well as termination notices need to be made in writing. Side agreements have not been made.

(3) If the Bidder/Contractor/Supplier is a partnership or a consortium, this agreement must be signed by all partners or consortium members.
(4) Should one or several provisions of this agreement turn out to be invalid, the remainder of this agreement remains valid. In this case, the parties will strive to come to an agreement to their original intentions.

……………………………     ……………………………
For the Principal                     for the Bidder/ Contractor/ Supplier
Place ........................
Date ........................

Witness 1: ..................    Witness 2: ..................
ANNEXURE-VI

PROFORMA OF BANK GUARANTEEE
(EARNEST MONEY DEPOSIT)
(On Non-Judicial Stamp paper for appropriate value)

BANK GUARANTEE NO. : 
BANK GUARANTEE AMOUNT : 
EXPIRY DATE : 
CLAIM : 
(till 6 MONTHS from expiry date) 
TENDER NO. /DATE : 
JOB DESCRIPTION/LOCATION : 

1. In consideration of the Bharat Petroleum Corporation Ltd having its registered office at Bharat Bhavan 4&6 Currimbhoy Road, Ballard Estate, Mumbai 400001 and ______ Office at _____________________ (hereinafter called “Corporation”) having agreed to exempt M/s. __________________________ having its registered Office at ________________ (hereinafter called “the said Contractor(s)”) from the payment of Earnest Money against Tender No. ____________ dated ____________ issued by Corporation on production of a Bank Guarantee for Rs. ________________ (Rupees ______________ only), we ____________________ (name of Bank) (hereinafter referred to as “Bank”) at the request of M/S __________________________ (Contractor(s)) do hereby undertake to pay unconditionally and irrevocably to the Corporation an amount not exceeding Rs. ________________ (Rupees ______________ only) on demand by Corporation.

2. We ______________ (name of the Bank) do hereby undertake to pay the amounts due and payable under this guarantee without any demur, merely on a demand from the Corporation stating that the amount claimed is due by the said Contractor(s). Any such demand on the Bank shall be conclusive as regards the amount due and payable by the bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. ________________ (Rupees ______________ only).

3. We, ________________________________, further agree that the Corporation shall be the sole judge of and as to whether the said Contractor has committed any breach or breaches of any of the terms and conditions of the tender/or the contract and the extent of loss, damage, costs, charges and expenses caused to or suffered by or that may be caused to or suffered by the Corporation on account thereof to the extent of the earnest money required to be deposited by the contractor in respect of the said tender or the contract and the decision of the Corporation that the said Contractor has committed such breach or breaches and as to the amount or amounts of loss, damage, costs, charges and expenses
caused to or suffered by or that may be caused to or suffered by the Corporation from time to time shall be final and binding on us.

4. We undertake to pay to the Corporation any money so demanded notwithstanding any dispute or disputes raised by the Contractor(s) in any suit or proceeding pending before any Court or Tribunal or Arbitrator relating thereto our liability under this present being absolute and unequivocal. The payment so made by us under this guarantee shall be a valid discharge of our liability under this guarantee for payment thereunder and the Contractor(s) shall have no claim against us for making such payment.

5. We______________ (name of Bank) further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the finalization of the said Tender and that it shall continue to be enforceable till the Tender is finally decided and order placed on the successful Tenderer and all the dues of the Corporation under of by virtue of the said Tender have been fully paid and its claims satisfied or discharged or till the Corporation certifies that the terms and conditions of the said Tender have been fully and properly carried out by the said Contractor(s) and accordingly discharge this guarantee.

6. We ________________ (name of Bank) further agree with the Corporation that the Corporation shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Tender or to extend time of performance by the said Contractor(s) from time to time or to postpone for any time or from time to time any of the powers exercisable by the Corporation against the said Contractor(s) and to forbear or enforce any of the terms and conditions relating to the said Tender and shall not be relieved from our liability by reason of any such variation or extension being granted to the said Contractor(s) or for any forbearance, act or omission on the part of the Corporation or any indulgence by the Corporation to the said Contractor(s) or by any such matter or thing whatsoever which under the law relating to sureties would but for this provisions have effect of so relieving us.

7. We, the Bank also agree that Corporation 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(s) and notwithstanding any security or other guarantee that Corporation may have in relation to the Contractor(s)’s liabilities.

8. This guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor(s).

9. Notwithstanding anything contained in forgoing, our liability under this guarantee is restricted to Rs__________________. The Guarantee shall remain in force till ________________ Months i.e. _________________. Unless a claim under this guarantee is made within six months from the expiry date herein before mentioned the Corporation shall have no rights under these presents. We, ________________ (name of the Bank), lastly undertake not to revoke this
Guarantee during its currency except with the previous consent of the Corporation in writing.

In witness hereof, the Bank through its authorized officers has set its hand and stamp on this day of _____ 200 at _________.

The seal of .................................. was hereto duly affixed by ............................. this day of ............................. 200 in accordance with its bye-laws and this guarantee was duly signed by and as signed by ......................... and ................................. as required by the said bye-laws.

Yours faithfully

For ..................................................

Signature

Name & Designation

Name of the Branch
ANNEXURE-VII

PROFORMA OF BANK GUARANTEE
(SECURITY DEPOSIT)
(On Non-Judicial Stamp paper for appropriate value)

| BANK GUARANTEE NO. | : |
| BANK GUARANTEE AMOUNT | : |
| EXPIRY DATE | : |
| (last date of completion as per LOI) CLAIM | : |
| (till 6 MONTHS from expiry date) LOI/AGREEMENT NO. | : |
| JOB DESCRIPTION/ LOCATION | : |

1. In consideration of the Bharat Petroleum Corporation Limited having its registered office at Bharat Bhavan 4&6 Currimbhoy Road, Ballard Estate, Mumbai 400001 and Office at ____________ (hereinafter called “Corporation”) having awarded certain work to M/s _______________ (name and address of the Contractor) having its registered Office at ________________ (hereinafter called “the said Contractor(s)”) upon certain terms and conditions interalia mentioned in the Corporation’s Letter of Intent No ____________ dated ________________ for the job ________________ inclusive of the condition that the Corporation may accept a Bank Guarantee for Rs. ________________ (Rupees ________________ only) of a Scheduled Bank in India in lieu of Cash Deposit of the Security Deposit as provided for in Clause ______ of the General Conditions of Tender, we ________________ (name of Bank) (hereinafter referred to as "Bank") at the request of M/S ________________ (Contractor(s)) do hereby unconditionally and irrevocably guarantee to pay to the Corporation an amount not exceeding Rs. ________________ (Rupees ________________ only) on demand by Corporation.

2. We ________________ (name of the Bank) do hereby undertake to pay the amounts due and payable under this guarantee without any demur, merely on a demand from the Corporation stating that the amount claimed is due by the said Contractor(s). Any such demand on the Bank shall be conclusive as regards the amount due and payable by the bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. ________________ (Rupees ________________ only).

3. We, ________________, further agree that the Corporation shall be the sole judge of and as to whether the said Contractor has committed any breach or breaches of any of the terms and conditions of the LOI / contract and the extent of loss, damage, costs, charges and expenses caused to or suffered by or that may be caused to or suffered by the Corporation on account
thereof to the extent of the earnest money required to be deposited by the contractor in respect of the said LOI or the contract and the decision of the Corporation that the said Contractor has committed such breach or breaches and as to the amount or amounts of loss, damage, costs, charges and expenses caused to or suffered by or that may be caused to or suffered by the Corporation from time to time shall be final and binding on us.

4. We undertake to pay to the Corporation any money so demanded notwithstanding any dispute or disputes raised by the Contractor(s) in any suit or proceeding pending before any Court or Tribunal or Arbitrator relating thereto our liability under this present being absolute and unequivocal. The payment so made by us under this guarantee shall be a valid discharge of our liability under this guarantee for payment thereunder and the Contractor(s) shall have no claim against us for making such payment.

5. We _______________ (name of Bank) further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said LOI and or Contract and all the dues of the Corporation under or by virtue of the said LOI and or contract have been fully paid and its claims satisfied or discharged or till the Corporation certifies that the terms and conditions of the said Tender have been fully and properly carried out by the said Contractor(s) and accordingly discharge this guarantee.

6. We _______________________ (name of Bank) further agree with the Corporation that the Corporation shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said LOI and or contract or to extend time of performance by the said Contractor(s) from time to time or to postpone for any time or from time to time any of the powers exercisable by the Corporation against the said Contractor(s) and to forbear or enforce any of the terms and conditions relating to the said LOI and shall not be relieved from our liability by reason of any such variation or extension being granted to the said Contractor(s) or for any forbearance, act or omission on the part of the Corporation or any indulgence by the Corporation to the said Contractor(s) or by any such matter or thing whatsoever which under the law relating to sureties would but for this provisions have effect of so relieving us.

7. We, the Bank also agree that Corporation 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(s) and notwithstanding any security or other guarantee that Corporation may have in relation to the Contractor(s)’s liabilities.

8. This guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor(s).

9. Notwithstanding anything contained in foregoing, our liability under this guarantee is restricted to Rs_______________. The Guarantee shall remain in force till ______________ Months i.e. ______________. Unless a claim under this guarantee is made within six months from the expiry date herein before mentioned the Corporation shall have no rights under these presents. We,
lastly undertake not to revoke this Guarantee during its currency except with the previous consent of the Corporation in writing.

In witness hereof, the Bank through its authorized officers has set its hand and stamp on this day of ________ 200 at ________.

The seal of ................................ was hereto duly affixed by ................................ this day of ................................... 200 in accordance with its bye-laws and this guarantee was duly signed by and as signed by ........................... and ........................... as required by the said bye-laws.

Yours faithfully
For ..................................................

Signature

Name & Designation
Name of the Branch
ANNEXURE-VIII

PROFORMA OF BANK GUARANTEE
(SECURITY AGAINST FREE ISSUE OF STEEL PLATE)
(On Non-Judicial Stamp paper for appropriate value)

BANK GUARANTEE NO. :
BANK GUARANTEE AMOUNT :
EXPIRY DATE :
(last date of completion as per LOI)
CLAIM :
(till 6 MONTHS from expiry date)
LOI/AGREEMENT NO. :
JOB DESCRIPTION/ LOCATION :

1. In consideration of the Bharat Petroleum Corporation Limited having its registered office at Bharat Bhavan 4&6 Currimbhoy Road, Ballard Estate, Mumbai 400001 and _____ Office at _______________ (hereinafter called “Corporation”) having awarded certain work to M/s ………………………………… (name and address of the Contractor) having its registered Office at _______________ (hereinafter called “the said Contractor(s)”) upon certain terms and conditions interalia mentioned in the Corporation’s Letter of Intent No.……………….. dated………………….. including any formal contract entered into between the Owner and Contractor in suppression of the said Letter of Intent and all amendments and/or modifications in the contract inclusive of the condition that the Corporation may accept a Bank Guarantee for Rs. _______________ (Rupees ______________ only) of a Scheduled Bank in India in lieu of Cash Deposit of the Security Deposit against issue of free steel plates for fabrication of Tanks at Contractor site, we ____________________ (name of Bank) (hereinafter referred to as “Bank”) at the request of M/S ________________ (Contractor(s)) do hereby unconditionally and irrevocably guarantee to pay to the Corporation an amount not exceeding Rs. _______________ (Rupees ______________ only) on demand by Corporation.

2. We ______________ (name of the Bank) do hereby undertake to pay the amounts due and payable under this guarantee without any demur, merely on a demand from the Corporation stating that the amount claimed is due by the said Contractor(s). Any such demand on the Bank shall be conclusive as regards the amount due and payable by the bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. _______________ (Rupees ______________ only).

3. We, ________________________________, further agree that the Corporation shall be the sole judge of and as to whether the said Contractor has committed any breach or breaches of any of the terms and conditions of the LOI / contract / issue of free steel plates or any of them and the extent of loss, damage, costs,
charges and expenses caused to or suffered by or that may be caused to or suffered by the Corporation on account thereof to the extent of the earnest money required to be deposited by the contractor in respect of the said LOI or the contract or the issue of free steel plates or any of them and the decision of the Corporation that the said Contractor has committed such breach or breaches and as to the amount or amounts of loss, damage, costs, charges and expenses caused to or suffered by or that may be caused to or suffered by the Corporation from time to time shall be final and binding on us.

4. We undertake to pay to the Corporation any money so demanded notwithstanding any dispute or disputes raised by the Contractor(s) in any suit or proceeding pending before any Court or Tribunal or Arbitrator relating thereto and notwithstanding the existence of any instructions or purported instructions by the Contractor 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 existence of such difference, dispute or instruction, our liability under this present being absolute and unequivocal. The payment so made by us under this guarantee shall be a valid discharge of our liability under this guarantee for payment thereunder and the Contractor(s) shall have no claim against us for making such payment.

5. We __________________ (name of Bank) further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said LOI and or Contract and all the dues of the Corporation under or by virtue of the said LOI and or contract have been fully paid and its claims satisfied or discharged or till the Corporation certifies that the terms and conditions of the said Tender have been fully and properly carried out by the said Contractor(s) and accordingly discharge this guarantee.

6. We ____________________________ (name of Bank) further agree with the Corporation that the Corporation shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said LOI and or contract or to extend time of performance by the said Contractor(s) from time to time or to postpone for any time or from time to time any of the powers exercisable by the Corporation against the said Contractor(s) and to forbear or enforce any of the terms and conditions relating to the said LOI or the said Security Deposit against issue of free steel plates or the securities available to the Corporation or any of them and shall not be relieved from our liability by reason of any such variation or extension being granted to the said Contractor(s) or for any forbearance, act or omission on the part of the Corporation or any indulgence by the Corporation to the said Contractor(s) or by any such matter or thing whatsoever which under the law relating to sureties would but for this provisions have effect of so relieving us.

7. We, the Bank also agree that Corporation 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(s) notwithstanding any such security against issue of free steel plates and notwithstanding any security or other guarantee that Corporation may have in relation to the Contractor(s)’s liabilities.
8. This guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor(s).

9. Notwithstanding anything contained in forgoing, our liability under this guarantee is restricted to Rs__________________. The Guarantee shall remain in force till _______________ Months i.e. _______________. Unless a claim under this guarantee is made within six months from the expiry date herein before mentioned the Corporation shall have no rights under these presents. We, ____________________, lastly undertake not to revoke this Guarantee during its currency except with the previous consent of the Corporation in writing.

In witness hereof, the Bank through its authorized officers has set its hand and stamp on this day of _______ 200 at ________.

The seal of …………………………… was hereto duly affixed by ……………………… this day of ………………….... 200 in accordance with its bye-laws and this guarantee was duly signed by and as signed by ………………… and ………………… as required by the said bye-laws.

Yours faithfully

For ………………………………………..

Signature

Name & Designation
Name of the Branch
ANNEXURE-IX

PROFORMA OF BANK GUARANTEE
(Performance)
(On Non-Judicial Stamp paper for appropriate value)

BANK GUARANTEE NO. : 
BANK GUARANTEE AMOUNT : 
EXPIRY DATE : 
(12 months defect liability period from the completion date)
CLAIM : 
(till 6 MONTHS from expiry date)
LOI/AGREEMENT NO. : 
JOB DESCRIPTION : 

1. In consideration of the Bharat Petroleum Corporation having its registered office at Bharat Bhavan 4&6 Currimbhoy Road, Ballard Estate, Mumbai 400001 and _____ Office at _________________ (hereinafter called “Corporation”) having awarded certain work to M/s ……………………………… (name and address of the Contractor) having its registered Office at _________________ (hereinafter called “the said Contractor(s)”) upon certain terms and conditions interalia mentioned in the Corporation’s Letter of Intent No ………………. dated …………………………………. and the General Purchase Conditions of the Corporation and upon the condition of Contractor’s furnishing security for the performance of the Contractor’s liability under and/or in connection with the said LOI / contract upto a sum of Rs……………………………….. (Rupees……………………………….) only of a Scheduled Bank in India in lieu of cash security for said performance guarantee, we _________________ (name of Bank) do hereby unconditionally and irrevocably guarantee to pay to the Corporation an amount not exceeding Rs. _________________ (Rupees _________________ only) on demand by Corporation.

2. We ______________ (name of the Bank) do hereby undertake to pay the amounts due and payable under this guarantee without any demur, merely on a demand from the Corporation stating that the amount claimed is due by the said Contractor(s). Any such demand on the Bank shall be conclusive as regards the amount due and payable by the bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. _________________ (Rupees _________________ only).

3. We, ________________________________, further agree that the Corporation shall be the sole judge of and as to whether the said Contractor has committed
any breach or breaches of any of the terms and conditions of the LOI / contract
and the extent of loss, damage, costs, charges and expenses caused to or
suffered by or that may be caused to or suffered by the Corporation on account
thereof to the extent of the earnest money required to be deposited by the
contractor in respect of the said LOI or the contract and the decision of the
Corporation that the said Contractor has committed such breach or breaches and
as to the amount or amounts of loss, damage, costs, charges and expenses
carried to or suffered by or that may be caused to or suffered by the Corporation
from time to time shall be final and binding on us.

4. We undertake to pay to the Corporation any money so demanded
notwithstanding any dispute or disputes raised by the Contractor(s) in any suit or
proceeding pending before any Court or Tribunal or Arbitrator relating thereto our
liability under this present being absolute and unequivocal. The payment so
made by us under this guarantee shall be a valid discharge of our liability under
this guarantee for payment thereunder and the Contractor(s) shall have no claim
gainst us for making such payment.

5. We ______________ (name of Bank) further agree that the guarantee herein
contained shall remain in full force and effect during the period and 12 months
thereafter that would be taken for the performance of the said LOI and or
Contract and all the dues of the Corporation under or by virtue of the said LOI
and or contract have been fully paid and its claims satisfied or discharged or till
the Corporation certifies that the terms and conditions of the said Tender have
been fully and properly carried out by the said Contractor(s) and accordingly
discharge this guarantee.

6. We _________________________ (name of Bank) further agree with the
Corporation that the Corporation shall have the fullest liberty without our consent
and without affecting in any manner our obligations hereunder to vary any of the
terms and conditions of the said LOI and or contract or to extend time of
performance by the said Contractor(s) from time to time or to postpone for any
time or from time to time any of the powers exercisable by the Corporation
against the said Contractor(s) and to forbear or enforce any of the terms and
conditions relating to the said LOI and shall not be relieved from our liability by
reason of any such variation or extension being granted to the said Contractor(s)
or for any forbearance, act or omission on the part of the Corporation or any
indulgence by the Corporation to the said Contractor(s) or by any such matter or
thing whatsoever which under the law relating to sureties would but for this
provisions have effect of so relieving us.

7. We, the Bank also agree that Corporation 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(s) and not withstanding any security or
other guarantee that Corporation may have in relation to the Contractor(s)'s
liabilities.

8. This guarantee will not be discharged due to the change in the constitution of the
Bank or the Contractor(s).
9. Notwithstanding anything contained in forgoing, our liability under this guarantee is restricted to Rs__________________. The Guarantee shall remain in force till _______________ i.e. ________________ 12 months after the contract completion date. Unless a claim under this guarantee is made within six months from the expiry date herein before mentioned the Corporation shall have no rights under these presents. We, ________________, last undertake not to revoke this Guarantee during its currency except with the previous consent of the Corporation in writing.

In witness hereof, the Bank through its authorized officers has set its hand and stamp on this day of _______ 200 at ________.

The seal of ………………………… was hereto duly affixed by ……………………… this day of ………………………. 200 in accordance with its bye-laws and this guarantee was duly signed by and as signed by ………………… and ………………… as required by the said bye-laws.

Yours faithfully

For ……………………………………..

Signature

Name & Designation
Name of the Branch
# National Electronic Fund Transfer (NEFT) Mandate Form

(Mandate for receiving payments through NEFT from Bharat Petroleum Corporation Ltd)

<table>
<thead>
<tr>
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<th>Description</th>
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<tr>
<td>1</td>
<td>Vendor Name</td>
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<td>2</td>
<td>Vendor Code</td>
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<td>3</td>
<td>Permanent Account Number (PAN)</td>
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<td>Particulars of the Bank</td>
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<td>A. Name of the bank</td>
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<td>B. Name of the Branch</td>
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<td>C. Branch Code</td>
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<td>G. NEFT IFSC Code (11 digits)</td>
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<td>H. 9 digit MICR code appearing on the cheque book</td>
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<td>I. Type of Account (10/11/13)</td>
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<td>J. Account No.</td>
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<td>5</td>
<td>Vendor’s e-mail id</td>
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<td>6</td>
<td>Date of effect</td>
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<td>7</td>
<td>PAN No. of the Vendor</td>
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(Please enclose a photocopy of the cancelled cheque to enable us to verify the details mentioned above)

We hereby declare that the particulars given above are correct and complete. If the transaction is delayed or lost because of incomplete information, we would not hold the company responsible.

_________________________
Signature of the Vendor

---

**Bank Certificate**

We certify that ____________________________ has a Account No. ____________________________ with us and we confirm that the details given above are correct as per our records.

Date: ____________________________

Place: ____________________________

Authorized Official of the Bank
SAFETY REQUIREMENTS : HEALTH, SAFETY & ENVIRONMENT

1.0 HEALTH, SAFETY & ENVIRONMENT POLICY OF BPCL.

The objective of this document is to provide and establish safe & environment friendly work practices at all construction sites as per our corporate health, safety and environment policy given below.

Commitment
Together, we have the highest concern and commitment for protecting the Health and Safety of all employees, contractors, customers and the communities in which we operate and for conservation of the Environment.
We will comply with all Statutory Regulations and may even go beyond these for the benefit of our environment.
We consider Health, Safety and Environmental aspects are an integral part of our business planning and operation processes.

Policy
Based on these guiding principles, we shall:

Demonstrate our commitment by ……
• Providing and maintaining safe facilities and working conditions.
• Recognising that all employees have responsibility for their own safety and actions which could affect the safety of others.
• Adoption of appropriate technologies to minimise the impact of our activities on the Environment.

Establish clear objectives and targets to ……
• Improve continuously for prevention of accidents & occupational illnesses and minimising any impact of our activities on the environment.
• Promote learning through training and sharing of experiences and best practices; including with contractors, customers and the public, wherever required.
• Inculcate values and attitudes conducive to achieve excellence in Health, Safety and Environmental performance.

Provide means to achieve our mission by ……
• Assigning clear roles and responsibilities at all levels and periodically reviewing and recognising contribution to HSE objectives.
• Allocating adequate resources.
• Fostering a spirit of participation by all employees in Health, Safety and Environmental conservation efforts.
• Creating appropriate forums for deliberations on Health, Safety and Environmental issues.

Monitor performance by ……
• Periodically auditing work processes, systems & practices and promptly correcting deficiencies.
• Incorporating HSE performance as a parameter for assessing the overall performance of Employees, Business Units, Contractors and Business Associates.
Commensurate with above corporate HSE policy, policy of E&P to ensure health, safety and environmental protection at every construction site is as under:

i. Adopting sound and safe engineering practices for each project at design and construction stage.

ii. Taking due care to not cause any intentional damage to the environment during process of construction or material handling or both.

iii. All major projects shall be audited by a multimember team. The time gap between two consecutive safety audits at long duration project sites shall be around six months.

iv. Every audited construction site and material warehouse shall conform to audit recommendations through compliance report to HQ.

v. Every near miss and accident at construction site shall be reported immediately on-line by official present at incident location.

vi. Investigation of any accident at construction site shall be done by a multimember team to determine root cause of accident and to recommend necessary changes in ground condition to prevent repetition of similar incident.


viii. Workshops for contractors on industrial first aid procedures.

ix. Increasing awareness through holding competitions among all categories of staff and contract workers on safety slogan, safety suggestions and detection of unsafe conditions and near misses.

x. Delivering safety talks and holding safety committee meetings periodically with active participation from workers.

xi. Observing National Safety Week and Fire Service week and World Environment day appropriately.

1.1 IMPLEMENTATION OF SAFETY & ENVIRONMENTAL REGULATIONS

The contractor shall at his own expense arrange and comply with all safety provisions as stipulated by BPCL / Bureau of Indian Standards / Electricity act / OISD / Andhra Pradesh State Pollution Control Board and other acts as applicable in respect of all personnel, directly or indirectly employed by contractor for the work. The contractor shall ensure that he, his sub-contractor and workers employed by him shall comply with all safety / environmental regulations issued from time to time by BPCL.

The contractor shall also be liable for any pecuniary liability arising on account of any violation by him of the safety & environmental requirements. If any injury to workers or loss or damage due to accident and / or environmental pollution to any property or a portion thereof occur as a result of failure on part of the contractor to comply with such regulations, the contractor shall be held responsible for the consequences thereof and shall keep BPCL harmless and indemnified.
2.0 OISD & BIS CODES OF PRACTICES

The contractor shall abide by the following OISD codes:
   i. OISD – STD -105   Work Permit System
   ii. OISD – GDN – 192  Safety Practices During Construction

The contractor shall abide by the following BIS codes:
1) IS:3764-1992- Excavation work-code of safety.
3) IS:3696(Part 1) -1987-Safety code for scaffolds.
5) IS:7293-1974-Safety code for working with construction machinery.
9) IS:5216(Part 1&2)-1982-Reccommendation on safety procedures and practices in Electrical work.
10) IS:5121-1969-Safety code for piling and other deep foundations.
14) IS:2925-1984-Specifiation for industrial safety helmets.

3.0 LEGISLATION ON ENVIRONMENTAL POLLUTION CONTROL

The contractor shall abide by the following legislation:
2) Air (Prevention & Control of Pollution) Act 1981 & Rules.
3) Environment (Protection Act) 1986 & Rules
4) Hazardous Wastes (Management & Handling) Rules 1989
6) Noise Pollution (Regulation & Control) Rule, 2000

4.0 BPCL’S OBLIGATIONS ON SAFETY & ENVIRONMENT

The layout planning of the site shall be done by BPCL. Suitable and adequate space shall be provided to the contractor for his site office and storage of materials / equipment. However, approach to work spot and road around it, if required for movement of men and machineries for construction purpose, shall be made by contractor at his own cost. Electric power source and drinking water facilities at one point of site shall be provided by BPCL. Disaster Management Plan for the site shall be prepared by BPCL wherein the contractor shall be assigned a role, which shall be obligatory.
5.0 CONTRACTOR’S OBLIGATIONS ON SAFETY & ENVIRONMENT

Any safety & environmental impact mitigation action plan prepared by BPCL shall be binding on contractor and the contractor shall adhere to the same.

The following practices shall be mandatory on part of contractor::

6.0 SAFETY POLICY OF CONTRACTOR

The contractor shall have a safety policy, which shall deal with the following issues::

- Arrangements for training at all levels with particular attention to key workers such as workers working at height, crane operators etc, whose mistakes can be especially dangerous to other workers.

- Safe methods or systems of working in hazardous condition.
- The duties and responsibilities of supervisors and key workers.
- System to circulate all information / instructions / policies.
- Arrangements for setting up of safety committees.
- The selection and monitoring of sub-contractors (if any).
- The upkeep and maintenance of tools/machineries/safety appliances in perfect working condition.
- Feed back system and corrective measures wherever required.

7.0 ENVIRONMENT POLICY OF CONTRACTOR

The Contractor shall have a environmental policy, which shall deal with following matters

- Commitment to not to cause adverse impact on ecologically sensitive areas.
- Environmental Impact mitigation measures.
- Feed back system & corrective measures, wherever required.

8.0 ROLE OF SAFETY CUM ENVIRONMENT IN-CHARGE

The contractor shall designate a person possessing required experience and skill in safety and environmental issues as “Safety cum Environment In-charge”. His main duties shall consists of :

- Observance of safety action plan for the work and conditions stipulated in the tender/agreement.
- Providing and maintenance of safety facilities like access roadways, pedestrian routes, barricades and overhead protection.
- Providing and installation of safety signs.
- Circulating safety practices for each trade.
- Testing of lifting machineries such as cranes and goods hoists and lifting gears such as ropes and shackles and obtaining certification from competent authority.
• Inspection and maintenance of access facilities such as scaffolds and ladders.
• Inspection and cleaning of welfare facilities such as toilets, clothing, accommodation and canteens.
• Explaining the relevant parts of the safety plan to each worker group.
• Playing role in Disaster management plan.
• Identifying unsafe practice / equipment and rectifying the same.
• Dissemination of information on safety and environment protection
• Attending safety committee meetings and implementing all decisions taken by safety committee.
• Ensuring proper use of personal protective equipment.
• Delivering Safety talk to workers.
• Implementing all Environmental Impact Mitigation measures.

9.0 ROLE OF SUPERVISOR

Good planning and organization at work site and assignment of clear responsibility to supervisors are fundamental to safety and environment protection. Each supervisor shall ensure within his field of competence and domain the following:-

• Working condition and equipment are safe.
• Workplace safety is ensured.
• Workers are trained for the job they are supposed to do.
• Workplace safety measures are implemented.
• The best alternative to ensure safety and environment protection is adopted within available resource and skill.
• Necessary personal protective equipments are available and used by workers.
• Safety caution boards are displayed at right place.
• Unsafe practices are eliminated.
• Arranging rescue of workers, in case of accident.
• Playing his role in disaster management plan.
• Arrange tool box safety meeting frequently.
• Informing safety cum environment in-charge in case of any violation of safety practices.
• Informing safety cum environment in-charge in case of any violation of Environmental Impact Mitigation measures.

10.0 ROLE OF WORKER

Every worker shall follow safety practices and environmental impact mitigation measure conveyed to him by the contractor’s supervisor. He shall take care of his tools and use personnel protective equipment in accordance with safety practices.
11.0 SAFETY COMMITTEE AT SITE

The safety committee shall include representative of BPCL, representative of contractor identified as safety cum environment in-charge and representatives of various trades from workers. Ratio between BPCL representatives and that of contractor and various trades taken together shall be 1:1.

*Model code of practice:*

Safety committee is a key part of safety in the workplace. They shall accomplish the following:

a) Central focus: Overall look at safety requirements and to foresee problems that might otherwise cause difficulties.

b) Sounding board. The committee is a visible and approachable body for safety or environmental complaints, suggestions, and the like.

c) Central coordination. The coordination of safety training activities shall be accomplished by the safety committee.

An effective safety committee encourages safety awareness, gets a large number of employees actively involved in the safety program over time, helps motivate employees to follow sound safety practices. An effective employee safety structure provides a feedback mechanism to identify and correct new safety hazards at the earliest stage. Once the safety committee structure is in place and working well, it is a natural vehicle for employee involvement, preparation and introduction of new safety rules, new preventative practices, and safety procedures on new equipment.

Primarily safety committee shall look into the following:

a) Detection of Hazard and determination of risks to workers, equipment, property and environment.

b) Deciding actions to mitigate risks

c) Drawing Disaster Management Plan

d) How the committee can help management to enforce safety rules and environmental Impact mitigation measures.

e) How to implement safety suggestions

f) How to ensure compliance from workers.

Ideally safety committee members should play following roles:

a) Set a good example. Committee members must set a good example. They must be above average in their safe work habits and their positive attitude about safety and environment.

b) Be visible. Names of safety committee members should be posted prominently in their departments.

c) Conduct safety inspections. Safety committee members should perform safety inspections. Members know the safe—and the unsafe—way to perform the jobs. Hence, they are right men to correct unsafe situation.

d) Investigate accidents. Safety committee should investigates all lost work day accidents and record the findings.

e) Hold regular meetings. Safety committees must meet at least once a month,
and for their meetings to be effective the following matters must be considered:

Safety cum environment in-charge shall in general act as chairperson cum secretary

Preparing agenda & issuing in advance of the meeting to:
— keep discussions on track
— allow members to prepare for the meeting

Issuing Minutes within two days containing:
— written summary of proceedings
— names of attendees
— number of absentees
— responsibilities for implementation assigned
— timing of implementation assigned
— cost of implementation
— any approvals required
— completed recommendations
— uncompleted recommendations
— accident review (if any)
— safety training activities

Duties of Safety Committee members shall be as under:
• Work safely yourself—set the example in the site.
• Attend and actively participate in safety committee meetings.
• Speak to your fellow workers if you believe that they are engaged in an unsafe work practice; report things which you feel you can't handle.
• Listen to employee suggestions about safety and bring those that appear to have merit to the notice of safety committee.
• Before each safety committee meeting review minutes and open items affecting your section of job and have answers or a progress report on each item for the meeting.

Model code of practice for Safety Talks:

Safety talks should be delivered by any one of Safety Committee members by rotation. Duration could be anything depending on interest of audience and capacity of speaker to deliver oration.

The speaker may like to use this opportunity to convey various decisions taken in Safety Committee to workers. He may prepare talk on following suggested topics or any topic of his choice but of relevance. Political or human relation related topic must not feature in Safety talks.

i. Housekeeping
ii. Use of Safety Shoes
iii. Use of Safety Helmet
iv. Wearing of Safety Harness
v. Safety from Cement and stone dust.
vi. Checking scaffold before climbing
vii. Right use of ladders.
viii. Use of materials and tools while on scaffold.
ix. Fall protection, i.e. toe boards, anchoring of safety harness, positioning of safety net.
x. Handling of Asphalt
xi. Precautions during excavation.
xii. Electrical faults.
xiii. Safety from hanging live wires and high tension lines.
xiv. Entering confined space.
xv. Safety from toxic materials and fumes.
xvi. Right posture for lifting weights.
xvii. Slipping, tripping, drowning and falling hazards.
xviii. Eye protection from arc welding and dust.
xix. Precautions during operation of lifting appliances.
x. Safety during erecting shuttering.
x. Safety during stripping of shuttering.
xxi. Precaution during demolition of any structure.
xxii. Right storage of safety belts and other PPEs.
xxiii. Working on steep roof.
xxiv. Safety from vehicles.
xxv. Need of communication and looking for safety of one another.
xxvi. Look around safety.
xxvii. Air and water pollution.
xxviii. Nearby medical facilities.
xxix. Sun stroke and remedies
xxx. First aid in case of injury.
xxxi. Protection from AIDS.
xxxii. What to do if accident happens.

12.0 WORKING CONDUCT

No one shall enter any part of the worksite other than for the purpose of carrying out the work. Contractor's personnel shall abide by all rules and regulations stipulated, including the following:

• Smoking inside the premises of a working location is strictly prohibited except in the designated areas.
• No source of ignition shall be taken to job site unless covered by a Hot Work Permit.
• Personnel must also strictly adhere to the approved protective clothing and equipment requirements.
• It is essential that good housekeeping is practiced at all times to keep the work area neat and clean. No material on any of the site of work shall be so stacked or placed as to cause danger and inconvenience to any person.
• Consumption of liquor, drugs or any other intoxicating substances shall be totally banned.

13.0 SITE PLANNING AND LAYOUT

Proper advance planning shall be done in all matters including the following:

• Details regarding location of workshop / fabrication yard / quality control laboratory / store yard / electrical installations / construction machineries, medical and welfare facilities, lighting etc. shall be decided and identified.
• The working sequence.
• Clear access to work location.
• Identifying and providing emergency exit.
• Displaying warning notices at vulnerable locations and routes for vehicles.

14.0 HOUSE KEEPING

• Maintain tidiness during construction by cleaning up rubbish/scrap/spilled oil and grease.
• Keeping gangways, working platforms and stairways clear of equipment and material not in immediate use. Removing or hammering down any nails projecting from timber etc.
• Arrange all machinery such as welding machine, generators, cutting machine etc. in such a way that equipment are segregated and protected.
• Check all machines at periodic intervals.
• Do not accumulate saw dust and other combustible waste to avoid fire.

15.0 LABOUR ACTS:

The Contractor shall comply with all provisions of applicable Labour Acts, such as

(a) The Minimum Wages Act 1948.
(b) The Factories Act 1948
(c) The Contract Labour (Regulations & Abolition) Act 1970
(d) The Building & other Construction Workers Act 1996.
(e) The Employees State Insurance Act 1948
(g) Any other applicable Act.

16.0 LABOUR WELFARE MEASURES:

The contractor shall extend all welfare measures to his workmen in line with provisions given in labour acts mentioned in previous clause 15. Some of those are reproduced below:-
• First Aid box
• Treating injuries by a qualified and experienced medical practitioner.
• Arrangement for hospitalization, if needed.
• Payment of wages / PF / ESI etc. as per relevant labour act and maintaining proof of the same.
• Ensuring fitness of workers and maintaining hygiene.
• Arrangements for clean & cold drinking water.
• Separate toilet and washing and resting facilities for male and female workers.
• Canteen facility, if obligatory under contract labour act..
• Crèche, if obligatory under contract labour act.

17.0 ROLE OF SUB-CONTRACTORS

It shall be responsibility of the contractor to ensure that all sub-contractors engaged by him in accordance with terms of agreement with BPCL, comply with all safety practices and environment protection measures mentioned here and conveyed to him subsequently.

18.0 PERSONAL PROTECTIVE EQUIPMENT

Personal protective equipment shall be of approved make and are essential for avoiding injuries to workers on the job. A register showing stock and issue of PPE shall be maintained by the contractor. The most common personal protective equipment are described below.

18.1 SAFETY SHOES

Suitable safety footwear conforming to relevant BIS code shall be worn by personnel, considering the nature of works and hazards such as:

• Risk of crushing by heavy objects.
• Penetration by sharp objects.
• Penetration by chemicals or harmful liquids.
• Weld spatter.

Leather safety shoes with steel toe caps shall be used for all heavy manual work and general construction. Shoes shall be abrasion resistant and suitable for wet and muddy conditions. Soles shall be slip resistant type.

Light low-cut leather safety shoes with slip resistant soles shall be used for climbing job. Gum boot shall be used while working with bitumen, chemicals, mud and muck etc.
18.2 HAND GLOVES

Hand gloves are mainly used to protect the hand from hazards of material handling, heat, electrical shock, etc. Various types of hand gloves are available. Some of those are described below:

- Flame-resistant gauntlet gloves made of leather or other suitable material. They may be insulated for heat.
- Rubber gloves suitable for working in low voltage, medium voltage and high voltage.
- Hand gloves made of asbestos for handling hot bitumen and other hot work.
- Hand gloves made of special material for protection against chemicals.

Hand Gloves shall conform to relevant BIS code.

18.3 SAFETY HELMETS

Safety helmets shall be of yellow colour with chin strap. All workers are expected to wear safety helmet while inside the construction site. Sufficient number of safety helmets shall be kept at site for visitors. Safety helmets used by helpers of excavators shall have suitable arrangement to carry load on head. Safety helmet shall conform to relevant BIS code.

18.4 SAFETY JACKET

All workers shall wear yellow colour jackets made of good quality cotton with trade name printed on back and front in bold letters. Safety cum Environment in-charge and supervisors shall jackets of green colour made of good quality cotton with designation printed on back and front in bold letters.

19.0 PROTECTIVE CLOTHING DURING WELDING AND HANDLING TOXIC/HAZARDOUS MATERIALS

Welders shall wear aprons or overalls and gloves made of flame resistant material. Hand held welding face shield shall be used for any welding job. Full face shield with respiratory filters shall be used for specialized welding jobs. For handling toxic or hazardous materials proper impervious overalls, gum boots, gloves; facemask and respiratory equipment like canister masks shall be used. All equipment shall conform to relevant BIS code.

19.1 GOGGLES

Goggles shall be used to avoid risk from:
- Flying particles / dust ingress.
- Chemical splash – Radiation glare.
- Hot sparks or metal splatter.
- Harmful vapours.
- Sand / grit blasting.
Goggles shall be single piece constructed of clear impact resistant plastic and fitted with adjustable elastic straps. Goggles shall conform to relevant BIS code.

20.0 HEARING PROTECTION

Hearing protection shall be worn by personnel involved with works in areas where noise level exceed 85 dB (A noise level beyond which normal conversation becomes difficult) on a continuous or regular intermittent basis.

Protection is available in two basic types; 1) an external cup type defender which fits over the outside ear and 2) internal disposable type of ear plugs usually made of compressible foam, which fits inside ear. Whenever practicable, equipment generating high noise levels shall be fitted with sound mufflers and located at maximum possible distance away from any work place.

For overhead welding ear protection in the form of wool or rubber plugs shall be done.
All equipment shall conform to relevant BIS code.

21.0 WARNING SIGNS AND BARRIERS

The contractor shall arrange necessary material to secure the work site and to warn the general public or other workers of hazards. This shall include

- Warning signs.
- Warning lights and signs in traffic control zone.
- Barricades around excavations including illuminating warning signs.

22.0 RESPIRATORY PROTECTION / MASK

Whenever there is doubt about the presence of toxic substances or the gases injurious to health, a respirator must be worn. The type of respirator to be used shall depend upon the hazard and work conditions.

The simplest masks are disposable paper types. These are only effective against nuisance dusts. There are three types of half-face masks with filters.

- For protection against airborne particles, e.g. stone dust, with a coarse filter fitted in the cartridge (these filters have a specific lifetime and should be changed as necessary).
- For protection against gases and fumes, e.g. when using paints containing solvents, with a filter containing activated carbon.
- A combination filter containing both a dust and gas filter. Cartridge must be replaced regularly.
A full facemask could be fitted with the same types of filter, and it also protects the eyes and face.

Self-contained breathing apparatus with a full-face mask fed with air at positive pressure is another alternative and it must be used in confined spaces and whenever supply of air or oxygen is insufficient.

Users must be trained in the use of self-contained breathing apparatus and must know the manufacturer’s specifications.

All equipments shall be thoroughly checked prior to use to ensure:

- Oxygen Cylinders are full and gauges function correctly.
- All connections are proper
- Facemasks are in order.

All equipment shall conform to relevant BIS code.

23.0 SAFETY BELTS / HARNESSES

The majority of fatal accidents in construction sites are due to fall from height. There are many types of safety belt and safety harness available depending on nature of work. A full safety harness should always be used in preference to a safety belt.

Safety belts / harnesses shall conform to relevant BIS code and worn by all workers working at a height greater than 2 mts above ground level.

Details of Safety Belts / Harnesses are given in 26.5 “Working at Height”.

24.0 LIFE JACKET AND LIFEBUOYS

For working over or near large and deep-water body this life saving device should be used. Life Jacket shall be tested for leak and usefulness before start of work. It shall conform to relevant BIS code.

25.0 RAIN COAT

Rain coat shall be provided to workers during rainy season. The colour of rain coat shall be yellow. It shall conform to relevant BIS code.

26.0 SAFE CONSTRUCTION PROCEDURES / PRACTICES

26.1 EARTH EXCAVATION

i) The site of the excavation or trench should be sloped or battered back to a safe angle of repose usually 45 degree or be supported with shoring by timbering or other suitable means to prevent collapse. The type of support necessary will depend on the type of excavation, type of soil, the nature of
ground and the ground water condition. Adequate timbering or sheeting shall be provided where excavation is deeper than 1.5 M. 100 mm wide “Safety tape” of yellow colour with one meter long phosphorescence band after every three meter shall be used to encircle excavated pit of any depth. For any pit of depth one meter or more, one meter high fence with a mid rail made of bamboo or steel pipes shall be provided for preventing people / animals from slipping into the pit. If the pit is by the side of vehicular drive way, in addition a prominent board shall be put up saying “Excavation in Progress”.

ii) Pumping out of accumulated water from pit is to be done at regular intervals. Run-away water shall be prevented from entering the excavated area, as such water can cause erosion of soil and sudden collapse of earth.

iii) If the excavation is carried out without shoring, necessary angle of repose shall be maintained at all times.

iv) Labourers shall not be allowed to sleep or take rest inside the pit. Protection against insects / poisonous snake shall be provided.

v) Excavated earth shall be stacked at least one meter away from cutting edge to avoid collapse of trench and sliding of heaped earth into trench.

vi) Contractor shall ensure that the excavation does not damage any existing underground cables, pipelines, foundation of adjoining buildings or structures etc. Wherever excavation is near any adjoining building or structure, proper precaution shall be taken.

vii) Before working / entering inside an existing excavated pit it shall be ensured that it is free from any toxic gasses or explosive gases. The underground water present in the pit shall be checked for acid content, if there is possibility of seepage of industrial affluent.

viii) Adequate access to and escape from the excavated trench in the form of ladders provided at every thirty meters or less shall be ensured. Crossovers over excavated trench shall be provided at suitable interval for movement of workers.

ix) If the excavated trench is adjacent to any parking space for vehicles, adequate and well-anchored stop blocks shall be provided on the surface to prevent vehicles from falling in to trench while reversing.

Relevant BIS codes shall be followed for safe practices.

26.2 PILING AND OTHER DEEP FOUNDATIONS

The following precautionary measures shall be taken:

- Piling machine operators shall be over 18 years of age and properly trained.
- Prior to piling, all underground services shall be located and made safe
- There shall be a firm level base for the crane. If necessary crane mats shall be provided.
- The workers shall use necessary personal protective equipment.
- All cranes, lifting appliances and lifting gear must have appropriate certificates of testing and shall be of capacity required for the job.

- Particular attention shall be provided to the risk of damage to lifting gear from sharp edges.
• Cranes used for lifting or lowering workers, must be fitted with a dead man’s handle and lowering shall be done under power.

Relevant BIS Safety Code for piling and deep foundations shall be followed.

26.3 WORKING IN BASEMENT / UNDERGROUND TANK

Fatal and serious accidents could occur if proper precautions are not taken before entering confined space like basement or underground tank. The following precautions shall be taken:

i) Entry into the confined space shall be allowed only against Hot work permit.
ii) Air circulation shall be ensured. Hot work in such places shall be taken up only after ensuring that ample supply of fresh air is available using additional blowers etc.
    Proper ventilation shall be ensured by opening manholes (either ends if available) and fixing a wind sail or forced circulation of air. Old tanks shall be filled with water and washed with water before entering into it. Sludge shall be cleared / removed from outside of the confined space, to the extent possible, before entering.
iii) Workers shall be allowed entry in the confined space, only after ensuring absence of toxic and explosive gases. Purging of gases may be done by filling the underground confined space with water.
iv) Everyone inside the confined space shall wear rescue harness, with lifelines attached to a point outside the confined space. Whenever workmen are allowed to enter a vessel or underground tank or confined space, it is necessary to keep one person (alert and trained) at each manhole or entry point. The person should keep watch through manhole and offer rescue assistance so as to ensure prompt pulling out of the workers from confined space in case of emergency. Proper communication system between confined space and outside shall be maintained.
v) A proper procedure for rescue in an emergency shall be laid down, with specific duties allocated to specific persons.
vii) An experience supervisor shall supervise the entire operation.
viii) Monitoring of air supply must continue while work in progress.
i) Only trained workers shall be allowed entry into confined space..
x) The following equipment shall be provided:

• Toxic gas meter, Oxygen meter and Explosive meter
• Rescue harnesses with adequate length of rope taking into account the location of work site.
• Hand torches or lamps safe for use in a flammable atmosphere.
• Appropriate self contained breathing apparatus.
• First aid equipment.
• Fire fighting equipment.
• An audible alarm for summoning help.
• Resuscitation equipment.
• Means of communication between confined space and outside.
• Boards & barricades.
26.4 DEMOLITION

- Demolition is a dangerous process and workers shall use requisite personal protective equipment.
- Demolition must be supervised by supervisor with thorough knowledge not only on demolition procedure, but also on the principles of structural construction.
- A survey of the physical characteristics and design of the structure to be demolished must be carried out in order to choose a safe method of demolishing. The demolition action plan shall be drawn by the contractor including drawings or sketches showing the sequence of operations, the machinery and equipment to be used, personal protective equipment required etc. Before demolition begins, all service connections to the structure shall be disconnected. Arrangements must be made to erect a fence of height two meter encircling the structure under demolition.
- It is dangerous to leave isolated walls or parts of a wall standing alone, as those are liable to collapse from the effect of high winds and hence necessary supports should be given in such cases.
- Debris should not be allowed to build up against walls or floors with the consequent risk of the structure getting overloaded.
- Vapour present inside the structure must be checked for toxic nature before starting demolition work.
- Protective measures should be taken against dust, fumes, chemical deposits, asbestos, glass wool etc. while carrying out demolition work.
- Disposal process and pit / yard should be identified for safe disposal of debris.
- Relevant BIS safety code for demolition of structures shall be followed.

26.5 WORKING AT HEIGHT

Scaffolds accidents occur primarily to the following reasons:

- Faulty design
- Faulty erection
- Weak foundation
- Inadequate strength of structural members
- Inadequacy of platforms, guard-rails and toe-boards.

Scaffolds are designed for live loads of workers and building materials, besides their own dead weight. However, a scaffold is usually designed only in case of important structures, like bridge girder/slab, very long beam/very large slab in buildings etc. In case of day today scaffoldings for general civil constructions / colour washing / painting / plastering etc., scaffolds are usually not designed, but erected based on experience.

Scaffolds may be constructed of either timber, sal ballies, bamboo, or metal. Those may be single scaffold or double scaffold for light duty or heavy duty, as
the case may be. Single scaffolds are recommended for carpenter, painter and similar trade. Double scaffolds are recommended for masons and similar trade. All scaffolds should conform to IS:3696(Pt.1)-1987. As bamboo and metal scaffoldings are used, salient features of those scaffoldings are given below:

Single Pole Bamboo Scaffolds:
Single scaffold consists of one row of upright poles or standards, placed not more than 1.8mt centres, fixed at suitable distance from the wall and connected horizontally by ledgers (bamboo placed horizontally) spaced vertically at 1.5 to 1.8mt centres. Cross members (putlogs), supported on ledger on one side and hole in the wall on other side, are provided at 1.2mt centres.

Double Pole Bamboo Scaffolds:
It consist of two rows of up-rights or standards. The inner row is placed next to wall and other row placed 1.2 to1.5mt away from the wall. As in earlier case, ledger is provided every 1.5 to 1.8mt vertically. However, in this case, putlogs shall rest entirely on ledgers at both ends. Every single or double pole scaffolds, shall be effectively tied with adjacent structure. Diagonal face bracing or zig zag face bracing shall be provided on single pole scaffold and outer row of double pole scaffold. The maximum distance between braced bays in any lift of scaffold shall not exceed 10mt.

Quality of Bamboo
Bamboo should be reasonably straight, sound, free from splits, knots dry rot, worm holes and any other defect, which tend to reduce strength of bamboo. The mean diameter shall not be less than 80mm in case of single pole scaffold and 100mm in case of double pole scaffold, subject to minimum diameter of 50mm at thinner end. The slenderness ratio, i.e. L/d ratio shall not exceed 50, where L is the length of up-right or standard between putlogs. The diameter of bamboo shall not be measured at knot points.

Where it is necessary to extend a up-right, the overlapping distance between two up-rights shall not be less than 600mm.

Maximum Height of Bamboo Scaffolds
IS:3696(Pt 1) has recommended use of Bamboo Scaffolds for heights upto 18mt, subject to conforming to provisions given there-in.

Platform Width for Working on Scaffolds
- Where platform is not more than 2mt above ground or floor:
  - For Painters, Decorators etc: 300mm (min)
  - For other types, i.e., mason etc.: 500mm (min)

- Where platform is more than 2mt above ground floor:
  - For Painters, Decorators etc: 900mm (min)
  - For other types, i.e., mason etc.: 1200mm (min)
Railings & Toe Boards
Railings consisting of top rail at a level of around 1000mm above platform and an intermediate rail halfway between top rail and platform shall be provided for all working platforms higher than 2mt above ground or floor. The platform edges shall be provided with 150mm high toe board to eliminate hazards of toolbar or other objects falling from platform. Where scaffolds are erected over areas, where people work or pass, the space between top rail and toe board shall be enclosed by tarpaulin or PVC sheets.

Means of Access
A safe and convenient means of access shall be provided to all platform level of scaffolds. Conventional means of access are the following:
- Ladder
- Stairway
- Ramp

Ladder:
- To ensure safe use of ladder, the following steps should be followed:
  - Erecting ladders in the “four up-one out position” (i.e 75 degree angle between ladder and ground)
  - Lashing ladder securely with the structure.
  - Using non-slip devices, such as, rubber shoes or pointed steel ferrules at the ladder foot, rubber wheels at ladder top, fixing woollen battens, cleats etc.
  - When ladder is used for climbing over a platform, the ladder must be or sufficient length, to extend at least one meter above the platform, when erected against the platform in “four up-one out position”.
  - Portable ladders shall be used for flights not more than 4mt. Above 4mt flights, fixed ladders shall be provided with at least 600 mm landings at every 6mt or less.
  - The width of ladder shall not be less than 300mm and rungs shall be spaced not more than 300mm.

Stairway
For scaffolds exceeding 4mt height, stairway are safest means of access. It shall conform to the following:
- Treads and risers shall be of uniform width and height in any one flight.
- Minimum width of 1000mm.
- No unbroken vertical rise of more than 4mt.
- Maximum angle of ascent 50 degrees.
- Stair railings on all open sides.
- Hand rails on all enclosed sides.
- Railings and toe boards on all landings.

Ramp
Ramp shall conform to the following:
- Open sides of ramp shall be protected by railing and toe board, where ramp is 1.5mt or more above ground or floor.
- Where slope is more than 1 in 4, footholds shall be provided by stepping laths of minimum size 50 x 30mm at interclass not exceeding 450mm.
- Maximum permissible slope is 2 in 3.
Metal Scaffolds
With the evolution of concept of designing multi-storied and long span structures, metal scaffolds came into practice, mainly due to following advantages.

- Ease of assessing strength of scaffolds structure.
- Reusable many more times than bamboo.
- Possibility of human error while erection, is much less that in case of bamboo scaffolding.
- Aesthetically neat and good looking.

Metal scaffolds shall conform to IS:2750 - 1964, in addition to IS3696(Pt 1). Scaffold tubes are usually 40mm N.B., mild steel continuous weld conforming to IS:1239 or IS1161, grade YST 210, of lengths varying between 4.5mt to 6mt. These are manufactured and marketed by various agencies. As such, it is essential to obtain guarantee certificate from the manufacturer about safety and stability of metal scaffolds under likely worst combination of loads.

Other General Safety Requirements for all types of Scaffolds

- Erection, alteration and removal shall be done under supervision of experienced personnel.
- Use of barrels, boxes, loose bricks etc., for supporting platform shall not be permitted.
- Every platform and means of access shall be kept free from obstruction.
- Each supporting member shall be securely fastened and braced.
- Where planks are butt-joined, two parallel putlogs shall be used, not more than 100mm apart, to give support to each plank.
- Platform plank shall not project beyond its end support to a distance exceeding four times the thickness of plank, unless it is effectively secured to prevent tipping. Cantilever planks shall be avoided.
- If Grease, mud, gravel, mortar etc., fall on platform or scaffolds, these shall be removed immediately to avoid slipping.
- Workers shall not be allowed to work on scaffolds during storms or high wind. After heavy rain or storms scaffolds shall be inspected by site-in-charge before reuse.
- All scaffolds or platforms shall be fastened with adjacent structure, and if independent, scaffolds shall be braced properly.
- Scaffolding shall be erected on firm and level ground. In case of loose soil, the soil should be compacted by watering and ramming, besides using wooden base plate of minimum thickness 30mm for erecting standards.
- All members of metal scaffolding shall be checked periodically to screen out defective /rusted members. All joints should be properly lubricated for easy tightening.
- Clear access to scaffolds shall be maintained at all times. For prohibiting entry of unauthorised persons in scaffolds area, barricades should be put up and warning notices prominently displayed.
- If scaffolds are used, where public movement is anticipated, entry of public should be prohibited for the duration of the job.
- Where lifts are provided to hoist premixed concrete, reinforcement etc., to upper floors, barricades should be raised to prevent accidental entry of...
workers under the lift. Such lifts shall not be used for hoisting people, unless those are designed specifically for that purpose.

- Dismantling of scaffoldings shall be done in a pre-planned, sequential manner in order to maintain stability throughout the process. If necessary, additional tying, bracing may have to be done to prevent sudden collapse of scaffold structure.
- Before initiating dismantling process, precautions should be taken to ensure removal of all loose materials from the scaffold.
- Use of scaffoldings, under dismantling process, must be prohibited.
- Wearing safety helmets shall be made mandatory within 10mt from scaffold.

Dismantling of Form-work
Action for dismantling form-work, used for supporting concrete casting, must be done after expiry of requisite number of days after casting and proper curing. Untimely dismantling of form-work may cause total collapse of structure.
Bottom shuttering of chajia or sun-shed should not be removed, till the attached lintel is properly secured by brickwork, to avoid failure of lintal due to toppling/torque.
In case of casting of multi-storied framed structure, casting of upper floor should be avoided till expiry of minimum curing period of lower floor. But, if essential, bottom shuttering of the lower floor shall be suitably strengthened by additional props.

INDUSTRIAL SAFETY BELTS & HARNESSES

Primary functions of safety belt & harness are to minimise injury after a fall. Despite providing proper scaffoldings, railing etc, possibility of slipping and falling can not be over-ruled. This equipment is the last check to prevent worker from getting fatal injury.

Four types of safety belts & harnesses are available in the market, depending on nature of various jobs. Failure to choose right type of safety belt & harness may led to endangering life of worker at the time of need. All safety belts and harness shall conform to IS3521-1989.

<table>
<thead>
<tr>
<th>Type</th>
<th>Consists of</th>
<th>Permissible fall</th>
<th>Used for</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Waist belt with safety line</td>
<td>Not more than 0.6mt</td>
<td>Building / Structural maintenance.</td>
</tr>
<tr>
<td>II</td>
<td>Waist belt with two shoulder straps &amp; safety line</td>
<td>Not more than 1.8mt.</td>
<td>Construction, structural erection.</td>
</tr>
<tr>
<td>III</td>
<td>Waist belt with two hoisting straps &amp; safety line, with provision for leg straps.</td>
<td>Not more than 0.6mt.</td>
<td>Working in confined atmosphere and rescuing.</td>
</tr>
<tr>
<td>IV</td>
<td>Waist belt with pole strap.</td>
<td>-</td>
<td>Working on electric line pole.</td>
</tr>
</tbody>
</table>

Proper choice of anchoring point for anchoring the safety-line is essential. At many instances, the workers have met with fatal accidents due to anchoring with
weak supports. Sometimes anchoring points are found to be chosen by mistake in such a way, that should a person fall, he would hit against a rigid structure due to swinging action of the safety line. Hence anchoring point for safety-line needs to be judiciously chosen. Where proper anchoring points are not likely to be available, action should be taken in advance to provide for hooks and fixtures.

The shock absorbing capacity of the safety-line is critical for reducing impact of fall. A stiff safety-line, would arrest a fall suddenly, resulting in an abnormal impact load on body of the worker, causing injury. According to IS3521, safety-line should be made of nylon or polyester or synthetic fibre. It shall not break under minimum tensile load of 2000kg. The minimum diameter of test specimen shall be 10mm. Performance test of the Safety belt & Harness shall be carried out as per annexure - B of IS3521, by dropping an articulated anthropometric dummy weighing 100+5 kg with an overall height of 1.6mt to 1.8mt, and waist not more than 1000mm circumference.

INDUSTRIAL SAFETY NETS
Industrial Safety Nets are designed to catch workers and / or debris falling whilst working on high buildings or structural fabrications. The safety net should be installed as close to the work level as possible. Sufficient clearance should be maintained between the safety net and the ground or structure below, in order to accommodate full deflection of the net under impact.

IS 11057-1984 specifies requirements for two types of safety nets.
Suitable for use at maximum duty height (*) upto 6mt
Suitable for use at maximum duty height (*)upto 1mt
(* The maximum vertical distance between working level and the level at which safety net is to be placed in use.)

- Salient features are as under:
  - Minimum nominal size shall be 4mtX 3mt.
  - Shall be made with square or diamond mesh and the length of mesh side shall not be more than 100mm.
  - In case of multi layer nets, all layers shall be joined together and fitted to a common border cord or cords.
  - A continuous length of net, with no joints shall be used.
  - When in use (without any load,except dead weight of the net), the sag at centre of the net shall be between one-fifth and one-fourth of the length of the shorter side.
  - Performance shall be tested by actual drop test of a sand bag weighing 140kg, in accordance with appendix A of IS-11057-1984.(Safety nets are available with an overlay net to catch small tools and debris. But, the performance test shall be carried out only after removing such overlay net.)
  - The deflection at the centre of the net during above drop test, shall not exceed 2mt or one-half of the length of the shortest side, whichever is more.
  - Manufacturer shall declare the duty height at which net conforms to IS11057 by fixing labels marked with indelible ink at two different positions on the net. The labels should also contain following information.
    - Manufacturer’s name or trade mark
    - Nominal size of safety net.
    - Date of manufacture.
• Deflection at centre of the net during above drop test.

ROOFTOP LADDERS
Asbestos cement sheets are usually used as industrial roofing material. These are very brittle. In some cases GI sheets are used, which when rusted, become fragile. The collapse of fragile roofs, while walking on it, can cause fall from rooftops. These roofing materials are often laid on slopes, causing additional hazards of slips and falls from edges. For working on fragile and/or slopping roof, the following safety measures shall be taken:

• Crawling boards or roof top ladders shall be used.
• While working, the worker should always stay on those and remember not to step on the roof surface, which may give way.
• Before commencing any work on fragile roof, the site-in-charge shall verify the availability of crawling board or roof top ladder and competence of workers to use those equipment.

26.6 STORAGE TANKS / SPHERES / BULLETS

The safety of tanks depends more on the standards and quality of inspection applied at all stages of construction than any other single feature. The contractor shall ensure adherence to relevant code and all safe practices required during construction of tanks including handling of plates from storage yard to fabrication yard.

26.6.1 FABRICATION

• Before commencing the fabrication work, work area is to be made free from combustible materials, used asbestos cloth and place proper fire extinguisher near work site.

• While gas cutting of structural items, there is a possibility of back fire to the portable gas cutting set and hence cutting torch, rubber hoses pressure gauges shall be checked thoroughly at regular intervals.
• All personal protective equipment shall be worn by welder.
• Loose nylon or polyester dresses shall not be used during work.
• All gas cylinders to be kept, in upright position and avoid mishandling.

26.6.2 ERECTION

• Proper supports to be provided on both sides of plate after erection by guy ropes/wires/cranes to hold the plate in position and to avoid falling of plates on ground.
• Only proper structural supports shall be used for workmen standing purpose and not boxes / drums etc.
• Holes in plate work to assist in erection are not permitted. Lugs nuts, clamps etc. to assist in erection may be attached to tank shell plate by welding for erection.
The tank shell shall be safeguarded from damage due to wind by provision of steel wire guy ropes or cables after erection of 3rd shell or 3 M height whichever is less until completion of roof.

Support for steel scaffolding shall be checked. Each scaffolding shall be tied up with other to avoid fall of welder from a height due to shifting/sliding of scaffolding from its position.

To avoid accident at height “jacking up method” shall be adopted from safety point of view.

Suitable capacity of crane and authorized driver shall be deployed for operation.

26.6.3 WELDING AND GAS CUTTING

Adherence to relevant codes and employment of qualified and tested welder are two basic requirements for welding and gas cutting process. Hazards such as electricity, heat/flame, flammable gas etc. are present in this process. Hence following precautions must be followed while carrying out these operations.

- Hot work permit shall be obtained wherever applicable before commencement of the work.
- All fire precautions as stipulated in IS:3016 (code of practice for fire precautions in welding and cutting operations) shall be followed while welding/gas cutting.
- Fire extinguishers, sand buckets, water and gunny bags shall be provided when hot work is in progress. Gas cylinders used for gas cutting and welding shall
  - Be of approved make.
  - Be stored upright, and is kept away from hot work and care shall be taken to prevent heating of gas cylinders.
  - Gas cylinder valves shall always be checked and shall be closed when not in use.
  - Be stored in a well-ventilated area.
  - Be fitted with safety caps when not in use.
  - Not be lifted by nozzle and rolled.
- All gas and oxygen regulators shall be fitted with Flashback arrestors, being non-return valves designed to prevent an explosive mix developing in cylinder.
- Checking for leaks shall be with help of soapy liquid applied to each joint and under no circumstances shall a naked flame be applied to any part of the cylinder.
- When working at a height, do not place cylinders directly beneath the working area, as molten metal may fall onto the hoses, causing leaks and possibly igniting the gasses.
- During electric arc welding process, very high ultra violet radiation is generated. The welder and any person working in close proximity, in order to prevent permanent damage to the eyes must wear suitable eye protection. When not in use, power supply to the holder and electrode shall be turned off.
• Hose shall be in good condition, and properly clamped. Welding cable shall have proper insulation with minimum number of joints.
• All equipments shall be properly earthed, and cables properly insulated and connected.
• ELCB / RCCB shall be provided in every welding circuit. Earthing shall be dedicated for each circuit. Diesel generating set shall have separate earthing. Circuit shall always be made by cables of right quality and cross section only. Diesel generating set shall be connected with welding transformer through switch board fitted over a rigid support at height of 100 cm from ground with appropriate ELCB / RCCB.
• The welder or welding operator shall be insulated from both the work and metal electrode and holder. The bare metal part of an electrode holder shall never be permitted to touch the operator’s bare skin or wet clothing. Consistent use of well insulated electrode holders and cables, dry clothing on hands and body and insulation from the ground shall be helpful in preventing contact with electricity.
• Electrode should never be changed with bare hand or wet gloves or when standing on wet floor / ground.
• Frame of welding unit (portable/stationary) should be grounded using correctly rated wire/strip and earth pit.
• Resistance to earthing must be checked daily before start of work.
• Receptacles of power cables for portable welding unit should be used so that it is impossible to remove the plug without opening the power supply switch.
• If cable is worn, exposing bare conductors, it must be immediately replaced / insulated.
• Welding cables shall be kept dry and free of grease and oil to prevent premature breakdown of the insulation.
• Cables laid on the floor/ground shall be protected in such a way that they will not interfere with safe passage or become damaged or entangled.

Welding cables shall be kept away from power supply cable or high tension wires.
• Welding cables shall not be coiled or looped around any structure.
• While coupling several lengths of cables for use as a welding circuit, insulated connectors on both the ground and electrode holder line shall be used if occasional coupling and uncoupling is necessary.
• Supervisor shall ensure that the portion in the circuit of liquid or gas circulation e.g. the storage tank, pipelines, valves, pumps etc. where welding/cutting work is to be carried out, is blanked or isolated and purged with inert gas or washed thoroughly, so as to make absolutely certain that no inflammable liquid/gas is present in an amount, which can catch fire under action of heat, spark, flame, welding spatter or red hot objects. The area shall be checked and ascertained that concentration of combustible gas in the air is within permissible limit.

• Goggles, if used, shall be for welding with right shade conforming to ANSI Z 87.1 or BIS.
The shade number of the glass to be used for various purpose/ process shall be as under:
<table>
<thead>
<tr>
<th>OPERATION</th>
<th>SHADE NO. OF THE GLASS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soldering</td>
<td>2</td>
</tr>
<tr>
<td>Torch brazing</td>
<td>3 or 4</td>
</tr>
<tr>
<td>Gas cutting (1” to 6”)</td>
<td>4 or 5</td>
</tr>
<tr>
<td>Gas cutting (over 6”)</td>
<td>5 or 6</td>
</tr>
<tr>
<td>Gas welding</td>
<td>5</td>
</tr>
<tr>
<td>Shielded metal arc welding</td>
<td>10</td>
</tr>
</tbody>
</table>

- Other personal protective equipment shall be as under:
  - Protective cloth/apron long enough to cover wrists and forearms against heat, sparks, molten metal and radiation. Leather or asbestos apron can be used for this purpose.
  - Flame resistant gloves
  - Safety shoes
  - Helmet / shoulder cover for over head welding as necessary
  - Safety harness while working at heights
  - Ear protection (wool or rubber plugs) in case of noise pollution or overhead welding.
  - In a confined place or where fumes/gas emissions cannot be below the toxic level, respiratory protective equipment duly certified for the exposure by reputed Government organization, like DGFAISLI, shall be used.

- Space of more than 284 cum. per welder should be provided.
- Clothing should be free from oil & grease. Collars and cuffs should be buttoned and turned up inside. Pockets should be eliminated from the front vests, shirts and apron
- After welding or cutting is completed a warning sign should be provided to keep workers away from heated surfaces.
- Electrode rod stubs should be kept in a proper waste container
- Gas cylinders for each type of gas should be stored separately. They should be kept away from any source of heat and shielded from direct sunlight. If stored, the store must be well ventilated. The cylinders in use should be retained upright in a rack or trolley and not be left free standing.
- While unloading/loading gas cylinder nozzle valve guard cap must be properly fitted and cylinder shall be unloaded over rubber/soft mat.
- Regulators, noses, torches and other Oxy-fuel gas equipment should be kept free from grease, oil and other combustibles.
- Lubricants should never be used on Oxy-fuel gas equipment
- Oxygen should never be substituted by compressed air
- Oxygen pressure reducing regulator, hose or other pieces of apparatus should never be used with any other gases.
- Oxygen cylinder should never be used without first connecting a suitable pressure-reducing regulator to the cylinder valve.
• Acetylene cylinder should be turned & kept in such a way that the valve outlet will point away from oxygen cylinder
• While opening acetylene cylinder valve, key or spindle should not be turned more than one and one-half turns -
• Gas cylinder should not be lifted by nozzle and rolled
• All gas and oxygen regulators shall be fitted with flash back arresters ,being no return valve design to prevent an explosive mix developing in cylinder
• Checking for leaks shall be by means of soapy liquid applied to each joint and under no circum stance shall a naked flame be applied to any part of the cylinder.
• When working at height do not place cylinder directly beneath the working area as molten metal may fall on the hoses causing leaks & possibly igniting the gas
• Acetylene cylinder key for opening valve must be kept on valve stem while cylinder is in use so that it may be quickly turned off in case of emergency
• Acetylene should never be used at pressures in excess of 15 PS.I. The use of higher pressures is prohibited by all insurance authorities and by law in many localities
• The gas hoses should be in a good condition and easily distinguishable and protected against heat, sharp objects, dirt, oil & grease.
• LPG Cylinders, if used, should be stored kept in a well-ventilated place and there should be no excavations, drains or basements nearby.
• LPG cylinders should never be stored below ground level or closer than 3 M to cylinders containing oxygen or materials which are toxic and corrosive.
• Cylinders full or empty should never be stored upright with the valve uppermost.
• The valve of empty LPG cylinders should be kept closed, if they are left open, air will diffuse into the cylinder and may form an explosive mixture.
• For storage of large numbers of gas cylinders regulations of NFPNA/OISD/CCOE should be observed.
• If an outlet valve of acetylene cylinder becomes clogged with ice or frozen, it should be thawed with warm water (not boiling), applied only to the valve. A flame should never be used. This is because the fusible safety plugs on acetylene cylinder melts at about boiling point of water.
• Cylinders are not designed for temperatures in excess of 54°C and hence storage/handling should be done keeping this in mind.
• Never bring cylinders into tanks
• Portable fire fighting facilities and first aid facilities should be made available in ready condition
• Adequate water should be made available at work spot for emergency requirements
• BIS Code IS: 3016-1982 on ”code of practice for fire precautions in welding and cutting operations” shall be referred for further safety measures.

27.0 PRECAUTIONS IN ELECTRICAL WORK

Electrical hazards are different from other types of hazard found in construction work because the human senses provide no advance warning. It is the voltage that determines the current through the body. Since reduced voltage reduces the
severity of electric shock, attempt shall be made to work with reduced voltage of 110 V wherever possible.

Some of the basic safety steps to be ensured by contractor at construction sites are given below:

1) Only authorized persons with license issued by State Electricity Boards or any other Government regulatory body, shall carry out operation and maintenance of electrical systems.
2) Work permit and isolation of the electrical system before taking up the work must be ensured.
3) Proper protective equipments like rubber hand gloves, insulated apron etc. shall be used. FLP fittings /enclosure as per IS: 2148 and certified by CCOE, Nagpur should only be used in Zone-1&2 area. Capacitors should be relieved of charges before working on them
4) Check for defective cables, loose joints in conduits, damaged fuse boxes, loose pins, faulty sockets and defective earthwire. Cable joints must be properly insulated and protected.
5) Do not overload electrical equipment. All circuits shall be provided with dedicated ELCB / RCCB. There shall also be dedicated earthing for each circuit.
6) Use right type of tools for the jobs.
7) After maintenance of flameproof fittings, ensure that the fittings meet requirements of flameproof standards.
8) Power supply cable shall be laid at least 45 cm below ground level from source to the work place.
9) Tag with marking should be provided on each cable for identification and correct connections to terminals must be ensured
10) The route and depth of any underground cables should be determined and power should be switched off if possible before execution of work for the existing cable
11) Jointing of cable shall always be made using proper junction box and flameproof junction box when in hazardous areas even in case of temporary connections. Power cables should not be tied in knots; it should be looped instead.
12) All equipments LT or HT that are likely to cause hazard shall be turned off and segregated. All base terminals etc. shall be insulated, Rubber mats shall be used for LT/HT switch room, where applicable.
13) All electrical equipments like wires, switch board etc., shall be protected against rains or leaking water lines etc. In wet condition switches shall not be operated until it is dried up properly. Switches starters shall be placed well above ground level.
14) Proper earthing shall be provided for all electrical items and effectiveness of earthing shall be checked every time before commencing work/switching on the electrical system.
15) Electrical items shall be handled after isolation and care shall be taken to identify and replace damaged electrical items. Guard wire shall be provided for aboveground HT wires.
16) Ensure all ELCBs and RCCBs are of good quality and conform to correct ratings.
17) Always plug of right specification should be used for taking connection from a socket.
18) Cables should be kept out of the way of other workers (or with proper guard/warning) and are not in contact with water
19) Moving parts of all equipment should be properly guarded.
20) All electrical transmission and operational equipment must observe safety clearances as stipulated in IE Rules.
21) Fail safe features should be available for interlocking mechanism.
22) Suitable overcurrent tripping device should be provided in the electrical Circuit.
23) Earth leakage relay with high sensitivity should be provided in the electrical system.
24) Earth pits should be tested periodically and certified by the licensed electrician.
25) Before working on an electrical line fuse should be physically removed and the line is isolated and a suitable locking mechanism must be provided to prevent accidental switching/fixing fuses by other persons. A notice board displaying "Men at work" message should be placed. The section of circuit under repair should be connected to earth.

26) Temporary switchboards at site must conform to the following:
   • structures are firm and strong
   • fully protected from rain and dust
   • properly grounded
   • all connections are made with right size lugs
   • suitably barricaded
   • rubber mat of correct rating is provided on floor
   • Danger band indicating system voltage should be displayed
27) No electrical equipment /cables/parts should be touched with wet hand/cloths
28) Lightning arrestors should be provided.
29) Electrical maintenance workman working around a wet area near a fuse box must use wooden platform with rubber mat, insulated tools and rubber boots.
30) All electrical installation including incomer line, temporary distribution board, electric motor and machine must be installed as per IE Rules with proper earthing and must be inspected and certified by a licensed electrician at periodic intervals.
31) IS: 5216-1982 -" Recommendations on safety procedures and practices in Electric Works" shall be referred for further safety measures.

28.0 SAFETY IN RADIOGRAPHY WORKS

Planning and procedure for radiography initially shall be formulated by contractors and submitted to proper authority. Procedure shall be thoroughly discussed by all related persons for familiarization. All radiation equipment and radioactive materials shall be stored, handled, transported or disposed off, so that, no person receives unnecessary dose of radiation. Shield ability of the radioactive materials container shall be inspected every six months. Warning signs and posters shall be displayed. Radiography shall be performed under the
direction of radioactive supervisors/officer responsible for this work. Supervisor and source must possess valid BARC certificate indicating:

1. Type & strength of source
2. The serial number of radiography camera
3. Names of radiographer
4. Training/competency of person handling the source

All workers shall be experienced and knowledgeable of the work such as radiation procedure, operation of radiation apparatus and effects of radiation on the body.

The following spaces or areas shall be classified as restricted areas.

a) Storage place of radioactive materials
b) Any area where the radiation exists at levels such that large portion of the body could receive a dose in excess of 30 milligram per week.
c) Emergency storage area for radiation apparatus or radioactive material capsules.

Warning signs, labels and fence shall be provided for restricted area to prevent trespassing.

The area covered within a radius of 5 Mts. from the radiation working spot or location and subject to a dose of radiation in anyone hour in excess of 50 milligrams shall be called the radiation area and trespassing in that area shall be strictly prohibited.

All workers entering the restricted area shall wear film badges sensitive to radiation. All workers who could receive a dose of radiation in excess of 100 milligrams per day shall wear a pocket dosimeter and the dose of radiation received shall be recorded everyday. The dose of radiation shall be checked by the supervisor for each radiation exposure when the dose of radiation exceeds 100 milligrams. In such case, suitable alternative for shortening the radiation time, reinforcing the shield plate etc. shall be arranged. During radiation work, dose of radiation at the boundary shall be measured and recorded.

The radiography supervisor shall measure and record the surface dose rate of restricted area every day as under:

a) Date of measurement
b) Measuring method
c) Description and capacity of apparatus
d) Measured condition
e) Results of measurement
f) Name of measurement
g) Any action taken

Radioactive materials shall be stored separately from other material or equipment. The storage place shall be 10 cm or more above the ground and locked to prevent unauthorized entry. Radioactive materials shall be stored in a case made of lead of ample thickness with a lock on the exterior surface of the
case. The description of materials, quantity and danger sign shall be distinctly visible.

29.0 WORKING WITH MACHINERIES / MATERIAL HANDLING EQUIPMENT

29.1 General

Many accidents place while handling materials at site. It is 'highly hazardous operation. Hence special attention by contractor is required in this respect. Following precautions are essential:

- Safe working space for all handling equipment shall be provided. Proper material stockyard should be made and all material should be stacked /arranged/kept in orderly manner with proper moving space for handling machinery. Proper wooden sleepers should be provided below steel plates and such other materials.
- Mixers, winches, cranes, bending machines etc., shall be overhauled regularly as per manufacture's advice/maintenance schedule.
- Proper warning boards/signs shall be provided when machineries like cranes, hoists are being operated.
- Brakes, clutches of winches shall be checked on regular basis. Chains, ropes, belts shall be inspected and repaired/changed as necessary.
- All moving parts of the material handling equipment must be provided with suitable guards.
- Lifting ropes should be inspected for kinking, loose wires, high strands, corrosion, nicking, lubrication, change in diameter /cross section
- Slings and other lifting materials, which are not suitable for use should be promptly withdrawn and destroyed
- Lifting chains should be inspected for bent links, cracks in weld areas or any other section of link, traverse nicks and gauges and corrosion pits.
- Elongation of the lifting chain link due to over loading should be inspected before using it.
- Maximum allowable wear at any point of link of the lifting chain is given below:

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<tr>
<th>CHAIN SIZE (mm)</th>
<th>MAXIMUM ALLOWABLE WEAR(mm)</th>
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• For lifting hook, if the throat opening exceeds 15% of the normal opening, it should be replaced. When inspecting the hook, measurement must be made between the shank and narrowest point of the hook opening
• A chain used for lifting should not be spliced by inserting a bolt between two links
• Strain should not be put on a kinked chain
• Hammer should not be used to force a hook over a chain link
• A safety hook fitted with a latch to prevent displacement of loads should only be used for material handling/lifting
• IS: 7293-1974 (Code of Practice for Working with Construction Machinery) shall be referred for further safety measures.

29.2 CRANES

All works involving the use of crane shall be properly planned in advance and the following shall be ensured

• The crane is capable of lifting the load. Safe load capacity should be clearly marked on jibs, winches, pulleys, slings and ropes. All job cranes should have an automatic safe load indicator which alerts the operator.
• The condition of the ground at the crane location is satisfactory to support the crane and the load.
• The rotation of the cab and, therefore the boom is not restricted. Suitable matting or plates are available to protect underground services and paving.
• All slings shackles, hooks etc. are of correct rating and in good condition.
• Cranes and lifting equipments must be inspected and carry a valid test certificate issued by an accredited testing agency.
• Crane hooks are to be fitted with properly functioning safety clips to prevent displacement of the sling from the hook during the lift.
• Driver of the crane must be watchful and must ensure before driving the vehicle either forward or reverse that no one is near the wheel of the vehicle and no one is trying to climb the vehicle while moving.
• Crane operators and signalers must be trained and sufficiently experienced. There should always be a signalman or a signaling system such as a telephone, if the crane operator cannot see the load throughout the lift. Hand signal shall be clear and distinct and shall follow recognized code or system. Workers must use safety shoes and helmets. They are also required to wear gloves and other PPE s for handling materials.
• Raising, lowering and braking of jib should not be done abruptly in order to prevent it from snapping.
• No part of the crane or crane load should be closer than 4 Mts. to live overhead power lines.
• For movement of crane or other material handling equipment ,ramp gradient should not exceed 1 in 10
• No person should be allowed to stand or work under lifted load.
29.3 MANUAL HANDLING

Assistance should be obtained if the load is too heavy or awkward for manual handling. Clear walkway to the destination and safe stack should be ensured before handling the load manually. Following procedure should be followed while lifting a load manually:

- Stand close to the load on a firm footing and with feet about 30 cm apart
- Bend the knees and keep your back as straight as you can
- Take a firm grip on a load
- Breathe in and throw the shoulders backwards
- Straighten the legs & continue to keep the back as straight as you can
- Make sure that your view is not obstructed by the load
- Keep the load close to the body
- Lift slowly and smoothly
- When carrying the load, avoid twisting spine to turn, move your feet instead
- One person shall not pull more than 63 kg.
- The weight unit for lifting by a worker is 18 kg and hence should be fixed as upper limit of load to be lifted by worker
- If two or more workers are lifting, one should give instructions to ensure that the team works together
- Type of clothing is very important in manual handling of material. Clothing should be such that it allows easy movement of arms and will not catch in machinery or on a load.

30 VEHICLE SAFETY

- All vehicles used for carrying workers and construction materials must undergo preventive maintenance and daily checks.
- Contractor shall maintain a register for this purpose for each vehicle.
- All documents related to the vehicle shall be kept in vehicle for checking.
- Driver with proper valid license shall only be allowed to drive the vehicle.
- Routes shall be leveled, marked and planned in such a way so as to avoid potential hazards such as overhead power lines and steep sloping ground. Speed limit shall be specified.
- While reversing the vehicle, help of another worker should be enlisted and his instructions should be complied at all times during reversing and sound signal should be provided before reversing
- An unattended vehicle should have the engine switched off.
- Foot injuries to drivers and their assistance during loading and unloading are common and they should wear safety boots and shoes.
- Wherever possible one-way system shall be followed.
- Head clearance must be ensured on the route of the vehicle and no vehicle shall be allowed to deviate from its route.
- Overloading, carrying unauthorized passengers etc. shall not be allowed.
- Load on vehicle should be evenly distributed, properly secured and normally should not project beyond the plan of vehicle. If some degree of projection is unavoidable, it should be clearly shown by the attachment of red flags.
- Load should be properly secured.
• The body of a tipper lorry should always be lowered before driving the vehicle off.
• Signs/signals/caution boards etc. should be provided on the routes.

31 SAFE OPERATION OF PLANT, TOOLS AND EQUIPMENT

The following four basic principles shall be applied for the safe use of hand and power tools.
1. To choose right tool for the job
2. To use only tools in good condition
3. To use tools correctly, and only for the purpose they are intended
4. To maintain and store tools properly.

• Electrical tools shall be checked to ensure that the supply voltage is as per requirement.
• Electrical tools shall always be properly earthed.
• High speed rotating equipments such as grinders shall be fitted with protective guards.
• Static load on shoulder or arm due to continuous holding of a tool at a raised position or gripping of a heavy tool should be avoided
• Awkward wrist angles to be avoided
• Uncomfortable posture and pressure on the palm or joints of the hand should be avoided.
• Repair or discard the tool, if tool heads mushroom, tool jaws open out and cutting tools lose their edge
• Tools handle should have a firm grip
• Tools should be properly cleaned and stored
• Air connection to pneumatic tools should be clamped and secured properly.
• Electrical cable/pneumatic tube should be protected against damage
• Socket, terminal boxes, fuses etc. must be of high quality and properly covered and protected
• Correct fuse should be used for the electrical tools.
• Power tools shall never be left operating unattended.
• Spark arrestor shall be fitted to all equipment exhausts where risk of presence of combustible gases exists.
• Periodical inspection shall be done.

32 WORKING OVER WATER

Falling into water and drowning and getting carried away by water current is an ever-present danger when working over or adjacent to large water bodies. The following precautions should always be followed:

• Working platform should be made secured and there shall be no tripping hazards such as tools, wires, timbers, bricks etc. Surface should not be slippery.
• Access ladders, guard rail and toe board for the working platform should be firmly held.
• Safety helmet should always be used.
• A life jacket should be used  
• A safety harness or net shall be used.  
• Lifebuoys fitted with lifelines should be kept ready in hand for immediate use.  
• Availability of safety boat (motor driven with self-starter for tidal/fast flowing river) should be ensured.  
• Availability of alarm system should be ensured

33 PIPELINE CONSTRUCTION SAFE PRACTICES

I. Handling and storage of pipes

a) Bare Pipes

* Unloading, loading, stockpiling and transportation of bare pipes should be done using suitable means and in a manner to avoid denting, flattering or other damages to pipes

* Pipes should not be allowed to drop but should be lifted or lowered from one level to another by suitable equipment

* Lifting hooks when used, should be equipped with a plate curved to fit the curvature of the pipe

* Pipe when stockpiled, should be placed on a suitable skid to keep it clear of the ground.

* The stacks must be properly secured against sliding and should consist of pipes of the same diameter and wall thickness

* Personal Protective Equipment like safety shoe and glove should be used by worker while handling pipes.

b) Coated Pipes

* Coated pipe shall be handled by means of slings and belts of proper width made of non-metallic/ non-adhesive materials

* Belts/slings when used should be cleaned to remove hard materials such as stone, gravel etc.

* Coated pipes should not be bumped against any other pipe or any other objects

* Rolling, skidding or dragging of coated pipes should be strictly avoided

* Coated pipes at all times should be stacked completely clear from the ground so that the bottom row of pipes remains free from any ground contact. Pipelines should be stacked at a slope so that during rain, water does not collect inside the pipe.
The coated pipes may be stacked by placing them on ridges of sand and covered with a plastic film.

Stacks should consist of limited number of layers so that the pressure exercised by the pipe's own weight does not cause damages to the coating.

The weld lead of pipes should be positioned in such a manner so as not to touch adjacent pipes.

Coated pipes stacked in open storage yard should be suitably covered on top to decrease direct exposure to sunlight.

The ends of the pipes during handling and stacking should always be protected with end protectors.

II. Swabbing and Night capping

To ensure that all dirt and objects likely to cause obstruction in the interior of the pipe are removed, each length of pipe should be thoroughly scrubbed prior to alignment and welding. At the end of each day's work a steel plate or nightcap should be adequately secured over open ends of incomplete section of the pipeline to prevent ingress of extraneous objects and ground or floodwater.

III. Inspection of field welds

In case of cross-country pipeline and where specifically specified, all weld joints should be radiographed to ensure the soundness of welding joints to avoid failure of joints, which may create serious pollution or environmental problem.

IV Coating Inspection in the field

Where pipeline coating is carried out in the field, all bare and primed pipe should be kept free from dust and grease, oil etc. Before the pipeline is lowered into the trench the coating should be thoroughly inspected both visually and by using holiday detector. Any visible damage should be repaired and the pipeline shall be retested.

V. Lowering and Backfilling

Equipment used for lowering the pipeline from the skids and positioning it finally in the trench should be sufficiently padded at points of contact with the pipe to prevent damage to the protective coating.

Slings used for lowering the pipe should be made of canvas or equally non-abrasive material and of a width not less than the diameter of the pipe.

The trench should be clear of loose rocks, lumps or other objects that might prevent the coated pipe from bearing evenly on the trench bottom.
* When digging soil from beneath the pipe in order to remove slings, care should be taken to avoid damage to the protective coating. The coating should subsequently be inspected and any damage shall be repaired.

* In waterlogged areas it may be necessary to provide additional weighting or screw anchors to prevent floatation of pipeline.

* No lowering should be done after sunset without proper lighting arrangement

* Minimum 3 side booms should be used and mounting of counter weights should be ensured on side booms for lowering the pipes.

VI. Road, Rail and Water Crossing

* Where work being done either adjacent to or any public or private road; warning signs and night time warning lights should be provided and maintained.

* Crossing will frequently necessitate laying the pipeline at greater depth than normal and may therefore call for special measure to support the trench or boring pit.

* Where crossings are made by open cut, the work should be programmed so as to minimise the amount of time that the normal traffic or flow is interrupted. Where necessary temporary conduits or pumping system should be provided to maintain the flow in water courses

VII. Trenching

* Barricading should be made while trenching in heavy traffic area.
* Sign boards should be provided while trenching in heavy traffic area
* Trench cross over shall be provided at every 30 Mts. of its length while trenching
* Lighting should be provided for night working
* Shoring should be provided for trench support
* Underground service connections should be identified and marked prominently
* Excavation tools should be properly insulated to avoid electric shocks
* Evacuation of workers should be ensured before blasting
* Entry of workers in site, where blasting is planned to be done, should be allowed after inspection and clearance from qualified Blaster

- Requirements of safe procedure as stipulated in BIS Code IS:4081-1986 for blasting and drilling must be observed during blasting operation.

VIII. Pipeline Marks

Distinctive markers should be created at all crossings to indicate the alignment of the pipeline and should give information about ownership, diameter, the nature of content, the normal direction of flow and the location of the crossing. A telephone number for use in emergencies shall also be displayed.
34.0 STORAGE OF HAZARDOUS MATERIALS

Harmfulness of materials shall be identified and proper care shall be taken against fire/health hazards e.g. against asbestos fibre/rope, sand/shot blasting, paints, handling leaded container and tank, furfural liquid etc. Waste materials and consumables like woods, papers, and plastic pieces etc. shall be cleared on regular basis. Petroleum products/solvents used for cleaning etc. shall be kept away from working site specially when hot work is in progress. No smoking board/signs etc. shall be used in sites where such materials are stocked. Paints shall be stored in separated areas. The quantity of paint stored in actual working areas shall be as minimum as practicable. The ingestion of paint shall always be avoided. Food and drink shall not be brought, stored, prepared or consumed in areas where paints are stored, handled or used. Smoking in such areas shall be prohibited. The inhalation of paints, dusts or fumes shall always be avoided by the use of local ventilation or extraction. Where fumes or dusts are unavoidable, then suitable approved respirators or facemasks shall be worn. All personnel who handle and use paints shall wear appropriate protective clothing (such as, gloves, eye protection and overalls). Splashes of paint on skin shall be treated promptly by copious washing with water or an approved cleaning agent. (Solvent shall not be used for personal cleaning).

35 CLASSIFICATION & WORKING IN HAZARDOUS ZONES

Hazardous (flammable atmosphere) zones are classified as zone-O, zone-1 and zone- 2. All other areas are unclassified but not necessarily non-hazardous. In these areas, safety precautions must be observed in order to eliminate risk of explosion. Zone-O is defined as the vapour space in and directly around product storage tanks. Zone-1 is defined as an area where vapours, may be expected at all times. For zone 2, flammable vapours may be expected to be presently when a failure to equipment or plant occur. Unclassified areas cannot be assumed to be always non-hazardous, therefore must be checked prior to issue of work permits, Following precautions shall be taken while working in hazardous areas.

35.1 NON-SPARKING EQUIPMENT

Sparks can be produced from electrical tools/devices, and where two surfaces collide. In order to avoid risk of sparking, only tools approved for use in hazardous zone-1 shall be used. The condition of all equipments used within hazardous zones shall be checked by BPCL Engineer. Where chipping or scraping is necessary in a hazardous area, several precautions shall be taken such as; the surface being chipped or scraped shall be kept moist with water at all times; Air driven jackhammers may be used where atmosphere has been certified to be safe and the impacting surfaces must be submerged in water.

35.2 CHECKING OF WORKERS

Workers are to be checked for matchboxes, lighters and other spark producing items. If workers are found to be carrying any such item, the same shall be taken into custody by security at the entry point.
35.3 SAFETY CHECKS

In all cases where work is to be carried out within hazardous zones, BPCL Engineer shall check the area using an explosimeter for the presence of flammable vapours. The explosimeter shall be verified before each use, for its smooth functioning. Should there be any indication of flammable vapours, steps shall be taken to reduce the vapour content of the surrounding atmosphere. If found safe after re-checking by explosimeter, the work permit shall be issued.

35.4 FIRE SCREEN WALL

Fire screen shall be provided to segregate area where hot works, such as welding & cutting, is planned to be done from surrounding. To construct fire screen, the following shall be complied with:

- Members shall be made of appropriate size MS pipes, MS structural, strong enough to withstand the wind, live and dead loads. The bottom of columns shall be properly grouted.

- Good quality G.I. Sheets free from damage and holes shall be used as screening wall. G.I. Sheets shall be properly tied up with the structure.

- The height of fire screen wall shall be decided based on the level at which hot work is supposed to be carried out. For example, in case of above ground tanks fabrication by jacking up method, a fire screen of 6 M height is sufficient where as in the other case it is required to have a height equal to height of structure to be fabricated.

36. WORK PERMIT SYSTEM

If work is to be performed in a hazardous area, a duly authorized written work permit shall be obtained by the contractor from BPCL or any official duly authorized by BPCL for this purpose. This is a document authorizing contractor to carry out the work concerned, warning him of the possible hazards and spelling out precautions needed for the job to be done safely. The contractor shall be fully aware of the details of the work permit system and shall obtain the same signed by authorized person before starting the job. Based on the nature, the work shall be undertaken either under Cold Work Permit or Hot work / Entry to confined space permit or Electrical isolation and energisation permit.

Permits and certificates are to be issued by BPCL Engineer or any official duly authorized by BPCL for this purpose with overall responsibility for the work area.

All work permits shall carry serially printed numbers. The printing of all work permits shall be done by the contractor in adequate quantity at his own cost.

36.1 COLD WORK PERMIT:

Work falling under the category of cold work such as opening process machinery, blinding & deblinding, tightening of flanges, hot bolting, painting etc. shall be performed through Cold Work Permit.
This Permit shall be in minimum two copies. The original should be in yellow colour and the copy should have the word "Copy" printed in large yellow letters. Original shall be issued to the contractor, retaining the duplicate in the book. (Ref. Annexure-I)

36.2 HOT WORK / ENTRY TO CONFINED SPACE PERMIT:

All hot work such as welding, grinding, gas cutting, burning, shot blasting, soldering, chipping, excavation, open fire, use of certain non-explosion proof equipment etc. shall be carried out through Hot Work Permit. Entry and operation of petrol or diesel driven vehicles or equipment without spark arrester in hazardous area also falls in the category of hot work, and shall be performed under the hot work permit.

The confined space entry permit is required for the protection of personnel entering a confined space such as Vessels, boilers, storage tanks, large diameter piping etc against hazards such as oxygen deficiency, toxic and flammable materials, falling objects, power driven equipment etc. Excavation more than 1.2 meter deep, entry on floating roof tank when the roof is more than 3 meter down from the top, space located below ground level such as pits, drain, channels etc. also fall under the confined space.

For excavation work regardless of the depth, permission from various sections shall be obtained with precautions to be taken for the underground facilities viz; sewers, telephone lines, cables, pipelines etc.

This work permit shall be in minimum three copies. The original should be in pink colour and copies should have the word "COPY" printed in large pink letters. Original shall be issued to the contractor, duplicate to the Safety Section and triplicate retained in the book. (Ref. Annexure-II)

36.3 ELECTRICAL ISOLATION AND ENERGISATION PERMIT

Before issuing any work permit, it is essential that the equipment / facility to be worked on is electrically safe and electrical power is isolated to the extent necessary for the safe conduct of the authorized work. Permit for electrical isolation and energisation shall be in triplicate and in two sections with tear off facility. Section-A shall be used for electrical isolation and Section-B for energisation. The original should be in light blue color and copies should have the word "COPY" printed in large letters in light blue colour. Original along with a copy shall be issued to the electrical section for electrical isolation / energisation. Electrical section authorized person on isolation / energisation of the equipment / circuit shall return the original to the issuer keeping copy for record. (Ref. Annexure-III)

36.4 SCAFFOLDING FITNESS CERTIFICATE

For all temporary scaffolds erected by contractor, fitness certificate, in format given in Annexure IV, shall be issued by BPCL site in charge after due checking to his satisfaction.
36.5 TEMPORARY ELECTRICAL CONNECTION FITNESS CERTIFICATE

For all temporary electrical connections taken by contractor including diesel generating sets, fitness certificate, in format given in Annexure V, shall be issued by BPCL site in charge after due checking to his satisfaction.

37. ACCIDENT REPORTING AND CLASSIFICATION

37.1 ACCIDENT REPORTING

All employees must be encouraged to report any near miss incident that has or could have caused injury, illness, damage to property, or interruption in work. The reporting of such incident helps in analyzing what went wrong and enables steps to be taken to prevent recurrence. The accident reporting forms the basis for objective investigation of the accident and will bring out essential and contributory factors leading to it. The necessary decisions then can be taken to prevent recurrence in future.

37.2 CLASSIFICATION OF ACCIDENTS

Accidents are classified as follows:

a) Near Miss

It is a 'narrow escape' where accident, major loss or injury did not occur. Such incidents must be reported locally and the working conditions leading to it must be investigated.

b) Fatality

A death resulting from work injury is covered under this category irrespective of the intervening time between injury and death.

c) Permanent total disability

Personal injury which incapacitate a person completely and results in termination of employment.

d) Permanent partial Disability

Any injury which results in complete loss or permanent loss of use of any part of body or any permanent impairment of the function of the body.

e) Lost Work-Day Case

Any injury excepting permanent partial disability which renders the injured person unable to perform any regular job on any day after the day of receiving the injury.
f) Restricted work case

After the injury, the injured person cannot perform his normal duties or regular job.

g) Lost work days

The number of calendar days on which the injured person was temporarily unable to work.

h) Restricted Work days

The total number of calendar days from the start of Restricted work, by the injured persons, till he returns to his regular job.

i) Medical treatment cases

The injury requiring medical treatment under order from a physician but does not involve Lost work Days, or restricted workdays.

37.3 REPORTING

Contractor shall notify BPCL as under:

Lost time injuries / Fatality / Injury which may cause total or partial disability to injured etc - immediately.

Fire and Miscellaneous Events- immediately.

First Aid injuries-Within a day.

38 SAFETY TRAINING

Training is a pro-active measure. The contractor shall engage only those workers who are proficient in their respective jobs. It is responsibility of contractor to impart job knowledge to all workers and supervisors before engaging them for any work. It is also binding to the contractor to depute persons for safety training, if arranged by BPCL.

39 DOCUMENTATION

Following documents shall be maintained by contractor at site:

- Safety & Environment Policy
- Safety committee minutes of meeting
- Critical machinery/equipment fitness certificate.
- Stock register of Personnel Protective Equipment.
- Maintenance registers for major machineries/equipment.
Accident / incident investigation reports.
Various work permits.
Earthing test certificates.
Materials test certificates.
P.F., Contract Labour, ESI registration.
All records & registers as required under Contract Labour (Regulation & Abolition Act) 1970 and Building & Other Construction Workers Act 1996.

40 ENVIRONMENT PROTECTION

Contractor should ensure that the work carried out by him does not change the quality of air, water & soil at the work site & surrounding areas. Disposal of surplus earth, rubbish, scrap etc. shall be done in Eco-friendly manner. The contractor shall ensure that the greenery is protected to the extent possible while executing the work.

41 ENVIRONMENTAL IMPACT MITIGATION MEASURES

The best way of impact mitigation is to prevent the event occurring. All efforts should be made to locate the developmental activities in a area free of agricultural lands, cyclones, earthquakes, ecologically sensitive, erosion, forests, flooding, human settlements, land slides, natural scenic beauty, water logging. In case this is not feasible, the next step is to look at the raw materials/technologies/processes alternatives which produce least impact i.e. adopting or using processes or technologies which are efficient and produce recyclable wastes/minimum waste/wastes that can be easily disposed, without affecting the environment. However if the developmental activity produce the adverse impact, action has to be taken to mitigate the same. Following are the suggested methods, which shall be taken in to consideration by the contractor to choose right technology for executing the work:

41.1 AIR

- Attenuation of pollution on pathway or protection of receptor through green belts.
- Particulate removal devices such as: cyclones, setting chambers, scrubbers, electrostatic precipitators, and bag houses.
- Gas removal devices using absorption (liquid as a media), adsorption (molecular sieve), and catalytic converters.
- Uses of protected, controlled environment, such as oxygen masks, Houston Astrodome, etc.
- Control of stationary source emission (including evaporation incineration, absorption, condensation and material substitution)
- Use of masks
- Dilution of odourant (dilution can change the nature as well as strength of an odour)
- Odour counteraction or neutralize (certain pairs of odours in appropriate concentration may neutralize each other)
• Odour masking or blanketing (certain weaker malodours may be suppressed by a considerably stronger good odour)

41.2 NOISE

• The mitigation measure may include damping, absorption, dissipation and deflection methods. Common technique involve constructing sound enclosures, applying mufflers, mounting noise sources on isolators, and/or using materials with damping properties.
• Performance specifications for noise represent a way to insure the procured item is controlled.
• Ear protective devices should be used. When an individual is exposed to steady noise levels above 85-dB (A), in spite of the efforts made to reduce noise level at the source, hearing conservation measures should be initiated.

41.3 WATER

• Conjunctive use of ground/surface water, to prevent flooding/water logging/depletion of water resources. Included are land use pattern, land filling, lagoon/reservoir/garland canal construction and rainwater harvesting and pumping rate.
• Minimize flow variation from the mean flow.
• Segregation of different types of wastes.
• Storing of oil wastes in lagoons should be minimized in order to avoid possible contamination of the ground water system.
• Surface runoff from oil handling areas should be treated for oil separation before discharge into the environment. If oil wastes are combined with sanitary sewage, oil separation will be necessary at the waste water treatment facility.
• All effluents containing acid/alkali/organic/toxic wastes should be processed by treatment methods. The treatment methods may include biological or chemical processes. The oil water separator of appropriate size based on catchment area shall be provided.
• The impact due to suspended solids may be minimized by controlling discharge of wastes that contain suspended solids; this includes sanitary sewage and industrial wastes. Also, all activity that increases erosion or contributes nutrients to water (thus stimulating alga growth) should be minimized.
• Waste-containing radioactivity should be treated separately by means of dewatering procedures and solids or brine should be disposed of with special care.

41.4 LAND

• The environmental impact of soil erosion can best be mitigated by removing vegetative cover only from the specific site on which construction is to take place and by disturbing the vegetation in adjacent areas as little as possible. Land clearing activities should be kept to the absolute minimum.
Disturbing the existing vegetation and natural contour of the land as little as possible can mitigate increases in surface runoff. Vegetation along watercourses should not be cleared indiscriminately. Neither should potholes or swamps be drained unless absolutely necessary for successful completion of the activity.

Construction activities that result in the soil being laid bare could be scheduled in such a way that some type of vegetative cover appropriate to the site could be established prior to the onset of intense rain or windstorms. If grass is to be seeded, mulch of straw will help to protect the soil from less extreme erosive forces until vegetative and root development begins.

Natural drainage patterns can often be maintained by preparing sodden waterways or installing culverts.

Steep slopes can be terraced, thereby effectively reducing the length of slope.

Check dams built near construction sites can reduce the quantity of eroded soil particles reaching free-flowing streams or lakes.

Use of “floating” foundations and height restrictions in earthquake zones and increased foundation height, wall strength and roof support in areas periodically subject to cyclones can reduce the hazards.

All forms of temporary structures should be avoided from the flood plain and all permanent structures should be raised to a height above the level which flood waters can be expected to reach once very 100 years (100-year flood).

Installation of underground drainage structures helps to reduce sediment loads.

Engineering plans can be drawn to reduce the area of earth cuts on fills below what might otherwise be acceptable, provide physical support for exposed soil or rock faces, concentrate or distribute-as appropriate the weight loading of foundations to areas or states better able to support that weight.

Use small charges for mining/blasting.

Restricting the number, frequency and area of movement of heavy machinery.

Compatibility between adjacent land uses can best be assured by providing a green belt between the proposed activity and nearby properties where any significant degree of incompatibility is likely to result.

41.5 ECOLOGY

Intruding as little as possible on their habitat can best mitigate the impact of activities on animals. If such animals use the area where the activity will take place, the activity should be concentrated to the maximum extent possible in those parts of the area that they least often frequent.

During the planning phase of an activity, an attempt should be made to avoid extending into the home range wild animals. If this is not feasible, the activity should be completed, as quickly as possible, and regular and sustained use of the area over time should be minimized.

Regular or sustained intrusions of men or equipment into nesting areas of birds should be avoided to the maximum possible extent, especially while are being incubated by the adults and until the young have left the nest. The
sanitation cuttings of non-commercial individual trees should destroy no known nests.

- Restricting the input of polluting substances into watercourse, estuaries and the open sea can mitigate impacts upon fish and shellfish populations. Additionally, when a part of the activity involves water level control, changes in such levels should be programmed to be extent, it is possible to do so in a way that will minimally disturb nesting and feeding habitat.
APPENDIX-I

COLD WORK PERMIT

Sl.No.________________________

Work clearance from__________hrs of date___________ To__________hrs of date __________(Valid
for the shift unless renewed)

Issued to (Department / Section / Contractor)________

______________________________________________________________

Exact Location of work (Area / Unit / Equipment no.
etc)____________________________________________________________

Description of work

________________________________________________________________________

________________________________________________________________________

THE FOLLOWING ITEMS SHALL BE CHECKED BEFORE ISSUING THE PERMIT

(Tick mark in the appropriate box. Checklist items marked with asterisk ( * ) shall be complied by
receiver)

<table>
<thead>
<tr>
<th>Sr no.</th>
<th>item</th>
<th>Done</th>
<th>Not Req'd.</th>
<th>Sr no.</th>
<th>Item</th>
<th>Done</th>
<th>Not Req'd</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Equipment / Work Area inspected</td>
<td></td>
<td></td>
<td>6</td>
<td>Equipment water flushed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Surrounding area checked, cleaned and covered</td>
<td></td>
<td></td>
<td>7</td>
<td>Equipment properly steamed / purged</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Equipment blinded/disconnected / closed / isolated / wedge opened</td>
<td></td>
<td></td>
<td>8</td>
<td>Proper ventilation and lighting provided</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Equipment properly drained and depressurized</td>
<td></td>
<td></td>
<td>9*</td>
<td>Area cordoned off &amp; caution boards / tags provided.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Equipment electrically isolated and tagged vide Permit no. ------------------------------</td>
<td></td>
<td></td>
<td>10</td>
<td>Gas test: HCs / Toxic etc. HCs = % LEL Toxic gas = ppm</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Remarks:
1. The activity has the following expected residual hazards (Tick the relevant items): Lack
   of Oxygen / H2S, Toxic Gases / Combustible gases / Pyrophoric Iron / Corrosive Chemicals /
   Steam – Condensate / Others ______________________

2. Following additional PPE to be used in addition to standards PPE (Helmet, Safety Shoes,
   Hand gloves, Boiler suit): Face Shield / Apron / Goggles / Dust Respirator / Fresh Air Mask /
   Lifeline / Safety Belt / Airline / Earmuff etc.

3. Additional precaution if any:

________________________________________________________________________

Issuer Name & Designation | Issuer Signature | Receiver Name & Designation | Receiver Signature

122
### Closing of the work permit:

<table>
<thead>
<tr>
<th>Date &amp; Time</th>
<th>Name &amp; Designation</th>
<th>Signature</th>
<th>Date &amp; Time</th>
<th>Name &amp; Designation</th>
<th>Signature</th>
</tr>
</thead>
</table>

Receiver: Certified that the subject work has been completed / stopped and area cleared  
Issuer: Verified that the job has been completed and area cleared and is safe from any hazard.

### Clearance renewal

<table>
<thead>
<tr>
<th>Date</th>
<th>Time From</th>
<th>Time To</th>
<th>Additional precautions if any, Otherwise mention “NIL”</th>
<th>Issuer's Name, Designation &amp; Signature</th>
<th>Receiver's Name, Designation and Signature</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>
**General Instructions:**

1. The work permit shall be filled up carefully and accurately in clear handwriting ensuring that complete information is provided in all the sections / subsections. Sketches should be provided wherever possible to avoid miscommunication.

2. Appropriate safe guards and required personnel protective equipment (PPEs) shall be determined by a careful analysis of the potential hazards and the operations to be performed prior to starting the work.

3. Requirement of standby personnel from Process / Maintenance / Contractor / Fire / Safety etc if any shall be mentioned in the additional requirement.

4. In case of fire alarm / siren, all work must immediately be stopped.

5. For renewal of work clearance, the issuer shall ensure that the conditions are satisfactory for the work to continue. If the conditions have changed, it may be necessary to issue a new permit or amend the existing permit.

6. This clearance on the same permit can be renewed / extended upto a maximum of seven calendar days.

7. This permit must be available at work site at all times.

8. On completion of the work, the permit shall be closed.

The industry may add other relevant instruction based on their operating and maintenance practices.
# APPENDIX -II

## WORK PERMIT

for

HOT WORK / ENTRY TO CONFINED SPACE

Si.No._

Work clearance from ____________hrs of date ____________To ____________hrs of date ____________ (Valid for the shift unless renewed)

Issued to (Department / Section / Contractor) __________________________________________________________

Exact Location of work (Area / Unit / Equipment no. etc) __________________________________________________

Description of work _________________________________________________________________________________

______________________________________________________________________________________________

THE FOLLOWING ITEMS SHALL BE CHECKED BEFORE ISSUING THE PERMIT

(Tick mark in the appropriate box. Checklist items marked with asterisk (*) shall be complied by receiver)

<table>
<thead>
<tr>
<th>Sr no.</th>
<th>Item</th>
<th>Done</th>
<th>Not Reqd</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>General points</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Equipment / Work Area inspected</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Surrounding area checked, cleaned and covered</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Sewers, manholes, CBD etc and hot surfaces nearby covered</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Considered hazard from other operations and concerned persons alerted.</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Equipment blinded/disconnected / closed / isolated / wedge opened</td>
<td>5*</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Equipment properly drained and depressurized</td>
<td>6*</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Equipment properly steamed / purged</td>
<td>7*</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Equipment water flushed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Iron sulfide removed / kept wet</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Equipment electrically isolated and tagged vide permit no.</td>
<td>1*</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Gas test : HCs = %LEL</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Toxic gas = ppm, O2 = %</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12*</td>
<td>Running water hose / Fire extinguisher provided. Fire water system available.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13*</td>
<td>Area cordoned off and Precautionary tags / Boards provided.</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Item</th>
<th>Done</th>
<th>Not Reqd</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>For Hot work / Entry to confined Space</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Proper ventilation and Lighting providing</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Proper means of exit / escape provided</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Standby personnel provided from Process / Maint / Contractor / Fire / Safety dept.</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Checked for oil and Gas trapped behind the lining in Equipment</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Shield provided against spark</td>
<td>5*</td>
</tr>
<tr>
<td></td>
<td>Portable equipment / nozzles properly grounded</td>
<td>6*</td>
</tr>
<tr>
<td></td>
<td>Standby persons provided for entry to confined space</td>
<td>7*</td>
</tr>
<tr>
<td>C</td>
<td>For Vehicle Entry</td>
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<tr>
<td></td>
<td>Spark Arrestor on the mobile equipment / vehicle provided.</td>
<td>1*</td>
</tr>
<tr>
<td>D</td>
<td>For Excavation works</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Clearance obtained for excavation / road cutting / Dyke cutting from concerned depart.</td>
<td>1</td>
</tr>
</tbody>
</table>
REMARKS:

1. The activity has the following expected residual hazards (Tick the relevant items): Lack of Oxygen / H2S, Toxic Gases / Combustible gases / Pyrophoric Iron / Corrosive Chemicals / Steam – Condensate / Others

2. Following PPEs to be used in addition to standards PPEs (Helmet, Safety Shoes, Hand gloves, Boiler suit): Face Shield / Apron / Goggles / Dust Respirator / Fresh Air Mask / Lifeline / Safety Belt / Airline / Earmuff etc.

3. Additional precautions if any:

Issuer Name & Designation | Issuer Signature | Receiver Name and Designation | Receiver Signature
---|---|---|---

Clearance renewal

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Gas Test Values for HC’s, Toxic, O2 etc</th>
<th>Additional precautions if any, Otherwise mention “NIL”</th>
<th>Issuer’s Name, Designation &amp; Signature</th>
<th>Receiver Name, Designation and Signature</th>
</tr>
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<tbody>
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</tbody>
</table>
Closing of the work permit:

<table>
<thead>
<tr>
<th>Receiver: Certified that the subject work has been completed / stopped and area cleaned.</th>
<th>Issuer: Verified that the job has been completed and area cleaned and is safe from any hazard.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date &amp; Time</td>
<td>Name &amp; Designation</td>
</tr>
</tbody>
</table>

General Instructions:

1. The work permit shall be filled up carefully and accurately in clear handwriting ensuring that complete information is provided in all sections / subsections and none of column is left blank. Sketches should be provided wherever possible to avoid miscommunication.

2. Appropriate safe guards and required personnel protective equipment shall be determined by a careful analysis of the potential hazards and the operations to be performed prior to starting the work.

3. In case of fire alarm / siren, all work must immediately be stopped.

4. Only certified vehicle / engines and permitted type of electrical equipment and tools are allowed in operating areas.

5. Welding machines should be located in non-hazardous and ventilated areas.

6. No hot work should be permitted unless the explosive meter reading is Zero.

7. When a person is entering confined space, the receiver must keep minimum two standby-designated persons at the manhole or entry point.

8. Before box up of any vessel manhole cover, ensure that no men / materials are inside the vessel.

9. For renewal of work clearance, the issuer shall ensure that the conditions are satisfactory for the work to continue. If the conditions have changed, it may be necessary to issue a new permit or amend the existing permit.

10. This clearance on the same permit can be renewed / extended upto a maximum of seven calendar days.

11. This permit must be available at work site at all times.

12. On completion of the work, the permit must be closed and kept as record.

13. The industry may add other relevant instructions based on their operating and maintenance practices.
APPENDIX -III

Electrical Isolation / Energisation Permit

Section-A: Isolation Permit.

Sl.No.___________

Request for Isolation: Date: 
___________________ ______________

Time: __________________

Department / Section / Area issuing the permit
________________________________________________

Equipment number to be isolated:
________________________________________________

Name of the equipment / circuit to be isolated:
_______________________________________________

The above-mentioned equipment / circuit shall be de-energized and isolated from all live conductors to carry out the maintenance work by ____________________________ section / for operational requirement.

_________________________________________ ___________________ __________
Issuer Name Designation Signature

Certificate of Isolation: Date: 
___________________ __________________

Time: __________________

Certified that Equipment / Circuit no. _____________________ of _______________________________plant has been electrically isolated by switches / isolators / links / fuses (tick as applicable) and the danger tag is put on the supply panel. Actions in respect of electrical isolation have been recorded in the electrical shift logbook.

_________________________________________ ___________________ __________
Name of Authorized Person Designation Signature
Section-B: Energisation Permit.

<table>
<thead>
<tr>
<th>Sl.No.</th>
<th>Request for Energisation</th>
<th>Date:</th>
<th>Time:</th>
</tr>
</thead>
</table>

Department / Section / Area issuing the permit: ________________________________

Equipment number to be energized: ________________________________

Name of the equipment / circuit to be energized: ________________________________

Work on the above mention equipment / circuit has been completed and all the applicable permits closed. This equipment / circuit may be energized.

<table>
<thead>
<tr>
<th>Issuer Name</th>
<th>Designation</th>
<th>Signature</th>
</tr>
</thead>
</table>

Certificate of Energisation: Date: Time: ________________________________

Certified that Equipment / circuit no. ________________________________ of ________________________________ plant has been electrically energized and the danger tag removed from the supply panel. This is also recorded in the electrical shift logbook.

<table>
<thead>
<tr>
<th>Name of Authorized Person</th>
<th>Designation</th>
<th>Signature</th>
</tr>
</thead>
</table>
APPENDIX -IV

Scaffolding fitness certificate

(Name of contractor)

Project___________________________

Exact location of scaffolding________________________________________

Date of inspection _____________________

Type of scaffolding & height _________________________________

Purpose ____________________________________________________

We have personally checked the scaffolding and declare it as fit for use.

Signature of site in-charge ________________________________

Signature of contractor’s representative __________________________

Date:
APPENDIX -V

Temporary electrical connection fitness certificate

(Name of contractor)

Project___________________________

Exact location of electrical temporary connection ______________________

Date of inspection _____________________

Purpose ____________________________________________________

We have personally checked the temporary electrical connection and workability of ELCB/RCCB and declare it as fit for use.

Signature of site in-charge

Signature of contractor’s representative

Date:
GRIEVANCE REDRESSAL MECHANISM

PREAMBLE

Grievance Redressal Mechanism aims at speedy resolution of grievance of tenderers and prospective tenderers by providing them with a platform to refer their grievances and to seek appropriate remedy to the same.

1.0 Definitions

In this mechanism, unless repugnant to the meaning or context thereof, the following expressions shall have the meaning given to them below :-

1.1 ‘Company’ shall mean Bharat Petroleum Corporation Ltd.

1.2 ‘Grievance’ shall mean a representation complaining of an interference in the rights of a Tendering party or representation complaining of an oppression on a Tendering party by Bharat Petroleum Limited(BPCL) or its representatives, resulting in denial of his rights as a Tendering party.

1.3 ‘Tendering party’ shall mean a party or parties as a group who has / have participated in the tender process and submitted his / their tender in response to an invitation to participate in the tender or a party / parties who is / are prospective tenders qualified to participate in a tender based on notice issued by the Company inviting tender.

1.4 ‘Tender Inviting Authority’ shall mean an employee or committee of BPCL employees authorised to invite and / or to accept a particular tender.

1.5 ‘Grievance Redressal Officer’(GRO) shall mean respective Functional Director to whom the originator of Tender reports.

2.0 Authorities to handle grievances

2.1 Their will be a two-tier mechanism to handle the grievance received from a Tendering party.

2.2 The first level of Grievance Redressal Mechanism (GRM) shall comprise of a Grievance Redressal Committee(GRC) consisting Tender inviting authorities as the Co-ordinator, head of SBU/Entity originating the Tender and the ED (Finance). All the grievance shall be lodged with the Coordinator of the GRC with a copy to the Tender Inviting Authority.

2.3 The second level of GRM shall be Standing Committee of the Board for Tenders (SCBT) to whom appeal against the Orders of the GRO can be filled by the Tendering party in case he is not satisfied with the decision of the GRC.
3.0 Contact details co-ordinator

Telephone No.          Address:

Fax:

Our Ref:
SCHEDULE OF RATES

FOR

SUPPLY & ERECTION

FOR

PIPING & EQUIPMENTS

FOR

PROJECT: ONGC-URAN UNDERGROUND LPG PIPE LINE

CLIENT: BPCL, MUMBAI

PREPARED BY

M/S PROJECTS & DEVELOPMENT INDIA LIMITED
WESTERN REGIONAL OFFICE, BARODA
INDEX FOR SOR

PART (A) : LIST OF SUPPLY ITEM

1. PIPES
2. FLANGES
3. BLIND FLANGE
4. ELBOW
5. REDUCERS
6. TEES
7. WELDOLET
8. SOCKETLET
9. NIPPLES
10. CAPS
11. SPECT. BLIND OR FIG. 8 FLANGE
12. STUD & NUTS
13. GASKETS
14. PIG LAUNCHER AND RECEIVER WITH ACCESSORIES
15. PIG
16. WATER FOR HYDROTESTING
17. NITROGEN FOR PURGING
18. EGP SYSTEM

PART B: MECHANICAL ERRECTION

PART B1: FABRICATION, ERRECTION, RADIOGRAPHY & PAINTING
(A/G PIPING- BPCL & ONGC END )

PART B2: FABRICATION, ERRECTION, RADIOGRAPHY & PE COATING
(UNDERGROUND PIPING)

PART C: PRE COMMISSIONING & COMMISSIONING

PART D: PRICE SUMMARY
1.0 PREAMBLE TO SCHEDULE OF RATES

a. Schedule of rates is to read in conjunction with all the sections/sub-sections of this CONTRACT document.

b. The rates shall be applicable for all floors, heights and depths.

c. This being an item rate contract, the unit rate shall prevail, does any dispute arise. In the event of unit rate being different in figures and words, the unit rate in words shall be taken as final.

d. OWNER reserves the right to interpolate or extrapolate the rate for any items from the rates available for similar work in the schedule of rates.

e. Wherever it is mentioned in the specifications that the VENDOR shall perform certain work or provide certain facilities/materials or certain item or activity is in VENDOR’s scope of services, it is understood that the VENDOR shall do so at his cost within the item rates unless expressly stated otherwise.

f. The unit rate for erection of piping/valves/supports/plates etc. shall also cover welding of dissimilar material wherever required and nothing extra shall be payable on this account.

g. Unit rates shall include the cost of labour, supervision, consumable, overhead & profits, cost towards providing necessary tools and tackles, cost towards providing all the required facilities for execution, inspection and testing etc.

h. Rates shall cover any expenses arising from VENDOR’s own choices, where these choices are permitted by technical specifications.

i. VENDOR shall visit (pipeline route) site to apprise themselves about site conditions, availability of man power, materials, safety requirements, project planning including fabrication and erection planning etc. for carrying out the work. These aspects shall be duly taken care of by them while quoting their price.

j. 8” Pipes 3LPE coated pipes, 8” Bare Pipe (Seamless) for making LR bends, Casing Pipe 12”, HDPE Conduit, Ball Valves, Globe Valves, Check Valves shall be supplied as free issue by M/s. BPCL at their yard. Coated Pipes shall be supplied in random length of 10-12 meter.

k. Long radius bends (R=5D) up to 20° angle shall be fabricated at site and it shall be treated as pipe fabrication and nothing extra shall be paid.
## PART- A (SUPPLY OF MATERIAL)

### A-1.0 PROCUREMENT & SUPPLY OF (CS) PIPES

#### 1.1 PIPES (Material: API 5L GR X 52 SEAMLESS)

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Item Description</th>
<th>Size (Inch)</th>
<th>Rating/ Thick.</th>
<th>Qty.</th>
<th>Unit</th>
<th>Unit Rate (Rs)</th>
<th>Amount (Rs)</th>
</tr>
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<tbody>
<tr>
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<td>2</td>
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<td>1</td>
<td>Sch 80</td>
<td>82</td>
<td>M</td>
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<td>-do- PE</td>
<td>11/2</td>
<td>Sch 80</td>
<td>10</td>
<td>M</td>
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<td>Sch 40</td>
<td>110</td>
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<td>-do- BW</td>
<td>3</td>
<td>Sch 40</td>
<td>90</td>
<td>M</td>
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<tr>
<td>6</td>
<td>-do- BW</td>
<td>4</td>
<td>Sch 40</td>
<td>10</td>
<td>M</td>
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### A-2.0 PROCUREMENT & SUPPLY OF FLANGES

#### A-2.1 W.N. FLANGES (Material: A 105) (END-RF)

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Item Description</th>
<th>Size (Inch)</th>
<th>Rating/ Thick.</th>
<th>Qty.</th>
<th>Unit</th>
<th>Unit Rate (Rs)</th>
<th>Amount (Rs)</th>
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<td>3/4</td>
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<td>-do- (ASME B16.5 )</td>
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<td>300#</td>
<td>10</td>
<td>Nos</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>-do- (ASME B16.5 )</td>
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<tr>
<td>7</td>
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<td>300#</td>
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## SCHEDULE OF RATES

**FOR**

**SUPPLY CUM MECHANICAL WORKS**

**A- 3.0 PROCUREMENT & SUPPLY OF BLIND FLANGES**

3.1 **BLIND FLANGES** *(Material: A 105) (END-RF)*

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Item Description</th>
<th>Size (Inch)</th>
<th>Rating/ Thick.</th>
<th>Qty. Unit</th>
<th>Unit Rate (Rs)</th>
<th>Amount In fig.</th>
<th>In words (Rs)</th>
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## A -4.0 PROCUREMENT & SUPPLY OF ELBOWS

4.1 **ELBOWS** *(Material:A 234 GR. WPB SMLS)*

TECHNICAL NOTE FOR FITTING ES-6102

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Item Description</th>
<th>Size (Inch)</th>
<th>SCH/ Thick.</th>
<th>Qty. Unit</th>
<th>Unit Rate (Rs)</th>
<th>Amount In fig.</th>
<th>In words (Rs)</th>
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<tbody>
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<td>Sch. 40</td>
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<td>2.</td>
<td>45° BW 1.5D Elbows</td>
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<td>Sch. 40</td>
<td>5 Nos.</td>
<td></td>
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</tr>
<tr>
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<td>as per ASME B16.9, SMLS</td>
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<td>Sch.30</td>
<td>8 Nos.</td>
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<td>as per ASME B16.9, SMLS</td>
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<td>5.</td>
<td>90° BW 1.5D Elbows</td>
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### A - 5.0 PROCUREMENT & SUPPLY OF REDUCERS

**5.1 REDUCER CON (Material: A 105)**

**REF**: TECHNICAL NOTE FOR FITTING ES-6102

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Item Description</th>
<th>Size</th>
<th>Rating/</th>
<th>Qty.</th>
<th>Unit</th>
<th>Unit Rate (Rs)</th>
<th>Amount</th>
</tr>
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<tbody>
<tr>
<td></td>
<td></td>
<td>(Inch)</td>
<td>Thick.</td>
<td>In fig.</td>
<td>In words</td>
<td>(Rs)</td>
<td>(Rs)</td>
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<td>CS BW Reducer</td>
<td>1X3/4</td>
<td>3000#- 3000#</td>
<td>10</td>
<td>Nos.</td>
<td></td>
<td></td>
</tr>
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</tr>
<tr>
<td>2.</td>
<td>—do—</td>
<td>2X1</td>
<td>Sch40- Sch40</td>
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**5.2 REDUCER INSERT (Material: A 105)**

**REF**: TECHNICAL NOTE FOR FITTING ES-6102

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<th>Item Description</th>
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<th>Qty.</th>
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<td>Thick.</td>
<td>In fig.</td>
<td>In words</td>
<td>(Rs)</td>
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### A - 6.0 PROCUREMENT AND SUPPLY OF TEES

**REF**: TECHNICAL NOTE FOR FITTING ES-6102

**6.1 TEE (Material: A 234-WPB SMLS)**

<table>
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<th>Sl. No.</th>
<th>Item Description</th>
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<th>Unit</th>
<th>Unit Rate (Rs)</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
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<td></td>
<td></td>
<td>(Inch)</td>
<td>Thick</td>
<td>In fig.</td>
<td>In words</td>
<td>(Rs)</td>
<td>(Rs)</td>
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<td>8X8</td>
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<td>3X2</td>
<td>Sch40- Sch40</td>
<td>5</td>
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**6.2 TEE (Material: A105)**

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<th>Unit</th>
<th>Unit Rate (Rs)</th>
<th>Amount</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>(Inch)</td>
<td>Thick</td>
<td>In fig.</td>
<td>In words</td>
<td>(Rs)</td>
<td>(Rs)</td>
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### A- 7.0 PROCUREMENT AND SUPPLY OF WELDOLET

**REF:** TECHNICAL NOTE FOR FITTING ES-6102

#### 7.1 WELDOLET (Material: A 105)

<table>
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<th>Unit</th>
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<th>In words (Rs)</th>
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### A- 8.0 PROCUREMENT AND SUPPLY OF SOCKOLET

**REF:** TECHNICAL NOTE FOR FITTING ES-6102

#### 8.1 SOCKOLET (Material: A 105)

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<th>Rating/Thick</th>
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<th>Unit</th>
<th>Unit Rate (Rs)</th>
<th>Amount In fig.</th>
<th>In words (Rs)</th>
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</tr>
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<td>SOCKOLET</td>
<td>2X3/4</td>
<td>3000#</td>
<td>5</td>
<td>Nos.</td>
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</table>
### A - 9.0 PROCUREMENT & SUPPLY OF NIPPLE (Material: API 5L GR.X 52 SEAMLESS)

**TECHNICAL NOTE FOR FITTING ES-6102**

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Item Description</th>
<th>Size (Inch)</th>
<th>Rating/Thick.</th>
<th>Qty.</th>
<th>Unit</th>
<th>Unit Rate (Rs)</th>
<th>Amount</th>
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<tr>
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</table>

### A -10.0 PROCUREMENT & SUPPLY OF CAP (Material: A 105)

**TECHNICAL NOTE FOR FITTING ES-6102**

<table>
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<th>Sl. No.</th>
<th>Item Description</th>
<th>Size (Inch)</th>
<th>Rating/Thick.</th>
<th>Qty.</th>
<th>Unit</th>
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<th>Amount</th>
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<tbody>
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### 10.1 PROCUREMENT & SUPPLY OF CAP (Material: A 234 GR. WPB SMLS)

**TECHNICAL NOTE FOR FITTING ES-6102**

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<thead>
<tr>
<th>Sl. No.</th>
<th>Item Description</th>
<th>Size (Inch)</th>
<th>Rating/Thick.</th>
<th>Qty.</th>
<th>Unit</th>
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<td>3</td>
<td>Nos.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### A -11.0 PROCUREMENT & SUPPLY OF SPCT BLIND (Material: A105)

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Item Description</th>
<th>Size (Inch)</th>
<th>Rating</th>
<th>Qty.</th>
<th>Unit</th>
<th>Unit Rate (Rs)</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Spct Blind,FF</td>
<td>1</td>
<td>300#</td>
<td>6</td>
<td>Nos.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Spct Blind,FF</td>
<td>2</td>
<td>300#</td>
<td>9</td>
<td>Nos.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Spct Blind,FF</td>
<td>3</td>
<td>300#</td>
<td>3</td>
<td>Nos.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Spct Blind,FF</td>
<td>8</td>
<td>300#</td>
<td>3</td>
<td>Nos.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### A- 12.0 PROCUREMENT & SUPPLY OF STUDS & NUTS (Material: A193-B7/A194-2H)
REF: TECHNICAL NOTE FOR STUDS & NUTS ES-6104

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Item Description</th>
<th>Size (Inch)</th>
<th>Rating/Length(mm)</th>
<th>Qty.</th>
<th>Unit</th>
<th>Unit Rate (Rs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>STUDS &amp; NUTS</td>
<td>1/2</td>
<td>065</td>
<td>20</td>
<td>Nos.</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>-do-</td>
<td>5/8</td>
<td>075</td>
<td>50</td>
<td>Nos</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>-do-</td>
<td>5/8</td>
<td>095</td>
<td>260</td>
<td>Nos</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>-do-</td>
<td>3/4</td>
<td>090</td>
<td>25</td>
<td>Nos</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>-do-</td>
<td>3/4</td>
<td>110</td>
<td>180</td>
<td>Nos</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>-do-</td>
<td>3/4</td>
<td>115</td>
<td>50</td>
<td>Nos</td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>-do-</td>
<td>7/8</td>
<td>140</td>
<td>160</td>
<td>Nos</td>
<td></td>
</tr>
</tbody>
</table>

### A- 13.0 PROCUREMENT & SUPPLY OF GASKETS
GASKETS (Material: AISI-304/ GRAPHITE) DIM/STD ASME B16.20
END: SPRL-WND (REF: TECHNICAL NOTE FOR GASKET ES 6105)

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Item Description</th>
<th>Size (Inch)</th>
<th>Rating/Thick.</th>
<th>Qty.</th>
<th>Unit</th>
<th>Unit Rate (Rs)</th>
<th>Amount (Rs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>OUTSIDE CENTERING RING IN CS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>GASKET</td>
<td>3/4</td>
<td>300#</td>
<td>25</td>
<td>Nos</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>-do-</td>
<td>1</td>
<td>300#</td>
<td>30</td>
<td>Nos</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>-do-</td>
<td>11/2</td>
<td>300#</td>
<td>8</td>
<td>Nos</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>-do-</td>
<td>2</td>
<td>300#</td>
<td>30</td>
<td>Nos</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>-do-</td>
<td>3</td>
<td>300#</td>
<td>20</td>
<td>Nos</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>-do-</td>
<td>4</td>
<td>300#</td>
<td>8</td>
<td>Nos</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>-do-</td>
<td>8</td>
<td>300#</td>
<td>16</td>
<td>Nos</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
A-14.0 Supply & installation of pig launcher and receiver including accessories and structures for mounding the launcher at elevation.

(As per enclosed Data sheets/indicative sketch is shown in P& ID PC00037-70-0601 and also refer drawing no PC00037-70-0601)

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Item Description</th>
<th>Size (Inch)</th>
<th>Rating/ Thick.</th>
<th>Qty.</th>
<th>Unit</th>
<th>Unit Rate (Rs)</th>
<th>Amount (Rs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Pig Launcher &amp; accessories</td>
<td></td>
<td></td>
<td>1</td>
<td>Nos.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Pig receiver &amp; accessories</td>
<td></td>
<td></td>
<td>1</td>
<td>Nos.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note:- Design, Manufacturing, Inspection, Testing, Erection of Pig Launcher & Receiver along with all its accessories such as but not limited to
1) Flow Tees
2) Full Bore ball valves
3) Bypass connections
4) Draining along with all accessories like valves funnels piping.
5) Vent line along with its all accessories e.g. piping elements including fitting valves etc.

A-15A SUPPLY OF PIG SUITABLE FOR CLEARING & DRYING THE PIPE AFTER HYDRO TESTING.

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Item Description</th>
<th>Size (Inch)</th>
<th>Rating/ Thick.</th>
<th>Qty.</th>
<th>Unit</th>
<th>Unit Rate (Rs)</th>
<th>Amount (Rs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>PIG (foam) for 8” pipe</td>
<td></td>
<td></td>
<td>2</td>
<td>Nos.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

High density foam pig are industrial pipeline cleaners and product recovery devices. The basic design consists of a flexible, bullet shaped polyurethane foam cylinder. The shape of foam pig is such that it allow more pressure to be exerted and create a tighter seal against the pipe wall. The vendor has to ensure in written that the pig performs not less than the purpose.

A-15B SUPPLY OF BATCH PIG SUITABLE FOR COMMISSIONING OF 8” LPG PIPELINE.

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Item Description</th>
<th>Size (Inch)</th>
<th>Rating/ Thick.</th>
<th>Qty.</th>
<th>Unit</th>
<th>Unit Rate (Rs)</th>
<th>Amount (Rs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>PIG (BATCH)</td>
<td>8”</td>
<td></td>
<td>2</td>
<td>Nos</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The batch pigging system shall be designed for total displacement of the existing fluid in the pipe line and shall facilitate another fluid to flow in operation without any intermixing.
The batch pig supplier has to ensure in written that the pig performs not less than the purpose.

A-16.0 The supply of water required for Hydrotesting is in Vendor's scope. No separate payment shall be paid.

A-17.0 The supply of nitrogen and all other accessories required for purging purpose is in vendor's scope. No separate payment shall be paid.

A-18.0 **ELECTRONIC GEOMETRY PIGGING** *(Refer technical specification document no. PC-00037-5511-601-EGP)*

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Item Description</th>
<th>Qty.</th>
<th>Unit</th>
<th>Unit Rate (Rs)</th>
<th>Amount (Rs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>EGP System (8&quot;)</td>
<td>01</td>
<td>No.</td>
<td>In fig.</td>
<td>In words</td>
</tr>
</tbody>
</table>

**TOTAL** A-----------------------------------
PART-B (MECHANICAL ERECTION)

- The contractor shall satisfy himself regularly the quality and quantity of materials supplied to him and he/she will be responsible for any subsequent deterioration and discrepancy (inclusive of theft) in the quality/quantity of the materials. In case of short supply of BPCL materials/stores as above, the contractor is liable to keep in touch with the concerned BPCL / PDIL Site Engineer to recoup the short materials/stores.
- The contractor shall submit a proper account every month of all the materials supplied to him by PDIL/ BPCL and those consumed for items of work. Any discrepancy or difference between the materials issued to the contractor and those consumed in the work as per the PDIL / BPCL’s calculation (which shall be final) will be charged to the contractor or deducted from security deposit and/or performance security deposit and/or any outstanding bill of the contractor.
- In case all these are insufficient, the contractor will be required to deposit the additional amount on demand by the BPCL.
- The contractor shall ensure that only the required materials are got issued, upon completion of work the contractor shall return the unused materials to PDIL/ BPCL at latter’s designated store in good condition, free of charges. The empty cable drums would be returned to the concerned BPCL store.
- The contractor while taking delivery of materials issued by the BPCL shall check before taking them over. Once the materials are made over to the contractor, it shall be his responsibility for safe custody till commissioning and taking over of the completed work by the BPCL. Any pilferage, damage etc. to the materials, furnished by the BPCL shall be at the risk and cost of the contractor and charges for such unaccounted materials shall be decided in accordance with
- No tools or any type of machinery or equipment will be supplied by the BPCL for carrying out any portion of work for executing the work.

PART-B 1 INSIDE (BPCL/ONGC REFINERY)

B1-1.0 FABRICATION AND ERECTION OF PIPING (A/G)

The Erection of pipes includes erection of pipes, fittings, flanges, nut bolt, gasket etc. Transportation of items from OWNER/VENDOR's storage point to work site / shop including from shop to work site, cleaning, stacking, prefabrication/fabrication at shop and/or site, erection, joining by threading, bolting or welding, hydrotesting, flushing and blowing seal/leak testing and making ready for commissioning as per drawings, specifications, standards, codes, instruction of Owner's/Owner's representative and scope of work defined in NIT. Welding shall include all the examination and inspection required such as but not limited to radiography, ultrasonic, magnaflux, dye-check etc. and pre and post heat treatment wherever required. The cost towards radiography shall be paid separately as per schedule of rates (indicated elsewhere). Rates shall also include the cost of supervision, labour, overhead/profits, materials which are in VENDOR's scope, consumables, conditions listed in preamble to schedule of rates and other associated arrangements required to execute all the related activities.
### B1-1.1 PIPES (MATERIAL: CORBON STEEL-SMLS)

<table>
<thead>
<tr>
<th>SL. NO.</th>
<th>SIZE (INCH) NB</th>
<th>ITEM DESCRIPTION</th>
<th>QTY.</th>
<th>UNIT</th>
<th>UNIT RATE (Rs.)</th>
<th>AMOUNT (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>THK/ SCH.</td>
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<td></td>
<td>IN FIGS.</td>
<td>IN WORDS</td>
</tr>
<tr>
<td>1</td>
<td>3/4</td>
<td>Sch.80</td>
<td>10</td>
<td>Mtr.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>Sch.80</td>
<td>82</td>
<td>Mtr.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>11/2</td>
<td>Sch.80</td>
<td>10</td>
<td>Mtr.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>2</td>
<td>Sch.40</td>
<td>110</td>
<td>Mtr.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>3</td>
<td>Sch.40</td>
<td>90</td>
<td>Mtr.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>4</td>
<td>Sch.40</td>
<td>10</td>
<td>Mtr.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>8</td>
<td>Sch 30</td>
<td>300</td>
<td>Mtr.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### B1-1.2 LAYING OF HDPE CONDUIT

Laying of HDPE duct for optical fiber cable by undercut in trench including excavating of trenches along with pipe line, back filling etc in all types of soil as per instruction of site-in-charge. No separate trenches are required. It shall be laid along with pipeline (on outer periphery of carrier / casing pipe with proper clamping /holding arrangement satisfying the site-in-charge, throughout the length in case of road crossing), hence vendor has to take care for extra allowance for conduit pipe during excavation. Vendor holds the responsibility of any damage to the conduit /casing pipe during laying. No extra cost shall be considered for excavation of trench. HDPE duct will be issued as Free Issue Item to the vendor.

Any other material required for execution of the work is to be arranged by the contractor at his own cost. The contractor shall be responsible for the transportation, storage and safe custody of all materials issued to him/her by the BPCL from the BPCL Store, Uran.

<table>
<thead>
<tr>
<th>SL. NO.</th>
<th>ITEM DESCRIPTION</th>
<th>QTY.</th>
<th>UNIT</th>
<th>UNIT RATE (Rs.)</th>
<th>AMOUNT (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>IN FIGS.</td>
<td>IN WORDS</td>
</tr>
<tr>
<td>1</td>
<td>HDPE CONDUIT</td>
<td>9000</td>
<td>Mtr.</td>
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</tr>
</tbody>
</table>

**SUB-TOTAL of 1.0 = Rs. -------------------------------**
B1-2.0 ERECTION OF EQUIPMENTS, INCLUDING GROUTING.

2.1 Transportation of Equipments, etc. from OWNER's stores/storage yard; assembly of parts/sub-assemblies; checking, cleaning and preparing the top of foundation and pockets for erection; placing the equipments, machinery etc. on foundation or structure; leveling, alignment, grouting; first maintenance; completion of all jobs as per drawings, scope of work & technical conditions as defined in the enquiry specifications, standards, codes and instructions of OWNER.

Rates shall include cost of labour, deployment of tools & tackles, consumables, materials and other associated arrangements required to execute all the related activities. Grouting shall be paid as per Cl. 2.2 of Schedule of rates when using special grouts as indicated in Cl. 2.2. For ordinary grouting, cost of grouting, including supply of materials shall be covered in the unit rates of erection of equipments, machinery etc.

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Description</th>
<th>WEIGHT</th>
<th>Unit</th>
<th>Unit Rate (Rs.)</th>
<th>Amount (Rs.)</th>
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<tbody>
<tr>
<td>1</td>
<td>ERECTION</td>
<td>3</td>
<td>MT</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2.2 GROUTING

Supply of materials and application using grouting materials as indicated below:-

<table>
<thead>
<tr>
<th>Sl.N</th>
<th>Description</th>
<th>Qty.</th>
<th>Unit</th>
<th>Unit Rate (Rs.)</th>
<th>Amount (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>GROUTING</td>
<td>0.5</td>
<td>Cu. m.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SUB-TOTAL of 2.0 = Rs. ------------------------

B1-3.0 ERECTION OF VALVES / STRAINER

Transportation from CONTRACTOR's stores/storage points to shop/site, hydraulic testing of all flanged valves (including testing and setting of safety valves but excluding testing of control valves which shall be issued from VENDOR's stores, installation in position by threading, bolting or welding as per drawings, specifications, standards/ codes, instructions of Owner/Owner's representative and scope of work defined in NIT. Welding shall include all the examination and inspection required such as but not limited to radiography, ultrasonic, magnaflux, dye check etc. pre and post heat-treatment wherever required. The cost towards radiography shall be paid separately as per Cl.6.0 of Schedule of Rates, whereas the cost of all other tests is included in the rates quoted in Cl. 3.0 of Schedule of Rates. Rates shall also include the cost of supervision, labour, overhead /profits, materials in VENDOR's scope, conditions listed in preamble to schedule of rates and other associated arrangements required to execute all the related activities.

All rights reserved
### B1-3.1 Flanged / Screwed Valves - All Material, All Rating

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Size (Inch)</th>
<th>Qty.</th>
<th>Unit</th>
<th>Unit Rate (Rs.) In figs.</th>
<th>Unit Rate (Rs.) In words</th>
<th>Amount (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2&quot; to 4&quot; sizes</td>
<td>51</td>
<td>Nos.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>6&quot; to 8&quot; sizes</td>
<td>5</td>
<td>Nos.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>8&quot; ROV</td>
<td>2</td>
<td>Nos.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NOTES:**

a) WAFFER TYPE VALVES shall be treated as flanged valves  
b) Above includes valves of all materials, ratings.  
c) 2 Nos. 8" ROV's are full bore ball valves and to be erected by welding with the main pipeline as the same will be placed in piggable portion of the line.

### B1-3.2 Socket Welded Valves of Material Carbon Steel of All Rating

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Size (Inch)</th>
<th>Qty.</th>
<th>Unit</th>
<th>Unit Rate (Rs.) In figs.</th>
<th>Unit Rate (Rs.) In words</th>
<th>Amount (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3/4&quot; size</td>
<td>20</td>
<td>Nos.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>1&quot; size</td>
<td>30</td>
<td>Nos.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>1½&quot; size</td>
<td>2</td>
<td>Nos.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SUB-TOTAL of 3.0 = Rs.**

### B1-4.0 Supply, Fabrication & Erection of Supports

### B1-4.1 Supply & Fabrication of Supports

Supply & fabrication of supports as per drawings, standards, specifications, NIT conditions & instructions of Owner / Owner’s representative. The rate shall include the cost of materials, consumables, labour, overheads/profits etc.

Category PS 1 means carbon steel structural members and wrapper plates

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Item Description</th>
<th>Qty.</th>
<th>Unit</th>
<th>Unit Rate (Rs.) In figs.</th>
<th>Unit Rate (Rs.) In words</th>
<th>Amount (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>PS 1</td>
<td>3.00</td>
<td>MT</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
B1-4.2  ERECTION OF SUPPORTS

Erection of supports fabricated by VENDOR and/or supplied by vendors. The rate shall include cost erection as part of piping, welding, labour, consumables, overheads/profits etc. to complete all related activities as per ITB and instructions of OWNER

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Item Description</th>
<th>Qty.</th>
<th>Unit</th>
<th>Unit Rate (Rs.)</th>
<th>Amount (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>PS 1</td>
<td>3.00</td>
<td>MT</td>
<td>In figs.</td>
<td>In words</td>
</tr>
</tbody>
</table>

SUB-TOTAL of 4.0 = Rs ........

NOTES: For both Supply, Fabrication & Erection of supports

a) Irrespective of whether pipe supports and/or pipe support materials are supplied by VENDOR, all fasteners such as bolts, studs, nuts, washers etc. are to be supplied by VENDOR at his cost.

b) Welding for supports shall include preheating and all tests (excl. radiography & stress relieving, which shall be paid separately) such as dye-penetrant test, hardness test etc. as required by standards, codes, specifications and instructions of Owner / Owner’s representative.

c) Pipe support includes structural & trunion pipes.

B1-5.0  FABRICATION OF PIPE FITINGS

5.1 Fabrication of Long Radius bends (R = 5D minimum) of required angle to suit pipe route alignment at site as per relevant standards and specifications from 8” API 5L GR.X 52 SMLS Sch.30 pipes supplied as free issue by Owner. The rate shall include transportation of pipes from stores/storage yard to fabrication shop including cutting, welding, pre-heat treatment etc. and all tests required as per standard. Rate shall be inclusive of coating the LR bend with 2 mm Anti Corrosion Tape as mentioned above.

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Item Description</th>
<th>Qty.</th>
<th>Unit</th>
<th>Unit Rates (Rs.)</th>
<th>Total Amount (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>In figs.</td>
<td>In words</td>
</tr>
<tr>
<td>1</td>
<td>8” (45° and above)</td>
<td>4</td>
<td>Nos</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>8” (20° to 45°)</td>
<td>4</td>
<td>Nos</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SUB-TOTAL of 5.0 = Rs ........
**SCHEDULE OF RATES**

FOR

SUPPLY CUM MECHANICAL WORKS

**B1-6.0  RADIOGRAPHY**

The unit rate to include cost of film, its developing charges and cost of taking radiographs etc., labour, supervision, overheads/profits scaffolding, dark room, radiograph viewer, overheads/ profits etc. Payment shall be made only for those films which are found suitable after examination and for joints found acceptable as per codes, standards & enquiry specification. Films for defective joints shall not be paid for.

<table>
<thead>
<tr>
<th>Sl. N</th>
<th>Item Description</th>
<th>Qty.</th>
<th>Unit</th>
<th>Unit Rates (Rs.)</th>
<th>Amount (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>In figs.</td>
<td>In Words</td>
</tr>
<tr>
<td>1</td>
<td>Outside the place of Erection using</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3&quot; wide film</td>
<td>500</td>
<td>Inch dia</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4&quot; wide film</td>
<td>3500</td>
<td>Inch dia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>INSITU (Erected position) using</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3&quot; wide film</td>
<td>100</td>
<td>Inch dia</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4&quot; wide film</td>
<td>1500</td>
<td>Inch dia</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SUB-TOTAL of 6.0 = Rs.**

**NOTES:**

1. Lengths and width of film to be used shall be decided by OWNER / OWNER’S REPRESENTATIVE after consultation with VENDOR before execution of radiography.

2. As a guide line,
   i. 3" wide film shall be used upto 4" dia pipes
   ii. 4" wide film shall be used above 4" dia pipes

3. Payment shall be made on the basis of weld length radiographed & for only those joints which are found acceptable by Owner/Owner’s representative.

**B1-7.0  PAINTING**

**7.1a  PAINTING OF UNINSULATED PIPING**

Complete supply of all the painting materials, transportation of materials to site, storage, providing necessary scaffolding, cleaning, surface preparation, application, testing and retouching with paints for piping, flanges, valves etc. as per scope of work, technical specifications, PDIL Engineering Standards and directions of OWNER /OWNER’S REPRESENTATIVE. The rate to include cost of all consumable, overheads and profits, labour and materials required for this job.
### SCHEDULE OF RATES
FOR
SUPPLY CUM MECHANICAL WORKS

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Item Description</th>
<th>Qty.</th>
<th>Unit</th>
<th>Unit Rates (Rs.)</th>
<th>Amount (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>In figs.</td>
<td>In Words</td>
</tr>
<tr>
<td></td>
<td><strong>BEFORE ERECTION</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a.</td>
<td>Surface preparation by blasting to SA 21/2</td>
<td>500</td>
<td>M²</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sa 2.5 as per</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b.</td>
<td>One coat of primer P1</td>
<td>500</td>
<td>M²</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c.</td>
<td>One intermediate coat of epoxyMIO (IP1)</td>
<td>500</td>
<td>M²</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>AFTER ERECTION</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d.</td>
<td>First coat of finish paint FP1</td>
<td>500</td>
<td>M²</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e.</td>
<td>Second coat of finish paint FP2</td>
<td>500</td>
<td>M²</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

7.1b 1) LR bends shall required to undergo Wrapping and coating after fabrication at site by main contractor under responsibility of main vendor.

**B1-7.2 PAINTING OF STRUCTURALS (PIPE SUPPORTS)**

Complete supply of all the painting materials, transportation of materials to site, storage, providing necessary scaffolding, cleaning, surface preparation, application testing and retouching with paints for steel structural, platforms, pipe supports, stair-ways, wiremesh, ducting, etc. as per scope of work, technical specifications, PDIL Engineering Standards and direction of OWNER / OWNER'S REPRESENTATIVE. The rate to include cost of all consumable, overheads, supervision labour and materials required for this job.

<table>
<thead>
<tr>
<th>S. No</th>
<th>Item Description</th>
<th>Qty.</th>
<th>Unit</th>
<th>Unit Rates (Rs.)</th>
<th>Amount (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>In figs.</td>
<td>In Words</td>
</tr>
<tr>
<td></td>
<td><strong>BEFORE ERECTION</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a.</td>
<td>Surface Preparation by blasting to SA21/2</td>
<td>3.00</td>
<td>MT</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sa 2.5 as per</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b.</td>
<td>One coat of primer P1</td>
<td>3.00</td>
<td>MT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c.</td>
<td>One intermediate coat of epoxyMIO (IP1)</td>
<td>3.00</td>
<td>MT</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>AFTER ERECTION</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d.</td>
<td>First coat of finish paint FP1</td>
<td>3.00</td>
<td>MT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e.</td>
<td>Second coat of finish paint FP2</td>
<td>3.00</td>
<td>MT</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SUB-TOTAL of 7.0 = Rs.**
<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>SUB TOTAL OF 1.0</td>
<td>Rs.</td>
</tr>
<tr>
<td>SUB TOTAL OF 2.0</td>
<td>Rs.</td>
</tr>
<tr>
<td>SUB TOTAL OF 3.0</td>
<td>Rs.</td>
</tr>
<tr>
<td>SUB TOTAL OF 4.0</td>
<td>Rs.</td>
</tr>
<tr>
<td>SUB TOTAL OF 5.0</td>
<td>Rs.</td>
</tr>
<tr>
<td>SUB TOTAL OF 6.0</td>
<td>Rs.</td>
</tr>
<tr>
<td>SUB TOTAL OF 7.0</td>
<td>Rs.</td>
</tr>
<tr>
<td>TOTAL OF PART B1</td>
<td>Rs.</td>
</tr>
</tbody>
</table>
B2-1.0  FABRICATION AND ERECTION OF PIPING (UNDERGROUND)

Receiving and taking-over as defined in the specifications, handling, loading, transportation and unloading of 3 Layer PE Coated pipes and other supplied materials from stock-yard(s) / workshop(s) / work-site(s) including stringing on the pipeline Right-of-use, laying/ installation of bare/ coated line pipe, associated fittings and accessories, etc. of following sizes given below, including executing all works; arrangement of all additional land required of VENDOR's storage, fabrication, access for construction; supply of all materials (except Owner supplied materials), long radius (R= 5D minimum) bends (fabrication of LR bends from owner supplied pipe shall be paid separately as per schedule of rate indicated else where in this document), consumables, Labour and other incidental works; carrying out all temporary, ancillary, auxiliary works required to make the pipeline ready for pre-commissioning as per drawings, specifications and other provisions of Contract document and instructions of Engineer-in-charge, including but not limited to carrying out the following works:

Stacking and installation of construction markers, cleaning, fencing, grubbing, grading (as required) of right-of-use.

Trenching up to 2 metre depth by excavation in all types of soils including soft/hard rock, including blasting, chiselling or otherwise cutting etc.; providing trench padding as required with sand approved by Engineer-in-Charge and to a width to accommodate the pipeline and cable conduit as per the relevant standards, specifications, etc. Since the proposed pipeline is to be laid in the existing ROW of 5M width adjacent to existing BPCL pipeline and due to other existing & operating live pipelines in the vicinity, the vendor should consider excavation by manual means for most of the stretch to avoid any damage whatsoever should occur to the existing pipeline, practicing utmost safety precautions as directed by engineer in charge.

Carrying out repairs of pipe defects / replacement in case of irreparable defects not attributable to Owner and repair of defects of pipe coating including defects/ damages occurring during transportation/handling after taking over from Owner by VENDOR.

Aligning, bending, cutting and bevelling (as required) of pipes for welding and field adjustment, welding, carrying out destructive/non destructive testing of welds as required including 100% radiography of all weld joints and providing all requisite equipments, labour, supervision, materials, films, consumables, all facilities and personnel to process, develop, examine and interpret radiographs and other tests, as required; carrying out repairs of weld joints found defective by Engineer-in-Charge, carrying out re-radiography and other tests as required on required joints, etc.
Installation of carrier pipe at all crossings (excluding supply and installation of casing pipes covered separately) by open cut or jacking/boring method.

Carrying out installation of carrier pipe in the casing pipe at cased crossings (excluding installation of casing pipes covered separately).

Coating of all field weld joints, long radius bends, buried fittings/valves if any, by 2 mm Corrosion resistant tape as per relevant standards and specifications on CS pipes. Scope includes surface preparation of pipes (adjacent to field weld joints) and LR bends fabricated separately, painting of primer and coating with 2 mm Corrosion resistant tape as per specification including supply of all material and manpower and machinery required to undertake the job. It is to be noted that no separate payment shall be made on account of coating by 2 mm Anti Corrosion tape including surface preparation / primer etc. For underground piping and LR bends, the overlapping of wrapping coating tape should not less than 50mm.

Lowering the pipelines in trench including providing sand bag separators for parallel pipelines at the specified spacing, providing required padding over and around the pipeline with sand material, backfilling with available, approved excavated material and/or other suitable soil approved by Engineer-in-charge.

**Vendor may note that the thickness of sand bed above the U/G pipe and also below the U/G pipe shall be 6” each, and provision of 6” sand bed is in the scope of vendor. (Please note that this is a variation from our standard ES-6018)**

Supply and installation of slope breaker as per specifications and drawings in steep slope areas, where ever required.

Carrying out air cleaning, pigging, cleaning and hydrostatic testing of complete pipeline to the to the specified pressure, providing all equipment, pumps, fittings, instruments, dead weight tester, etc., and services, supervision, labour, consumable, water including supply of corrosion inhibitor, air, etc. as required, locating of leaks and rectification of defects attributable to VENDOR, re-testing after rectification, successful completion of hydro testing of pipeline to acceptance criteria defined in specifications, dewatering of the pipeline, complete in all respect.

All tying, including the tie-in(s) of the pipeline with the adjacent sections of the pipeline including cutting of test header, re bevelling as required.

Final clean-up and restoration of right-of-use (including reconstruction of bituminous road if excavated. If RCC/CC road is to be reconstructed, the quantity of concrete shall be paid separately) including obtaining NOC from respective statutory authorities, if required, and disposal of debris and returning surplus material to Owner’s designated stockyard(s), as directed by Engineer-in-Charge.

Obtaining work permits/NOC from various statutory authorities having jurisdiction before execution of the work and complying with all stipulations/conditions/
recommendations of the said authorities. Preparation of as built drawings, pipe-book and other records as specified in the specifications.

Laying of 8" (PE COATED) pipes confirming to API 5L Grade X 52.

### B2.1.1 PIPES (MATERIAL : CARBON STEEL-SMLS)

<table>
<thead>
<tr>
<th>SL. NO.</th>
<th>SIZE (INCH) NB</th>
<th>ITEM DESCRIPTION</th>
<th>QTY.</th>
<th>UNIT</th>
<th>UNIT RATE (Rs.)</th>
<th>AMOUNT (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8</td>
<td>Sch. 30</td>
<td>7500</td>
<td>Mtr.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### B 2.2.1 INSTALLATION OF CASING PIPE

#### 1.1A INSTALLATION OF CASING PIPE AT ROAD CROSSING (BY PUSH METHOD)

Supply and applying of coal tar epoxy coating with minimum DTF as 300 micron and installation of such coal tar epoxy coated casing pipe, by carrying out horizontal boring or jacking and pushing for inserting casing pipes for rail, road or canal/drain crossing wherever required in all type of soil and terrain, supply at work site of casing pipes as detailed below to spec. API 5L grade B, including cost of obtaining permission, preparation of drawings and obtaining approval from concerned Authorities or other Authorities, if required. Rates shall includes Transportation of all materials from OWNER/VENDOR’s storage point to work site/shop including from shop to work site, cleaning, stacking, prefabrication/fabrication at shop and/or site, erection, joining by threading, bolting or welding, painting with primer and Coal tar epoxy as per specification, laying & alignment in trenches at all depths and all arrangements, insertion of the same horizontal boring or jacking and pushing including sealing of both the ends using suitable casing end seals, installation of casing insulators, vents (size of vent pipe will be 2” and not 1” as shown in the drawing- PDIL document no. ES 6018), and drain off pipes, backfilling and restoration as original of the facilities crossed and performing all works as per drawings, specification and instructions of Engineer-in-Charge. Supplies of all required materials are included in the rate.

### PIPES (MATERIAL : CARBON STEEL-SMLS)

<table>
<thead>
<tr>
<th>SL. NO.</th>
<th>SIZE (INCH) NB</th>
<th>ITEM DESCRIPTION</th>
<th>QTY.</th>
<th>UNIT</th>
<th>UNIT RATE (Rs.)</th>
<th>AMOUNT (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>12</td>
<td>Sch. 20</td>
<td>200</td>
<td>Mtr.</td>
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<td></td>
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</tbody>
</table>
1.1B) INSTALLATION OF CASING PIPE (IN OPEN TRENCH)
Supply and applying of coal tar epoxy coating with minimum DTF as 300 micron and installation of such coal tar epoxy coated casing pipe, by OPEN CUT for road or canal/drain crossing where ever required in all type of soil and terrain, supply at work site of casing pipes as detailed below to spec. API 5L grade B, including cost of obtaining permission, preparation of drawings and obtaining approval from Railway Authorities or other Authorities, if required. Rates shall includes Transportation of all materials from OWNER/VENDOR’s storage point to work site/shop including from shop to work site, cleaning, stacking, prefabrication/fabrication at shop and/or site, erection, joining by threading, bolting or welding, painting with primer and Coal tar epoxy as per specification, laying & alignment in trenches at all depths and all arrangements, insertion of the same horizontal boring or jacking and pushing including sealing of both the ends using suitable casing end seals, installation of casing insulators, vents, and drain-off pipes, backfilling and restoration as original of the facilities crossed and performing all works as per drawings, specification and instructions of Engineer-in-Charge. Supplies of all required materials are in included in the rate.

PIPES (MATERIAL: CARBON STEEL (ERW))

<table>
<thead>
<tr>
<th>SL. NO.</th>
<th>SIZE (INCH) NB</th>
<th>ITEM DESCRIPTION</th>
<th>QTY.</th>
<th>UNIT</th>
<th>UNIT RATE (Rs.)</th>
<th>AMOUNT (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>THK/ SCh.</td>
<td>150</td>
<td>Mtr.</td>
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</tbody>
</table>

SUB-TOTAL of 1.0 = Rs.

B2-2.0 FABRICATION OF LONG RADIUS BENDS

3.1 Fabrication of Long Radius bends (R= 5D minimum) of required angle to suit pipe route alignment at site as per relevant standards and specifications from 8" API 5L GR. X 52 SMLS Sch.30 pipes supplied as free issue by Owner. The rate shall include transportation of pipes from stores/storage yard to fabrication shop including cutting, welding, pre-heat treatment etc. and all tests required as per standard.

<table>
<thead>
<tr>
<th>Sl. no.</th>
<th>Item Description</th>
<th>Qty.</th>
<th>Unit</th>
<th>Unit Rates (Rs.)</th>
<th>Amount (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>8&quot; (above 45° and upto 90°)</td>
<td>40</td>
<td>Nos</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>8&quot; (upto 45°)</td>
<td>30</td>
<td>Nos</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SUB-TOTAL of 3.0 = Rs.

B2-3.0 RADIOGRAPHY
The unit rate to include cost of film, its developing charges and cost of taking radiographs etc., labor, supervision, overheads/profits scaffolding, dark room, radiograph viewer, overheads/profits etc. Payment shall be made only for those
films which are found suitable after examination and for joints found acceptable as per codes, standards & enquiry specification. Films for defective joints shall not be paid for.

<table>
<thead>
<tr>
<th>S. NO.</th>
<th>Item Description</th>
<th>Qty.</th>
<th>Unit</th>
<th>Unit Rates (Rs.)</th>
<th>Amount (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Outside the place of Erection using</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>3&quot; wide film</td>
<td>800</td>
<td>Inch</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4&quot; wide film</td>
<td>12560</td>
<td>Inch</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>INSITU (Erected position) using</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>3&quot; wide film</td>
<td>400</td>
<td>Inch</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4&quot; wide film</td>
<td>6280</td>
<td>Inch</td>
<td></td>
<td></td>
</tr>
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</table>

**SUB-TOTAL of 4.0 = Rs.**

**NOTES:**

1. Lengths and width of film to be used shall be decided by OWNER / OWNER’S REPRESENTATIVE after consultation with VENDOR before execution of radiography.

2. As a guide line,
   - 3" wide film shall be used up to 4" dia pipes
   - 4" wide film shall be used above 4" dia pipes

3. Payment shall be made on the basis of weld length radio graphed & for only those joints which are found acceptable by Owner/Owner’s representative.

**B2-4.0 PRICE SUMMARY FOR PART B2**

- **SUB TOTAL OF 1.0** = Rs.
- **SUB TOTAL OF 2.0** = Rs.
- **SUB TOTAL OF 3.0** = Rs.
- **SUB TOTAL OF 4.0** = Rs.

**TOTAL OF PART B2** = **RS.**
PART – C

C-1.0 PRE-COMMISSIONING AND COMMISSIONING ASSISTANCE

Carrying out pre-commissioning works, providing assistance during the complete duration of commissioning operations and making the entire pipeline system ready for commissioning including supply of all equipments, man-power, consumables and required materials, materials for all temporary works and performing all associated works, complete as per the directions of and instructions of PDIL/BPCL/ONGC.

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Description</th>
<th>Qty.</th>
<th>Unit</th>
<th>Unit Rate(Rs.)</th>
<th>Amount (Rs.,)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre-commissioning and Commissioning Assistance</td>
<td></td>
<td>Lump-sum</td>
<td></td>
<td>Job.</td>
</tr>
</tbody>
</table>

SUB-TOTAL of 1.0 = Rs

C-2.0 REPAIR OF DEFECTS (ATTRIBUTABLE TO OWNER)

C-2.1 REPAIR OF DEFECTS IN PIPE

Repair of defects in line pipes (attributable to owner) by cutting and re-beveling (dents in bevels exceeding 3 mm in depth) and rack out (dents in bevels ranging between 1 and 3 mm in depth)

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Description</th>
<th>Qty.</th>
<th>Unit</th>
<th>Unit Rate(Rs.)</th>
<th>Amount (Rs.,)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Repair for dent in bevels exceeding 3 mm in depth</td>
<td>50</td>
<td>Each</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Repair for dents in bevels ranging between 1 and 3 mm in depth)</td>
<td>50</td>
<td>Each</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

C-2.2 REPAIR OF COATING DEFECTS IN 3-LAYER PE COATED PIPES

Supply of all coating repair materials as per the requirements of the relevant specification, supply of all consumables, utilities, equipment, and all manpower required, pipe cleaning and surface preparation, repairing of coating defects
(resulting in holiday in coating) and testing including all handling, transportation, etc for line pipes, performing all works necessary for the completion of the works strictly in accordance with the relevant specifications and instructions of Engineer-in-Charge.

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Description</th>
<th>Qty.</th>
<th>Unit</th>
<th>Unit Rate(Rs.)</th>
<th>Amount (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Repair of coating defects in 3-Layer PE coating.</td>
<td>10000</td>
<td>Sq.cm</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SUB-TOTAL of 2.0 = Rs**

**C-3.0  PRESERVATION OF PIPELINE**

Idle time preservation of total pipeline for a maximum of six months by filling with pressurizing with nitrogen to a positive pressure of 2 bars (g)

<table>
<thead>
<tr>
<th>Description</th>
<th>Qty.</th>
<th>Unit</th>
<th>Unit Rate(Rs.)</th>
<th>Amount (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Preservation of total pipeline</td>
<td>Lump-sum</td>
<td>Job.</td>
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<td></td>
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</tbody>
</table>

**SUB-TOTAL of 3.0 = Rs**

**C-4.0  SUPPLY AND INSTALLATION OF PERMANENT MARKERS**

Supply, fabrication and installation of following types of permanent markers along the buried route of the pipeline including all associated civil works such as excavation in all types of soil, construction of pedestals and grouting with concrete, clearing, supply and application of approved colour and quality of primer and paint suitable for marine and coastal environment, stencil letter cutting for numbers, direction, Chainage, etc., restoration of area to original condition and performing all works as per drawings, specifications and instructions of Engineer-in-Charge.

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Description</th>
<th>Qty.</th>
<th>Unit</th>
<th>Unit Rate(Rs.)</th>
<th>Amount (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Kilometer Posts.</td>
<td>20</td>
<td>Nos.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Pipeline Warning signs</td>
<td>100</td>
<td>Nos.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Right of use boundary Markers</td>
<td>400</td>
<td>Nos.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Direction Markers.</td>
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**SUB-TOTAL of 4.0 = Rs**
PRICE SUMMARY FOR PART C

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TOTAL OF PART C = RS.

PART -D

PRICE SUMMARY

PRICE SUMMARY OF TOTAL JOB

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TOTAL OF PART (A+B1+B2+C) = RS.
TITLE : PREAMBLE TO SCHEDULE OF RATES FOR CIVIL & STRUCTURAL WORKS

PROJECT : PMC SERVICES FOR ONGC-URAN LPG U/G PIPELINE

PREPARED BY : PROJECTS & DEVELOPMENT INDIA LIMITED, BARODA.

CLIENT : M/S. BHARAT PETROLEUM CORPORATION LIMITED, MUMBAI
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<td>5.09</td>
<td>MISCELLANEOUS</td>
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</table>
1.00 GENERAL

1.01 The plans have been evolved tentatively based on information available with Owner / Consultant but the dimensions and details etc. are liable to changes. The Tenderers shall not be entitled to claim any higher rate or compensation on this account. The tender drawings are intended mainly to give an indication of the probable type of construction. The successful Tenderers will, however, be required to execute the work as per detailed approved drawings issued to them from time to time. Owner reserves the right to add / delete any of the building works mentioned in the N.I.T., during the currency of the contract.

1.02 The Tenderers shall note that the quantities of the different Items, as given in the "Schedule of Rates" are tentative based on tentative tender drawings and are subject to variation and they shall not be entitled to claim any higher rate or compensation on this account. Owner / Consultant reserves the right to change / modify the size and type of sections at any time. Owner / Consultant do not guarantee work under each item of the Schedule of Quantities. The total quantum of work may vary up to ± 25% on either side and nothing extra will be paid on this account. Quantum of individual item may vary to any extent.

1.03 The Tenderers shall be fully responsible for the correct setting out and execution of the work in accordance with approved drawings, which will be supplied to them progressively. All tools, tackles, construction equipments etc., required for the successful execution / construction of the complete work, shall be responsibility of the Tenderers.

1.04 The quantities given in the "Schedule of Rates" are approximate and are given only for the guidance for quoting rates. Payments on bills shall, however, be made on actual measurements of quantities of work done as per approved drawings. Unless otherwise specified, measurements of quantities shall be taken as per Indian Standards IS: 1200.

1.05 The rates to be inserted in the "Schedule of Rates" are to be inclusive of the value of the work described under several items including all costs and expenses which may be required for the construction of the work described together with all taxes, general risks, liabilities and obligations such as temporary buildings / hutments, fencing, watching, lighting, insurance, labour regulations, indemnity, maintenance and the like. The prices shall be inclusive of all labours, materials, tools, plants, equipment, hoists, tackles, scaffoldings, the sundries, etc., as may be necessary for the completion of the work in all respects.

1.06 No work shall be undertaken at site until detailed approved drawings have been issued by the Owner / Consultant in writing. Subsequent revision in the drawings which become necessary shall be incorporated and revised drawings issued to the Contractor who shall execute the work as per the latest revised drawings. Nothing extra will be paid on this account and no claim whatsoever will be
entertained on this account. The Owner / Consultant reserves to themselves the
day to modify / revise / alter etc. in any drawing supplied to the Contractor.

1.07 Any fabrication / construction done before final approval of the drawings shall be the Contractor's responsibility.

1.08 In case of any discrepancy between the description of items given in the "Schedule of Rates" and Specifications, drawings and other documents, the decision of the Owner / Consultant in writing shall be final, binding and conclusive for the purpose of this contract.

1.09 The term "Design and drawings" mentioned in the description of items in the "Schedule of Rates" means the detailed approved design drawings marked "Good for Construction".

1.10 The work "As described", "As shown", "As directed" or " As approved", "As mentioned" in the description of items shall mean as directed in design or detailed drawings and as directed by the Engineer-in-Charge.

1.11 The Owner shall furnish the Contractor with only reference points of the job site and a level bench mark, and the Contractor shall at his own cost and initiative, set out the works to the satisfaction of the Engineer-in-Charge but shall solely be responsible for the accuracy of such setting up notwithstanding satisfaction as aforesaid of the Engineer-in-Charge or any other assistance rendered by the Engineer-in-Charge for the purpose.

1.12 The Contractor shall provide, fix and be responsible for the maintenance of all stakes, templates, level marks, profiles and the like and shall take all precautions necessary to prevent their removal or disturbance, and shall be responsible for the consequence of such removal or disturbance and for their efficient and timely reinstatement. The Contractor shall also be responsible for the maintenance of all survey marks, boundary marks, distance marks and centre line marks, whether existing or supplied / fixed by the Contractor.

1.13 Before commencing the work, the Contractor shall at his own cost and initiative provide all necessary references, level posts, pegs, bamboo, flags, ranging rods, strings and other materials for proper layout of the work in accordance with the scheme for fixing bench marks acceptable to the Engineer-in-Charge. The centre of longitudinal or face line and cross line shall be marked by means of small masonry pillars. Each pillar shall have distinct mark at the center to enable a theodolite to be set over it. No work shall be started until all these points are approved by the Engineer-in-Charge in writing.

But such approval shall not relieve the Contractor of any of his responsibilities in respect of the adequacy or accuracy, thereof. The Contractor shall also provide all labour, material and other facilities necessary for the proper checking of layout and inspection of the points during construction.
1.14 Pillars bearing geodetic marks located at the site / unit of works under construction should be protected and fenced by the Contractor.

1.15 On completion of works, the Contractor must submit to the Engineer-in-Charge the geodetic documents according to which the work was carried out.

1.16 The Contractor shall be exclusively responsible for the provision and maintenance of horizontal and vertical alignments and levels and for the correctness of every part of the work in accordance there with and shall at his own cost rectify any errors or imperfections therein.

1.17 The Contractor shall at all times during the progress and continuance of the works be responsible for and effectively maintain and uphold in good, substantial, sound and perfect condition of all / and every part of works and shall make good from time to time and at all times as often as the Engineer-in-Charge shall require any damage or defect that may during the above period arise in or be any way connected with works.

1.18 The portion which is under HOLD shown in the approved drawing or the portion which would be brought under HOLD during execution on account of coordinating different activities of other working agencies shall be taken up by the Contractor to execution only after the said HOLD is withdrawn. The Contractor on this account shall not be entitled to claim for any compensation.

1.19 The Contractor shall maintain adequate drainage facilities at the work site at all times during the execution of the work.

1.20 No compensation shall be made by the Owner / Consultant for any damage done by rain or traffic during the execution of the work.

1.21 The Contractor shall afford all reasonable facilities such as scaffolding etc., and cooperation to the various other agencies and Contractors, for services not included in this contract, who may be working on the site simultaneously so that entire work can proceed smoothly and simultaneously to a successful completion. The Tenderer must take all the aforesaid factors into consideration while quoting his rates. Nothing extra shall be paid on any ground out of or relating to the aforesaid factors.

1.22 For details of works, materials and workmanship, attention is invited to the "Schedule of Rates", Scope Drawings, Special Conditions of Contract, Materials and Job Specifications, this section, etc. and the Tenderers must quote the rates keeping in full view the requirement of the said documents.

1.23 Except otherwise clearly stated, CPWD Specifications with Correction Slips (latest) shall be followed in all Civil, Structural and other allied Works and in absence of CPWD Specifications for any work, relevant Indian Standard codes of practices (latest) shall be followed. Where there is no Specifications available
PREAMBLE TO SCHEDULE OF RATES

for any work either in CPWD Specifications or in IS Codes of practices, the work shall be carried out as per the direction of Engineer-in-Charge.

1.24 The following notations have been used throughout the "Schedule of Rates" and Materials and job Specifications:

1. Cu.M  Cubic Metre
2. sq.M  Square Metre
3. m.  Metre
4. mm  Milli Metre
5. Cm. / Cms.  Centimeter / Centimeters
6. No. / Nos.  Number / Numbers
7. Tonne / Te.  Metric Tonne
8. Kg.  Kilogram
9. RCC  Reinforced Cement Concrete
10. PCC  Plain Cement Concrete

1.25 The quoted rates shall be applicable for all heights, depths etc. except otherwise clearly stated in the description of items and nothing extra shall be paid to the contractor on this account.

1.26 Description of items and mode of measurement for payment indicated herein shall override those given elsewhere if these are at variance.

1.27 Any materials / accessories / fittings etc. which may not be specifically mentioned in the description of items but which are normally used or necessary are to be provided by the contractor without any extra cost to Owner / Consultant and the work must be completed in all respects.

2.00 DEFINITION OF PLINTH

2.01 The portion of a structure between the surface of the finished ground and the surface of the floor immediately above the ground will be considered as plinth, which is generally 150 mm to 300 mm above finished ground level of the site area.

2.02 EL. 100.000 M / 0.0 M or as shown in the drawing shall be treated as plinth level for the purpose of payment.

3.00 MATERIALS
3.01 The supply / procurement of all materials, required for the job, shall be the responsibility of the Contractor unless otherwise stated in the "Schedule of Rates" and elsewhere in the tender documents. The quality of the materials procured by the Contractor shall be subject to the approval of Engineer-in-Charge or his authorized representative before the materials are allowed to be used in the works. All the materials to be procured by the Contractor shall be in conformity with the CPWD Specifications with correction slips (latest) and in absence of which as laid down in the relevant Indian Standard Codes of practices (latest).

3.02 Transport of all materials shall be the Contractor's responsibility and it shall be at their own risk and cost.

3.03 The Engineer-in-Charge shall determine the suitability of materials to be used on the job and the Contractor shall get all materials approved by the Engineer-in-Charge. Any material procured and brought to site by the Contractor, found not to conform to the specifications and does not meet the approval of the Engineer-in-Charge, for use, will be rejected, and the Contractor shall remove and dispose off the same at his own cost and he shall not have any claim for compensation in this regard.

4.00 TESTS

4.01 According to the nature and importance of works, Owner / Consultant will demand the conduct of tests on concrete and other building materials etc., in which case the Contractor shall get the same done at his own cost in a laboratory to be approved by the Owner / Consultant.

4.02 Providing and operating necessary measurements and testing devices, materials and consumables are included in the scope of work and the rates quoted shall be deemed to include the cost of such tests, which are required to ensure achievement of specified quality of work.

5.00 EXECUTION OF WORK

5.01 EARTH WORK

a) The prices for all excavations shall include for removing and clearing away all shrubs, bushes, roots etc.

b) The prices for all excavations shall also include for all leveling and ramming foundation beds, trimming of sides and bottom, grading to proper level as required.

c) Removal and carrying shall include for all loading, unloading and handling as may be necessary and also all necessary means of transport (Mechanical or animal or manual) as required.
d) The prices are also to include removal of water caused by rain, seepage, spring due to water table or any other cause, either by pumping or by bailing, that may accumulate in the trenches, foundations, pits, etc. It is likely that the subsoil water may encounter during excavation. The Contractor shall be responsible to remove all water accumulated in trenches, foundations, pits, etc. due to subsoil seepage, rainwater or from any other sources. For the above reasons, if the Contractor is required to install some special type of dewatering system, the same shall be arranged by the Contractor at his own cost and nothing extra shall be payable. The Contractor shall be fully responsible for removal of all water from the working area including necessary shoring and strutting, etc., wherever required, in order to maintain safe working condition and good engineering practice at his own cost and nothing extra shall be paid on this account.

e) Where excavations are made in excess of the depth required the Contractor shall, at his own expenses, fill up to the desired level with lean concrete of nominal mix. 1:5:10 (1 cement: 5 coarse sand: 10 graded stone aggregate 40 mm nominal size).

f) In case of hard / dense soil, the last 150 mm depth of such depth specified in the drawing or decided by the Owner shall be excavated just prior to the laying of plain cement concrete bed.

g) In case surplus excavated materials are to be disposed off at different leads as per items in the “Schedule of Rates” the distance for such disposal shall be measured over the shortest practicable route as decided by Engineer-in-Charge and not necessarily the route actually taken by the Contractor for disposal. For the purpose of measurement of lead, the area excavated shall be divided into blocks (mutually agreed) and for each block the distance from center of the block to center of disposed material pertaining to this block shall be taken.

h) For payment of Earthwork inside battery limit of BPCL & ONGC Plant area in foundations / pits / trenches, etc., the excavation in earthwork volume shall be calculated by multiplying the base area as per the dimensions of mat (lean) concrete indicated in the drawing for different foundations by the specified depth of excavation considering vertical cut upto the bottom of mat concrete level from ground level. Extra excavation carried out by the Contractor with sloping sides or with larger base area or with extra deepening of trenches / pits / foundations, etc. for working convenience shall not be measured and paid for.

The payment for back filling and disposal of surplus excavated material shall also be made on the same basis as that for excavation. Therefore excavation, back filling and disposal of surplus earth resulting from the excavation over the mat concrete dimensions and for the depth beyond bottom level of mat concrete as indicated in the drawings shall not be paid for. However, for the cases where waterproofing / acid proofing is indicated
as per drawings on outer sides, the mode of measurement shall be as per IS: 1200.

i) Nothing extra shall be paid for sorting / screening of the excavated materials to obtain good earth for filling.

j) Nothing extra shall be paid on account of any lift for disposal of excavated materials.

k) Proper precautions shall be taken during the excavations to prevent any damage to the existing structures, pipes, sewer lines etc. If such damage occurs, it shall be rectified by the Contractor at his own expense.

5.02 PLAIN AND REINFORCED CEMENT CONCRETE WORKS

a) The prices for concrete beds and slabs are to include for laying on any type of subgrade, laying to falls or camber and for preparing surface to receive concrete.

b) All concrete surfaces shall be finished to a fair face to give smooth and even surfaces and nothing extra shall be paid on this account.

c) The prices are to include leaving pockets, cutouts and holes and to provide wooden boxes or any other suitable arrangement in R.C.C for providing pockets for bolts as per approved working drawings and nothing extra shall be paid on this account.

d) All pockets / holes are to be properly covered by suitable means, so that dirt, rain water etc., should not enter the pockets / holes etc. No deduction in R.C.C quantity shall be made for pockets and nothing extra shall be paid for providing pockets as mentioned in Para 5.02c above.

e) For measurement of openings in plain concrete / R.C.C work, refer clause No. 4.13 of IS : 1200 (Part-3).

f) Threads of bolts etc., which have already been fixed in the pockets, are to be greased and properly covered with gunny bags or polythene sheet to protect it from damage from all sources and nothing extra shall be paid on this account.

g) The prices shall include for all rebating, throating, chamfering, weathering, moulding etc. to accord with the details shown in the approved working drawings.

h) Nothing extra shall be paid for any intricate work for foundation of equipments and machinery (Static / Dynamic) in R.C.C walls and other superstructure work or in concreting in small and thin sections in P.C.C or R.C.C work.
The prices for concrete are to include for hoisting and / or lowering to any heights and / or depth required and in any type of form work, packing around reinforcement wherever required and finishing the surfaces to fair and even surfaces.

The prices shall include for working up or hacking of concrete surface for providing keys for further concrete work and shall also include all plane, rebated or grooved construction and other joints.

All reinforced cement concrete used shall be of controlled concrete with designed mix conforming to IS:456 and IS:10262 unless otherwise specified. In all concrete and R.C.C work, graded coarse aggregate shall be used. The design mixes of concrete of different grades shall be established at the beginning of the work considering the required workability. The only nominal mix concrete may be permissible as per instruction of Engineer - in - Charge.

Concrete admixtures for workability, if necessary, may be used in R.C.C., if decided by the Engineer-in-Charge. No extra payment for material or mixing etc. shall be made on this account.

Machine and equipment foundations shall mean all foundations including pedestals of vessels, towers, pumps, compressors, motors or any other equipment or machinery (both static and dynamic), pipe supports etc., and / or the like.

The prices shall include applying cement slurry on reinforced cement concrete surfaces, keys of construction joints etc. @ 2.75 Kg/Sq.M of surface area of receiving cement concrete including roughening and proper cleaning etc., complete as directed by Engineer-in-Charge.

The prices shall include for performing water tightness for all water retaining R.C.C structure as stipulated in IS : 3370 (Part-I), wherever specified in the drawing.

Cement to be used for plain & reinforced cement concrete and other works shall be as supplied by contractor unless otherwise stated in the "Schedule of Rates" and elsewhere in this Section of NIT.

Any concrete having honeycomb is not acceptable and shall be rejected and redone at contractor’s cost.

5.03 REINFORCEMENT AND EMBEDMENTS

Wastage in cutting will not be paid for. Steel actually fixed in position only will be paid by the linear measurement including hooks and laps. Lapping of bars will be allowed only where the required bar length exceeds the standard lengths available. All other laps provided, unless otherwise
specified in the drawings, shall not be measured and paid for. Weight of binding wire shall not be measured for payment.

b. Reinforcement are to be tack welded in addition to binding by 18 S.W.G annealed wire wherever necessary to improve efficiency of the joint. Bars of 28 mm diameter and above shall be provided with stitch weld in addition to binding with 18 SWG annealed wire and nothing extra shall be paid for stitch welding. Welding of mild steel plain and deformed reinforcements shall conform to IS: 2751, 'Code of practice for welding of mild steel plain and deformed bars for reinforced concrete construction'.

c. The Contractor shall prepare the bar bending schedule for all reinforced cement concrete work as per the approved / "good for construction" drawings furnished by the Owner / Consultant and nothing extra shall be paid on this account.

d. Any type of reinforcement to be used in R.C.C and other allied works shall be under the scope of contractor unless otherwise stated in the "Schedule of Rates" and elsewhere in the section of NIT.

5.04 SHUTTERING

a. The prices for shuttering shall include for providing splayed edges, notching, chamfering, allowances for overlaps and passing at angles, battens, strutting bolting, wedging, easing, striking and removing.

b. The concrete work should have ply wood / steel shuttering as not to require any plastering, after striking out the shuttering. Any concrete having honeycomb is not acceptable and is liable to be rejected and redone at Contractor’s cost.

c. The prices are also to include for all necessary supports, struts, braces, etc., dressing with shuttering compound and / or other approved method to prevent adhesion between concrete and form work and all raking for circular cutting and waste.

d. The prices shall also include for all labour and materials necessary for providing form work at all heights and depths and including striking, dismantling the form work assembly etc. after the necessary stripping period of concreting is over and also making all the joints in shuttering fully leak-proof providing low density polythene sheets / bitumen paper.

e. The prices shall also include for forming detailed design required for the form work and / or all other sundry labour.

f. All shuttering shall be either plywood or steel shuttering to produce plain, smooth and even surfaces, which will thus be integrally finished. If any impressions of the shuttering joints are noticed after the striking of the
shuttering, the same should be treated by rubbing with Carbo rundum stones and nothing extra shall be paid on this account.

g In case of dowel bars projecting out from R.C.C works such as columns, beams etc. nothing extra shall be paid for any special provision like making holes that may be required to be left in the form work.

5.05 STRUCTURAL STEEL WORK

a The weight of structural steel work for the sake of payment shall be calculated by linear measurements and unit weight taken from the relevant IS codes based on approved fabrication drawings assuming all members to be cut square without making any deduction for bolts, bevel ends or edges, beveling of plates. Gusset plates shall be paid for minimum rectangle enveloping their actual periphery.

b Welds, black-bolts, high tensile bolts, nuts, plain and tapered washers etc. shall not be measured and paid for. Rate for the structural steel work shall be deemed to include the same. Nothing extra shall be paid on this account.

c Nothing extra shall be paid over the unit rates for structural members to be built up by butt or fillet welding as indicated in the approved fabrication drawings or as per the instruction of Engineer-in-Charge, from either:

I. Plates.

II. Two or more rolled steel sections.

III. One or more rolled steel sections and plates.

d Nothing extra shall be paid over the unit rates for sealing the joints of box sections made out of channels or joists by continuous butt welding.

e All paints and primers specified in various Items in the "Schedule of Rates" shall be best quality of approved brand and manufacturer such as M/s. Asian Paints, M/s. Berger Paints (India) Ltd., M/s. Johnson & Nicholson and / or other equivalent paint approved by the Engineer-in-Charge.

f On box / compound sections, the painting shall be done before fabrication on all those surfaces which become inaccessible after fabrication.

g Prior approval of the Engineer-in-Charge shall have to be obtained for changing the sections due to non-availability of certain sections and using built-up sections / compound sections and nothing extra shall be paid on this account. All masonry work shall be done using mortar with coarse sand.
The word "Fabrication" wherever used for the description of work herein shall include:
Straightening, cutting, notching, beveling, drilling or cutting holes, necessary welding, fastening, etc. to prepare the structural member as per fabrication drawings.

The word "Erection" wherever used for description of work shall include:
Hoisting, putting in position at all required heights, aligning and fixing with necessary welding, bolting and / or other fasteners as per approved drawings and technical specifications with all safety standards.

Preparation of "AS-BUILT" construction drawings incorporating all approved changes at site shall be in Contractor's scope of work and it shall be considered included in relevant Items of the "Schedule of Rates".

For shot blasting / painting by the specialised agency other than indicated in the NIT, if proposed by the Contractor, the same shall be got approved from the Engineer-in-Charge at site.

The Contractor shall prepare design of joints and detailed fabrication and erection drawings in sequence of erection on the basis of detailed design drawings supplied by the Owner / Consultant from time to time. Nothing shall be paid extra on this account. The above fabrication drawings must show clearly all shop and site joints and connection with erection marks on each loose parts.

The Contractor shall submit his design calculations for the design of joints. All joints shall be designed for full strength of the members or otherwise as indicated in the design drawings.

The design calculations of joints and fabrication drawings will be checked and approved by the Owner / Consultant as per mutually agreed time schedule and the Contractor should strictly adhere to these approved drawings and specifications. Fabrication work shall be taken up only with the approved fabrication drawings.

**5.06 NON A.C.SHEETS FOR ROOFING AND CLADDING**

All non asbestos cement sheets shall be of the specified approved quality and shall be in accordance with IS-14871 & CPWD specification and fixing accessories such as J-bolts, L-bolts, roofs washers, etc. shall conform to CPWD specification. Laying and fixing of non asbestos sheets used as covering for roofs and wall shall conform to IS-14871. Holes for receiving the fixing accessories in the crown of corrugation must be drilled and not punctured and diameter should be 3 mm greater than the diameter of the bolts to be used. Bolts and screws should be 8 mm or more in dia. and the nuts of the hook bolts, crank bolts should bear a gal vanished iron limpet washers. The screw or bolts should be tightened sufficiently only to seat the bitumen washer over the
corrugations so that the natural movement in the substructure of the roof may not damage sheeting. It is essential that the bolt holes are made water tight by the use of bitumen washers in conjunction with suitable G.I.washer. These form essential accessories to good fixing work. A cracked sheet should never be used.

a. **Non Asbestos Cement Ridges**

Ridges : Ridges shall be of the type specified in the item.

Laying : The ridge section shall be laid on as per manufacturer’s instructions with the rolls of the two wings in the case of adjustable ridges, fitting closely and with the aeration's of serrated ridges registering correctly with the sheets underneath. The stagger lapping of two wings of an adjustable ridge section and laps between adjacent pieces on the same wing of the ridge shall be as per manufacturer's instructions. The end portion of the wings of the adjustable ridges which project beyond the verges of the roof shall be cut and trimmed off neatly.

### 5.07 FLOORS AND BASES

a. The price for hard core shall include for all labour in laying to falls or camber, hand packing, edges of haunches forming splayed edges, watering and rolling with power driven roller and ramming wherever required to solid compaction.

b. The prices shall include also for works at all heights and depths.

### 5.08 FINISHING WORKS

a. The prices shall include for work at any height / depth and for all necessary scaffolding etc. as required.

b. The prices shall include for providing and laying of materials for all the Items of plaster and also raking to form key for plaster and for all work in narrow width, formed angles, chamfered external angles and for making good the faces.

### 5.09 MISCELLANEOUS

a. All excess construction materials / concrete debris etc. laying at site shall be cleared by the contractor as directed by Engineer - in - Charge before handing over to owner.

b. Handing over of complete construction shall be made by the contractor to the satisfaction of Engineer - in - Charge before submission of final bill.
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<th>SCHEDULE OF RATES (FOR CIVIL &amp; STRUCTURAL WORKS)</th>
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<tr>
<td>PROJECT</td>
<td>PMC SERVICES FOR ONGC-URAN LPG U/G PIPELINE</td>
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<tr>
<td>PREPARED BY</td>
<td>PROJECTS &amp; DEVELOPMENT INDIA LIMITED, BARODA.</td>
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<td>CLIENT</td>
<td>M/S. BHARAT PETROLEUM CORPORATION LIMITED, MUMBAI</td>
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| 0 | 04-10-2011 | 04-10-2011 | FOR REVIEW & COMMENT | AM | DKK | DKK |

<p>| FORM NO: 02-0000-0021F1 REV2 | All rights reserved |</p>
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<td>2. The Tenderer shall note that the supply of Manpower, arranging all necessary instruments, tools, tackles, plants and cutting of wild bushes, etc., required for proper execution of the work, shall be their responsibility.</td>
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<td>3. The Tenderer shall note that the supply /procurement of all the materials, required for the job, shall be their responsibility.</td>
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<td>4. The prices are also to include removal of water caused by rain, seepage, spring due to water table or any cause, either by pumping or by manually, that may accumulate in the trenches, foundations, pits etc. Nothing extra shall be paid on this account.</td>
<td></td>
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</tr>
<tr>
<td>A</td>
<td>EARTH WORK</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>001</td>
<td>A- 01</td>
<td>Earthwork in excavation in foundations of buildings, footings, columns, plinth beams, walls, machine / equipment foundations, isolated pits, pavements, trenches for pipelines / cables, pipe sleepers, drains etc., to the required levels and grades in both dry and wet conditions, including dressing of sides and ramming of bottoms, getting out excavated earth with lift up to 1.5 M and disposal of surplus excavated materials within a lead of 50 M including stacking, leveling and dressing etc., complete as per direction of Engineer-in-charge in all kinds of</td>
<td>Cu. M</td>
<td>265</td>
<td></td>
</tr>
<tr>
<td>Sl. No</td>
<td>Code No.</td>
<td>Description of Items</td>
<td>Unit</td>
<td>Qty.</td>
<td>Amount (Rs.)</td>
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<td>soils as defined in IS : 1200 including providing temporary supports to all service lines such as overhead and underground water, sewage and drain pipes, cables etc. and shoring and strutting wherever necessary, complete in all respects as per direction of Engineer-in-Charge.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>002</td>
<td>A-02</td>
<td>Same as Item No. A-01, but lift from 1.5 M to 3.0 M</td>
<td>Cu. M</td>
<td>70</td>
<td></td>
</tr>
<tr>
<td>003</td>
<td>A-03</td>
<td>Same as Item No. A-01, but lift from 3.0 M to 4.5 M</td>
<td>Cu. M</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>004</td>
<td>A-04</td>
<td>Same as Item No. A-01, but in ordinary rock as defined in IS: 1200 including disintegrated rock.</td>
<td>Cu. M</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>005</td>
<td>A-05</td>
<td>Same as Item No. A-04, but lift from 1.5 M to 3.0 M</td>
<td>Cu. M</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>006</td>
<td>A-06</td>
<td>Same as Item No. A-04, but lift from 3.0 M to 4.5 M</td>
<td>Cu. M</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>007</td>
<td>A-07</td>
<td>Removal and carriage of surplus excavated earth, debris, etc., from the site of work to other areas anywhere within the factory / plant battery limits beyond the initial lead of 50 M and spreading and leveling the same in layers not exceeding 20 cm thickness including loading and unloading as per the direction of Engineer-in-Charge.</td>
<td>Cu. M</td>
<td>175</td>
<td></td>
</tr>
<tr>
<td>008</td>
<td>A-08</td>
<td>Filling with available excavated good earth (excluding rocks / boulders), as approved and directed by Engineer-in-Charge, in trenches, plinth, under floors, sides of foundation etc., at all depths in layers not exceeding 20 cms. in thickness including consolidating</td>
<td>Cu. M</td>
<td>160</td>
<td></td>
</tr>
</tbody>
</table>
and dressing each deposited layer by ramming and watering with lead up to 50 meters, complete in all respects.

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Code No.</th>
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<th>Unit</th>
<th>Qty.</th>
<th>Unit Rate</th>
<th>Amount (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>009 A-09</td>
<td></td>
<td>Supplying and filling in trenches, foundations, plinth and under floors, sides of foundations, etc., with moorum at all depths in layers not exceeding 20 cms in thickness including consolidating and dressing each deposited layer by ramming and watering etc., complete in all respects as per direction of Engineer-in-Charge.</td>
<td>Cu. M</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>010 A-10</td>
<td></td>
<td>Supplying and filling in foundations, trenches, plinth, under floors and sides of foundations, etc., with coarse River sand of approved quality at all depths in layers not exceeding 15 cms in thickness including consolidating and dressing each deposited layer by ramming and watering, etc., complete in all respects as per direction of Engineer-in-Charge.</td>
<td>Cu. M</td>
<td>20</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### B PLAIN CEMENT CONCRETE

B-01 Providing and laying plain cement concrete machine mixed mechanically vibrated using 20/40 mm nominal size graded coarse aggregate excluding cost of centering and shuttering in foundations, plinth and under floors

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Description of Items</th>
<th>Unit</th>
<th>Qty.</th>
<th>Unit Rate</th>
<th>Amount (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>011 a)</td>
<td>1:4:8 (1 cement: 4 coarse sand: 8 graded stone aggregate 40 mm nominal size)</td>
<td>Cu. M</td>
<td>23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>012 b)</td>
<td>1:3:6 (1 cement: 3 coarse sand: 6 graded stone aggregate 40 mm nominal size)</td>
<td>Cu. M</td>
<td>2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

FORM NO: 02-0000-0021F2 REV3

All rights reserved
<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Code No</th>
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<th>Unit</th>
<th>Qty</th>
<th>Unit Rate</th>
<th>Amount (Rs.)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td><strong>REINFORCED CEMENT CONCRETE</strong></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td><strong>IN FOUNDATION AND PLINTH</strong></td>
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<tr>
<td>013</td>
<td>C-01</td>
<td>Providing and laying reinforced cement concrete of grade M - 25 (using 20 mm, nominal gauge graded stone aggregate) machine mixed and mechanically vibrated and finished to a fair face but excluding the cost of centering, shuttering and reinforcement in foundation and plinth, for rafts, footings, bases of columns, pedestals, beams, walls, columns, slabs machine and equipment foundations, pile caps, box sections, pipe supports, etc., complete in all respects as per direction of Engineer-in-Charge.</td>
<td>Cu. M</td>
<td>30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>014</td>
<td>C-02</td>
<td>Providing &amp; laying in position ready mix concrete manufactured in fully automatic batching plant &amp; transported to site of work in transit mixer having continuous agitator mixer manufactured as per design of specified grade for reinforced concrete cement work including pumping of RMC from transit mixture to site of laying excluding of cost of centering shuttering finishing and reinforcement including cost of admixture in recommended proportion as per IS : 9103 to accelerate /retard setting of concrete improve workability without impairing strength and durability as per direction of Engineer-in-Charge. M-25 grade Reinforcement cement concrete by using <strong>minimum 410 kg</strong> cement per cum of concrete in foundation and plinth, for rafts, footings, bases of columns, pedestals, beams, walls, columns, slabs machine and equipment foundations, pile caps, box</td>
<td>Cu. M</td>
<td>50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sl. No</td>
<td>Code No.</td>
<td>Description of Items</td>
<td>Unit</td>
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<td>Unit Rate</td>
<td>Amount (Rs.)</td>
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<td></td>
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<td>sections, pipe supports, etc., complete in all respects as per direction of Engineer-in-Charge.</td>
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<tr>
<td>015</td>
<td>C-03</td>
<td>Providing and laying reinforced cement concrete of nominal mix 1:1.5:3 (1 cement: 1.5 coarse sand: 3 graded stone aggregate 20 mm nominal gauge) with 265 kg/Cm² characteristics compressive strength at 28 days, machine mixed and mechanically vibrated and finished to a fair face but excluding the cost of centering, shuttering and reinforcement in slabs at ground floor level. Floors are to be cast in the panel of 1.5M x 1.5M including integral smooth finish and painting side surfaces with two coats of bitumen paint of approved quality, complete in all respects as per direction of Engineer-in-Charge.</td>
<td>Cu. M</td>
<td>22</td>
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<tr>
<td></td>
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<td><strong>IN SUPERSTRUCTURE</strong></td>
<td></td>
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<tr>
<td>016</td>
<td>C-04</td>
<td>Providing and laying reinforced cement concrete of grade M - 25 (using 20 mm, nominal gauge graded stone aggregate), machine mixed, mechanically vibrated and finished to a fair face but excluding the cost of centering, shuttering and reinforcement in superstructure at all heights for columns, pillars, posts, attached pilasters, portals, struts, inclined posts, beams, pedestals for equipments and similar vertical members, etc., complete in all respects as per direction of Engineer-in-Charge.</td>
<td>Cu. M</td>
<td>6</td>
<td></td>
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</tr>
<tr>
<td>017</td>
<td>C-05</td>
<td>Providing &amp; laying in position ready mix concrete manufactured in fully automatic batching plant &amp; transported</td>
<td>Cu. M</td>
<td>6</td>
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</tr>
<tr>
<td>Sl. No</td>
<td>Code No.</td>
<td>Description of Items</td>
<td>Unit</td>
<td>Qty.</td>
<td>Unit Rate in figures</td>
<td>In words</td>
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<td>to site of work in transit mixer having continuous agitator mixer, manufactured as</td>
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<td>per design of specified grade for reinforced concrete cement work including pumping</td>
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<td></td>
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<td>of RMC from transit mixture to site of laying excluding cost of centering shuttering</td>
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<td>finishing and reinforcement including cost of admixture in recommended proportion</td>
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<td>as per IS : 9103 to accelerate / retard setting of concrete improve workability</td>
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<td></td>
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<td>without impairing strength and durability as per direction of Engineer-in-charge.</td>
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<td></td>
<td></td>
<td>M25 grade Reinforcement cement concrete by using <strong>minimum 410 kg</strong> cement per</td>
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<td></td>
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<td>cum of concrete in superstructure at all heights for columns, pillars, posts,</td>
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<td>attached pilasters, portals, struts, inclined posts, beams, pedestals for</td>
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<td></td>
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<td>equipments and similar vertical members, etc., complete in all respects as per</td>
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<td></td>
<td>direction of Engineer - in - Charge.</td>
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<tr>
<td>C-06</td>
<td></td>
<td>Providing and fixing in position pre-cast reinforced cement concrete of nominal</td>
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<tr>
<td></td>
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<td>mix 1:1.5:3 (1 cement: 1.5 coarse sand: 3 graded stone aggregate 12.5 mm nominal</td>
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<tr>
<td></td>
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<td>gauge) with 265 kg / Cm² characteristics compressive strength at 28 days, machine</td>
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<tr>
<td></td>
<td></td>
<td>mixed, mechanically vibrated and finished to a fair face including centering,</td>
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<td></td>
<td></td>
<td>shuttering etc. but excluding the cost of reinforcement in:</td>
<td></td>
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</tbody>
</table>

<p>| 018   | a)       | Trench / drain cover slabs, in foundation and plinth.                              | Cu. M | 5   |                      |          |              |
| 019   | C-07     | Providing and grouting in pockets with cement concrete 1:1:2 (1 cement: 1         | Cu. M | 1   |                      |          |              |
|       |          | coarse sand: 2 stone aggregate 10 mm                                              |      |      |                      |          |              |</p>
<table>
<thead>
<tr>
<th>Sl. No</th>
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<th>Unit</th>
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<th>Unit Rate In figures</th>
<th>In words</th>
<th>Amount (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>020</td>
<td>C-08</td>
<td>Providing and grouting under base plate with cement mortar 1:1 (1 cement: 1 coarse sand) including necessary finishing, etc., complete in all respects as per direction of Engineer-in-Charge.</td>
<td>Cu. M</td>
<td>0.7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>021</td>
<td>C-09</td>
<td>Extra for adding &quot;EPCO KP-200&quot; of Krishna Conchem Products Ltd. Or approved equivalent, corrosion inhibiting admixture in the concrete at the rate of 0.5% by weight of cement. This admixture is to be added into wet concrete as per manufacturer's specifications.</td>
<td>Kg</td>
<td>300</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>C-10</td>
<td></td>
<td>Providing and fixing in position shalite board in expansion joints or around machine foundations or in floors with necessary shalite sealing compound, complete in all respects as per direction of Engineer-in-Charge</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>022</td>
<td>a)</td>
<td>25 mm thick</td>
<td>Sq. M</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>023</td>
<td>C-11</td>
<td>Providing and fixing in position 12 mm thick bitumen impregnated fiber board conforming to IS: 1836 in expansion joints including sealing the joints at the exposed ends with approved quality sealing compound including application of an approved primer as per manufacturer's specifications and as per direction of the Engineer-in-Charge</td>
<td>Sq. M</td>
<td>25</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

D. REINFORCEMENT AND EMBEDMENTS
<table>
<thead>
<tr>
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<th>Code No.</th>
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<th>Unit</th>
<th>Qty.</th>
<th>Unit Rate</th>
<th>Amount (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>024</td>
<td>D-01</td>
<td>Supplying, Cutting, bending, hoisting and placing in position and binding with 18 SWG annealed wire, high yield strength deformed bars as per IS: 1786 for all RCC works including all necessary handling at all heights and depths.</td>
<td>Tonne</td>
<td>13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>025</td>
<td>D-02</td>
<td>Supplying, fabricating and fixing in position M.S. holding down bolts assembly consisting of bolts, heads, nuts, washers etc., and the like including embedding in cement concrete / R.C.C works as per approved drawings complete in all respects including one coat of approved quality anticorrosive paint over a coat of approved quality primer. (All materials supply are in contractor’s scope).</td>
<td>Kg</td>
<td>1550</td>
<td></td>
<td></td>
</tr>
<tr>
<td>026</td>
<td>D-03</td>
<td>Supplying, fabricating and fixing in position M.S. anchor plates, hooks, insert plates, M.S angle inserts and the like including welding M.S. lugs, etc., and embedding in cement concrete / R.C.C works as per approved drawings complete in all respects and as per direction of Engineer - In - Charge.</td>
<td>Kg</td>
<td>25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>027</td>
<td>D-04</td>
<td>Supplying, fabricating and fixing pipe sleeve made of 20 gauge black MS sheet and fixed in all RCC works with necessary anchor plates etc. all complete as directed.</td>
<td>Kg</td>
<td>25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>028</td>
<td>D-05</td>
<td>Providing and embedding MS foot rests of approved quality in concrete/brick work as per approved design for pits, manholes etc.</td>
<td>Kg</td>
<td>25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E</td>
<td></td>
<td><strong>SHUTTERING</strong></td>
<td></td>
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</tr>
</tbody>
</table>
**E-01** Providing, fabricating, erecting and fixing in position with bolts and nuts, nails and ties, etc., centering and shuttering materials true to line and level, including strutting, propping, staging etc. with necessary bracing in all axes to give a stable assembly including chamfering the corners of columns and beams etc., wherever required including making joints in the shuttering fully leak-proof, i/c, striking, dismantling and removing the aforesaid assembly after concreting is over, including all labour and materials complete in all respects and as per direction of Engineer-in-Charge.

<table>
<thead>
<tr>
<th>Sl No</th>
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<th>Unit Rate In words</th>
<th>Amount (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>029</td>
<td>030</td>
<td>Foundation and plinth in rafts, footings, columns, pedestals, beams, walls, slabs machine and equipment foundations, pile caps and pipe support foundations, etc.</td>
<td>Sq. M</td>
<td>260</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>030</td>
<td></td>
<td>Columns, pillars, posts, struts, inclined posts, attached pilasters, beams, portals and similar vertical members.</td>
<td>Sq. M</td>
<td>55</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>031</td>
<td></td>
<td>Walls of any thickness, height and shape including attached buttresses, pilasters, and their caps and bases, etc.</td>
<td>Sq. M</td>
<td>5</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

**E-02** Same as Item No. E-01 but for providing shuttering on curved surfaces (curved on plan up to a mean radius not exceeding 6 metres) for walls, columns, beams, equipment / machine foundations etc.
<table>
<thead>
<tr>
<th>Sl. No</th>
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<th>Description of Items</th>
<th>Unit</th>
<th>Qty.</th>
</tr>
</thead>
<tbody>
<tr>
<td>032</td>
<td>a)</td>
<td>In foundation and plinth</td>
<td>Sq. M</td>
<td>5</td>
</tr>
<tr>
<td>033</td>
<td>b)</td>
<td>In Superstructure</td>
<td>Sq. M</td>
<td>5</td>
</tr>
</tbody>
</table>

**F STRUCTURAL STEEL**

| 034   | F-01     | Supplying, de-rusting by shot blasting, fabricating, erecting, hoisting and fixing in position structural steel work in rolled steel joints, channels, angles, tees, flats, plates, lattice members built up / compound sections in columns, portals, girders, beams, bracings, trusses, purlins, rafters, staircase, steps, hand-railings, walkway, cat ladder with cages, toe plates, side walling, trestles, Conveyor gantries etc. including gusset plates, anchor plates etc., including site and shop fasteners, riveting, bolting, welding at shop or work site at all heights etc. & painting as per Technical specification clause No. 8.2 of PC00037-TS-0201 complete as per drawing and direction of Owner / Consultant. (All material supply is in contractor's scope including paints and grouting). | Tonne | 27   |

<p>| F - 02 |                     | Supplying, transporting, fabricating as per approved fabrication drawings 25 mm to 35 mm thick M.S grating made out of M.S. Flats as main members and for Steel bars as secondary members, all welded together to form a perfect mesh including getting those grating planks inspected and approved by Client / Consultant, transporting to site, erecting and fixing in position these grating planks at all heights with necessary 11G.I. clips / G.I. clamps tack welded for making floors, platforms, stair steps, etc., as required at site, providing and applying painting |       |      |</p>
<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Code No.</th>
<th>Description of Items</th>
<th>Unit</th>
<th>Qty.</th>
<th>Unit Rate</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>as per drawings and directions of Engineer-in-Charge. (The rates shall include cost of G.I. clips / clamps. The Contractor may procure gratings from grating manufacturer approved by Engineer-in-Charge. The rates shall also include all charges incurred during inspection and testing):</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>035</td>
<td>a)</td>
<td>With 86 microns thick hot dip galvanising coat.</td>
<td>Tonne</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>036</td>
<td>F- 03</td>
<td>Providing and fixing M.S.black pipe hand railing (medium grade) conforming to IS-1239 consisting of top and middle horizontal rails of 32 mm dia. and 25 mm dia. nominal bore respectively, 1050 mm high upright members of 32 mm dia nominal bore at 1500 mm maximum distance center to center of each member including all joints, bends, elbows, and special as required and upright members welded or bolted to structural steel work / toe plates or welded to M.S. insert plates with M.S. lugs embedded in R.C.C. works., complete in all respects and as per direction of Engineer-in-Charge (Toe plates shall be paid under Item No. H-01 and M.S. Insert plates embedded in R.C.C shall be paid under separate item).</td>
<td>Tonne</td>
<td>0.95</td>
<td></td>
</tr>
</tbody>
</table>

**G** ROOFING

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Code No.</th>
<th>Description of Items</th>
<th>Unit</th>
<th>Qty.</th>
<th>Unit Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>037</td>
<td>G- 01</td>
<td>Providing and fixing non asbestos high impact polypropylene reinforced cement 6mm thick corrugated sheet as per IS-14871 of Everest Brand or equivalent for roofing or cladding up to any height as per detailed drawing and fixing with polymer coated &quot;J&quot; or &quot;L&quot; hook, bolts and nuts 8mm dia. GI plain</td>
<td>Sq. M</td>
<td>150</td>
<td></td>
</tr>
<tr>
<td>Sl. No</td>
<td>Code No.</td>
<td>Description of Items</td>
<td>Unit</td>
<td>Qty.</td>
<td>Unit Rate In figures</td>
</tr>
<tr>
<td>-------</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>and bitumen washers including cutting to required size metering, laps, (minimum 150mm) including scaffolding, safety nets, ladders &amp; other aids with all labour and materials etc. complete. (Laps in sheeting shall not be paid for separately)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G-02</td>
<td></td>
<td>Providing &amp; fixing ridges and hips in non asbestos fibre cement high impact polypropylene reinforced roofing with suitable fixing accessories as per specifications at any height including 8mm dia. hooks, GI plain and bitumen washers cutting to size if necessary &amp; providing laps, scaffolding, safety aids etc. complete with all labour and materials. (Laps length shall not be paid for separately)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>038</td>
<td></td>
<td>i) AC adjustable ridges with 2 pcs. Pair serrated adjustable.</td>
<td>Metre</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>039</td>
<td></td>
<td>ii) Ridges close fitting adjustable.</td>
<td>Metre</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>G-03</td>
<td></td>
<td>Providing and fixing pre coated galvanized steel sheet gutter with iron bracket 50X3mm. size &amp; all necessary accessories, zinc coating 120gsm as per IS-277 in 240 Mpa steel grade , with polymer coated J or L hooks, bolts, nuts, GI plain and bitumen washer etc. complete.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>040</td>
<td></td>
<td>a) 275 x 125 x 175 mm nominal size</td>
<td>Metre</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>041</td>
<td>G-04</td>
<td>Providing and fixing in position at all heights 50 x 6 mm M.S. flat wind tie on top of asbestos cement proofing with necessary G.I. Hooks, bolts, nuts, bitumen washers, etc. complete</td>
<td>Metre</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Sl. No.</td>
<td>Code No.</td>
<td>Description of Items</td>
<td>Unit</td>
<td>Qty.</td>
<td>Unit Rate</td>
</tr>
<tr>
<td>--------</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>Providing and fixing in position at all heights non asbestos fibre cement high impact</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>polypropylene reinforced roofing accessories as per specifications at any height including</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>8mm dia hooks, GI plain and bitumen washers cutting to size if necessary &amp; providing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>laps, scaffolding, safety aids etc. complete with all labour and materials. Payment will</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>be made for clear length only.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>042</td>
<td>a</td>
<td>Apron flashing pieces.</td>
<td>Metre</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>043</td>
<td>b</td>
<td>Barge boards or corner pieces</td>
<td>Metre</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>044</td>
<td>c</td>
<td>North Light and ventilator curves</td>
<td>Metre</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>045</td>
<td></td>
<td>Providing and fixing in position at all heights fire-retardet translucent sheets</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>G-06</td>
<td>(to match with asbestos cement big - six corrugated sheets roofing / wall cladding)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>of approved make, made of polyester fiber glass reinforced with minimum thickness 1.2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>mm to be fixed in roofing and / or wall cladding with necessary fixture such as 8 mm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>14 dia G.I. J or L hooks, bolts and nuts, G.I. plain and bitumen washers, etc.,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>complete in all respects as per drawings and direction of Engineer-in-Charge (weight</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>of sheet shall be 6 oz per sq.ft and laps shall not be paid for separately).</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>045</td>
<td></td>
<td>Sq. M 4</td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>G-07</td>
<td>Providing and fixing unplasticised rigid PVC rain water pipes conforming to IS - 13592</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Type A including joining with seal ring conforming to IS - 5382 leaving 10 mm gap</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>for thermal expansion single socket pipes with all fitting including bends, socket</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>etc.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sl. No</td>
<td>Code No.</td>
<td>Description of Items</td>
<td>Unit</td>
<td>Qty.</td>
<td></td>
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<td>------</td>
<td>------</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>complete.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>046</td>
<td>a)</td>
<td>110 mm diameter pipe</td>
<td>Metre</td>
<td>12</td>
<td></td>
</tr>
</tbody>
</table>

**H FLOORS AND BASES**

H-01 Supplying and laying hard core under floors including watering, ramming, blinding and well consolidating with broken stone aggregates 90 mm to 40 mm in layers of maximum compacted thickness of 100 mm including filling the voids with smaller stone chips and with blinding materials fine river sand. (Payment shall be made for finished thickness of hard core):

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Code No.</th>
<th>Description of Items</th>
<th>Unit</th>
<th>Qty.</th>
</tr>
</thead>
<tbody>
<tr>
<td>047</td>
<td>a)</td>
<td>Consolidation by hand / mechanical reamers</td>
<td>Cu. M</td>
<td>35</td>
</tr>
</tbody>
</table>

**J MISCELLANEOUS**

048 J-01 Providing and applying two coats of Hot Bitumen Paint of approved quality at the rate of 1.5 Kg per Sq.M in foundation and plinth over dry RCC / Cement Concrete surfaces (both horizontal and vertical surfaces) such as all equipment foundations, column footings, columns, beams, pedestals, etc., including necessary preparation of surfaces such as scraping removal of loose particulars, dust thorough cleaning, etc., complete in all respects and as per direction of Engineer-in-Charge.

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Code No.</th>
<th>Description of Items</th>
<th>Unit</th>
<th>Qty.</th>
</tr>
</thead>
<tbody>
<tr>
<td>049</td>
<td>J-02</td>
<td>Demolishing of existing reinforced cement concrete work including cutting and stacking of steel reinforcement and disposal of unserviceable materials within a lead of 50 meters</td>
<td>Cu. M</td>
<td>0.5</td>
</tr>
</tbody>
</table>

**PROJECTS & DEVELOPMENT INDIA LIMITED**

**SHEET 15 OF 18**

**PC-37-PVVC-0941**
<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Code No.</th>
<th>Description of Items</th>
<th>Unit</th>
<th>Qty.</th>
<th>Unit Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>and handing over reinforcement to the Owner's / Consultant's store at site, complete as directed by Engineer-in-Charge.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>050</td>
<td>J - 03</td>
<td>Demolishing existing cement concrete work at all heights / depths including disposal of materials within a lead of 50 meters, complete as directed by Engineer-in-Charge.</td>
<td>Cu. M</td>
<td>0.5</td>
<td></td>
</tr>
<tr>
<td>051</td>
<td>J - 04</td>
<td>Demolishing existing cement concrete floor including floor finish and including disposal of materials with in a lead of 50 meters complete in all respects and as directed.</td>
<td>Cu. M</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>052</td>
<td>J - 05</td>
<td>Demolishing existing brick work in cement mortar (any proportion at any heights / depths including stacking of serviceable materials and disposal of unserviceable within a lead of 50 meters, complete as directed by Engineer-in-Charge.</td>
<td>Cu. M</td>
<td>0.5</td>
<td></td>
</tr>
<tr>
<td>053</td>
<td>J - 06</td>
<td>Dismantling the existing structural steel works in columns, portals, beams, girders, bracings, trusses, rafters, purlins, stair cases, steps, gantries, trestles, walkways, railing, side runners, louvers, etc., in single section/ built up or compound section in R.S. joists, channels, angles, tees, plates, base plates, lacings, bolts, nuts, cutting rivets / welding at all heights including stacking separately the serviceable, handing over the same to the Owner's / Consultant's store at site and disposal of unserviceable materials with in a lead of 50 meters, complete in all respects and as directed by Engineer-in-Charge.</td>
<td>Tonne</td>
<td>0.5</td>
<td></td>
</tr>
<tr>
<td>Sl. No</td>
<td>Code No.</td>
<td>Description of Items</td>
<td>Unit</td>
<td>Qty.</td>
<td>Amount (Rs.)</td>
</tr>
<tr>
<td>--------</td>
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<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>054</td>
<td>J-07</td>
<td>Dismantling of A.C. sheet roof/wall at any height including stacking of serviceable materials and disposal of unserviceable within a lead of 50 metres, complete as directed by Engineer-in-Charge.</td>
<td>Sq. M</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td></td>
<td>J-08</td>
<td>Providing and laying non-pressure NP2 class (medium duty) RCC pipes conforming to IS : 458 with collars, jointed with stiff mixture of cement mortar of 1:2 (1 cement : 2 fine sand) including testing of joints, etc., complete in all respects and as directed by Engineer-in-Charge. Laying of RCC pipe should conform to IS: 763:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>055</td>
<td>a)</td>
<td>300 mm diameter</td>
<td>Metre</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td></td>
<td>J-09</td>
<td>Providing and constructing 115 mm thick brick masonry open surface drain using bricks of class designation 35 in cement mortar 1:4 (1 cement : 4 fine sand) including earth excavation and 10 cm bed concrete 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate of 20 mm nominal size) and 25 mm thick cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 12.5 mm nominal size) for filling haunches including 12 mm cement plaster 1:4 (1 cement : 4 coarse sand) with a floating coat of neat cement inside the drain, its top and exposed side including disposal of surplus earth to a lead of 50 metres, complete in all respects and as directed by Engineer-in-Charge.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sl. No</td>
<td>Code No</td>
<td>Description of Items</td>
<td>Unit</td>
<td>Qty</td>
<td>Unit Rate In figures</td>
</tr>
<tr>
<td>-------</td>
<td>---------</td>
<td>---------------------------------------------------------------------------------------</td>
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<td>-----</td>
<td>----------------------</td>
</tr>
<tr>
<td>056</td>
<td>a)</td>
<td>200 mm wide x 200 mm average depth of drain</td>
<td>Metre</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>057</td>
<td>J-10</td>
<td>Chipping of R.C.C/ P.C.C. and making good as directed by Engineer-in-charge</td>
<td>Cu. M</td>
<td>0.5</td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL IN FIGURES (Rs.)**

In words (Rupees………………………………………………………Only)
FOR TEMPORARY CATHODIC PROTECTION SYSTEM

SCHEDULE OF RATES

ATTACHMENT - E5
<table>
<thead>
<tr>
<th>SHEETS</th>
<th>APPD</th>
<th>SPD</th>
<th>REV'D</th>
<th>PRINTED</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>4</td>
<td></td>
<td></td>
<td>0</td>
<td>0701</td>
</tr>
</tbody>
</table>

Preamble to Schedule of Rates

1. All necessary machinery including cranes, vehicles, etc., for the job of CP erection (if required) shall be in the contractor’s scope.

2. All necessary machinery including cranes, vehicles, etc., for the job of CP erection (if required) shall be in the contractor’s scope.

3. Outside plant battery limit of NCE 1 & 3. Contractors shall be allowed to work round the clock provided they meet all the requirements of statutory bodies.

4. Contractors are required to undertake all the safety precautions as deemed fit and necessary by statutory authorities and CONSULTANT/OWNER (if any reasons whatsoever).

5. Rates shall cover any expenses arising from CONTRACTOR’s own choices, where these choices are permitted by technical specifications.

6. Providing all the required facilities for execution, inspection, and testing etc.

7. Rates shall include the cost of material, supervision, consumable, overheads, profit, cost towards providing necessary tools and labor. Rates cost towards Concretes, Steel, Others.

8. In CONTRACTOR’s scope of services, it is understood that the CONTRACTOR shall do so as the cost within the item takes unless expressly stated otherwise.

9. Whenever it is mentioned in the specifications that the CONTRACTOR shall perform certain work or provide certain facilities/materials or certain items or activity is specified in the Scope of Services, it is understood that the CONTRACTOR shall perform the same.

10. The rates shall be applicable for all live, new and old.

11. Rates shall be applicable for all items as listed in the Schedule of Rates, and if the rates are not available for similar work in the Schedule of Rates, Schedule of Rates shall be read in conjunction with all the sections/sub-sections of this contract document.
<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Units</th>
<th>Qty.</th>
<th>Value (in Rs.)</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Supply of following Equipment / Items for Cathodic Protection System complete with all accessories, cable glands, cable lugs, foundation bolts, etc.</td>
<td>Lumpsum</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Tee Stop of Cathodic Protection System</td>
<td></td>
<td></td>
<td>500</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Magnesium (Mg) Anodes (Sacrificial Anodes) as per specification</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>A Type + B Type, A Type &amp; B Type Anodes to soil potential measurement sacrificial</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Zinc Anode Posts at L.E.T. Electric Line Crossing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>E Type for Motoring Insulating Joints</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Zinc Anode Posts at L.E.T. Electric Line Crossing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Spark Gap Surge Diverters for Insulating Joints as per PDI specifications</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Direct Line Type Connecting references electrode as per PDI specifications</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Installation Type Joint for 1.5” NCH de L.P. pipe line as per PDI specifications</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Note: All above supply horns, components are supplied with required cable glands, cable lugs, foundation bolts, mounting accessories, etc.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>12</td>
<td>TOTAL AMOUNT OF SUPPLY ITEMS (TOTAL OF A)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S No.</td>
<td>Description</td>
<td>Quantity</td>
<td></td>
<td></td>
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<td>-------</td>
<td>------------------------------------------------------------------------------</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Commissioning (Tool of B)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Zinc Nobor Anodes Installation including Attaching and Mounting by terminal</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Terminal connection of Chloride and Sacrificial Anode (64 x 6.4 mm)</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>4</td>
<td>Installation, Erection, Testing and Commissioning (Including all work, labour, materials, hardware, masonry,</td>
<td></td>
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<td></td>
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</tr>
</tbody>
</table>

**TOTAL AMOUNT OF INSTALLATION/ERECTION, TESTING AND COMMISSIONING**

<table>
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<th>S No.</th>
<th>Description</th>
<th>Quantity</th>
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<tbody>
<tr>
<td>1</td>
<td>Zinc Nobor Anodes Installation including Attaching and Mounting by terminal</td>
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<tr>
<td>2</td>
<td>Terminal connection of Chloride and Sacrificial Anode (64 x 6.4 mm)</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Installation, Erection, Testing and Commissioning (Including all work, labour, materials, hardware, masonry,</td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL AMOUNT OF INSTALLATION/ERECTION, TESTING AND COMMISSIONING**

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<thead>
<tr>
<th>S No.</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Zinc Nobor Anodes Installation including Attaching and Mounting by terminal</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Terminal connection of Chloride and Sacrificial Anode (64 x 6.4 mm)</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Installation, Erection, Testing and Commissioning (Including all work, labour, materials, hardware, masonry,</td>
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</table>
### SCHEDULE OF RATES FOR ELECTRICAL WORKS

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<tr>
<th>PROJECT: LPG U/G PIPE LINE</th>
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<tbody>
<tr>
<td>CLIENT : BPCL, MUMBAI</td>
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<table>
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<th>EFF. DT.</th>
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<th>REVWD.</th>
<th>APPD.</th>
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<tbody>
<tr>
<td>PC00037-PVEL-SOR</td>
<td>0</td>
<td>24.08.2011</td>
<td>24.08.2011</td>
<td>JAGRUTI</td>
<td>AGP</td>
<td>AGP</td>
<td>Page 1 of 19</td>
</tr>
</tbody>
</table>
1.0.0 PREAMBLE TO SCHEDULE OF RATES

a. Schedule of rates is to be read in conjunction with all the sections/sub-sections of this contract document.

b. The rates shall be applicable for all floors, heights and depths.

c. CONSULTANT reserves the right to interpolate or extrapolate the rate for any items from the rates available for similar work in the schedule of rates.

d. Wherever it is mentioned in the specifications that the CONTRACTOR shall perform certain work or provide certain facilities/materials or certain item or activity is in CONTRACTOR's scope of services, it is understood that the CONTRACTOR shall do so at his cost within the item rates unless expressly stated otherwise.

e. Unit rates shall include the cost of labour, supervision, consumable, Cost for Design & Detailed Engineering, overhead & profits, cost towards providing necessary tools and tackles, cost towards providing all the required facilities for execution, inspection, and testing etc.

f. Rates shall cover any expenses arising from CONTRACTOR's own choices, where these choices are permitted by technical specifications.

g. The rates shall remain firm till completion of work including all extensions granted for any reasons whatsoever.

h. Contractors are required to undertake all the safety precautions as deemed fit and necessary by statutory authorities and/or CONSULTANT and cost towards such safety precautions/measures must be included in the quoted unit rates.
i. During execution of the contract, if some of the existing services lines, roads, culverts, structures, cables, pipes, drains, RCC/CC/Brick works, or any other existing services above or under ground dismantled or damaged, the contractor shall repair the same and bring back to its original condition. Various rates quoted shall be inclusive of this requirement and nothing extra shall be paid.

j. Contractors shall be allowed to work round the clock provided they meet all the requirements of statutory bodies, local legal bodies and safety rules and regulations of the BPCL/ONGC.

k. Contractor to give the list of supply items, where the excise gate pass shall be provided in order to claim MODVAT benefits.

l. All the galvanised surfaces damaged during cutting/welding/handling are to be repaired by cold zinc spray after proper cleaning.

m. Crane shall be arranged by the contractor (if reqd.).

n. Contractor has to work during the plant shutdown in all days including Sunday and holidays. The duty hours shall be round the clock.
### A. SUPPLY OF FOLLOWING ITEMS :-

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>DESCRIPTION</th>
<th>UNIT</th>
<th>QTY.</th>
<th>UNIT RATE RS.IN FIG.</th>
<th>UNIT RATE RS.IN WORDS</th>
<th>TOTAL PRICE IN RS.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>415 V Existing PMCC BOARD (MODIFICATION / RETROFITTING)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Necessary modification / Retrofitting in existing PMCC / 415V Sw. Board with required component replacement like Switch Fuse, Terminals, Cable Glands, Cable Lugs and associated wiring for following 415V feeders as per Single Line Diagram (Drg. No. PC00037.0000.0982 Rev-0)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Switch board -1 - At ONGC -URAN Sending End.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i)</td>
<td>Feeder for TR unit-1 (32A) Switch fuse unit.</td>
<td>Nos.</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ii)</td>
<td>Feeder for 70-MOV-101-(32A) Switch fuse unit.</td>
<td>Nos.</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Switch board -2 - At BPCL URAN Receiving End.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i)</td>
<td>Feeder for TR unit-2 (32A) Switch fuse unit.</td>
<td>Nos.</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ii)</td>
<td>Feeder for 37-MOV-201-(32A) Switch fuse unit.</td>
<td>Nos.</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Description

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>DESCRIPTION</th>
<th>UNIT</th>
<th>QTY.</th>
<th>UNIT RATE (IN RS.)</th>
<th>UNIT RATE (IN WORDS)</th>
<th>TOTAL PRICE (IN RS.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>c.</td>
<td>Supply of Extension Panel with Horizontal &amp; Vertical bus-bar having Panel dimension, Bus bar rating &amp; Panel execution (single front / double front / draw out / fixed type same as existing panel at ONGC-URAN Sending End / at BPCL-URAN Receiving End.</td>
<td>Nos.</td>
<td>U.R. (01 PANEL)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d.</td>
<td>Supply of following Modules.</td>
<td>Nos.</td>
<td>U.R.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i)</td>
<td>32 A Switch fuse unit Module with Component &amp; wiring</td>
<td>Nos.</td>
<td>U.R.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ii)</td>
<td>63 A Switch fuse unit Module with Component &amp; wiring</td>
<td>Nos.</td>
<td>U.R.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>CABLES</td>
<td>Nos.</td>
<td>U.R.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Supply of following sizes of Cables as per PDIL Specifications and as per IS/IEC.

1.1 KV XLPE, FRLS Power & Lighting Cable of following sizes:

a. At ONGC-URAN Sending End.
   i) 3.5 x 25 sq.mm (Al) (For TR unit-1-32A) Mtr. 150
   ii) 4 x 6 sq.mm (Cu) (For 70-MOV-101-32A) Mtr. 300

b. At BPCL URAN Receiving End.
   i) 3.5 x 25 sq.mm (Al) (For TR unit-2-32A) Mtr. 150
   ii) 4 x 6 sq.mm (Cu) (For 37-MOV-201-32A) Mtr. 300
   iii) 5 x 2.5 sq.mm (Cu) (For New Lighting at Pig Receiver) Mtr. 300
   iv) 3 x 2.5 sq.mm (Cu) (For New Lighting at Pig Receiver) Mtr. 200
<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>DESCRIPTION</th>
<th>UNIT</th>
<th>QTY.</th>
<th>UNIT RATE</th>
<th>UNIT RATE</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>RS.IN FIG.</td>
<td>RS.IN WORDS</td>
<td>PRICE IN RS.</td>
</tr>
<tr>
<td>c.</td>
<td>1.1 KV XLPE power cable of following sizes (Unit Rate for future use)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i)</td>
<td>3 x 4 sq. mm (Cu)</td>
<td>Mtr..</td>
<td>UR</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ii)</td>
<td>3 x 10 sq. mm (Cu)</td>
<td>Mtr..</td>
<td>UR</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>iii)</td>
<td>3 x 16 sq. mm (Al)</td>
<td>Mtr..</td>
<td>UR</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>CABLE GLANDS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a)</td>
<td>Supply of single compression</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i)</td>
<td>For 3.5 x 25 sq.mm (Al) Cable</td>
<td>Nos.</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ii)</td>
<td>For 4 x 6 sq.mm (Cu) Cable</td>
<td>Nos.</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>iii)</td>
<td>For 5 x 2.5 sq.mm (Cu) Cable</td>
<td>Nos.</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>iv)</td>
<td>For 3 x 2.5 sq.mm (Cu) Cable</td>
<td>Nos.</td>
<td>2</td>
<td></td>
<td></td>
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<tr>
<td>v)</td>
<td>For 3 x 4 sq. mm (Cu)</td>
<td>Nos.</td>
<td>UR</td>
<td></td>
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<tr>
<td>vi)</td>
<td>For 3 x 10 sq. mm (Cu)</td>
<td>Nos.</td>
<td>UR</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>vii)</td>
<td>For 3 x 16 sq. mm (Al)</td>
<td>Nos.</td>
<td>UR</td>
<td></td>
<td></td>
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<tr>
<td>b)</td>
<td>Supply of Double compression Flame Proof (Ex’d’) Nickel Plated Brass cable gland suitable for following cable sizes &amp; as per relevant IS. (MAKE: BALIGA/CEAG-FCG/ FEPL /SUDHIR/ FLEXPRO )</td>
<td></td>
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<tr>
<td>i)</td>
<td>For 3.5 x 25 sq.mm (Al) Cable</td>
<td>Nos.</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>ii)</td>
<td>For 4 x 6 sq.mm (Cu) Cable</td>
<td>Nos.</td>
<td>2</td>
<td></td>
<td></td>
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<tr>
<td>iii)</td>
<td>For 5 x 2.5 sq.mm (Cu)</td>
<td>Nos.</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sl. No.</td>
<td>DESCRIPTION</td>
<td>UNIT</td>
<td>QTY.</td>
<td>UNIT RATE</td>
<td>UNIT RATE</td>
<td>TOTAL</td>
</tr>
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<tr>
<td>iv)</td>
<td>For 3 x 2.5 sq.mm (Cu)</td>
<td>Nos.</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>v)</td>
<td>For 3 x 4 sq. mm (Cu)</td>
<td>Nos.</td>
<td>UR</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>vi)</td>
<td>For 3 x 10 sq. mm (Cu)</td>
<td>Nos.</td>
<td>UR</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>vii)</td>
<td>For 3 x 16 sq. mm (Al)</td>
<td>Nos.</td>
<td>UR</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4 CABLE LUGS

Supply of crimping type heavy duty, long barrel Tinned Cu /Al lugs for all Al and Cu cables as the case may be (make: Dowel / Ismail) for the following size:

- i) For all sizes up to 2.5 sq.mm (Cu) Nos. 20
- ii) For sizes 4 sq.mm to up to 6 sq.mm (Cu) Nos. 16
- iii) For size 10 sq.mm to up to 25 sq. mm (Al) (3, 3 ½ core) Nos. 14

5 Ex 'd', 70W METAL HALIDE LIGHTING FIXTURES

a) Ex 'd', cast aluminum (LM-6) well glass lighting fixture suitable for 70W Metal halide lamp with External reflector and all accessories.

b) Ex 'd', cast aluminum (LM-6) control gear boxes suitable for above Item No.5 a) lighting fixtures & complete with all accessories like condenser, choke, Igniter, HRC fuse, cable glands, blanking Plugs, terminals etc.

6 INCREASED SAFETY JUNCTION BOXES

16A, TPN, 4 - way, Increased safety junction boxes having terminals with terminal block, Cable glands etc. as per enclosed Specifications and Drawing.
<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>DESCRIPTION</th>
<th>UNIT</th>
<th>QTY</th>
<th>UNIT RATE (RS.IN FIG.)</th>
<th>UNIT RATE (RS.IN WORDS)</th>
<th>TOTAL PRICE IN RS.</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td><strong>Supply of Medium grade G.I. pipe of following dia.</strong></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>i) 40 mm N.B.G.I. Pipe</td>
<td>Mtr.</td>
<td>10</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>ii) 50 mm N.B.G.I. Pipe</td>
<td>Mtr.</td>
<td>10</td>
<td></td>
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</tr>
</tbody>
</table>

| 8      | **Supply of following Hot dip Galvanized Earthing materials conforming to IS & drawings specifications.** |      |     |                       |                         |                   |
|        | a. Supply of GI earth electrode 3.8 m long 100 NB heavy duty as per IS 1239 complete with all parts, accessories and S.S. hardware as per Drawing. No. PDS :E 610 (Sheet 1 of 1) and PDS:E 611 (2 Sheets) Enclosed as per specification. | Nos. | 2   |                       |                         |                   |
|        | b. Hot Dip Galvanised G.I. earth strips (with min. coating 100 microns) of following sizes:- |      |     |                       |                         |                   |
|        | i) 75 x 8 mm                                                                | Mtr. | 150 |                       |                         |                   |
|        | ii) 50 x 6 mm                                                                | Mtr. | 25  |                       |                         |                   |
|        | iii) 8 SWG. G.I. Wire                                                        | Mtr. | 100 |                       |                         |                   |
|        | c. Hot dip galvanized GI earth busbar of size 390 x 50 x 12 thick (with min. coating 100 microns of zinc) with fixing materials as per Drg. No. PDS:E 615(10 holes) | Nos. | 2   |                       |                         |                   |
|        | d. G.I. L - Piece 50x6 mm as per Drawing No. PDS:E611 (Sheet 1 OF 2)         | Nos. | 2   |                       |                         |                   |

**TOTAL OF 'A' (SUPPLY ITEM)**
<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>DESCRIPTION</th>
<th>UNIT</th>
<th>QTY.</th>
<th>UNIT RATE RS. IN FIG.</th>
<th>UNIT RATE RS. IN WORDS</th>
<th>TOTAL PRICE IN RS.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>B.</strong></td>
<td><strong>INSTALLATION/ERECTION, TESTING &amp; COMMISSIONING OF FOLLOWING ITEMS :-</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td><strong>415V PCC / MCC (MODIFICATION / RETROFITTING)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Erection (if reqd.), Testing and commissioning for modification/ Retrofitting of existing PMCC. Including replacement of Switch, Fuse, Terminals, Wiring, Cable Glands, Cable Lugs, Power terminations in the board/panels to make the same dust and vermin proof, touch painting work; operational and functional checking; as per directions of Engineer-in-Charge and Single Line Diagram (Drg. No. PC00037.0000.0982 Rev-0) for following feeders:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a.</td>
<td><strong>At ONGC-URAN Sending End.</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>i) Feeder for TR unit-1 (32A) Switch fuse unit. Nos. 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ii) Feeder for 70-MOV-101-(32A) Switch fuse unit. Nos. 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b.</td>
<td><strong>At BPCL-URAN Receiving End.</strong></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>i) Feeder for TR unit-2 (32A) Switch fuse unit. Nos. 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ii) Feeder for 37-MOV-201-(32A) Switch fuse unit. Nos. 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Table

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>c.</td>
<td>Installation of Extension Panel with Horizontal &amp; Vertical bus-bar having Panel dimension, Bus bar rating &amp; Panel execution (single front / double front / draw out / fixed type same as existing panel at ONGC-URAN Sending End / at BPCL-URAN Receiving End.</td>
</tr>
<tr>
<td>d.</td>
<td>Installation of following Modules in the Existing / Extension Panel.</td>
</tr>
<tr>
<td>i)</td>
<td>32A Switch fuse unit Module with Component &amp; wiring</td>
</tr>
<tr>
<td>ii)</td>
<td>63A Switch fuse unit Module with Component &amp; wiring</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>UNIT</th>
<th>QTY.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nos.</td>
<td>U.R.</td>
</tr>
<tr>
<td>U.R.</td>
<td>U.R.</td>
</tr>
</tbody>
</table>
CABLE LAYING ABOVE GROUND/ IN TRENCH / DIRECTLY BURIED IN GROUND

Horizontal and Vertical Laying of FRLS , XLPE cables of following sizes and particulars on already installed cable racks, in trenches; in floor slits; on cable trays, cable racks, cable risers, supports, hangers, saddles,Directly buried in ground etc.; Sealing of wall openings and pipe sleeves etc.; Including handling, transportation from store/storage yard to installation site of cables/cable drums; unpacking , inspection; cable dressing; fixing of cable clamps in vertical and if necessary, in horizontal runs; fixing of cable identification tags (at every 10 Mtr. interval all along the length); testing before and after laying; supply of Aluminium cable clamps and cable tags, GI saddles and GI saddle bars, GI bolts, nuts and washer screws, Cable route marker etc.; balance cables shall be neatly rerolled and length mentioned on the drums and send to warehouse; all work, labour and materials complete as per drawings, specifications, codes and standards and directions of Engineer-in-Charge.

1.1 KV XLPE power cable of following sizes:

a. At ONGC -URAN Sending End.

i) 3.5 x 25 sq.mm (Al) (For TR unit-1 -32A ) Mtr.. 150

ii) 4 x 6 sq.mm (Cu) (For 70-MOV-101-32A) Mtr.. 300
<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>DESCRIPTION</th>
<th>UNIT</th>
<th>QTY.</th>
<th>UNIT RATE</th>
<th>UNIT RATE</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>RS.IN FIG.</td>
<td>RS.IN WORDS</td>
<td>PRICE IN RS.</td>
</tr>
</tbody>
</table>

b. At BPCL-URAN Receiving End.
   i) 3.5 x 25 sq.mm (Al) (For TR unit-2 -32A) Mtr. 150
   ii) 4 x 6 sq.mm (Cu) (For 37- MOV-201-32A) Mtr. 300

c. 1.1 KV XLPE power cable of following sizes (Unit Rate for future use)
   i) 3 x 4 sq. mm (Cu) Mtr. UR
   ii) 3 x 10 sq. mm (Cu) Mtr. UR
   iii) 3 x 16 sq. mm (Al) Mtr. UR
### CABLE GLANDING & END TERMINATIONS

Glanding and end termination and connections of FRLS, XLPE insulated cables of following sizes and particulars including drilling/tapping of equipment bottom plates for cable entry or for enlarging existing cable entries, as required; fixing of glands and terminals supplied loose at equipment end; cable glanding including stripping of insulation, taping; soldering or crimping of Cu./Al, sockets or lugs to conductors; connection of leads to equipment terminals etc.; ferruling; supply of GI nuts, bolts, washer, screws, insulating tapes, compounds, solders, fluxes, ferrules etc.; closing of unused cable entries to make the equipment dust, moisture and vermin proof; testing of cables before and after terminations for IR values 1.1KV cable terminations, all work, labour and materials complete as per drawings, specifications, codes and standards and directions of Engineer-in-Charge. Excluding supply of cable gland and cable lug.

For **following sizes of 1.1 KV XLPE FRLS Power cable**

<table>
<thead>
<tr>
<th>Size Description</th>
<th>QTY.</th>
</tr>
</thead>
<tbody>
<tr>
<td>i) For 4 x 6 sq.mm (Cu) Cable</td>
<td>Nos. 4</td>
</tr>
<tr>
<td>ii) For 3 x 25 sq.mm (Al) Cable</td>
<td>Nos. 4</td>
</tr>
<tr>
<td>iii) For 3 x 4 sq. mm (Cu)</td>
<td>Nos. UR</td>
</tr>
<tr>
<td>iv) For 3 x 10 sq. mm (Cu)</td>
<td>Nos. UR</td>
</tr>
<tr>
<td>v) For 3 x 16 sq. mm (Al)</td>
<td>Nos. UR</td>
</tr>
<tr>
<td>vi) For 3 x 2.5 sq. mm (Cu)</td>
<td>Nos. 4</td>
</tr>
</tbody>
</table>
### LIGHTING FIXTURES

Receiving from store, transporting to erection site including handling, arrangement of transport vehicle, unpacking, inspection, checking of internal wiring, fixing copper conductor, cabling between JB / control gear box to fixtures, painting of circuit nos., wherever required, supply & fixing pipes/GI chains, supply & fixing neoprene / rubber / PVC bushes at fixtures and JBs, erection in position on brick / RCC walls OR on RCC / steel columns / roofs / structures / cable trays OR on poles, cable glanding & termination, crimping of lugs & connections at fixtures / control gears, supply of all erection materials including supply of necessary GI hardware, GI clamps, GI brackets, civil masonry materials, testing of following types of LIGHTING FIXTURES with their parts & accessories like chokes, starters, condensers, internal & external reflectors, ignitor, canopy etc., with or without control gear boxes including fixing of lamps, all work, labour and materials complete as per drawings and documents, specifications, codes & standards and instructions / directions of ENGINEER IN CHARGE.

#### a) Ex 'd', cast aluminum (LM-6) well glass lighting fixture suitable for 70W Metal halide lamp with Al. Anodised External Reflector and all accessories.

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>DESCRIPTION</th>
<th>UNIT</th>
<th>QTY.</th>
<th>UNIT RATE</th>
<th>UNIT RATE</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>LIGHTING FIXTURES</td>
<td>Nos.</td>
<td>8</td>
<td>Rs.</td>
<td>Rs. IN WORDS</td>
<td>Rs. IN FIG.</td>
</tr>
<tr>
<td>4)</td>
<td>a) Ex 'd', cast aluminum (LM-6) well glass lighting fixture suitable for 70W Metal halide lamp with Al. Anodised External Reflector and all accessories.</td>
<td>Nos.</td>
<td>8</td>
<td>Rs.</td>
<td>Rs. IN WORDS</td>
<td>Rs. IN FIG.</td>
</tr>
</tbody>
</table>

#### b) Ex 'd', cast aluminum (LM-6) control gear boxes suitable for above lighting fixtures & complete with all accessories like condenser, choke, HRC fuse, cable glands, blanking plug, terminals etc.

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>DESCRIPTION</th>
<th>UNIT</th>
<th>QTY.</th>
<th>UNIT RATE</th>
<th>UNIT RATE</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>LIGHTING FIXTURES</td>
<td>Nos.</td>
<td>8</td>
<td>Rs.</td>
<td>Rs. IN WORDS</td>
<td>Rs. IN FIG.</td>
</tr>
<tr>
<td>4)</td>
<td>b) Ex 'd', cast aluminum (LM-6) control gear boxes suitable for above lighting fixtures &amp; complete with all accessories like condenser, choke, HRC fuse, cable glands, blanking plug, terminals etc.</td>
<td>Nos.</td>
<td>8</td>
<td>Rs.</td>
<td>Rs. IN WORDS</td>
<td>Rs. IN FIG.</td>
</tr>
<tr>
<td>Sl. No.</td>
<td>DESCRIPTION</td>
<td>UNIT</td>
<td>QTY.</td>
<td>UNIT RATE</td>
<td>UNIT RATE</td>
<td>TOTAL</td>
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<tr>
<td>5</td>
<td>Installation of Medium Grade G.I. Pipe of 40/50 dia. Including bending of required radius to suit cable O.D.</td>
<td>Mtr.</td>
<td>20</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>6</td>
<td>MISC. / MINORE CIVIL JOBS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a)</td>
<td>Chipping concrete required for laying G.I. Protection pipes (if required) for cables or laying G.I. earth strip and finishing work after laying of cable.</td>
<td>Cubic Meter</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b)</td>
<td>Excavation / digging of any type of soil (for laying of buried cable.)</td>
<td>Cubic Meter</td>
<td>U.R.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sl. No.</td>
<td>DESCRIPTION</td>
<td>UNIT</td>
<td>QTY.</td>
<td>UNIT RATE</td>
<td>UNIT RATE</td>
<td>TOTAL</td>
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<tr>
<td></td>
<td><strong>EARTH STRIP</strong></td>
<td></td>
<td></td>
<td><strong>RS.IN FIG.</strong></td>
<td><strong>RS.IN WORDS</strong></td>
<td><strong>PRICE IN RS.</strong></td>
</tr>
<tr>
<td></td>
<td>Installation and testing of GI earth strip conductors of following sizes</td>
<td></td>
<td></td>
<td><strong>Rs.</strong></td>
<td><strong>Rs.</strong></td>
<td><strong>Rs.</strong></td>
</tr>
<tr>
<td></td>
<td>as per PDS :E 603 (6 Sheets) enclosed in ready made concrete trenches or</td>
<td></td>
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<tr>
<td></td>
<td>in floor slits, on cable racks/ risers/ tray on brick / concrete wall ,</td>
<td></td>
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<td></td>
<td>on RCC/steel columns, on RCC/steel towers and vessels, under concrete</td>
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<td></td>
<td>floors, or paved areas, across pipe joints and valves, directly buried</td>
<td></td>
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<td></td>
<td>under ground at depth of 500 mm, including handling, transportation to</td>
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<tr>
<td></td>
<td>erection site , bending, straightening, cutting to size, welding together</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>of earth strips in overlapping manner, chipping in concrete floors/ paved</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>areas for laying the earth strips under floors/ paved areas and making good</td>
<td></td>
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<td></td>
<td>by cement plastering concrete after laying of the strips ; clamping and</td>
<td></td>
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<td></td>
<td>supporting of earth strips laid above ground, connecting the strips at both</td>
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<tr>
<td></td>
<td>ends by bolting etc., hessian tapes, all necessary GI hardwares, GI clamps,</td>
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<tr>
<td></td>
<td>civil masonry materials, etc. all work, labour as per specifications, codes</td>
<td></td>
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<tr>
<td></td>
<td>and standards and directions of owner/consultant.</td>
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<tr>
<td></td>
<td><strong>a.</strong> 75 x 8 mm G.I. strips</td>
<td>Mtr.</td>
<td>150</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td><strong>b.</strong> 50 x 6 mm G.I. strips</td>
<td>Mtr.</td>
<td>25</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td><strong>c.</strong> 8 SWG. G.I. Wire</td>
<td>Mtr.</td>
<td>100</td>
<td></td>
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<tr>
<td>Sl. No.</td>
<td>DESCRIPTION</td>
<td>UNIT</td>
<td>QTY.</td>
<td>UNIT RATE</td>
<td>UNIT RATE</td>
<td>TOTAL</td>
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</tr>
<tr>
<td>8</td>
<td>Earthing and lightning protection</td>
<td>Nos.</td>
<td>2</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>8.1</td>
<td>Installation &amp; testing of 100 NB, 3.8 M. long G.I. pipe Earth Electrode in Earth pit as per Drawing Nos. PDS:E 604 (Sheet 1 of 1), PDS:E 605 (2 Sheets), PDS:E 610 (Sheet 1 of 1) and PDS:E 611 (2 Sheets). Including handling, transportation to Erection site, Excavation of Earth pit in all types of soil, back filling of pit with common salt, charcoal / coke and loose Earth after Installation of Electrode therein, removal of surplus Earth away from Erection site, consolidation of loose Earth on back filled pit, making of bricks work Inspection chamber on back filled pit and covered made out of 8 mm chequered plate, thereof complete with lifting hook, fixing &amp; connecting inside the chamber of G.I. Earth bracket and other accessories of the Earth Electrode, painting of Earth pit no. and Earthing symbol on the cover, supply of salt, charcoal/ coke, bricks, sand, cement, stone chips, reinforcement rods, lifting hook, necessary stainless steel hardwares, paints etc. (Excluding supply of G.I. Earth Electrode &amp; its accessories), all works, labour &amp; materials complete as per Drawings, specifications, code &amp; standards and direction of consultant/ owner.</td>
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<tr>
<td>Sl. No.</td>
<td>DESCRIPTION</td>
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<tr>
<td>8.2</td>
<td>Installation of GI Earth Bus bars (size: 390x50x12mm thick) as per PDS:E 615 (Sheet 1 of 1) Including handling, transportation, drilling of necessary holes/enlargening existing holes as required; all associated work for fixing the Bus bars in position e.g. cutting, leveling, aligning, chipping, grouting, welding bolting etc.; making good of broken/chipped portion on walls/columns by cement plastering. Supply of all necessary hardwares (GI), paints, civil masonry materials etc. all work, labour complete as per drawings, specifications, codes and standards and directions of consultant/owner</td>
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</tbody>
</table>

TOTAL OF ‘B’ (INSTALLATION)

TOTAL OF ‘A’+‘B’ -
### SUPPLY OF LABOUR PER DIEM RATES

Rates shall be applicable in accordance with the performa given below:-

- **a)** The rates are inclusive of Pay-roll Cost, allowances, Taxes, Fringe Benefits etc.
- **b)** The rates are also inclusive of hand tools, all equipments, machineries (but excluding Crane, tailor, Truck)
- **c)** One Man day consists of 8 working hours.

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>DESCRIPTION</th>
<th>UNIT</th>
<th>QTY.</th>
<th>UNIT RATE RS.IN FIG.</th>
<th>UNIT RATE RS.IN WORDS</th>
<th>TOTAL PRICE IN RS.</th>
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<tr>
<td>1.0</td>
<td>Normal hour unit rate for following personnel shall be quoted.</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>1.1</td>
<td>Electrician having wireman licence and associated experience.</td>
<td>Hour</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>1.2</td>
<td>Helpers with associated experience with similar job.</td>
<td>Hour</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>1.3</td>
<td>Welder with associated experience with similar job.</td>
<td>Hour</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.4</td>
<td>Fabricator / fitter with associated experience with similar job.</td>
<td>Hour</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>1.5</td>
<td>Cable jointer with associated experience with similar job.</td>
<td>Hour</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2.0</td>
<td>After normal hour unit rate for following personnel shall be quoted.</td>
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<tr>
<td>2.1</td>
<td>Electrician having wireman licence and associated experience.</td>
<td>Hour</td>
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<td></td>
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</tr>
<tr>
<td>2.2</td>
<td>Helpers with associated experience with similar job.</td>
<td>Hour</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2.3</td>
<td>Welder with associated experience with similar job.</td>
<td>Hour</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2.4</td>
<td>Fabricator / fitter with associated experience with similar job.</td>
<td>Hour</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>2.5</td>
<td>Cable jointer with associated experience with similar job.</td>
<td>Hour</td>
<td></td>
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## PRICE SUMMERY

<table>
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<tr>
<th>SL. NO</th>
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<th>DOCUMENT NO.</th>
<th>TOTAL QUOTED AMOUNT (IN RS)</th>
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<tbody>
<tr>
<td>1</td>
<td>Mechanical work</td>
<td>PC00037-PVMP-SOR(M)</td>
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<tr>
<td>2</td>
<td>Civil &amp; Structural work</td>
<td>PC-37-PVCV-0941</td>
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</tr>
<tr>
<td>3</td>
<td>Temporary Cathodic protection</td>
<td>PC00037-PVCN-0601</td>
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<tr>
<td>4</td>
<td>Electrical works</td>
<td>PC00037-PVEL-SOR</td>
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<tr>
<td>5</td>
<td>GRAND TOTAL (1+2+3+4) (IN FIGURE)</td>
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<tr>
<td></td>
<td>GRAND TOTAL (1+2+3+4) (IN WORDS)--</td>
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<td></td>
</tr>
</tbody>
</table>

### REBATE IF ANY-

1.0 The above amount is inclusive of all taxes, duties & Service Tax etc. as per tender.

2.0 Any increase in taxes, duties, levies etc. after the submission of bids shall be borne by the bidder.

3.0 Rate of Service Tax _____% shall be applicable of _____% (Percentage) of above.

4.0 Service Tax Registration no._________________.

5.0 Income Tax PAN No._________________.

Date:-_________________  
Authorised Signatory of Bidder with Official Seal
# Statement of Excise Duty, Service Tax & VAT and Cenvatable Excise Duty & Input Credit of VAT

## Table

<table>
<thead>
<tr>
<th>SI. NO</th>
<th>Items</th>
<th>Amount in INR</th>
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<tbody>
<tr>
<td></td>
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<td>In Figure</td>
</tr>
<tr>
<td>I</td>
<td>Total Excise Duty</td>
<td></td>
</tr>
<tr>
<td>II</td>
<td>Total Cenvatable Excise Duty</td>
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</tr>
<tr>
<td>III</td>
<td>Total Service Tax</td>
<td></td>
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<tr>
<td>IV</td>
<td>Total VAT</td>
<td></td>
</tr>
<tr>
<td>V</td>
<td>Total Input Credit of VAT</td>
<td></td>
</tr>
<tr>
<td>VI</td>
<td>Any other Tax/duties/Levies and cess</td>
<td></td>
</tr>
</tbody>
</table>

## Notes:

1. **PLEASE ALSO MENTIONED BREAKUP OF CENVATABLE EXCISE DUTY & INPUT CREDIT OF VAT PRICE IN PERCENTAGE.**

2. The quoted prices in the Schedule of price shall include Cenvatable excise Duty & Input Credit of VAT mentioned by Bidder in this Statement. In case Contractor submits documentary evidence (after award of work) for Cenvatable Excise Duty & Input Credit of VAT less than the amount mentioned in this Statement, the Contract Price shall be reduced accordingly.

3. In case there is any change in Cenvatable Excise Duty & Input Credit of VAT amount due to statutory variations, the CENVAT LIMIT shall stand amended to the extent of the variation and the contract price shall be amended accordingly.

4. Bidder note that payment shall be made on actual quantity supplied & erected by them.

Date:______________  
Authorized Signatory of Bidder with Official Seal