MAHARASHTRA NATURAL GAS LIMITED
(MNGL)

TENDER DOCUMENT
FOR

Item Rate Contract for a period of 1-year for laying of underground PE pipeline & aboveground GI / MLC pipe for CGD Network of MNGL for Pune GA.

UNDER OPEN DOMESTIC COMPETITIVE BIDDING
(THROUGH E-TENDERING MODE)

Bid No.: MNGL/CP/2026-27/134

Bid Document No.: MNGL/CP/2026-27/134 dated 23.10.2026

MAHARASHTRA NATURAL GAS LIMITED	Tender for Item Rate Contract for a period of 1-year for laying of underground PE pipeline & aboveground GI / MLC pipe for CGD Network of MNGL for Pune GA. Bid No.: MNGL/CP/2026-27/134

CONTENTS

PART – A 1. INVITATION FOR BIDS

2. ANNEXURE TO IFB

- Annexure I – Bidder's Evaluation Criteria

3. ACKNOWLEDGEMENT CUM CONSENT LETTER

4. SUBMISSION OF BID

PART – B 1. INSTRUCTION TO BIDDERS

2. ANNEXURES TO INSTRUCTIONS TO BIDDERS

- Annexure I – Evaluation / Comparison of Bids
- Annexure II – List of formats
- Annexure III – Commercial Questionnaire
- Annexure IV – Checklist

PART – C 1. GENERAL CONDITIONS OF CONTRACT (WORKS)

2. ANNEXURES TO GENERAL CONDITIONS TO CONTRACT

- Annexure I – Proforma of Indemnity Bond for supply of materials by Employer
- Annexure II - Proforma for Contract Agreement

PART – D SPECIAL CONDITIONS OF CONTRACT

PART – E SCOPE OF WORK

PART – F SCHEDULE OF RATE (SOR)

MAHARASHTRA NATURAL GAS LIMITED	**Tender for Item Rate Contract for a period of 1-year for laying of underground PE pipeline & aboveground GI / MLC pipe for CGD Network of MNGL for Pune GA.** **Bid No.: MNGL/CP/2026-27/134**

PART A

1.0 INVITATION FOR BIDS (IFB)

BID DOCUMENT NO.: MNGL/CP/2026-27/134 **Date: 23.10.2026**

M/s Maharashtra Natural Gas Ltd., Pune invites online bids **(Technical & Financial) UNDER TWO BID SYSTEM** from eligible bidders for the item(s) in complete accordance with the Bid Documents

1.0 TENDER INFORMATION

Tender document number	**MNGL/CP/2026-27/134 dated 23.10.2026**
ITEM(S)	**Tender for Item Rate Contract for a period of 1-year for laying of underground PE pipeline & aboveground GI / MLC pipe for CGD Network of MNGL for Pune GA.**
TYPE OF BID	Open Domestic Competitive Bidding
TIME SCHEDULE	As per Scope of Work
EARNEST MONEY/ BIDSECURITY	**Rs.2,00,000/-** (Rupees Two Lakh Only) **in the form of Demand Draft/BG/Online through e-portal to be in favour of "Maharashtra Natural Gas Ltd." payable at Pune.**
TENDER FEE (Non-refundable)	Not applicable
BID VALIDITY	**4(four) months from the bid due date**
Pre-bid meeting date and time	**Wednesday, October 28 · 11:00am – 12:00pm** Video call link: https://meet.google.com/mkm-xcqu-tua
Bid submission due date and time	**06.11.2026 till 15:00 Hrs. IST**
Bid Submission at	https://etenders.gov.in
Techno-commercial bid opening date and time	**09.11.2026 at 16:00 Hrs. IST**
Price bid opening date and time	Date and time shall be intimated later
Address for submission of EMD/Bid Security and venue for pre-bid meeting and opening of bids	General Manager (C&P) C&P Department, Maharashtra Natural Gas Limited, Pride Purple Coronet, 2nd Floor, Baner Road, Baner, Pune – 411045
Contact details	Telephone: +91 (20) 25611000/1157/1190 Email: gasaid@mngl.in / neeraj@mngl.in
BIDDER ELIGIBILITY CRITERIA & BID EVALUATION CRITERIA	As per Annexure – I to IFB

NOTE: Bidders are advised to complete the registration with e-tender portal (**https://etenders.gov.in**) at least two working days prior to bid submission date.

Please note that in accordance with the general conditions of tender, MNGL may amend these dates of the tender process at its sole discretion. In case any of the specified dates are declared a public holiday, the deadline shall be the next working date.

2.0 BIDDING PROCEDURE

Bidding will be conducted through Open Domestic Tendering. Single Stage Two Bid system is adopted for this tender. The submission and opening of bids will be through e-tendering mode at **https://etenders.gov.in/eprocure/app**. Tender document can be downloaded from the website **https://etenders.gov.in/eprocure/app** or from e-tender link given on official MNGL website www.mngl.in.

Note: To participate in the e-tendering, it is mandatory for the bidders to have user ID & password. For this purpose, the bidder has to register itself on CPPP's website **https://etenders.gov.in/eprocure/app**. Please also note that the bidder has to obtain digital signature token for applying in the tender and in general, activation of registration may take 24 hours subject to the submission of all requisite documents required in the process.

Note: MNGL in no way shall be responsible if the bidder fails to apply due to non-possession of Digital Signature & non registration.

(The bids have to be submitted online in electronic form on https://etenders.gov.in/eprocure/app only. No physical bids will be accepted.)

3.0 DOWNLOADING OF TENDER DOCUMENT

The tender document is available for downloading from CPPP's e-tendering website **https://etenders.gov.in/eprocure/app** or from e-tender link given on official MNGL website www.mngl.in for viewing / participation of the eligible bidders. Bidders meeting the bid evaluation criteria who intend to submit their bid may download the tender for submission by the bid due date and time. Bidder shall give an undertaking on his letter-head that the contents of the bidding document have not been altered or modified. Bid evaluation criteria shall be applicable for all the bidders.

Disclaimer clause: Bidders are advised to visit CPPP's e-tendering website and MNGL website regularly for any updates on the tender. The ignorance to visit the website will not be accepted as a reason for any gap / missing information like corrigenda, amendments, clarifications etc.

4.0 PRE-BID MEETING

The bidder(s) or their designated representatives, who have downloaded the bid document, or to whom tender document has been issued and intend to bid are invited to attend the pre-bid meeting. Bidder(s) queries if any, must reach Purchaser office at least one day prior to pre-bid meeting date. The pre bid meeting can be organized through video conferencing or physically. In case of physical meeting, the venue of pre bid meeting is MNGL office at Pride Purple Coronet, 2nd Floor, Baner Road, Baner, Pune – 411045.

Non-attendance of the pre-bid meeting will not be a cause for disqualification of a bidder. Corrigendum / addendum, if any, to the tender document, shall be hosted on the website subsequent to the pre-bid meeting.

Bidders may also note that the registration process for new bidders on e-tender portal shall take a minimum of 24 hrs. Hence, bidders are advised to kindly complete their registration on e-tender portal well in advance of the pre-bid meeting.

In case of pre-bid meeting through video conferencing, Link shall be sent to all the interested bidders by the purchaser.

Instructions to bidders for Pre-bid meeting through video conferencing: All bidders intending to attend pre-bid meeting must send their interest through email (at least 2 hours prior to the scheduled time of pre-bid meeting) to the purchaser. E-mail received from bidders within specified timeline shall be invited through email to attend the meeting.

Advisories for the bidders attending the pre-bid meeting:

(1) All the Bidders who have submitted their registration details and interest to attend the pre-bid meeting will be invited to join as guests through the link shared in mail.

(2) All bidders/participants mandatorily have to pin MNGL screen on their computer screens during the pre-bid meeting.

(3) Bidders shall be allowed to discuss their queries in sequence of their responses received.

(4) Time slot shall be allotted to each bidder to ask his queries.

(5) Recording of the pre-bid meeting by the bidders is strictly prohibited. Subsequent to pre-bid meeting, corrigendum shall be issued by the purchaser regarding clarifications or queries raised during meeting.

5.0 OTHERS:

5.1 Bid Document is non-transferable.

5.2 Bids complete in all respects should reach on or before the BID DUE DATE AND TIME. Bids through Fax/ E-mail shall not be considered.

5.3 The Bid Document calls for offers on single point "Sole Bidder" responsibility basis.

Order will be placed on the "Sole Bidder" alone (in whose name the bid document has been issued) who will be responsible for all contractual purposes.

Further the bidders are advised to ensure that their offer is on single bidder responsibility basis and in total compliance of scope of supply as specified in Bid Document.

5.4 The bid should be prepared by the "Sole Bidder" and should be sent to MNGL directly. MNGL reserve the right to reject offers made by intermediaries' representatives.

5.5 Bidder shall ensure that Bid Security having a validity of 6(SIX) months from the bid due date, must accompany the offer in the format made available in the Bid Document.

5.6 This Invitation for Bids (IFB) is an integral and inseparable part of the enclosed Bid Document.

5.7 MNGL reserves the right to accept or reject any or all offers without assigning any reason, whatsoever.

5.8 ZERO DEVIATION TENDER
Bidder shall note that if any deviations are taken to the under mentioned provisions of Bid Documents by the Bidder the bid is liable to be rejected:

i) Do not meet BEC Criteria
ii) Bid Security
iii) Performance Security (Contract Performance Bank Guarantee), as per GGC clause no 24.0
iv) Delivery Period
v) Terms of Payment
vi) Force Majeure
vii) Resolution of Dispute/Arbitration
viii) Termination of Contract,
ix) Warranty and Guarantee
x) Offer not submitted for complete scope of work
xi) Firm prices
xii) Prices not quoted as per Schedule of Rates formats.
xiii) **Bidder have been put on Black / Holiday list by MNGL / MoP&NG / Oil Public Sector** Enterprise(s).

xiv) Bidder is under liquidation.
xv) Bids not conforming to technical specification/requirements.
xvi) Any other such provisions if specifically stipulated elsewhere in the Bid Document.
xvii) Price Reduction Schedule.

However, MNGL reserve the right to request the bidder to withdraw the deviations against above-mentioned provisions of Bid Documents.

THIS IS NOT AN ORDER

Yours faithfully,
for Maharashtra Natural Gas Limited, Pune

Ganesh Said
General Manager (C&P)

Encl. 1. Bid Document.

Note:

Please confirm your intention to quote or not within 3(Three) days. In case not intending to quote then please give your valuable feedback to us.

ANNEXURE-I to IFB

Tender for Item Rate Contract for a period of 1-year for laying of underground PE pipeline & aboveground GI / MLC pipe for CGD Network of MNGL for Pune GA.

INTRODUCTION

Maharashtra Natural Gas Limited (MNGL) is a joint venture company of M/s. GAIL (India) Limited and M/s. Bharat Petroleum Corporation Limited (BPCL). MNGL has been set up to supply natural gas to domestic, commercial, and industrial sectors including setting up of CNG filling stations to cater to the automobile sector for vehicle in Pune, Nashik – Dhule, Sindhudurg, Nanded in Maharashtra, Nizamabad in Hyderabad and Ramanagara in Karnataka.

1.0 BRIEF PROJECT DETAILS

The tender deals with **Item Rate Contract for a period of 1-year for laying of underground PE pipeline & aboveground GI / MLC pipe for CGD Network of MNGL for Pune GA.**

2.0 Bidder's Eligibility Criteria: The following are the BEC parameters: **-**

A. BEC-TECHNICAL:

Bidder must have executed as a main contractor (*) a single service order/work order/purchase order of at least 1 Km of MDPE/Steel Gas Pipeline laying & associated works (Dia.63 mm & above) or 150 Nos. PNG Domestic Meter-Cu installation and conversion/RFC or 500 Nos. MCV-I at MNGL in preceding 5 years reckoned from the final bid due date.

Also, Bidder to meet below mentioned minimum execution value criteria in a single service order/work order/purchase order as a main contractor (*) at MNGL in preceding 5 years reckoned from the final bid due date-

Item No.	Item Description	Minimum Work Execution Value
1	Pune GA- Laying of underground MDPE/Steel Gas Pipeline / aboveground GI / Meter, Cu installation, conversion works for a City Gas Distribution company.	7.49 Lakhs.

Note:

(*) Main Contractor means a contractor/vendor who has received work order/ service order/LOI/FOI/LOA on their company/firm name directly from MNGL.

Bidder must submit documentary evidence like service order/ work order/ Purchase order/letter of award (LOA)/letter of Intent (LOI) and work execution certificate / work completion certificate issued by MNGL in support to fulfil the criteria mentioned above.

In absence of requisite documents, MNGL reserves the right to reject the bid without making any reference to the bidder.

B. FINANCIAL:

B.1. Turnover

The bidder should have achieved a minimum annual turnover as under in any one of the last 3 (three) audited financial years i.e., **2023-24, 2024-25 and 2025-26.**

Item No.	Item Description	Minimum Annual Turnover Requirement
1	**Pune GA** Laying of underground MDPE/Steel Gas Pipeline / aboveground GI / Meter, Cu installation, conversion works for a City Gas Distribution company.	Rs.37.5 Lakhs.

B.2. Net worth

Net worth must be positive as per last audited financial statement i.e., for the year **2025-26**

B.3. Working Capital

The bidder should have a minimum working capital as under as per latest audited balance sheet i.e., for the year **2025-26**

Item No.	Item Description	Minimum Annual Turnover Requirement
1	**Pune GA** Laying of underground MDPE/Steel Gas Pipeline / aboveground GI / Meter, Cu installation, conversion works for a City Gas Distribution company..	Rs.7.5 Lakhs.

If the bidder's working capital is inadequate, the bidder should supplement this with a letter from bidder's bank, having net worth not less than Rs.100 crores, confirming the availability of line of credit to cover the inadequacy of previous year and meet the current working capital requirement.

Bidders must submit documentary evidence such as balance sheet & Profit & Loss A/c Statement for last three audited financial years i.e., **2023-24, 2024-25 and 2025-26** in support of the above.

If the audited financial results of the immediate preceding financial year i.e. 2025-26 is not available, then the audited financial results of the year immediately prior to **2025-26 i.e. 2024-25** shall be considered for calculation of Net Worth and Working Capital and audited Financial Results of the year **2022-23, 2023-24 and 2024-25** shall be considered for calculation of Annual Turnover as specified at B of Financial Criteria

Note: In absence of requisite documents, MNGL reserves the right to reject the bid without making any reference to the bidder."

3.0 Bidding Philosophy & Evaluation and award of work:

3.1 Evaluation methodology:

The following shall be specified in the tender for evaluation & award:

i) The bidder is required to quote for the complete SOR of the quoted Geographical Area (GA) as given in the tender failing which the offer shall not be considered for evaluation.

ii) **Unit rates & estimated quantities shall be indicated for each item in Schedule of Rates". Bidder shall quote / mention overall discount or mark up in percentage in "Price Schedule" applicable on the unit rates in the range from -5% to +5% in terms of percentage (%), for evaluation and award. Non-acceptance of declared rates shall render the bid liable for rejection. Quoted % rates shall be applicable uniformly to all the SOR items (+ or -).**

If bidders total quoted price is found lower / higher beyond 5% of declared rates, then their offer will be rejected and will not be considered for further evaluation.

Price Bid offers not meeting the above requirement will be rejected and will not be considered for further evaluation

iii) Evaluation & award shall be done as per complete SOR (i.e. on total evaluated price including all taxes & duties).

iv) Bidders are required to get themselves acquainted with scope of work and site conditions so as to quote rates for all the items.

v) Based on the evaluated total price, the inter-se ranking of the bidders i.e. L1, L2, L3 and so on will be made.

Note : In case of tie for two or more bidders, the inter-se ranking shall be decided on the basis of highest turnover in any one of the preceding 3 financial years i.e. 2023-24, 2024-25 & 2025-26 amongst the bidders.

vi) MNGL reserves the right to negotiate the rates with L1 bidder.

vii) Rates negotiated / accepted of L1 bidder will become uniform rates for complete scope of work.

viii) Bidder shall note that the quantities mentioned against each activity in Schedule of Rates are tentative only and subject to change based on actual requirement. The L-1 unit rates derived after applying quoted discount/mark up percentage shall remain fixed and firm throughout the contract period i.e. no price adjustment shall be allowed after bid submission.

ix) All the bidders (L2, L3, L4 & so on) will be asked to match the negotiated / finalized uniform rate of L1. Bidders who do not match L-1 rate will not be considered for award.

x) Successful bidders, who will be agreed to match the SOR rates of L-1 bidder, shall be considered for award of work. In first phase work shall be awarded to 100 Nos. of bidders for Pune GA, as under:

A) Pune GA:

L-1 : Rs. 75 Lakhs each
L2 to L50 : Rs. 62.5 Lakhs each
L51 to L100 : Rs. 50 Lakhs each

Above Service order value is inclusive of all taxes.

xi) Further as per requirement of the company, service orders may be issued to the other techno-commercially qualified bidders in sequence of ranking against the subject tender who submit their consent for execution of works at L1 rate for service order value of Rs.25,00,000 at the discretion of MNGL.

xii) Additional service orders may be issued to the agencies performed satisfactorily during the contract period of one year.

MAHARASHTRA NATURAL GAS LIMITED	**Tender for Item Rate Contract for a period of 1-year for laying of underground PE pipeline & aboveground GI / MLC pipe for CGD Network of MNGL for Pune GA.** **Bid No.: MNGL/CP/2026-27/134**

Annexure- I to IFB
FORMAT-A

ANNUAL TURNOVER

Applicant's Legal Name : Date:
Tender No.:

Page ..... of .....

Each bidder must fill in this form (Single Entity)

Annual Turnover data for the last 3 audited financial years.

Year	**Currency**	**Amount**	**Exchange Rate (*)**	**Amount (INR) (*)**
Year 1:				
Year 2:				
Year 3:				

1. The information supplied should be the – Annual Turnover of the applicant.
2. A brief note should be appended describing details as per audited results.
3. Indicate Financial year if it is different from April to March.

Signature of Bidder

(*) To filled by Owner

MAHARASHTRA NATURAL GAS LIMITED	**Tender for Item Rate Contract for a period of 1-year for laying of underground PE pipeline & aboveground GI / MLC pipe for CGD Network of MNGL for Pune GA.** **Bid No.: MNGL/CP/2026-27/134**

Annexure- I to IFB
FORMAT-B

FINANCIAL SITUATION

Applicant's Legal Name :

Date:
Tender No.:
Page ..... of .....

Each bidder must fill in this form
FINANCIAL DATA FOR LAST AUDITED FINANCIAL YEAR

Sl. No.	Description	Year		
		Amount	**Exchange Rate (*)**	**Amount (INR) (*)**
1.	Current Assets			
2.	Current Liabilities			
3.	Working Capital (1-2)			
4.	Net Worth Owners funds (Paid up share capital and Free Reserves & Surplus)			
5.	Profits before taxes			
6.	Return on Equity (5/4) x 100			

1. Attached are copies of the audited balance sheets, including all related notes, and income statement for the last Audited Financial year, as indicated above, complying with the following conditions.

   • All such documents reflect the financial situation of the bidder and not sister or parent companies.
   • Historic financial statements must be audited by a certified accountant
   • Historic financial statements must be complete, including all notes to the financial statements
   • Historic financial statements must correspond to accounting periods already completed and audited (no statement for partial period shall be requested or accepted).

Signature of Bidder

(*) Applicable for foreign bidders to be filled by Owner.

2.0 ACKNOWLEDGEMENT CUM CONSENT LETTER

ACKNOWLEDGEMENT CUM CONSENT LETTER

To,
M/s. Maharashtra Natural Gas Limited
Pride Purple Coronet, 2nd Floor,
Baner Road, Baner,
Pune – 411045
Ph.No. : 91-20-25611000
E-mail : gasaid@mngl.in

Kind Attn: Shri Ganesh Said, General Manager (C&P)

Sub:

Dear Sir,

We hereby acknowledge receipt of complete set of Bid Document along with enclosures for the subject works. We understand that documents received remain property of M/s. Maharashtra Natural Gas Limited and further undertake that the contents of the above bid documents shall be kept confidential and shall not be transferred. We indicate below our intentions with respect to the Invitation for Bid.

a) We intend to bid as requested and furnish following details with respect to our quoting office:

I) POSTAL ADDRESS : _____

II) TELEPHONE NO. : _____

III) TELEFAX NO. : _____

IV) E-MAIL : _____

V) CONTACT PERSON : _____

b) We are hereby returning the bid document as we are unable to bid for the reasons given below.

Reasons for non-submission of Bid:
_____

COMPANY'S NAME : _____
SIGNATURE : _____

MAHARASHTRA NATURAL GAS LIMITED	**Tender for Item Rate Contract for a period of 1-year for laying of underground PE pipeline & aboveground GI / MLC pipe for CGD Network of MNGL for Pune GA.** **Bid No.: MNGL/CP/2026-27/134**

NAME : _____

DESIGNATION : _____

DATE : _____

Note: Bidder is requested to furnish the details mentioned at (a) & (b) above as applicable, immediately after receipt of Bid Document.

(SIGNATURE OF BIDDER)

3.0 SUBMISSION OF BID

MAHARASHTRA NATURAL GAS LIMITED	**Tender for Item Rate Contract for a period of 1-year for laying of underground PE pipeline & aboveground GI / MLC pipe for CGD Network of MNGL for Pune GA.** **Bid No.: MNGL/CP/2026-27/134**

SUBMISSION OF BID

From:

M/s

To:
M/s Maharashtra Natural Gas Limited
Pride Purple Coronet, 2nd Floor,
Baner Road, Baner,
Pune – 411045
Ph.No. : 91-20-25611000

1. I/We hereby tender for execution of the WORKS of **Tender for Item Rate Contract for a period of 1-year for laying of underground PE pipeline & aboveground GI / MLC pipe for CGD Network of MNGL for Pune GA** as per TENDER DOCUMENT within the Time Schedule of completion of work for jobs, as separately signed and accepted by me/us, at the Schedule of Rates quoted by me/us for the whole work in accordance with Notice/Letter Inviting Tender, General Conditions of Contract, Special Conditions of Contract, Schedule of Rates of Completion of Job, and other documents and papers, all as detailed in the Tender documents.

2. It has been explained to me/us that the time stipulated for jobs and completion of WORKS in all respects and in different stages mentioned in the "Time Schedule" of completion of jobs and signed and accepted by me/us in the essence of the CONTRACT. I/We agree that in the case of failure on my/our part to strictly observe the Time of Completion mentioned for jobs or any of them and to the Final Completion of WORK in all respects according to the schedule set out in the said "Time Schedule" of completion of jobs. I/We shall pay compensation to the OWNER as per provisions and stipulations contained in General Conditions of Contract and I/We agree to recovery being made as specified therein. In exceptional circumstances, extension of time which shall always be in writing may, however, be granted by the Engineer-in-Charge at his entire discretion for some items of work, and I/We agree that such extension of time will not be counted for the extension of completion dates stipulated for job and for the Final Completion of WORK as stipulated in the said "Time Schedule" of completion of jobs.

3. I/We agree to pay the Earnest Money and Contract Performance Bank Guarantee (CPBG) and accept the terms and conditions laid down in the memorandum below in this respect.

MEMORANDUM

(a) General Description of Work _____
_____
_____

(b) Contract Performance Bank Guarantee (CPBG) — As per value in the manner set out in the General clause no 24.0 Conditions of Contract

4. Should this tender be accepted, I/We hereby agree to abide by and fulfill all terms and conditions referred to above and in default thereof, to forfeit and pay to the OWNER or its successors or its authorized nominees such sums of money as are stipulated in conditions contained in General Tender Notice and other Tender Documents.

5. If I/We fail to commence the work specified in the Memorandum in Para (3) above, or I/We to deposit the amount of Contract Performance Bank Guarantee (CPBG) specified in the Memorandum in (3) above, I/We agree that the said OWNER or its successors without prejudice to any other right or remedy be at liberty to cancel the Notice of Acceptance of Tender if I/We fail to deposit the Contract Performance Bank Guarantee (CPBG) as aforesaid or to execute an Agreement or to start WORK as stipulated in the Tender Documents.

I/We enclose herewith evidence of my/our experiment of execution of works of similar nature and magnitude carried out by me/us in the prescribed proforma and also the Income- Tax Clearance Certificates.

Dated the _____day of _____2026

Witness:

Name in Block Letters:

Address:

Yours faithfully,
Signature of Tenderer(s) with the
seal of the Firm.

Name and Designation of authorized person signing the
Tender on behalf of the Tenderer(s).

PART – B

1.0 INSTRUCTION TO BIDDERS (ITB)

TABLE OF CONTENTS

INSTRUCTION FOR ONLINE BID SUBMISSION

A. General
1. Scope of Bid
2. Eligible Bidders
3. Bid Evaluation Criteria
4. Bids from Consortium – Not applicable
5. One Bid per Bidder
6. Cost of Bidding
7. Site Visit

B. Bidding Documents
8. Content of Bidding Documents
9. Clarification of Bidding Documents
10. Amendment of Bidding Documents

C. Preparation of Bids
11. Language of Bid
12. Documents Comprising the Bid
13. Bid Prices
14. Bid Currencies
15. Bid Validity
16. Bid Security
17. Pre-Bid Meeting
18. Format and Signing of Bid
19. Zero Deviation
20. Mode of Payment
21. Agent/ Consultant/ Representative/ Retainer/ Associate

D. Submission of Bids
22. Deadline for Submission of Bids
23. Late Bids
24. Modification and Withdrawal of Bids

E. Bid Opening and Evaluation
25. Bid Opening
26. Process to be Confidential
27. Contacting the Employer
28. Examination of bids and Determination of Responsiveness
29. Opening of Price Bids
30. Correction of Errors
31. Conversion to Single Currency for Comparison of Bids
32. Evaluation and Comparison of Bids

33. Preference for Domestic bidders
34. Purchase Preference
35. Compensation of Extended Stay – Not Applicable

F. Award of Contract
36. Award
37. Employer's Right to accept any bid and to reject any or all Bids
38. Notification of Award
39. Signing of Agreement
40. Contract Performance Security
41. Corrupt or Fraudulent Practices

42. Land Border

INSTRUCTIONS TO BIDDERS

INSTRUCTION FOR ONLINE BID SUBMISSION

The bidders are required to submit soft copies of their bids electronically on the Central Public Procurement (CPP) Portal i.e. http://etendrs.gov.in/eprocure/app, using valid Digital Signature Certificates. The instructions given below are meant to assist the bidders in registering on the CPP Portal, prepare their bids in accordance with the requirements and submitting their bids online on the CPP Portal.

REGISTRATION

(i) Bidders are required to enroll on the e-Procurement module of the Central Public Procurement Portal (URL:https://etenders.gov.in/eprocure/app) by clicking on the link "Online Bidder Enrolment" option available on the home page. **Enrolment on the CPP Portal is free of charge.**

(ii) During enrolment/ registration, the bidders should provide the correct / true information including valid email-id & mobile no. All the correspondence shall be made directly with the contractors / bidders through email-id provided.

(iii) As part of the enrolment process, the bidders will be required to choose a unique username and assign a password for their accounts.

(iv) For e-tendering, possession of valid Digital Signature Certificate (**Class III Certificates with signing key usage**) is mandatory which can be obtained from SIFY /nCode/eMudra or any Certifying Authority recognized by CCA Indiaon eToken/ SmartCard.

(v) Upon enrolment on CPP Portal for e-tendering, the bidders shall register their valid Digital Signature Certificate with their profile.

(vi) Only one valid DSC should be registered by a bidder. Bidders are responsible to ensure that they do not lend their DSCs to others which may lead to misuse and should ensure safety of the same.

(vii) Bidders can then log into the site through the secured login by entering their user ID/ password and the password of the DSC/ eToken.

SEARCHING FOR TENDER DOCUMENTS

1) There are various search options built in the CPP Portal to facilitate bidders to search active tenders by several parameters. These parameters could include Tender ID, organization name, location, date, value, etc. There is also an option of advanced search for tenders, wherein the bidders may combine a number ofsearch parameters such as organization name, form of contract, location, date, other keywords, etc., to search for a tender published on the CPP Portal.

2) Once the bidders have selected the tenders they are interested in, they maydownload the required documents / tender schedules. These tenders can be moved to the respective 'My Tenders' folder. This would enable the CPP Portal to intimate the bidders through SMS / e-mail in case there is any corrigendum issued to the tender document.

3) The bidder should make a note of the unique Tender ID assigned to each tender,in case they want to obtain any clarification / help from the Helpdesk.

PREPARATION OF BIDS:

(i) For preparation of bid, Bidders shall search the tender from published tender list available on site and download the complete tender document and should take into account corrigendum if any published before submitting their bids.

After selecting the tender document same shall be moved to the 'My favourite' folder of bidders account from where bidder can view all the details of the tender document.

(ii) Bidder shall go through the tender document carefully to understand the documents required to be submitted as part of the bid. Bidders shall note the number of covers in which the bid documents have to be submitted, the numberof documents — including the names and content of each of the document that need to be submitted. Any deviations from these may lead to rejection of the bid.

(iii) Any pre-bid clarifications if required, then same may be obtained online through the tender site, or through the contact details given in the tender document.

(iv) Bidders should get ready in advance the bid documents in the required format (PDF/xls/rar/dwf/jpg formats) to be submitted as indicated in the tender document/schedule. **Bid documents may be scanned with 100 dpi with black**

and white option which helps in reducing size of the scanned document

(v) Bidders can update well in advance, the documents such as experience certificates, annual report, PAN, EPF & other details etc., under "My Space/ Other Important Document" option, which can be submitted as per tender requirements. This will facilitate the bid submission process faster by reducing upload time of bids.

SUBMISSION OF BIDS:

(i) Bidder should log into the site well in advance for bid submission so that he/ she upload the bid in time i.e. on or before the bid submission time. Bidder will be responsible for any delay.

(ii) Bidder should prepare the EMD as per the instructions specified in the NIT/ tender document. The details of the DD/BG/others physically sent, should tally with the details available in the scanned copy and the data entered during bid submission time. Otherwise the uploaded bid will be rejected.

(iii) While submitting the bids online, the bidder shall read the terms & conditions (of CPP portal) and accepts the same in order to proceed further to submit their bid.

(iv) Bidders shall select the payment option as offline to pay the EMD and enter details of the DD/BG/others.

(v) Bidder shall digitally sign and upload the required bid documents one by one as indicated in the tender document.

(vi) Bidders shall note that the very act of using DSC for downloading the tender document and uploading their offers is deemed to be a confirmation that they have read all sections and pages of the tender document without any exception and have understood the complete tender document and are clear about the requirements of the tender document.

(vii) Bid documents may be scanned with 100 dpi with black and white option which

helps in reducing size of the scanned document. For the file size of less than 1 MB, the transaction uploading time will be very fast.

(viii) If price quotes are required in XLS format, utmost care shall be taken for uploading Schedule of quantities & Prices and any change/ modification of the price schedule shall render it unfit for bidding.

Bidders shall download the Schedule of Quantities & Prices i.e. Schedule of Rates, in XLS format and save it without changing the name of the file. Bidder shall quote their rate in figures in the appropriate cells, there after save and upload the file in financial bid cover (Price bid) only.

If the template of Schedule of Quantities & Prices file is found to be modified/corrupted in the eventuality by the bidder, the bid will be rejected and further dealt as per provision of clause no 17.0 of ITB including forfeiture of EMD.

The bidders are cautioned that uploading of financial bid elsewhere i.e. other than in cover 2 will result in rejection of the tender.

(ix) Bidders shall submit their bids through online e-tendering system to the Tender Inviting Authority (TIA) well before the bid submission end date & time (as per Server System Clock). **The TIA will not be held responsible for any sort of delay or the difficulties faced during the submission of bids online by the bidders at the eleventh hour**.

(x) After the bid submission **(i.e. after Clicking "Freeze Bid Submission" i**n the portal), the bidders shall **take print out of system generated acknowledgement** number and keep it as a record of evidence for online submission of bid, which will also act as an entry pass to participate in the bid opening.

(xi) Bidders should follow the server time being displayed on bidder's dashboard at the top of the tender site, which shall be considered valid for all actions of requesting, bid submission, bid opening etc., in the e-tender system.

(xii) All the documents being submitted by the bidders would be encrypted using PKI (Public Key Infrastructure) encryption techniques to ensure the secrecy of the

data. The data entered cannot be viewed by unauthorized persons until the time of bid opening. The confidentiality of the bids is maintained using the secured Socket Layer 128 bit encryption technology.

ASSISTANCE TO BIDDERS:

(i) Any queries relating to the tender document and the terms and conditions contained therein should be addressed to the Tender Inviting Authority for a tender or the relevant contract person indicated in the tender.

(ii) Any queries relating to the process of online bid submission or queries relating to CPP Portal in general may be directed to the 24X7 CPP Portal Helpdesk. The 24 x 7 Help Desk Number 0120-4001002, 0120-6277787 and 0120-4001005. The helpdesk email id is **support-eproc@nic.in**

Note All the tenders of MNGL are being uploaded on etenders.gov.in and bidders are required to check the tender information on the e-tender portal.

A. GENERAL

1. Scope of Bid

1.1 The Employer, as defined in the General Conditions of Contract, hereinafter "the Employer", wishes to receive bids for the Work as described in biding document.

1.2 The successful bidder will be expected to complete the Works within the period stated in Special Conditions of Contract.

1.3 Throughout these bidding documents, the terms "bid" and "tender" and their derivatives ("bidder/ tenderer", "bid tendered", "bidding/ tendering", etc.) are synonymous, and day means calendar day. Singular also means plural.

2. Eligible Bidders

2.1 Bidders shall, as part of their bid, submit duly executed power of attorney authorizing the signatory of the bid to bind the bidder.

2.2 This invitation for bid is open to any bidder.

2.3 A bidder shall not be affiliated with a firm or entity

(i) that has provided consulting services related-to the Works to the Employer during the preparatory stages of the Works or of the Project of which the Works form a part, or

(ii) that has been hired (or is proposed to be hired) by the Employer as Engineer/ Consultant for the contract.

2.4 The bidder shall not be under a declaration of ineligibility by Employer for corrupt or fraudulent practices as defined in ITB.

2.5 While evaluating the bids, pursuant to bid evaluation criteria in Global Notice of IFB, bidders and / or his sub-contractors past performance shall be assessed for ascertaining the responsiveness of the bid. In such case the decision of employer / consultant shall be final and binding on the bidder.

2.6 **The bidder is not Black / holiday list by MNGL/MoP&NG/Oil Public Sector Enterprise(**s)

3. Bid Evaluation Criteria:-

3.1 Technical

3.1.1 Experience Criteria - As per Annexure – I of IFB.

3.1.2 Equipment Deployment Criteria

The bidder shall meet the requirement regarding deployment and ownership of minimum critical construction equipment as specified in SCC Technical of the bidding document.

3.2 Financial - As per Annexure – I of IFB

3.3 Bidder shall not be affiliated with a firm or entity, (i) that has provided consulting services related to Works to Employer during preparatory stages of Works or of the Project of which the Works form a part, or (ii) that has been hired (or is proposed to be hired) by Employer as Engineer/ Consultant for the contract.

3.4 Bidder shall meet the technical, as well as, commercial qualification criteria as stated above. Bidder shall furnish necessary documentary evidence such as LOA Copy/ Audited Financial Statement (**UDIN from CA is compulsory on financial document**) along with the bid, to justify meeting the stipulated qualification criteria. In absence of requisite documents as stated above, MNGL reserve the right to reject the bid without making any reference to the bidder.

4. Bids from Consortium – Not applicable

5. One Bid per Bidder

5.1 A firm shall submit only one bid in the same bidding process. A bidder who submits or participates in more than one bid will cause all the proposals in which the bidder has participated to be disqualified.

5.2 More than one bid means bid(s) by bidder(s) having same Proprietor / Partners / Limited Liability Partner in any other bidder(s). Further, more than one bids shall also include two or more bidders having common power of attorney holder.

Failure to comply this clause during tendering process will disqualify all such bidders from process of evaluation of bids.

5.3 Alternative Bids shall not be considered.

5.4 The provisions mentioned at Sl. No. 5.1 and 5.2 shall not be applicable wherein bidders are quoting for different Items / Sections / Parts / Groups / SOR items of the same tender which specifies evaluation on Items / Sections / Parts / Groups / SOR items basis.

6. Cost of Bidding

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

7. **Site Visit**

7.1 The bidder is advised to visit and examine the Site of Works and its surroundings and obtain for itself on its own responsibility all information that may be necessary for preparing the bid and entering into a contract for construction of the Works. The costs of visiting the Site shall be at the bidder's own expense.

7.2 The bidder and any of its personnel or agents will be granted permission by the Employer to enter upon its premises and lands for the purpose of such visit, but only upon the expresscondition that the bidder, its personnel, and agents will release and indemnify the Employer and its personnel and agents from and against all liability in respect thereof, and

will be responsible for death or personal injury, loss of or damage to property, and any other loss, damage, costs, and expenses incurred as a result of the inspection.

7.3 The Employer may conduct a Site visit concurrently with the pre-bid meeting.

B. BIDDING DOCUMENTS

8. Content of Bidding Document

8.1 The Bidding Documents/ Tender Documents should be read in conjunction with any addenda issued in accordance with ITB Clause 10.

8.2 The bidder is expected to examine all instructions, forms, terms and specifications in the bidding documents. The Invitation for Bids (IFB) together with all its attachments thereto, shall be considered to be read, understood and accepted by the bidders. Failure to furnish all information required by the bidding documents or submission of a bid not substantially responsive to the bidding documents in every respect will be at bidder's risk and may result in the rejection of his bid.

9. Clarification of Bidding Documents

9.1 A prospective bidder requiring any clarification of the Bid Documents may notify the Owner and / or the Consultant as the case may be, in writing or by email at the address indicated in the tender/RFQ. The Owner will respond in writing to any request for clarification of the bid documents which it receives after issue of the bid documents but prior to at least one (01) working day prior to the pre-bid meeting date. Written copies of the Owner's response (including an explanation of the query but not necessarily identifying the source of inquiry) will be hosted on CPPP's e-tendering website **https://etenders.gov.in/eprocure/app** and official MNGL website www.mngl.in along with the corrigendum before the bid due date. All such clarifications issued shall deem to form a part and parcel of the Bid documents.

Any Clarification or information required-by the bidder but same not received by the Employer, one (01) working day prior to the pre-bid meeting date, the same is liable to be considered as no clarification/information required.

10. Amendment of Bidding Documents

10.1 At any time prior to the bid due date, Purchaser may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective bidder, modify the tender document, by issuing corrigendum.

10.2 Any addendum /corrigendum/ clarifications to bidders query thus issued shall be part of the bidding documents pursuant to ITB Clause-8.0 and shall be hosted on the MNGL's official website before bid due date. All the prospective bidders who have attended the Pre-Bid meeting till date shall be informed by email/ post about the addendum/ corrigendum/ clarifications to bidders query for their reference. Bidders desirous to submit its bid have to take into consideration of all the addendum(s)/ corrigendum (s)/ clarifications to bidders query hosted on the above websites before submitting the bid.

10.3 Bidders are advised to visit MNGL's websites and CPPP's e-tendering website from time to time to get updated information / documents.

10.4 In case of any inconsistency between an addendum and this tender document, the addendum shall prevail and in similar case between two or more addenda, the last issued addendum shall prevail.

10.5 The Purchaser may, at its discretion, extend the bid due date in order to allow prospective bidders, a reasonable time to furnish their most competitive bid taking into account the addenda / corrigenda issued.

C. PREPARATION OF BIDS

11. Language of Bid

11.1 The bid prepared by the bidder and all-correspondence/drawings and documents relating to the bid exchanged by bidder and MNGL shall be written in English language. Any printed literature furnished by the bidder may be written in another language so long as accompanied by an ENGLISH translation duly authenticated by the chamber of commerce of Bidders country, in which case, for the purpose of interpretation of the bid, the ENGLISH translation shall govern. Metric measurement system shall be applied.

12. Documents Comprising the Bid

12.1 The bid prepared by the bidder shall comprise the following components:

12.1 The bid prepared by the bidder shall comprise of the following components that are required to be provided on the e-tendering portal:

12.1.1 **Technical cover:**
Scanned documents (duly signed by the authorized signatory) to be uploaded by the bidder on the portal as per list below:

i) Covering Letter as per format "Submission of Tender" / "Submission of Bid" enclosed with Part- A of Vol-I of II.
ii) Bidder's general/ details information as per format F-1.
iii) Power of Attorney in favour of person(s) signing the bid that such person (s) is/are authorized to sign the bid on behalf of the bidder and any consequence resulting due to such signing shall be binding on the bidder.
iv) Specific experience, annual turnover and equipment deployment details as called for in qualifying requirements.
v) A Bid Form as per format F-2.
vi) Copies of documents as required in list of enclosure.
vii) Documents establishing the eligibility and conformity to the Bid Documents of all Goods and services, which the bidder proposes to supply under the award. Such document may be, literature, drawing or data and shall also include (a) the detailed description of the Good's essential technical and performance characteristics; (b) a clause by clause commentary on Employer's technical specification and demonstrating supplies substantial responsiveness to the specifications.

ix) Copy of Bid security in accordance with IFB & Clause 16 of ITB to be furnished either in the form of Cashier's / Banker's cheque / Bank Draft payable to MNGL at Pune/ Bank Guarantee as per format F-4.

x) Letter of authority in favour of any one or two of bidder's executives having authority to attend the un-priced and price bid opening on specified dates and venue as per format F-5.

xi) Confirmation of no deviation as per Format F-6.

xii) Present commitments strictly as per form F-9.

xiii) **Indian Bidders are required to submit Employees Provident Fund registration certificate, ESIC registration certificate, Professional Tax Registration certificate, Labour welfare registration under Maharashtra Labour Welfare Fund Act and Shop Act Registration certificate.**

xiv) Bidder's declaration that they are not under liquidation, court receivership or similar proceedings.

xv) Any other information/details required as per bid document.

12.1.2 **Financial cover:**
Price bid SOR as per prescribed format on the e-tender portal.

12.2 All the documents submitted shall be duly signed and stamped on each page by the bidder or an authorized signatory of the bidder.

12.3 Bidders are advised to submit quotations based strictly on the terms and conditions and specifications contained in the bid document and not stipulate any deviations. Should it, however, become unavoidable, deviations should be stipulated only in the prescribed Pro forma. Owner reserves the right to evaluate quotations containing deviations having financial implications after adding the cost for such deviations as determined by Owner.

12.4 Original schedule of rates duly filled in shall not contain any condition whatsoever. Any condition given in this part shall not be considered and shall render the offer liable for rejection.

12.5 All signatures in bids shall be dated, as well as all pages of bids shall be initialed at lower right hand corner by the Bidder or by a person holding power of attorney authorizing him to sign on behalf of the bidder before the submission of bids.

12.6 The Bidder's bid is central to the evaluation and selection process. Therefore, it is important that the Bidder carefully prepares the bid and answers all questions completely. Missing information and vague answers may delay the evaluation of a bid and may impair the Bidder's chances of success.

12.7 Information received by Purchaser from the Bidder will be disclosed to Purchaser's employees and/or advisers or external consultants for the purpose of evaluating the bid response.

13. **Bid Prices**

13.1 Unless stated otherwise in the Bidding Documents, the Contract shall be for the whole works as described in Bidding Document, based on the unit rates and prices submitted by the Bidder and accepted by the EMPLOYER

13.2 Prices must be filled in format for 'Schedule of Rates' enclosed as part of Bidding Document. If quoted in separate typed sheets and any variation in item description, unit or quantity is noticed; the bid is liable to be rejected.

13.3 Bidder shall quote for all the items of Schedule of Rates after careful analysis of cost involved for the performance of the completed item considering all parts of the Bidding Document. In case any activity though specifically not covered in description of item under 'Schedule of Rates' but is required to complete the works as per Scope of Work, Scope of supply, Specifications, Standards, Drawings, General Conditions of Contract, Special Condition of Contract or any other part of Bidding Document, the prices quoted shall deemed to be inclusive of cost incurred for such activity. Items against which no rate or price is entered by the bidder will not be paid for by the Employer when executed and shall be deemed covered by the rates for other items and prices in the SOR.

13.4 All duties and taxes including applicable Custom duty, Works Contract tax, Goods & Service Tax and other levies payable by the Contractor under the Contract, or for any other cause, shall be included in the rates and prices and the total bid price submitted by the bidder.

13.5 Prices quoted by the bidder, shall remain firm and fixed and valid until completion of the Contract and will not be subject to variation on any account except statutory variations in Goods & Service tax as mentioned below.

Statutory variations in Goods & Service Tax on finished product during the contractual completion period, shall be to the Employer's account for which the Contractor will furnish documentary evidence(s) in support of their claims to MNGL. However, any increase in the rate of these taxes and duties beyond the contractual completion period shall be to Contractor's account and any decrease shall be passed on to MNGL.

13.6 The Bidder shall quote the prices both in figures as well as in words. There should not be any discrepancies between the price indicated in figures and the price indicated in words. In case of any discrepancy, the price indicated in words shall prevail over the price indicated in figure.

13.7 Alternative bids shall not be considered.

13.8 Conditional discount, if offered, shall not be considered for evaluation.

13.9 The bidder shall have to raise the Cenvatable invoice in the name of Director (Commercial), MNGL, Pune

14. **Bid Currencies – VOID**

15. **Bid Validity**

15.1 Bids shall be kept valid for 4 (four) month from the final bid due date.

15.2 In exceptional circumstances, prior to expiry of the original bid validity period, the Employer may request that the bidders extend the period of validity for a specified additional period. The request and the responses thereto shall be made in writing or by fax / e-mail. A bidder may refuse the request without forfeiture of his bid security. A bidder agreeing to the request will not

be required or permitted to modify his bid, but will be required to extend the validity of its bid security for the period of the extension and in accordance with Clause 16 in all respects.

16. **Bid Security**

16.1 Pursuant to Clause-5A, the bidder shall furnish, as part of his bid, bid security in the amount specified in the Invitation for Bids (IFB).

16.2 The bid security is required to protect MNGL against the risk of bidder's conduct which would warrant the security's forfeiture, pursuant to Clause-16.7

16.3 The bid security in Indian Rupees for bidders quoting in Indian currency shall be in the form of a Bank Draft/ Banker's Cheque/ Bank Guarantee.

MNGL shall not be liable to pay any bank charges, commission or interest on the amount of Bid Security.

In case Bid Security is in the form of a Bank Guarantee or irrevocable Letter of Credit, the same shall be from any Indian scheduled bank or a branch of an International bank situated in India and registered with Reserve bank of India as scheduled foreign bank in case of Indian bidder and from any reputed International bank or Indian scheduled bank in case of foreign bidder. Bid Security shall be valid for 2 months beyond the validity of the Bid.

16.4 Any bid not secured in accordance with Clause-16.1 and 16.3 may be rejected by MNGL as nonresponsive.

16.5 Unsuccessful bidder's bid security will be discharged/ returned as promptly as possible after award of contract and signing of agreement.

16.6 The successful bidder's bid security will be discharged upon the bidder's accepting the award & signing the Agreement, pursuant to Clause-39 and furnishing the Contract Performance Security pursuant to Clause-40.

16.7 The bid security may be forfeited:

a) If a bidder withdraws his bid during the period of bid validity.

b) in the case of a successful bidder, if the bidder fails:

i) to accept the Notification of Award/Service Order (SO) or

ii) to furnish Contract Performance Security in accordance with Clause-40.

iii) to accept arithmetical corrections,

16.8 Bid Security should be in favour of Maharashtra Natural Gas Limited and addressed to MNGL. In case Bid Security is in the form of Bank Guarantee, the same must indicate the Bid Document and the work for which the bidder is quoting. This is essential to have proper co-

relation at a later date. The Bid Security shall be in the form provided at F-4 (Bank Guarantee).

16.9 **The Indian / Domestic firms registered with NSIC/MSME, under its single point registration scheme are exempted from furnishing Tender Fee & Bid Security, provided they are registered for the items / work they intend to quote and subject to their enclosing with their bid a copy of latest and current registration certificate.**

Pre-Bid Meeting – As per IFB

17.1 The bidder(s) or his designated representative, who have purchased bid document, are invited to attend a pre-bid meeting which will take place as indicated in IFB

17.2 The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.

17.3 Text of the questions raised and the responses given, together with any responses prepared after the meeting, will be transmitted without delay (without identifying the sources of the question) to all purchasers of the bidding documents. Any modification of the bidding documents listed in ITB Sub-Clause 8.1 that may become necessary as a result of the pre-bid meeting shall be made by the Employer exclusively through the issue of an Addendum pursuant to Clause 10 and not through the minutes of the pre-bid meeting.

17.4 Non-attendance of the pre-bid meeting will not be a cause for disqualification of a bidder.

18. **Format and Signing of Bid**

18.1 The original of the bid shall be typed or written in indelible ink and shall be signed by a person or persons duly authorized to sign on behalf of the bidder. The name and position held by each person signing, must be typed or printed below the signature. All pages of the bid except for unamended printed literature where entries or amendments have been made shall be initialed by the person or persons signing the bid.

18.2 The bid shall contain no alterations, omissions, or additions, unless such corrections are initialed by the person or persons signing the bid.

19. **Zero Deviation**

19.1 Bidders shall note that if any deviation are taken to the under mentioned provisions of Bid Document by the Bidder the bid is liable to be rejection.

i) Do not meet BEC Criteria
ii) Bid Security
iii) Performance Security (Contract Performance Bank Guarantee), **as per GCC clause no 24.0**
iv) Delivery Period
v) Terms of Payment
vi) Force Majeure
vii) Resolution of Dispute/Arbitration
viii) Termination of Contract,
ix) Warranty and Guarantee
x) Offer not submitted for complete scope of work

xi) Firm prices
xii) Prices not quoted as per Schedule of Rates formats.
xiii) **The bidder is not Black / holiday list by MNGL/MoP&NG/Oil Public Sector Enterprise(s).**
xiv) Bids not conforming to technical specification/requirements.
xv) Any other such provisions if specifically stipulated elsewhere in the Bid Document.
xvi) Price Reduction Schedule.

However, MNGL reserve the right to request the bidder to withdraw the deviations against above mentioned provisions of Bid Documents.

20. **Mode of Payment**
Maharashtra Natural Gas Limited will release payment through Online / Cheque / RTGS payable at par in case work is awarded to bidder.

21. **Agent/ consultant/ Representative/ Retainer/ Associate - VOID**

D. SUBMISSION OF BIDS

22.0 DEADLINE FOR SUBMISSION OF BID

22.1 The bid must be submitted on the specified e-tendering portal as specified in IFB not later than the time and date as specified in IFB. The online e-tendering portal will not allow any bid or part thereof whatsoever to be submitted after the due time on the due date.

22.2 The Purchaser may, in exceptional circumstances and at its discretion, on giving reasonable notice by email or any written communication to all prospective bidders who have been issued the bid document to extend the deadline for the submission of bids in which case all rights and obligations of the Purchaser and bidders, previously subject to the original deadline will thereafter be subject to deadline as extended.

23.0 LATE BIDS

Any Bid Security / EMD received by the Purchaser after the deadline for submission of bid may render the bid to be declared “Late” and such bid is liable for rejection; such EMD may be returned unopened to the bidder at the sole discretion of the Purchaser.

24.0 MODIFICATION AND WITHDRAWAL OF BIDS

24.1 The bidder may modify or withdraw its bid after the bid submission, but, before the due date of submission as per provisions provided on the e-tendering portal. After the bid due date & time however, no modifications whatsoever are allowed in the bid.

24.2 No bid shall be withdrawn in the interval between the deadline for submission of bids and the expiration of the period of bid validity specified by the Bidder on the Bid form. In case of request in written by the authorized signatory for withdrawal of a bid during this interval, the Bidder’s bid security shall be forfeited.

E. BID OPENING AND EVALUATION

25. **Bid Opening**

25.1 The Purchaser will open all bids on the e-tendering portal in the presence of bidder(s) representatives who choose to attend, at the time, on the date and place (as specified in IFB). The bidder(s) representatives, who are present, shall sign an attendance sheet evidencing their attendance, if so required by the Purchaser.

25.2 The Bidder's names and the presence or absence of requisite Bid Security (EMD) and such other details as the Purchaser, at its discretion, may consider appropriate, will be announced at the opening. No bid shall be rejected at bid opening, except for bids without EMD.

25.3 Bids that are not opened and read out at bid opening shall not be considered further for evaluation, irrespective of the circumstances. Bidder's specific attention is drawn to this stipulation to enable the representative of the Bidder at the bid opening time to bring out to the attention for the Purchaser any documents pertaining to its bid is not being acknowledged and relevant portions read out.

25.4 The Purchaser will prepare a bid opening statement to be signed by all representatives present during bid opening.

26. **Process to be Confidential**

26.1 Information relating to the examination, clarification, evaluation and comparison of bids, and recommendations for the award of a contract, shall not be disclosed to bidders or any other persons officially concerned with such process. Any effort by a bidder to influence the Employer's processing of bids or award decisions may result in the rejection of the bidder's bid.

27. **Contacting the Employer**

27.1 From the time of bid opening to the time of Contract award, if any bidder wishes to contact the Employer on any matter related to the bid, it should do so in writing.

27.2 Any effort by the bidder to influence the Employer in the Employer's bid evaluation, bid comparison, or Contract award decisions may result in the rejection of the bidder's bid.

28. **Examination of bids and Determination of Responsiveness**

28.1 Prior to the detailed evaluation of bids, the Employer will determine whether each bid
- a) meets the Bid Evaluation Criteria;
- b) has been properly signed;
- c) is accompanied by the required securities;
- d) is substantially responsive to the requirements of the bidding documents; and
- e) provides any clarification and/ or substantiation that the Employer may require to determine responsiveness pursuant to Sub-Clause 28.2.

28.2 A substantially responsive bid is one which conforms to all the terms, conditions and specifications of the bidding documents without material deviations or reservations. A material deviation or reservation is one
- a) that affects in any substantial way the scope, quality, or performance of the Works;

b) that limits in any substantial way, inconsistent with the bidding documents, the Employer's rights or the bidder's obligations under the contract; or

c) whose rectification would affect unfairly the competitive position of other bidders presenting substantially responsive bids.

28.3 If a bid is not substantially responsive, it will be rejected by the Employer and may not subsequently be made responsive by correction or withdrawal of the nonconforming deviation or reservation.

29.0 **OPENING OF PRICE BID**

29.1 In case of two-part bidding, the Bidders whose bids are found substantially responsive shall be invited to attend the opening of price bid. Such bidders may be required to attend the price bid opening at a short notice. The place, date and time of price bid opening will be informed to all such Bidders. The Bidder's representatives who are present shall sign a register evidencing their attendance.

29.2 The bid prices stated in the price schedules will be announced during price bid opening.

30. **Correction of Errors**

30.1 Bids determined to be substantially responsive will be checked by the Employer for any arithmetic errors. Errors will be corrected by the Employer as follows:

a) where there is a discrepancy between the amounts in words and in figures, the amount in words will govern; and

b) where there is a discrepancy between the unit rate and the total resulting from multiplying the unit rate by the quantity, the unit rate as quoted will govern.

30.2 The amount stated in the bid will be adjusted by the Employer in accordance with the above procedure for the correction of errors and, with the concurrence of the bidder, shall be considered as binding upon the bidder. If the bidder does not accept the corrected amount of bid, its bid will be rejected, and the bid security shall be forfeited.

31. **Conversion to Single Currency for Comparison of Bids - NOT APPLICABLE**

32. **Evaluation and Comparison of Bids**

32.1 The evaluation and comparison of bids will be done as per the provisions of the bid evaluation criteria as per Annexure – I to ITB (to be separately enclosed along with bidding document against individual tenders).

33. **Preference for Domestic Bidders - VOID**

34. **Purchase Preference - VOID**

35. **Compensation for extended stay - VOID**

F. AWARD OF CONTRACT

36. **Award**

36.1 Subject to Clause 29, MNGL will award the contract to the successful bidder whose bid has been determined to be substantially responsive and has been determined as the lowest, is determined to be qualified to satisfactorily perform the contract.

37. **Employer's Right to Accept Any Bid and to Reject Any or all Bids**

37.1 MNGL reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids, at any time prior to award of contract, without thereby incurring any liability to the affected bidder or bidders or any obligations to inform the affected bidder or bidders of the ground for MNGL'S ACTION.

38. **Notification of Award**

38.1 Prior to the expiration of period of bid validity MNGL will notify the successful bidder in writing by fax, cable or telex to be confirmed in writing, that his bid has been accepted. The notification of award/ Service Order will constitute the formation of the Contract.

38.2 Delivery/ completion period shall be counted from the date of notification of award / Service Order.

The notification of award will constitute the formation of a Contract, until the Contract has been effected pursuant to signing of Contract as per Clause 39 of ITB.

Upon the successful bidder's furnishing of contract performance security, pursuant to Clause 40 of ITB, MNGL will promptly notify each unsuccessful bidder and will discharge his bid security, pursuant to Clause 16 of ITB.

Also, successful bidder has to ensure that purchase order (PO) of long lead items (i.e. fittings and flanges) is made available to MNGL within 10 days of Service Order. Failure to do so shall result in termination of contract.

39. **Signing of Agreement**

39.1 MNGL will award the Contract to the successful bidder, who, within 15 days of receipt of the same, shall sign and return the acceptance copy to MNGL.

39.2 The successful bidder shall be required to execute an AGREEMENT in the proforma given in of this standard bidding document on non-judicial paper of appropriate value (the cost of stamp paper shall be borne by the Contractor), within 15 days of the receipt by him of the Notification of Acceptance of Tender. In the event of failure on the part of the successful bidder to sign the AGREEMENT within the above stipulated period, the Bid Security shall be forfeited and the acceptance of the tender shall be considered as cancelled.

40. **Contract Performance Security**

40.1 **Within 15 days of the receipt of the notification of award/ Service Order from MNGL, the successful bidder shall furnish the contract performance security in accordance with Article 24 of General Conditions of the Contract in the form provided in the bidding documents. The Contract Performance Security shall be in the form of either**

Banker's Cheque or Demand Draft or Bank Guarantee or Letter of Credit and shall be in the currency of the Contract.

40.2 The contract performance security value shall be as per clause no 24.0 of GCC towards faithful performance of the contractual obligations and performance of equipment. This Bank Guarantee/ DD/ Letter of Credit shall be from any Indian scheduled bank or a branch of an International bank situated in India and registered with Reserve bank of India as scheduled foreign bank. This Bank Guarantee shall be valid for a period as stated in Article-24 of General Conditions of The Contract.

40.3 Failure of the successful bidder to comply with the requirements of this article shall constitute sufficient grounds for the annulment of the award and forfeiture of the bid security, in which event MNGL may award the order to the next lowest evaluated bidder or call for new bids.

41. **Corrupt or Fraudulent Practices**

41.1 MNGL requires that bidders/ contractors observe the highest standard of ethics during the execution of contracts. In pursuance of this policy, the Employer:

a) defines, for the purposes of this provision, the terms set forth below as follows:
   i) "corrupt practice" means the offering, giving or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution; and
   ii) "fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Employer, and includes collusive practice among bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the Employer of the benefits of free and open competition;

b) will reject a proposal for award if it determines that the bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question;

c) will declare a firm ineligible and put on holiday, either indefinitely or for a stated period of time if it at any time determines that the firm has engaged in corrupt or fraudulent practices in competing for, or in executing a contract.

42: PROCUREMENT FROM A BIDDER WHICH SHARES A LAND BORDER WITH INDIA.

I. Order (Public Procurement No. 1) dated 23.07.2020, Order (Public Procurement No. 2) dated 23.07.2020 and Order (Public Procurement No. 3) dated 24.07.2020, Department of Expenditure, Ministry of Finance, Govt. of India refers. The same are available at website https://doe.gov.in/procurement-policy-divisions.

II. Any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the Competent

Authority. For details of competent authority refer to Annexure I of Order (Public Procurement No. 1) dated 23.07.2020. Further the above will not apply to bidders from those countries (even if sharing a land border with India) to which the Government of India has extended lines of credit or in which the Government of India is engaged in development projects. Updated lists of countries to which lines of credit have been extended or in which development projects are undertaken are given in the website of the Ministry of External Affairs, Govt. of India

III. "Bidder" (including the term 'tenderer', 'consultant' 'vendor' or 'service provider' in certain contexts) for purpose of this provision means any person or firm or company, including any member of a consortium or joint venture (that is an association of several persons, or firms or companies), every artificial juridical person not falling in any of the descriptions of bidders stated hereinbefore, including any agency, branch or office controlled by such person, participating in a procurement process.

IV. "Bidder from a country which shares a land border with India" for the purpose of this:
a. An entity incorporated, established or registered in such a country; or
b. A subsidiary of an entity incorporated, established or registered in such a country; or
c. An entity substantially controlled through entities incorporated, established or registered in such a country; or
d. An entity whose beneficial owner is situated in such a country; or
e. An Indian (or other) agent of such an entity; or
f. A natural person who is a citizen of such a country; or
g. A consortium or joint venture where any member of the consortium or joint venture falls under any of the above

V. "Beneficial owner" for the purpose of above (4) will be as under:

i) In case of a company or Limited Liability Partnership, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person(s), has a controlling ownership interest or who exercises control through other means.
Explanation—

a) "Controlling ownership interest" means ownership of, or entitlement to, more than twenty-five per cent of shares or capital or profits of the company.

b) "Control" shall include the right to appoint the majority of the directors or to control the management or policy decisions, including by virtue of their shareholding or management rights or shareholder's agreements or voting agreements.

ii) In case of a partnership firm, the beneficial owner is the natural person(s) who, whether acting alone or together, or through one or more juridical person, has ownership of entitlement to more than fifteen percent of capital or profits of the partnership.

iii) In case of an unincorporated association or body of individuals, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has ownership of or entitlement to more than fifteen percent of the property or capital or profits of such association or body of individuals.

iv) Where no natural person is identified under (i) or (ii) or (iii) above, the beneficial owner is the relevant natural person who holds the position of senior managing official.

v) In case of a trust, the identification of beneficial owner(s) shall include identification of the author of the trust, the trustee, the beneficiaries with fifteen percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control or ownership.

VI. "Agent" for the purpose of this Order is a person employed to do any act for another, or to represent another in dealings with third persons

VII. SUBMISSION OF CERTIFICATE IN BIDS: Bidder shall submit a certificate in this regard as Form-I to Section-II. If such certificate given by a bidder whose bid is accepted is found to be false, this would be a ground for immediate rejection of the bid/termination and further action as per “Procedure for Action in case of Corrupt/Fraudulent/ Collusive / Coercive Practices” of tender document.

VIII. The registration, wherever applicable, should be valid at the time of submission of bids and at the time of acceptance of bids. In respect of supply otherwise than by tender, registration should be valid at the time of placement of order. If the bidder was validly registered at the time of acceptance / placement of order, registration shall not be a relevant consideration during contract execution.

2.0 ANNEXURE TO INSTRUCTIONS TO BIDDERS (ITB)

CONTENTS

Sl. No.	Description		
1)	Annexure-I	:	Bid Evaluation Criteria
2)	Annexure-II	:	List of Formats
3)	Annexure-III	:	Commercial Questionnaire
4)	Annexure-IV	:	Check List

BID EVALUATION CRITERIA
{Annexure – I TO Instruction to Bidder (ITB)}

EVALUATION / COMPARISON OF BIDS

1.0 The Employer will examine the bids to determine whether the bids are complete as per Check List, Stamped and signed on each page and are in order.

2.0 **DEVIATION TO STIPULATIONS**
"It may be noted that since this is zero deviation tender the bidder is advised to quote strictly as per terms & conditions of tender document & not to stipulate any deviation/ exception. Offers requesting deviation shall not be amended for further evaluation & shall be summarily rejected".

3.0 **CONFORMANCE TO SCOPE OF WORK**
Bidder will be required to confirm to the Scope of Work as mentioned in SCC, Scope of work, Schedule of Rates and Job Specification/ Technical Specifications.

4.0 **CONFORMANCE TO SCOPE OF SUPPLY**
Bidder will be required to confirm to the Scope of Supply as mentioned in SCC, Schedule of Rates, scope of work and Jobs Specification/ Technical Specifications.

5.0 **DETERMINATION OF RESPONSIVENESS**
The bid submitted by the bidder should be responsive to the requirements of the Bidding Document. A responsive bid is one which conforms to the terms, conditions and specifications of the Bidding Document and Bid Evaluation Criteria without **Deviation**.

6.0 Bidders are advised to quote strictly as per terms and conditions of the Bidding Document and not to stipulate any deviation/ exception as it is "No Deviation" tender. Offers with any Exception/ deviation shall be liable for rejection.

7.0 Bidder will be required to establish up to the satisfaction of Owner that the resources proposed to be deployed as per SCC by the bidder are in conformity with the WORK REQUIREMENT.

The following requirement must be noted while submitting the resource deployment details.

i) Construction Equipment
Mechanized type of construction equipment should be considered. All requisite equipment such as cranes, diesel generators, compressors, welding machines, pumps, tractor-trailer, etc. shall be considered. Deployment of minimum equipment must be furnished as per tender.

ii) Deployment of Supervisory/ Skilled Personnel
Bidder must furnish a site organization with qualified and experienced personnel in adequate numbers keeping in view the specific requirement for this work. Bidder will

prepare & submit these details also keeping in view the minimum no. of skilled personal as per tender.

8.0 **EVALUATION OF PRICE BIDS**

i) The price part of only those bidders will be evaluated whose bid is technically and commercially acceptable to Owner.

ii) Quoted price for the complete scope of work and supply as per SOR shall be taken into account for arriving at the lowest evaluated price.

iii) **Evaluation shall be done as per Cl. No. 3 of Bidders Eligibility Criteria (Annexure – I to IFB)**

9.0 **BIDDERS MUST CHECK THAT THEIR BID IS COMPLETE IN ALL RESPECTS WITH ALL DETAILS AS PER VARIOUS FORMATS ENCLOSED IN INSTRUCTIONS TO BIDDERS, CHECK LIST AND COMMERCIAL QUESTIONNAIRE REPLIED**

Issue of any technical/ commercial questionnaire or having any classificatory discussions, in general, is not envisaged. Bidders in their own interest must ensure that their bid is complete in all respects complying with the requirement of Instructions to Bidders and have furnished all details/ clarifications/ confirmations. Also note that all details/ documents shall be submitted in relevant SECTIONS and mentioned in CHECK LIST.

LIST OF FORMATS

{Annexure – II TO Instruction to Bidder (ITB)}

CONTENT

Sl. No.			Description
1)	F-1	:	Bidder's General Information
2)	F-1A	:	Detail information about bidder (in case of open Tender)
3)	F-2	:	Bid Form
4)	F-3	:	List of Enclosures
5)	F-3A	:	Financial Detail
6)	F-4	:	Proforma for Bid Security Declaration
7)	F-5	:	Letter of Authority
8)	F-6	:	No Deviation Confirmation
9)	F-7	:	Certificate
10)	F-8	:	Details of Similar Work done during past five years
11)	F-9	:	Present commitments of the Bidder
12)	F-10	:	Proforma of Bank Guarantee for Contract Performance Security
13)	F-11	:	Proposed Site Organization Chart
14)	F-12	:	Construction Schedule with Bar Chart
15)	F-13	:	Confirmation regarding schedule of labor rate
16)	F-14	:	Confirmation regarding schedule of equipment rate
17)	F-15	:	Rate for Extended Stay Compensation (Loading Schedule for Price Comparison Purpose)
18)	F-16	:	UNDERTAKING ON LETTERHEAD
19)			Format for No Claim Certificate
20)			**Format for Tender acceptance letter**

F-1
BIDDER'S GENERAL INFORMATION

To
M/s Maharashtra Natural Gas Limited
Pride Purple Coronet, 2nd Floor,
Baner Road, Baner,
Pune - 411045

1.1 Bidder Name : _____

1.2 Number of Years in Operation :
_____

1.3 Registered Address : _____
_____
_____

1.4 Operation Address : _____
if different from above
_____

1.5 Telephone Number : _____
(Country Code) (Area Code) (Telephone No.)

1.6 E-mail address & Web Site : _____

1.7 Telefax Number : _____
(Country Code) (Area Code) (Telephone No.)

1.8 ISO Certification, if any : {If yes, please furnish details}

_____
(SIGNATURE OF BIDDER WITH SEAL)

F-1A
DETAILED INFORMATION ABOUT BIDDERS
(In case of open Tender)

1. 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.10, 000/- per year

2. 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 partners of the firm pays Income Tax over Rs. 10,000/- per year and if so, which of them pays the same.

3. IN CASE OF LIMITED LIABILITY COMPANY OR COMPANY LIMITED BY GUARANTEE

3.1 Amount of paid up capital

3.2 Name of Directors

3.3 Date of Registration of Company

3.4 Copies of the balance sheet of the company of the last three years.

_____
(**SEAL AND SIGNATURE OF BIDDER**)

F-2
BID FORM

To
M/s Maharashtra Natural Gas Limited
Pride Purple Coronet, 2nd Floor,
Baner Road, Baner,
Pune - 411045

Dear Sir,
After examining/ reviewing the Bidding Documents for **Item Rate Contract for a period of 1-year for laying of underground PE pipeline & aboveground GI / MLC pipe for CGD Network of MNGL for Pune GA.** including technical specifications, drawings, General and Special Conditions of Contract and schedule of rates etc. The receipt of which is hereby duly acknowledged, we, the undersigned, pleased to offer to execute the whole of the Job of **Tender for Item Rate Contract for a period of 1-year for laying of underground PE pipeline & aboveground GI / Cu installation for CGD Network of MNGL for Pune GA** and in conformity with, the said Bid Document, including Addenda Nos. (if any).

We confirm that this bid is valid for a period of four (4) months from the date of opening of Techno-commercial Bid, and it shall remain binding upon us and may be accepted by any time before the expiration of that period.

If our bid is accepted, we will provide the performance security as per the clause no 24.0 of GCC & instruction to bidder , for the due performance with in fifteen days of such award.

Until a final Agreement is prepared and executed, the bid together with your written acceptance thereof in your notification of award shall constitute a binding Agreement between us.
We understand that Bid Document is not exhaustive and any action and activity not mentioned in Bid Documents but may be inferred to be included to meet the intend of the Bid Documents shall be deemed to be mentioned in Bid Documents unless otherwise specifically excluded and we confirm to perform for fulfillment of Agreement and completeness of the Work in all respects within the time frame and agreed price.

We understand that you are not bound to accept the lowest priced or any bid that you may receive.

SEAL AND SIGNATURE
DATE: _____

Duly authorized to sign bid for and on behalf of _____

(SIGNATURE OF WITNESS)
WITNESS NAME:
ADDRESS:

F-3

LIST OF ENCLOSURES

To,
Maharashtra Natural Gas Limited
Pride Purple Coronet, 2nd Floor,
Baner Road, Baner,
Pune - 411045

Dear Sir,

We are enclosing the following documents as part of the bid:

1. Power of Attorney of the signatory to the Bidding Document.

2. QA/OC Manuals.

3. Health Safety and Environment (HSE) Policy and HSE Manual.

4. Document showing annual turnover for the last three years such as annual reports, profit and loss account, net worth etc. along with information as sought in enclosed format F-3A.

5. Organization chart of the bidder and the structure assigned for execution of the work under this bid.

6. Methodology of execution of work.

7. Execution schedule with interlinking of various activities.

8. Copy of Bidding Documents along with addendum/ corrigendum no. duly signed and sealed on each page, in token of confirmation that Bid Documents are considered in full while preparing the bid and in case of award, work will be executed in accordance with the provisions detailed in Bid Documents.

_____

(**SEAL AND SIGNATURE OF BIDDER**)

F-3A
FINANCIAL DETAIL

EACH BIDDER MUST FILL IN THIS FORM

a) Annual Turnover data for the last 3 years.

Year	Currency	Amount	Ex. Rate (*)	Amount (INR) (*)
Year 1				
Year 2				
Year 3				

1. The information supplied should be the Annual Turnover of the Bidder.
2. A brief note should be appended describing thereby details of turnover along with audited balance sheet with profit & loss account statement for the last 3 years.

b) Annual Net-worth data for the last 3 years.

Year	Currency	Amount	Ex. Rate (*)	Amount (INR) (*)
Year 1				
Year 2				
Year 3				

1. Net Worth = Reserves + Capitals – Accumulated Loss

_____
(**SEAL AND SIGNATURE OF BIDDER**)

(*) To be filled by Employer

F-4

PROFORMA FOR BANK GUARANTEE FOR EARNEST MONEY DEPOSIT/ BID SECURITY

(To be stamped in accordance with the Stamp Act)

Bank Guarantee No. ……

Ref: …… Date ……

To

M/s. Maharashtra Natural Gas Limited,
Pride Purple Coronet, 2nd Floor,
Baner Road, Baner,
Pune – 411045

Dear Sir(s),

In accordance with Letter Inviting Tender under your reference No. _____ M/s _____ having their Registered/ Head Office at _____ (hereinafter called the Tenderer) wish to participate in the said tender for _____

As an irrevocable Bank Guarantee against Earnest Money for the amount of _____ is required to be submitted by the Tenderer as a condition precedent for participation in the said tender which amount is liable to be forfeited on the happening of any contingencies mentioned in the Tender Document.

We, the _____ Bank at _____ having our Head Office _____(Local Address) guarantee and undertake to pay immediately on demand without any recourse to the tenderers by
Maharashtra Natural Gas Limited the amount _____ without any reservation, protest, demur and recourse. Any such demand made by MNGL, shall be conclusive and binding on us irrespective of any dispute or difference raised by the Tenderer.

This guarantee shall be irrevocable and shall remain valid up to _____ [this date should be 6 months after the date finally set out for closing of tender]. If any further extension of this guarantee is required, the same shall be extended to such required period on receiving instructions from M/s _____whose behalf this guarantee is issued.

In witness whereof the Bank, through its authorized officer, has set its hand and stamp on this _____ day of _____2023__at_____.

WITNESS:
(SIGNATURE) (SIGNATURE)
(NAME) (NAME)

MAHARASHTRA NATURAL GAS LIMITED	**Tender for Item Rate Contract for a period of 1-year for laying of underground PE pipeline & aboveground GI / MLC pipe for CGD Network of MNGL for Pune GA.** **Bid No.: MNGL/CP/2026-27/134**

(OFFICIAL ADDRESS)

Designation with Bank Stamp
Attorney as per
Power of Attorney No._____
Date: _____

INSTRUCTIONS FOR FURNISHING BID-GUARANTEE / BANK GUARANTEE

1. The Bank Guarantee by bidders will be given on non-judicial stamp paper as per stamp duty applicable. The non-judicial stamp paper should be in the name of the issuing bank. In case of foreign bank, the said banks guarantee to be issued by its correspondent bank in India on requisite non-judicial stamp paper.

2. The expiry date as mentioned in bid document should be arrived at by adding 2 months to the date of expiry of the bid validity unless otherwise specified in the Bid Documents.

3. The bank guarantee by bidders will be given from bank as specified in ITB

4. A letter from the issuing bank of the requisite Bank Guarantee confirming that said bank guarantee/ all future communication relating to the Bank Guarantee shall be forwarded to the Employer at its address as mentioned at ITB.

5. Bidders must indicate the full postal address of the bank along with the bank's E-mail/ Fax. from where the earnest money bond has been issued.

NOTE: Bidder to Submit Bank Guarantee along with SWIFT statement and it is mandatory.

F-5
LETTER OF AUTHORITY
PROFORMA FOR LETTER OF AUTHORITY FOR ATTENDING AND SUBSEQUENT NEGOTIATIONS/CONFERENCES

No.: Date:

To,
Maharashtra Natural Gas Limited,
Pride Purple Coronet, 2nd Floor,
Baner Road, Baner,
Pune - 411045

Dear Sir,

We _____ hereby authorize following representative(s) to attend un-priced bid opening and price bid opening and for any other correspondence and communication against above Bidding Document:

1) Name & Designation _____ Signature _____

2) Name & Designation _____ Signature _____

We confirm that we shall be bound by all commitments made by aforementioned authorized representatives.

Yours faithfully,

Signature

Name & Designation

For and on behalf of

Note: This letter of authority should be on the letterhead of the bidder and should be signed by a person competent and having the power of attorney to bind the bidder.

Not more than two persons are permitted to attend techno-commercial un-priced and price bid opening.

F-6
NO DEVIATION CONFIRMATION

(Tender/ Bid Document No. _____)

EXCEPTION AND DEVIATION STATEMENT

NAME OF WORK:

BID DOCUMENT NO.:

Bidder may stipulate exceptions and deviations to Bid Document, if considered unavoidable as per the following format:

SL. NO.	CLAUSE NO.	PAGE NO. OF TENDER DOCUMENT	DEVIATION	REASONS FOR DEVIATION

Any exceptions / deviations brought out by us elsewhere in our Offer shall not be considered as valid and should be ignored by the Owner.

NAME OF BIDDER: _____

SIGNATURE OF BIDDER: _____
& SEAL

F-7
CERTIFICATE

To,
Maharashtra Natural Gas Limited,
Pride Purple Coronet, 2nd Floor,
Baner Road, Baner,
Pune - 411045

Dear Sir,

If, we become a successful bidder and pursuant to the provisions of the Bidding Documents and contract is awarded to us the following certificate shall be automatically enforceable:

'We agree and acknowledge that the Employer is entering into the 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 the Agreement and has no liabilities, obligations or rights there under. It is expressly understood and agreed that the Employer is authorized to enter into Agreement, solely on its own behalf under the applicable laws of India. We expressly agree, acknowledge and understand that the Employer 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 Agreement. Accordingly, we hereby expressly waive, release and forego any and all actions or claims, including cross claims, VIP claims or counterclaims against the Government of India arising out of the Agreement and covenants not to sue to Government of India as to any manner, claim, cause of action or things whatsoever arising of or under the Agreement."

_____

(**SEAL AND SIGNATURE OF BIDDER**)

F-8

DETAILS OF SIMILAR WORK DONE DURING PAST FIVE YEARS

Description of the work	Location of the work	Full Post Address and Phone nos. of Client & Name of Officer-in charge	Value of Contract	Date of Commencement of work	Scheduled Completion Time (Months)	Date of Actual Completion	Reasons for delay in project completion, if any

Note: Copies of letter of award and completion certificate for the above works to be enclosed.

The work completed earlier than three years need not be indicated here.

The list of work, not of similar nature need not be indicated here.

Failing to comply aforementioned instructions may lead to rejection of bid.

_____

(**SEAL AND SIGNATURE OF BIDDER**)

F-9
PRESENT COMMITMENTS OF THE BIDDER

Full Postal Address and phone nos. of Client & Name of Officer-in-charge	Description of Work	Date of Commencement of Work	Scheduled Completion Period	%Age Completion as on Date	Expected Date of Completion	Remarks

Note: This list must be a full list of all type of works in hand

_____

(**SEAL AND SIGNATURE OF BIDDER**)

F-10

PROFORMA OF BANK GUARANTEE FOR CONTRACT PERFORMANCE SECURITY

(ON NON-JUDICIAL PAPER OF APPROPRIATE VALUE)

To:
M/s Maharashtra Natural Gas Limited
Pride Purple Coronet, 2nd Floor,
Baner Road, Baner,
Pune - 411045

Dear Sir,

M/s_____ have been awarded the work of _____ for Maharashtra Natural Gas Limited, vide Service Order No. _____ dated _____.

The Contracts conditions provide that the CONTRACTOR shall pay a sum of Rs. _____ (Rupees _____) as full Contract Performance Guarantee in the form therein mentioned. The form of payment of Contract Performance Guarantee includes guarantee executed by Nationalized Bank, undertaking full responsibility to indemnify Maharashtra Natural Gas Limited, in case of default.

The said _____ has approached us and at their request and in consideration of the premises we having our office at _____ have agreed to give such guarantee as hereinafter mentioned.

1. We _____ hereby undertake and agree with you that if default shall be made by M/s _____ _____ in performing any of the terms and conditions of the tender or in payment of any money payable to Maharashtra Natural Gas Limited we shall on demand pay without any recourse to the contractor to you in such manner as you may direct the said amount of Rupees _____ only or such portion thereof not exceeding the said sum as you may from time to time require.

2. You will have the full liberty without reference to us and without affecting this guarantee, postpone for any time or from time to time the exercise of any of the powers and rights conferred on you under the contract with the said _____ _____ and to enforce or to forbear from endorsing any powers or rights or by reason of time being given to the said _____ which under law relating to the sureties would but for provision have the effect of releasing us.

3. Your right to recover the said sum of Rs. _____ (Rupees _____) from us in manner aforesaid will not be affected or suspended by reason of the fact that any dispute or disputes have been raised by the said M/s _____ _____ and/ or that any dispute or disputes are pending before any officer, tribunal or court.

4. The guarantee herein contained shall not be determined or affected by the liquidation or winding up dissolution or changes of constitution or insolvency of the said but shall in all respects and for all purposes be binding and operative until payment of all money due to you in respect of such liabilities is paid.

5. This guarantee shall be irrevocable and shall remain valid up to_____ If any further extension of this guarantee is required, the same shall be extended to such required period on receiving instruction from M/s _____ _____ on whose behalf this guarantee is issued.

6. The Bank Guarantee's payment of an amount is payable on demand and in any case within 48 hours of the presentation of the letter of invocation of Bank Guarantee. Any dispute arising out of or in relation to the said Bank Guarantee shall be subject to the jurisdiction of Pune, or High Court of Mumbai.

7. We have power to issue this guarantee in your favor under Memorandum and Articles of Association and the undersigned has full power to do under the Power of Attorney dated _____ granted to him by the Bank.

Yours faithfully,

_____Bank

By its Constituted Attorney

Signature of a person duly authorized to sign on behalf of the Bank.

NOTE: Bidder to Submit Bank Guarantee along with SWIFT statement and it is mandatory.

F-11

PROPOSED SITE ORGANIZATION

The BIDDER is to indicate here the proposed site organization he proposes to set up for execution of the work. It is understood that this will be augmented from time to time depending on the requirements for timely completion of work, as directed by Engineer-in-Charge. The BIDDER is also to furnish the Bio-data of Site-in-Charge and key personnel to be deployed at site.

_____

(**SEAL AND SIGNATURE OF BIDDER**)

F-12

CONSTRUCTION SCHEDULE WITH BAR CHART

Bidder shall submit Construction Schedule with Bar Chart for complete work covering all the following activities of work as applicable.

1) Mobilization:

2) Route Survey:

3) Design package Submission &: Approval

4) Ordering for Supply Materials:

5) Supply of Material at site:

6) Installation:

7) Testing:

8) Commissioning:

9) Other Miscellaneous Works:

_____

(**SEAL AND SIGNATURE OF BIDDER**)

F-13

CONFIRMATION REGARDING SCHEDULE OF LABOUR RATES

We accept Schedule of Labor Rates attached in SCOPE OF WORK and also confirm acceptance for using the same for analyzing rates for extra items.

_____

(**SEAL AND SIGNATURE OF BIDDER**)

F-14

CONFIRMATION REGARDING SCHEDULE OF EQUIPMENT RATES

We accept Schedule of Equipment Rates attached in SCOPE OF WORK and also confirm acceptance for using the same for analyzing rates for extra items.

_____

(**SEAL AND SIGNATURE OF BIDDER**)

F-15

RATE FOR EXTENDED STAY COMPENSATION

Not Applicable

F-16

UNDERTAKING ON LETTERHEAD

To,
M/s Maharashtra Natural Gas Limited,
Pride Purple Coronet, 2nd Floor,
Baner Road, Baner,
Pune – 411045

Sub:

Tender No:

Dear Sir,

We have read the clause regarding Provisions for Procurement from a Bidder which shares a land border with India, we certify that, bidder M/s _____ (Name of Bidder) is:

(i) Not from such a country [✓] (If this not applicable pls refer sr. no ii below)

(ii) If from such a country, has been registered With the Competent Authority. (Evidence of valid registration by the Competent Authority shall be attached) [**X**]

(Bidder to tick appropriate option above)

We hereby certify that bidder M/s _____ (***Name of bidder)*** fulfils all requirements in this regard and is eligible to be considered against the tender.

Place:
Date:

Seal:

{Signature of Authorised Signatory of Bidder}
Name:
Designation:

Format for No Claim Certificate
[On the Letter-head of Contractor]

NO CLAIM CERTIFICATE

We, _____, a company incorporated under the laws of India, having its Registered Office at _____ and carrying on business under the name and style M/s. _____ were awarded the Contract by Maharashtra Natural Gas Ltd. in reference to Tender No. _____ dated _____.

After completion of the above said Work under the contract, we have scrutinized all our claims, contentions, disputes, issues with the project officials and we hereby confirm that after adjusting all payments received by us against our R.A. Bills, our balance entitlement under the contract is to a sum of Rs._____ (Rupees _____ only) as per our Final Bill dated _____ towards full and final settlement of all our claims, dues, issues and contentions from Maharashtra Natural Gas Ltd.

We confirm and declare that with the receipt of aforesaid monies, all our claims, dues, disputes, differences between M/s. _____ and Maharashtra Natural Gas Ltd. under and with reference to above said contract stands fully and finally settled.

We further absolve Maharashtra Natural Gas Ltd. from all liabilities present or future arising directly or indirectly out of the contract.

We further confirm that the present settlement has been arrived at after mutual negotiations and is freely and fairly entered into between the parties. There is no economic duress or any other compulsion on us in entering into this settlement.

Signature with Seal of Contractor

Dated:

MAHARASHTRA NATURAL GAS LIMITED	**Tender for Item Rate Contract for a period of 1-year for laying of underground PE pipeline & aboveground GI / MLC pipe for CGD Network of MNGL for Pune GA.** **Bid No.: MNGL/CP/2026-27/134**

FORMAT FOR TENDER ACCEPTANCE LETTER

(To be given on Company Letter Head)

Date:

To,
M/s Maharashtra Natural Gas Limited
Pride Purple Coronet, 2nd Floor,
Baner Raod, Baner,
Pune – 411045

Sub: Acceptance of Terms & Conditions of Tender.

Tender Reference No: _____

Name of Tender / Work: - _____

Dear Sir / Madam,

1. I/ We have downloaded / obtained the tender document(s) for the above mentioned 'Tender/Work' from the web site(s) namely:
   _____
   as per your advertisement, given in the above mentioned website(s).

2. I / We hereby certify that I / we have read the entire terms and conditions of the tender documents from Page No. _____ to _____ (including all documents like annexure(s), schedule(s), etc.,), which form part of the contract agreement and I / we shall abide hereby by the terms / conditions / clauses contained therein.

3. The corrigendum(s) issued from time to time by your department / organization too have also been taken into consideration, while submitting this acceptance letter.

4. I / We hereby unconditionally accept the tender conditions of above mentioned tender document(s) / corrigendum(s) in its totality / entirety.

5. I / We do hereby declare that our Firm have not been put on Black / Holiday list by MNGL / MoP&NG / Oil Public Sector Enterprise(s).

6. I / We certify that all information furnished by our Firm is true & correct and in the event that the information is found to be incorrect/untrue or found violated, then your department/ organization shall without giving any notice or reason thereof summarily reject the bid or terminate the contract, without prejudice to any other rights or remedy including the forfeiture of the full said earnest money deposit absolutely.

Yours Faithfully,
(Signature of the Bidder, with Official Seal)

COMMERCIAL QUESTIONNAIRE

{Annexure – III to Instruction to Bidder (ITB)}

MAHARASHTRA NATURAL GAS LIMITED	**Tender for Item Rate Contract for a period of 1-year for laying of underground PE pipeline & aboveground GI / MLC pipe for CGD Network of MNGL for Pune GA.** **Bid No.: MNGL/CP/2026-27/134**

COMMERCIAL QUESTIONNAIRE

Note:

1) The Bidder shall submit reply to each query.
2) The bidder's reply/ confirmation as furnished in the Commercial Questionnaire (CQ) shall supersede the stipulation mentioned elsewhere in the Bid.

Sl. No.	MNGL's Query	Bidder's Reply/ Confirmation
1.	Confirm that your Bid is valid for 4(four) month from the last date of submission of Bid.	**Confirmed**
2.	Confirm that all details in unpriced part have been submitted. Bidding Document and drawings, signed and stamped on each page shall be submitted in original on e-tendering portal	**Confirmed**
3.	Confirm that the following documents are submitted with Part-I :	**Confirmed**
i)	All documents in relevant Section as per CHECK LIST	**Confirmed**
ii)	Schedule of Rates/ Prices without specifying the rates/ prices are submitted in unpriced part, exactly as per the priced portion submitted in Part-II. In case some of items have not been quoted, such items should be identified in blank price format.	**Confirmed**
iii)	Addendum duly signed and stamped on each page as a token of acceptance (applicable if issued).	**Confirmed**
iv)	Confirm Acceptance of Labor rates submitted as per Annexure-11 of SCC.	**Confirmed**
4.	Confirm that price has been submitted in 1 ORIGINAL only on e-tendering portal as per tender	**Confirmed**
5.	Rates/ amount must be filled in format for `Schedule of Rates' enclosed as part of Bidding Document. If quoted in separate typed sheets and any variation in item description, unit or quantity is noticed, the bid is liable to be rejected. In any case, Bidder shall be presumed to have quoted against the tendered description of work and the same shall be binding on the Bidder. Please confirm.	**Confirmed**
6.	Confirm that deviation/ terms & conditions are not mentioned in the price part. In case any terms and condition is mentioned in the price part, the same shall be treated as null and void.	**Confirmed**
7.	Confirm that you have studied complete Bidding Document including Technical and commercial part and your Bid is in accordance with the requirements of the Bidding Document.	**Confirmed**
8.	Confirm your compliance to total Scope of Work mentioned in the Bidding Document.	**Confirmed**
9.	Confirm your acceptance for `Scope of Supply' as mentioned in Bidding Document.	**Confirmed**
10.	Confirm your compliance to critical stipulations of tender document as mentioned below	**Confirmed**
i	Defect Liability Period clause no. 80.0 of GCC	**Confirmed**
ii	Contract Performance Security – clause no. 24.0 of GCC	**Confirmed**
iii	Schedule of Rates – clause no. 87.0 of GCC	**Confirmed**

Sl. No.	**MNGL's Query**	**Bidder's Reply/ Confirmation**
iv	Arbitration – clause no. 107.0 of GCC	**Confirmed**
v	Termination – Clause nos. 32.0 A & B of GCC	**Confirmed**
vi	Terms of Payment – as per Annexure-5 to SCC Technical	**Confirmed**
vii	Price Reduction Schedule – Clause no. 27 of GCC	**Confirmed**
11.	Confirm your acceptance for `Time Schedule' as per Annexure – 3 to SCC (Technical).	**Confirmed**
12.	Confirm that your quoted price includes following taxes/ duties, insurance etc.	**Confirmed**
i)	All taxes, charges and duties assessed or levied in respect of profits earned or income receivable by the Contractor by reason of this Contract.	**Confirmed**
ii)	All taxes, duties as per applicable for this WORK in accordance with the provision of General Conditions of Contract and Special Conditions of Contract.	**Confirmed**
iii)	All types of insurance as per the provisions of General Conditions of Contract and Special Conditions of Contract.	**Confirmed**
13.	Confirm that you have proposed adequate project/ site organization with qualified supervisory personnel having requisite experience including personnel responsible for safety, planning stores, QA/ QC etc.	**Confirmed**
14.	Confirm that all costs resulting from safe execution of WORK, such as safety induction, use of protective clothing, safety glasses and helmet, safety precaution taken during monsoon, or any other safety measures to be undertaken by the Contractor for execution of work are included in the quoted rates.	**Confirmed**
15.	Confirm the following :	**Confirmed**
i)	The planning schedule, manpower estimates, construction equipment deployment schedule etc., submitted by the bidder with his Bid, are indicative and shall not be basis for extra compensation in case actual needs are higher.	**Confirmed**
ii)	Detailed planning schedule developed by CONTRACTOR after contract award may be subject to fluctuations depending upon actual progress of the project and available work front.	**Confirmed**
iii)	Co-ordination and making available by Contractor of all staff, manpower, construction equipment, tools, cranes, etc. and materials are required for a timely completion of all WORK as per Owner's construction and priority schedule and in accordance with the available work front are included in the quoted rates.	**Confirmed**
iv)	Bio-Data of Key Personnel(s), such as Project Manager, Construction Manager, Lead Engineer for all relevant categories have been submitted in your Bid.	**Confirmed**
16.	Please confirm that the deployment schedule of supervisory personnel(s) & deployment schedule of construction equipment shall be reviewed and firmed up after award of work	**Confirmed**
17.	Please confirm the rate schedule of extra works and recovery rate of equipment as per SCC Technical is acceptable to you.	**Confirmed**

MAHARASHTRA NATURAL GAS LIMITED	**Tender for Item Rate Contract for a period of 1-year for laying of underground PE pipeline & aboveground GI / MLC pipe for CGD Network of MNGL for Pune GA.** **Bid No.: MNGL/CP/2026-27/134**

Sl. No.	MNGL's Query	Bidder's Reply/ Confirmation
	Note: Please note that Schedule of Rates/ Prices embodied in the Bidding Document is deemed to include all activities of work specified under Scope of Work, Scope of Supply, technical specifications, Conditions of Contract, drawings or any other document forming part of Bidding Document, irrespective of whether such activities of work are specified in the Schedule of Rates/ Prices or not.	

Note: If bidder has any remark /deviation only mark in format F-6

_____

(**STAMP & SIGNATURE OF BIDDER**)

CHECK LIST

{Annexure – IV to Instruction to Bidder (ITB)}

MAHARASHTRA NATURAL GAS LIMITED	**Tender for Item Rate Contract for a period of 1-year for laying of underground PE pipeline & aboveground GI / MLC pipe for CGD Network of MNGL for Pune GA.** **Bid No.: MNGL/CP/2026-27/134**

CHECK LIST FOR SUBMISSION OF BID

Bidder is requested to fill this check list and ensure that all details/ documents have been furnished as called for in the Bidding Document along with duly filled in, signed & stamped **check list with each copy of the "Unpriced Part"** of his bid.

OTHER ESSENTIAL DOCUMENTS REQUIRED (to be submitted by the bidder)

Sr. No.	Tender Clause/Item	Documents Required	Submitted (Yes/No)	Reference in Offer (Refer Page No.)
1.	Letter of Submission	As given in Part-A of the tender document		
2.	EMD/ BID GUARANTEE/ BID SECURITY	As per Tender Proforma F-4 of ITB		
3.	Past Similar work done during last five years	As per Format : F-8 of ITB		
4.	Present Commitments	As per Format : F-9 of ITB		
5.	PF & ESIC Registration Certificate	Relevant documents		
6.	Goods & Service Tax Registration Certificate	Relevant documents		
7.	Power of Attorney in favor of the person who has signed the bid on stamp paper of appropriate value.	Valid power of Attorney		
8.	Partnership Deed in case of partnership firm and Article of Association in case of limited company.	Relevant documents		
9.	Deployment List of Supervisory personnel.	As per tender		
10.	Minimum No. of major equipment	As per Annexure-9 of SCC(Technical).		
11.	Minimum no. of skilled labor	As per Annexure-10 of SCC(Technical)		
12	A Tentative Quality Assurance Plan in line with Spec. and Format	As per Annexure-6 to SCC (Technical)		
13.	Site Organization Chart	As per Format - F-11 of ITB		
14.	Bio-Data of key supervisory personnel such as Project Manager, Construction Manager, A/ QC Manager, lead engineer, site engineer etc.:	Bio-data of all key supervisory personal to be deployed		
15.	An overall schedule in the form of Bar Chart	As per format-12		
16.	Schedule of Labor Rates	As per Format - F-13 & SCC(Technical)		

Sr. No.	Tender Clause/Item	Documents Required	Submitted (Yes/No)	Reference in Offer (Refer Page No.)
17.	Schedule of equipment rates, Rate for Extra work and recovery rate of equipment.	As per Format – F-14 & SCC(Technical)		
18.	Health Safety and Environment (HSE) Policy and HSE Manual.	As per Annexure-7 of SCC (Technical)		
19.	A copy of SOR (without prices) duly signed & stamped as per SOR Format	-		
20.	Original copy of Bidding Document & Drawings along with Addendum, if any, has been submitted along with offer, duly signed and stamped on each page			
21.	No Deviation Confirmation	As per Format - F-6 of ITB		
22.	Reply to commercial questionnaire, with Bidder's reply/ confirmation	As per Annexure-III to ITB		

_____

(STAMP & SIGNATURE OF BIDDER)

PART-C

GENERAL CONDITIONS OF CONTRACT (GCC-WORKS)

TABLE OF CONTENTS

Sl. No.	Description
(i)	**TABLE OF CONTENTS**
(ii)	**SUBMISSION OF TENDER**
	GENERAL CONDITIONS OF CONTRACT
SECTION-I (DEFINITIONS)	
1.0	Definition of Terms
SECTION-II (GENERAL INFORMATIONS)	
2.0	General Information
2.1	(a) Location of Site (b) Access by Road
2.2	Scope of Work
2.3	Water Supply
2.4	Power Supply
2.5	Land for Contractor's field office, Godown and Workshop
2.6	Land for Residential Accommodation
SECTION-III (GENERAL INSTRUCTIONS TO TENDERERS)	
3.0	Submission of Tender
4.0	Documents
4.1	General
4.2	All pages to be initialed
4.3	Rates to be in figures and words
4.4	Corrections and Erasures
4.5	Signature of Tenderer
4.6	Witness
4.7	Details of Experience
4.8	Liability of Government of India
5.0	Transfer of Tender Documents
6.0	Earnest Money
7.0	Validity
8.0	Addenda/Corrigenda
9.0	Right of Employer to Accept or Reject Tender
10.0	Time Schedule
11.0	Tenderer's Responsibility
12.0	Retired Government or Company Officers
13.0	Signing of the Contract
14.0	Field Management & Controlling/Coordinating Authority
15.0	Note to Schedule of Rates
16.0	16.1 Policy for Tenders under consideration 16.2 Zero Deviation
17.0	Award of Contract
18.0	Clarification of Tender Document
19.0	Local Conditions

20.0 Abnormal Rates

SECTION-IV (GENERAL OBLIGATIONS)

21.1 Priority of Contract Documents
21.2 Headings & Marginal Notes
21.3 Singular and Plural
21.4 Interpretation
22.0 Special Conditions of Contract
23.0 Contractor to obtain his own information
24.0 Contract Performance Security
25.0 Time of Performance
25.1 Time for Mobilization
25.2 Time Schedule of Construction
26.0 Force Majeure
26.1 Conditions for Force Majeure
26.2 Outbreak of War
27.0 Price Reduction Schedule
28.0 Rights of Employer to forfeit Contract Performance Security
29.0 Failure by the Contractor to comply with the provisions of the contract
30.0 Contractor remains liable to pay compensation if action not taken under Clause 29.0
31.0 Change in Constitution
32.0 -A Termination of Contract for Death
32.0-B Termination of Contract for Liquidation, Bankruptcy etc.
32.0-C Termination of Contract for Non-Performance and subsequently putting the Contractor on Holiday
33.0 Members of the Employer not individually liable
34.0 Employer not bound by personal representations
35.0 Contractor's office at site
36.0 Contractor's subordinate staff and their conduct
37.0 Sub letting of Works
- i) Sub contracts for Temporary works etc.
- ii) List of sub-contractors to be supplied
- iii) Contractor's liability not limited by Sub-Contractors
- iv) Employer may terminate sub contracts
- v) No remedy for action taken under this clause

38.0 Power of Entry
39.0 Contractor's responsibility with Mechanical, Electrical, Intercommunication System, Air Conditioning Contractors and other agencies
40.0 Other Agencies at site
41.0 Notices
41.1 To the Contractor
41.2 To the Employer
42.0 Rights of various Interests
43.0 Patents and Royalties
44.0 Liens
45.0 Delays by Employer or his authorized agents
46.0 Payments if Contract is terminated
47.0 No waiver of Rights
48.0 Certificate not to affect Right of Employer and Liability of Contractor

49.0 Languages & Measures
50.0 Transfer of Title
51.0 Release of Information
52.0 Brand Names
53.0 Completion of Contract
54.0 Spares

SECTION-V (PERFORMANCE OF WORK)
55.0 Execution of Work
56.0 Co-ordination and Inspection of work
57.0 Work in Monsoon & Dewatering
58.0 Work on Sundays & Holidays
59.0 General Conditions for construction & Erection Work
60.0 Alterations in specification, Design & Extra Work
61.0 Drawings to be supplied by the Employer
62.0 Drawings to be supplied by the Contractor
63.0 Setting out works
64.0 Responsibility for Levels and Alignment
65.0 Materials to be supplied by contractor
66.0 Stores supplied by Employer
67.0 Conditions for issue of material
68.0 Materials Procured with assistance of Employer/Return of surplus
69.0 Materials obtained from dismantling
70.0 Articles of Value found
71.0 Discrepancies between instructions
72.0 Action where no specification is issued
73.0 Inspection of Works
74.0 Tests for Quality of Works
75.0 Samples for approval
76.0 Action and Compensation in case of bad work
77.0 Suspension of Work
78.0 Employer may do part of work
79.0 Possession prior to completion
80.0 Twelve months period of liability from the date of issue of completion certificate
80.3 Limitation of Liability
81.0 Care of Works
81.1 Defects prior to taking over
81.2 Defects after taking over
82.0 Guarantee/Transfer of Guarantee
83.0 Training of Employer's personnel
84.0 Replacement of Defective parts & materials
85.0 Indemnity
86.0 Construction Aids, Equipments, Tools & Tackles

SECTION-VI (CERTIFICATES AND PAYMENTS)
87.0 Schedule of Rates and Payments
i) Contractor's Remuneration
ii) Schedule of Rates to be inclusive
iii) Schedule of Rates to cover construction

equipment, materials, labour etc.
iv) Schedule of Rates to cover Royalties, Rents and claims.
v) Schedule of Rates to cover taxes & duties
vi) Schedule of Rates to cover risks of delay
vii) Schedule of Rates cannot be altered

88.0 Procedure for Measurement and billing of works in progress
88.1 Billing Procedure
88.2 Secured Advance on materials
88.3 Dispute in mode of measurement
88.4 Rounding of Amounts
89.0 Lump sum in Tender
90.0 Running Account Payments to be regarded as advances
91.0 Notices of Claims for Additional Payments
92.0 Payment of Contractor's bills
93.0 Receipt for Payment
94.0 Completion Certificate
94.1 Application for Completion Certificate
94.2 Completion Certificate
94.3 Completion Certificate Documents
95.0 Final Decision & Final Certificate
96.0 Certificate and Payments No evidence of completion
97.0 Deduction from Contract Price

SECTION-VII (TAXES AND INSURANCE)

98.0 Taxes, Duties, Octroi etc.
99.0 Goods & Service Tax/Turnover Tax
100.0 Statutory Variations
101.0 Insurance
101.1 General
i) Employees State Insurance Act
ii) Workmen Compensation and Employee's Liability Insurance
iii) Accident or injury to workmen
iv) Transit Insurance
v) Automobile
vi) General Liability
vii) Any other Insurance required under law or regulations by Employer
102.0 Damage to Property or to any Person or any Third Party

SECTION-VIII (LABOUR LAWS)

103.0 Labour laws
104.0 Implementation of Apprentices Act 1961
105.0 Contractor to indemnify the Employer
106.0 Health and Sanitary Arrangement for worker

SECTION-IX (APPLICABLE LAWS AND SETTLEMENT OF DISPUTES)

107.0 Arbitration
108.0 Jurisdiction

SECTION-X (SAFETY CODES)

109.0 General
110.0 Safety Regulations
111.0 First Aid and Industrial Injuries
112.0 General Rules
113.0 Contractor's barricades
114.0 Scaffolding
115.0 Excavation and Trenching
116.0 Demolition/General Safety
117.0 Care in Handling Inflammable Gas
118.0 Temporary Combustible Structures
119.0 Precautions against Fire
120.0 Explosives
121.0 Mines Act
122.0 Preservation of Places
123.0 Outbreak of Infectious diseases
124.0 Use of intoxicants

ANNEXURES TO GCC

1. Proforma for Indemnity Bond for Advance against material
2. Proforma of Agreement

General Conditions of Contract

Section- I. Definitions

1. Definition of Terms:

1.1 In this CONTRACT (as here-in-after defined) the following words and expressions shall have the meanings hereby assigned to them except where the context otherwise required.

1.1.1 The PURCHASER/OWNER/EMPLOYER/COMPANY/MNGL means MAHARASHTRA NATURAL GAS LIMITED, incorporated under the Company's act 1956 and having its Registered office at Pune and includes its successors and assigns.

1.1.2 The "CONTRACTOR" means the person or the persons, firm or Company or corporation whose tender has been accepted by the EMPLOYER and includes the CONTRACTOR's legal Representatives his successors and permitted assigns.

1.1.3 The ENGINEER/ENGINEER-IN-CHARGE" shall mean the person designated from time to time by the MNGL and shall include those who are expressly authorized by him to act for and on his behalf for operation of this CONTRACT.

1.1.4 The "WORK" shall mean and include all items and things to be supplied/ done and services and activities to be performed by the CONTRACTOR in pursuant to and in accordance with CONTRACT or part thereof as the case may be and shall include all extra, additional, altered or substituted works as required for purpose of the CONTRACT.

1.1.5 The "PERMANENT WORK" means and includes works which will be incorporated in and form a part of the work to be handed over to the EMPLOYER by the CONTRACTOR on completion of the CONTRACT.

1.1.6 "CONSTRUCTION EQUIPMENT" means all appliances/equipment and things whatsoever nature for the use in or for the execution, completion, operation, or maintenance of the work or temporary works (as hereinafter defined) but does not include materials or other things intended to form or to be incorporated into the WORK, or camping facilities.

1.1.7 "CONTRACT DOCUMENTS" means collectively the Tender Documents, Designs, Drawings, Specification, Schedule of Quantities and Rates, Letter of Acceptance and agreed variations if any, and such other documents constituting the tender and acceptance thereof.

1.1.8 The "SUB-CONTRACTOR" means any person or firm or Company (other than the CONTRACTOR) to whom any part of the work has been entrusted by the CONTRACTOR, with the written consent of the ENGINEER-IN-CHARGE, and the legal representatives, successors and permitted assigns of such person, firm or company.

1.1.9 The "CONTRACT" shall mean the Agreement between the EMPLOYER and the CONTRACTOR for the execution of the works including therein all contract documents.

1.1.10 The "SPECIFICATION" shall mean all directions the various technical specifications, provisions attached and referred to the Tender Documents which pertain to the method and manner of performing the work or works to the quantities and qualities of the work or works and the materials to be furnished under the CONTRACT for the work or works, as may be

amplified or modified by the MNGL or ENGINEER-IN-CHARGE during the performance of CONTRACT in order to provide the unforeseen conditions or in the best interests of the work or works. It shall also include the latest edition of relevant Standard Specifications including all addenda/corrigenda published before entering into CONTRACT.

1.1.11 The "DRAWINGS" shall include maps, plans and tracings or prints or sketches thereof with any modifications approved in writing by the ENGINEER-IN-CHARGE and such other drawing as may, from time to time, be furnished or approved in writing by the ENGINEER-IN-CHARGE.

1.1.12 The "TENDER" means the proposal along with supporting documents submitted by the CONTRACTOR for consideration by the EMPLOYER.

1.1.13 The "CHANGE ORDER" means an order given in writing by the ENGINEER-IN-CHARGE to effect additions to or deletion from and alteration in the works.

1.1.14 The "COMPLETION CERTIFICATE" shall mean the certificate to be issued by the ENGINEER-IN-CHARGE when the works have been completed entirely in accordance with CONTRACT DOCUMENT to his satisfaction.

1.1.15 The "FINAL CERTIFICATE" in relation to a work means the certificate regarding the satisfactory compliance of various provision of the CONTRACT by the CONTRACTOR issued by the ENGINEER-IN-CHARGE/ EMPLOYER after the period of liability is over.

1.1.16 “DEFECT LIABILITY PERIOD” in relation to a work means the specified period from the date of COMPLETION CERTIFICATE up to the date of issue of FINAL CERTIFICATE during which the CONTRACTOR stands responsible for rectifying all defects that may appear in the works executed by the CONTRACTOR in pursuance of the CONTRACT and includes warranties against Manufacturing/Fabrication/ Erection/Construction defects
covering all materials plants, equipment, components, and the like supplied by the CONTRACTOR, works executed against workmanship defects.

1.1.17 The "APPOINTING AUTHORITY" for the purpose of arbitration shall be the MANAGING DIRECTOR or any other person so designated by the EMPLOYER.

1.1.18 "TEMPORARY WORKS" shall mean all temporary works of every kind required in or about the execution, completion or maintenance of works.

1.1.19 "PLANS" shall mean all maps, sketches and layouts as are incorporated in the CONTRACT in order to define broadly the scope and specifications of the work or works, and all reproductions thereof.

1.1.20 "SITE" shall mean the lands and other places on, under, in or through which the permanent works are to be carried out and any other lands or places provided by the EMPLOYER for the purpose of the CONTRACT.

1.1.21 "NOTICE IN WRITING OR WRITTEN NOTICE" shall mean a notice in written, typed or printed characters sent (unless delivered personally or otherwise proved to have been received by the addressee) by registered post to the latest known private or business address or registered office of the addressee and shall be deemed to have been received in the ordinary course of post it would have been delivered.

1.1.22 "APPROVED" shall mean approved in writing including subsequent written confirmation of previous verbal approval and "APPROVAL" means approval in writing including as aforesaid.

1.1.23 "LETTER OF INTENT/FAX OF INTENT/SERVICE ORDER" shall mean intimation by a Fax/Letter to Tenderer(s) that the tender has been accepted in accordance with the provisions contained in the letter.

1.1.24 "DAY" means a day of 24 hours from midnight to midnight irrespective of the number of hours worked in that day.

1.1.25 "WORKING DAY" means any day which is not declared to be holiday or rest day by the EMPLOYER.

1.1.26 "WEEK" means a period of any consecutive seven days.

1.1.27 "METRIC SYSTEM" - All technical documents regarding the construction of works are given in the metric system and all work in the project should be carried out according to the metric system. All documents concerning the work shall also be maintained in the metric system.

1.1.28 "VALUE OF CONTRACT" or "TOTAL CONTRACT PRICE" shall mean the sum accepted or the sum calculated in accordance with the prices accepted in tender and/or the CONTRACT rates as payable to the CONTRACTOR for the entire execution and full completion of the work, including change order.

1.1.29 "LANGUAGE FOR DRAWINGS AND INSTRUCTION" All the drawings, titles, notes, instruction, dimensions, etc. shall be in English Language.

1.1.30 "MOBILIZATION" shall mean establishment of sufficiently adequate infrastructure by the CONTRACTOR at "SITE" comprising of construction equipments, aids, tools tackles including setting of site offices with facilities such as power, water, communication etc. establishing manpower organization comprising of Resident Engineers, Supervising personnel and an adequate strength of skilled, semi-skilled and un-skilled workers, who with the so established infrastructure shall be in a position to commence execution of work at site(s), in accordance with the agreed Time Schedule of Completion of Work. "MOBILISATION" shall be considered to have been achieved, if the CONTRACTOR is able to establish infrastructure as per Time Schedule, where so warranted in accordance with agreed schedule of work implementation to the satisfaction of ENGINEER-IN-CHARGE/ EMPLOYER.

1.1.31 "COMMISSIONING" shall mean pressing into service of the system including the plant(s), equipment(s), vessel(s), pipeline, machinery (ies), or any other section or sub-section of installation(s) pertaining to the work of the CONTRACTOR after successful testing and trial runs of the same.

• "COMMISSIONING" can be either for a completed system or a part of system of a combination of systems or sub-systems and can be performed in any sequence as desired by EMPLOYER and in a manner established to be made suited according to availability of pre-requisites. Any such readjustments made by EMPLOYER in performance of "COMMISSIONING" activity will not be construed to be violating CONTRACT provisions and CONTRACTOR shall be deemed to have provided for the same.

Section-II General Information

2. General Information

2.1 a) Location of Site: The proposed location of Project site is defined in the Special Conditions of Contract.

b) Access by Road: CONTRACTOR, if necessary, shall build other temporary access roads to the actual site of construction for his own work at his own cost. The CONTRACTOR shall be required to permit the use of the roads so constructed by him for vehicles of any other parties who may be engaged on the project site. The CONTRACTOR shall also facilitate the construction of the permanent roads should the construction there of start while he is engaged on this work. He shall make allowance in his tender for any inconvenience he anticipates on such account.

Non-availability of access roads, railway siding and railway wagons for the use of the CONTRACTOR shall in no case condone any delay in the execution of WORK nor be the cause for any claim for compensation against the EMPLOYER.

2.2 Scope of Work: The scope of WORK is defined in the Technical Part of the tender document. The CONTRACTOR shall provide all necessary materials, equipment, labour etc. for the execution and maintenance of the WORK till completion unless otherwise mentioned in the Tender Document.

2.3 Water Supply: Contractor will have to make his own arrangements for supply of water to his labour camps and for works. All pumping installations, pipe network and distribution system will have to be carried out by the Contractor at his own risk and cost.

Alternatively the Employer at his discretion may endeavour to provide water to the Contractor at the Employer's source of supply provided the Contractor makes his own arrangement for the water meter which shall be in custody of the Employer and other pipe networks from source of supply and such distribution pipe network shall have prior approval of the Engineer-in-Charge so as not to interfere with the layout and progress of the other construction works. In such case, the rate for water shall be deducted from the running account bills.

However, the Employer does not guarantee the supply of water and this does not relieve the Contractor of his responsibility in making his own arrangement and for the timely completion of the various works as stipulated.

2.4 Power Supply:

2.4.1 Subject to availability, EMPLOYER will supply power at 400/440 V at only one point at the nearest sub-station, from where the CONTRACTOR will make his own arrangement for temporary distribution. The point of supply will not be more than 500 m away from the CONTRACTOR'S premises. All the works will be done as per the applicable regulations and passed by the ENGINEER-IN-CHARGE. The temporary line will be removed forthwith after the completion of work or if there is any hindrance caused to the other works due to the alignment of these lines, the CONTRACTOR will re-route or remove the temporary lines at his own cost. The CONTRACTOR at his cost will also provide suitable electric meters, fuses, switches, etc. for purposes of payment to the EMPLOYER which should be in the custody

and control of the EMPLOYER. The cost of power supply shall be payable to the EMPLOYER every month for Construction Works power which would be deducted from the running account bills. The EMPLOYER shall not, however, guarantee the supply of electricity nor have any liability in respect thereof. No claim for compensation for any failure or short supply of electricity will be admissible.

2.4.2 It shall be the responsibility of the CONTRACTOR to provide and maintain the complete installation on the load side of the supply with due regard to safety requirement at site. All cabling, equipment, installations etc. shall comply in all respects with the latest statutory requirements and safety provisions i.e., as per the Central/State Electricity Acts and Rules etc. The CONTRACTOR will ensure that his equipment and Electrical Wiring etc., are installed, modified, maintained by a licensed Electrician/Supervisor. A test certificate is to be produced to the ENGINEER-IN-CHARGE for his approval, before power is made available.

2.4.3 At all times, IEA regulations shall be followed failing which the EMPLOYER has a right to disconnect the power supply without any reference to the CONTRACTOR. No claim shall be entertained for such disconnection by the ENGINEER-IN-CHARGE. Power supply will be reconnected only after production of fresh certificate from authorized electrical supervisors.

2.4.4 The EMPLOYER is not liable for any loss or damage to the CONTRACTOR's equipment as a result of variation in voltage or frequency or interruption in power supply or other loss to the CONTRACTOR arising there from.

2.4.5 The CONTRACTOR shall ensure that the Electrical equipment installed by him are such that average power factors does not fall below 0.90 at his premises. In case power factor falls below 0.90 in any month, he will reimburse to the EMPLOYER at the penal rate determined by the EMPLOYER for all units consumed during the month.

2.4.6 The power supply required for CONTRACTOR's colony near the plant site will be determined by the EMPLOYER and shall be as per State Electricity Board's Rules and other statutory provisions applicable for such installations from time to time. In case of power supply to CONTRACTOR's colony, the power will be made available at a single point and the CONTRACTOR shall make his own arrangement at his own cost for distribution to the occupants of the colony as per Electricity Rules and Acts. The site and colony shall be sufficiently illuminated to avoid accidents.

2.4.7 The CONTRACTOR will have to provide and install his own lights and power meters which will be governed as per Central/State Government Electricity Rules. The meters shall be sealed by the EMPLOYER.

2.4.8 In case of damage of any of the EMPLOYER’s equipment on account of fault, intentional or unintentional on the part of the CONTRACTOR, the EMPLOYER reserves the right to recover the cost of such damage from the CONTRACTOR's bill. Cost of HRC Fuses replaced at the EMPLOYER's terminals due to any fault in the CONTRACTOR's installation shall be to CONTRACTOR's account at the rates decided by the ENGINEER-IN-CHARGE.

2.4.9 Only motors up to 3 HP will be allowed to be started direct on line. For motors above 3 HP and up to 100 HP a suitable Starting device approved by the ENGINEER- IN-CHARGE shall be provided by the CONTRACTOR. For motors above 100 HP slip ring induction motors with

suitable starting devices as approved by the ENGINEER- IN-CHARGE shall be provided by the CONTRACTOR.

2.4.10 The CONTRACTOR shall ensure at his cost that all electrical lines and equipment and all installations are approved by the State Electricity Inspector before power can be supplied to the EMPLOYER.

2.4.11 The total requirement of power shall be indicated by the tenderer along with his tender.

2.5 Land for Contractor's Field Office, Godown and Workshop: The EMPLOYER will, at his own discretion and convenience and for the duration of the execution of the work make available near the site, land for construction of CONTRACTOR's Temporary Field Office, godowns workshops and assembly yard required for the execution of the CONTRACT. The CONTRACTOR shall at his own cost construct all these temporary buildings and provide suitable water supply and sanitary arrangement and get the same approved by the ENGINEER-IN-CHARGE.

On completion of the works undertaken by the CONTRACTOR, he shall remove all temporary works erected by him and have the SITE cleaned as directed by ENGINEER-IN-CHARGE. If the CONTRACTOR shall fail to comply with these requirements, the ENGINEER-IN-CHARGE may at the expenses of the CONTRACTOR remove such surplus, and rubbish materials and dispose off the same as he deems fit and get the site cleared as aforesaid; and CONTRACTOR shall forthwith pay the amount of all expenses so incurred and shall have no claim in respect of any such surplus materials disposed off as aforesaid. But the EMPLOYER reserves the right to ask the CONTRACTOR any time during the pendency of the CONTRACT to vacate the land by giving 7 days notice on security reasons or on national interest or otherwise. Rent may be charged for the land so occupied from contractor by the Employer.

The CONTRACTOR shall put up temporary structures as required by them for their office, fabrication shop and construction stores only in the area allocated to them on the project site by the EMPLOYER or his authorized representative. No tea stalls/canteens should be put up or allowed to be put up by any CONTRACTOR in the allotted land or complex area without written permission of the EMPLOYER.

No unauthorized buildings, constructions or structures should be put up by the CONTRACTOR anywhere on the project site.

For uninterrupted fabrication work, the CONTRACTOR shall put up temporary covered structures at his cost within Area in the location allocated to them in the project site by the EMPLOYER or his authorized representative.

No person except for authorized watchman shall be allowed to stay in the plant area/CONTRACTOR's area after completion of the day's job without prior written permission from ENGINEER-IN-CHARGE.

2.6 Land for Residential Accommodation:-: No Land shall be made available for residential accommodation for staff and labour of CONTRACTOR.

Section-III. General Instructions to Tenderers

3. Submission of Tender:

3.1 TENDER must be submitted without making any additions, alterations, and as per details given in other clauses hereunder. The requisite details shall be filled in by the TENDERER at space provided under “Submission of Tender at the beginning of GCC of Tender Document. The rate shall be filled only in the schedule given in this Tender Document.

3.2 Addenda/Corrigenda to this Tender Document, if issued, must be signed, submitted along with the Tender Document. The tenderer should write clearly the revised quantities in Schedule of Rates of Tender Document and should price the WORK based on revised quantities when amendments of quantities are issued in addenda.

3.3 Covering letter along with its enclosures accompanying the Tender Document and all further correspondence shall be submitted in duplicate.

3.4 Tenderers are advised to submit quotations based strictly on the terms and conditions and specifications contained in the Tender Documents and not to stipulate any deviations.

3.5 Tenders should always be placed in double sealed covers, super scribing ["QUOTATION DO NOT OPEN" Tender for _____ Project of Maharashtra Natural Gas Limited due for opening on _____]. The *Full Name, Address and Telegraphic Address, Fax No. of the Tenderers* shall be written on the bottom left hand corner of the sealed cover.

4. Documents:

4.1 General:
The tenders as submitted will consist of the following:

i) Complete set of Tender Documents (Original) as sold duly filled in and signed by the tenderer as prescribed in different clauses of the Tender Documents.
ii) Earnest money in the manner specified in Clause 6 hereof.
iii) Power of Attorney or a true copy thereof duly attested by a Gazetted Officer in case an authorized representative has signed the tender, as required by Clause 14 hereof.
iv) Information regarding tenderers in the proforma enclosed.
v) Details of work of similar type and magnitude carried out by the Tenderer in the proforma provided in the tender document.
vi) Organization chart giving details of field management at site, the tenderer proposes to have for this job.
vii) Details of construction plant and equipments available with the tenderer for using in this work.
viii) Solvency Certificate from Scheduled Bank to prove the financial ability to carry out the work tendered for.
ix) Latest Balance Sheet and Profit & Loss Account duly audited.
x) Details of present commitment as per proforma enclosed to tender.
xi) Data required regarding SUB-CONTRACTOR(s)/ Supplier/ Manufacturers and other technical information the tenderer wish to furnish.
xii) Provident fund registration certificate
xiii) List showing all enclosures to tender.

4.2 All pages are to be Initiated: All signatures in Tender Documents shall be dated, as well as, all the pages of all sections of Tender Documents shall be initialed at the lower right hand corner and signed wherever required in the tender papers by the TENDERER or by a person holding power of attorney authorizing him to sign on behalf of the tenderer before submission of tender.

4.3 Rates to be in Figures and Words: The tender should quote in English both in figures as well as in words the rates and amounts tendered by him in the Schedule of Rates of Tender submitted by the CONTRACTOR for each item and in such a way that interpolation is not possible. The amount for each item should be worked out and entered and requisite total given of all items, both in figures and in words. The tendered amount for the work shall be entered in the tender and duly signed by the Tenderer.

If some discrepancies are found between the RATES in FIGURES and WORDS or the AMOUNT shown in the tender, the following procedure shall be followed:

a) When there is difference between the rates in figures and words, the rate which corresponds to the amount worked out by the tenderer shall be taken as correct.

b) When the rate quoted by the tenderer in figures and words tally but the amount is incorrect the rate quoted by the tenderer shall be taken as correct.

c) When it is not possible to ascertain the correct rate by either of above methods, the rate quoted in words shall be taken as correct.

4.4 Corrections and Erasures: All correction(s) and alteration(s) in the entries of tender paper shall be signed in full by the TENDERER with date. No erasure or over writing is permissible.

4.5 Signature of Tenderer:

4.5.1 The TENDERER shall contain the name, residence and place of business of person or persons making the tender and shall be signed by the TENDERER with his usual signature. Partnership firms shall furnish the full names of all partners in the tender. It should be signed in the partnership's name by all the partners or by duly authorized representatives followed by the name and designation of the person signing. Tender by a corporation shall be signed by an authorized representative, and a Power of Attorney in that behalf shall accompany the tender. A copy of the constitution of the firm with names of all partners shall be furnished.

4.5.2 When a tenderer signs a tender in a language other than English, the total amount tendered should, in addition, be written in the same language. The signature should be attested by at least one witness.

4.6 Witness: Witness and sureties shall be persons of status and property and their names, occupation and address shall be stated below their signature.

4.7 Details of Experience: The tenderer should furnish, along with his tender, details of previous experience in having successfully completed in the recent past works of this nature, together with the names of Employers, location of sites and value of contract, date of commencement and completion of work, delays if any, reasons of delay and other details along with documentary evidence(s).

4.8 Liability of Government of India: It is expressly understood and agreed by and between Bidder or/Contractor and M/s Maharashtra Natural Gas Limited, and that M/s Maharashtra Natural Gas Limited, 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, obligations or rights hereunder. It is expressly understood and agreed that M/s Maharashtra Natural Gas Limited is an independent legal entity with power and authority to enter into contracts solely on its own behalf under the applicable Laws of India and general principles of Contract Law. The Bidder/Contractor expressly agrees, acknowledges and understands that M/s Maharashtra Natural Gas Limited 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, Bidder/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 thing whatsoever arising of or under this agreement.

5. Transfer of Tender Documents:

5.1 Transfer of Tender Documents purchased by one intending tenderer to another is not permissible.

6. Earnest Money:

6.1 The bidder must pay Earnest Money as given in the letter / notice inviting tenders and attach the official receipt with the tender failing which the tender is liable to be rejected and representatives of such tenderers will not be allowed to attend the tender opening. Earnest Money can be paid in Demand Drafts or Bank Guarantee or Banker's Cheque or Letter of Credit from any Indian scheduled bank or a branch of an International bank situated in India and registered with Reserve Bank of India as scheduled foreign bank.

The bid guarantee shall be submitted in the prescribed format.

Note: The Bank Guarantee so furnished by the tenderer shall be in the proforma prescribed by the EMPLOYER. No interest shall be paid by the EMPLOYER on the Earnest Money deposited by the tenderer. The Bank Guarantee furnished in lieu of Earnest Money shall be kept valid for a period of "SIX MONTHS" from the date of opening of tender.(TWO MONTHS beyond the bid due date).

The Earnest Money deposited by successful tenderer shall be forfeited if the Contractor fails to furnish the requisite Contract Performance Security as per clause 24 hereof and /or fails to start work within a period of 15 days or fails to execute the AGREEMENT within 15 days of the receipt by him of the Notification of Acceptance of Tender.

Note: The Earnest Money of the unsuccessful bidder will be returned by EMPLOYER, directly to the tenderer (s), after award of work or the tender is cancelled.

Note :
The Indian / Domestic firms registered with NSIC / MSME, under its single point

registration scheme are exempted from furnishing Tender Fee & Bid Security, provided they are registered for the items / work they intend to quote and subject to their enclosing with their bid a copy of latest and current registration certificate.

7 Validity:

7.1 Tender submitted by tenderers shall remain valid for acceptance for a period of "4 MONTHS" from the date of opening of the tender. The tenderers shall not be entitled during the said period of 4 months, without the consent in writing of the EMPLOYER, to revoke or cancel his tender or to vary the tender given or any term thereof. In case of tender revoking or canceling his tender or varying any term in regard thereof without the consent of EMPLOYER in writing, the EMPLOYER shall forfeit Earnest Money paid by him along with tender.

8 Addenda/Corrigenda

8.1 Addenda/ Corrigenda to the Tender Documents will be issued in duplicate prior to the date of opening of the tenders to clarify documents or to reflect modification in design or CONTRACT terms.

8.2 Each addenda/ corrigendum issued will be issued in duplicate to each person or organization to whom set of Tender Documents has been issued. Recipient will retain tenderer's copy of each Addendum/Corrigendum and attach original copy duly signed along with his offer. All Addenda/Corrigenda issued shall become part of Tender Documents.

9 Right of Employer to Accept or Reject Tender:

9.1 The right to accept the tender will rest with the EMPLOYER. The EMPLOYER, however, does not bind himself to accept the lowest tender, and reserves to itself the authority to reject any or all the tenders received without assigning any reason whatsoever. At the option of the Employer, the work for which the tender had been invited, may be awarded to one Contractor or split between more than one bidders, in which case the award will be made for only that part of the work, in respect of which the bid has been accepted. The quoted rates should hold good for such eventualities.

Tenders in which any of the particulars and prescribed information are missing or are incomplete in any respect and/or the prescribed conditions are not fulfilled are liable to be rejected. The Tender containing uncalled for remarks or any additional conditions are liable to be rejected.

Canvassing in connection with tenders is strictly prohibited and tenders submitted by the Tenderers who resort to canvassing will be liable to rejection.

10 Time Schedule

10.1 The WORK shall be executed strictly as per the TIME SCHEDULE specified in TENDER/CONTRACT Document. The period of construction given in Time Schedule includes the time required for mobilization as well as testing, rectifications if any, retesting and completion in all respects to the entire satisfaction of the ENGINEER-IN-CHARGE.

10.2 A joint programme of execution of the WORK will be prepared by the ENGINEER-IN-CHARGE and CONTRACTOR based on priority requirement of this project. This programme

will take into account the time of completion mentioned in 10.1 above and the time allowed for the priority works by the ENGINEER-IN-CHARGE.

10.3 Monthly/Weekly construction program will be drawn up by the ENGINEER-IN-CHARGE jointly with the CONTRACTOR, based on availability of work fronts and the joint construction program as per 10.2 above. The CONTRACTOR shall scrupulously adhere to these targets / programmes by deploying adequate personnel, construction tools and tackles and he shall also supply himself all materials of his scope of supply in good time to achieve the targets / programmes. In all matters concerning the extent of targets set out in the weekly and monthly programmes and the degree of achievements the decision of the ENGINEER-IN-CHARGE will be final and binding on the CONTRACTOR.

11 Tenderer's Responsibility

11.1 The intending tenderers shall be deemed to have visited the SITE and familiarized submitting the tender. Non-familiarity with the site conditions will not be considered a reason either for extra claims or for not carrying out the works in strict conformity with the DRAWINGS and SPECIFICATIONS or for any delay in performance.

12 Retired Government or Company Officers

VOID

13 Signing of the Contract:

13.1 The successful tenderer shall be required to execute an AGREEMENT in the proforma attached with TENDER DOCUMENT within 15 days of the receipt by him of the Notification of Acceptance of Tender. In the event of failure on the part of the successful tenderer to sign the AGREEMENT within the above stipulated period, the Earnest Money or his initial deposit will be forfeited and the acceptance of the tender shall be considered as cancelled.

14 Field Management & Controlling/Coordinating Authority:

14.1 The field management will be the responsibility of the ENGINEER-IN-CHARGE, who will be nominated by the EMPLOYER. The ENGINEER-IN-CHARGE may also authorize his representatives to assist in performing his duties and functions.

14.2 The ENGINEER-IN-CHARGE shall coordinate the works of various agencies engaged at site to ensure minimum disruption of work carried out by different agencies. It shall be the responsibility of the CONTRACTOR to plan and execute the work strictly in accordance with site instructions to avoid hindrance to the work being executed by other agencies.

15 Note to Schedule of Rates:

15.1 The Schedule of Rates should be read in conjunction with all the other sections of the tender.

15.2 The tenderer shall be deemed to have studied the DRAWINGS, SPECIFICATIONS and details of work to be done within TIME SCHEDULE and to have acquainted himself of the condition prevailing at site.

15.3 Rates must be filled in the Schedule of Rates of original Tender Documents. If quoted in separate typed sheets no variation in item description or specification shall be accepted. Any exceptions taken by the tenderer to the Schedule of Rates shall be brought out in the terms and conditions of the offer.

15.4 The quantities shown against the various items are only approximate. Any increase or decrease in the quantities shall not form the basis of alteration of the rates quoted and accepted.

15.5 The EMPLOYER reserves the right to interpolate the rates for such items of work falling between similar items of lower and higher magnitude.

16 Policy for Tenders under Consideration:

16.1 Only Those Tenders which are complete in all respects and are strictly in accordance with the Terms and Conditions and Technical Specifications of Tender Document, shall be considered for evaluation. Such Tenders shall be deemed to be under consideration immediately after opening of Tender and until such time an official intimation of acceptance /rejection of Tender is made by MNGL to the Bidder.

16.2 Zero Deviation: Bidders to note that this is a ZERO DEVIATION TENDER. MNGL will appreciate submission of offer based on the terms and conditions in the enclosed General Conditions of Contract (GCC), Special Conditions of Contract (SCC), Instructions to Bidders (ITB), Scope of Work, technical specifications etc. to avoid wastage of time and money in seeking clarifications on technical/ commercial aspects of the offer. Bidder may note that no technical and commercial clarifications will be sought for after the receipt of the bids. In case of any deviation/nonconformity observed in the bid, it will be liable for rejection.

17 Award of Contract:

17.1 The Acceptance of Tender will be intimated to the successful Tenderer by MNGL either by Telex/ Telegram/ Fax or by Letter or like means-defined as LETTER OF ACCEPTANCE OF TENDER.

17.2 MNGL will be the sole judge in the matter of award of CONTRACT and the decision of MNGL shall be final and binding.

18 Clarification of Tender Document:

18.1 The Tender is required to carefully examine the Technical Specifications, Conditions of Contract, Drawings and other details relating to WORK and given in Tender Document and fully inform himself as to all conditions and matters which may in any way affect the WORK or the cost thereof. In case the Tenderer is in doubt about the completeness or correctness of any of the contents of the Tender Documents he should request in writing for an interpretation/clarification to MNGL in triplicate. MNGL will then issue interpretation/clarification to Tenderer in writing. Such clarifications and or interpretations shall form part of the Specifications and Documents and shall accompany the tender which shall be submitted by tenderer within time and date as specified in invitations to tender.

18.2 Verbal clarification and information given by MNGL or its employee(s) or its representatives shall not in any way be binding on MNGL.

19 Local Conditions:

19.1 It will be imperative on each tenderer to inform himself of all local conditions and factors which may have any effect on the execution of WORK covered under the Tender Document. In their own interest, the tenderer are requested to familiarize themselves with the Indian Income Tax Act 1961, Indian Companies Act 1956, Indian Customs Act 1962 and other related Acts and Laws and Regulations of India with their latest amendments, as applicable. MNGL shall not entertain any requests for clarifications from the tenderer regarding such local conditions.

19.2 It must be understood and agreed that such factors have properly been investigated and considered while submitting the tender. No claim for financial or any other adjustments to VALUE OF CONTRACT, on lack of clarity of such factors shall be entertained.

20 Abnormal Rates:

20.1 The tenderer is expected to quote rate for each item after careful analysis of cost involved for the performance of the completed 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 quoted by the tenderer for any item are unusually high or unusually low, it will be sufficient cause for the rejection of the tender unless the EMPLOYER is convinced about the reasonableness after scrutiny of the analysis for such rate(s) to be furnished by the tenderer (on demand).

Section-IV. General Obligations

21 Priority of Contract Documents

21.1 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 of one another, but in case of ambiguities or discrepancies the same shall be explained and adjusted by the ENGINEER-IN-CHARGE who shall thereupon issue to the Contractor instructions thereon and in such event, unless otherwise provided in the Contract, the priority of the documents forming the Contract shall be as follows:

1) The Contract Agreement;
2) The Letter of Acceptance;
3) The Instructions to Bidders (ITB);
4) Special Conditions of Contract (SCC);
5) General Conditions of Contract (GCC)
6) Any other document forming part of the Contract.

Works shown in the DRAWING but not mentioned in the SPECIFICATIONS OR described in the SPECIFICATIONS without being shown in the DRAWINGS shall nevertheless be deemed to be included in the same manner as if they had been specifically shown upon the DRAWINGS and described in the SPECIFICATIONS.

21.2 Headings and Marginal Notes: All headings and marginal notes to the clauses of these General Conditions of Contract or to the SPECIFICATIONS or to any other Tender Document are solely for the purpose of giving a concise indication and not a summary of the contents thereof, and they shall never be deemed to be part thereof or be used in the interpretation or construction thereof the CONTRACT.

21.3 Singular and Plural: In CONTRACT DOCUMENTS unless otherwise stated specifically, the singular shall include the plural and vice versa wherever the context so requires.

21.4 Interpretation: Words implying `Persons' shall include relevant `Corporate Companies / Registered Associations/ Body of Individuals/ Firm of Partnership' as the case may be.

22 Special Conditions of Contract:

22.1 Special Conditions of Contract shall be read in conjunction with the General Conditions of Contract, specification of Work, Drawings and any other documents forming part of this CONTRACT wherever the context so requires.

22.2 Notwithstanding the sub-division of the documents into these separate sections and volumes every part of each shall be deemed to be supplementary to and complementary of every other part and shall be read with and into the CONTRACT so far as it may be practicable to do so.

22.3 Where any portion of the General Condition of Contract is repugnant to or at variance with any provisions of the Special Conditions of Contract, unless a different intention appears the provisions of the Special Conditions of Contract shall be deemed to over-ride the provisions

of the General Conditions of Contract and shall to the extent of such repugnancy, or variations, prevail.

22.4 Wherever it is mentioned in the specifications that the CONTRACTOR shall perform certain WORK or provide certain facilities, it is understood that the CONTRACTOR shall do so at his cost and the VALUE OF CONTRACT shall be deemed to have included cost of such performance and provisions, so mentioned.

22.5 The materials, design and workmanship shall satisfy the relevant INDIAN STANDARDS, the JOB SPECIFICATIONS contained herein and CODES referred to. Where the job specification stipulate requirements in addition to those contained in the standard codes and specifications, these additional requirements shall also be satisfied.

23 Contractor to obtain his own Information:

23.1 The CONTRACTOR in fixing his rate shall for all purpose whatsoever reason may be, deemed to have himself independently obtained all necessary information for the purpose of preparing his tender and his tender as accepted shall be deemed to have taken into account all contingencies as may arise due to such information or lack of same. The correctness of the details, given in the Tender Document to help the CONTRACTOR to make up the tender is not guaranteed.

The CONTRACTOR shall be deemed to have examined the CONTRACT DOCUMENTS, to have generally obtained his own information in all matters whatsoever that might affect the carrying out of the works at the schedules rates and to have satisfied himself to the sufficiency of his tender. Any error in description of quantity or omission there from shall not vitiate the CONTRACT or release the CONTRACTOR from executing the work comprised in the CONTRACT according to DRAWINGS and SPECIFICATIONS at the scheduled rates. He is deemed to have known the scope, nature and magnitude of the WORKS and the requirements of materials and labour involved etc., and as to what all works he has to complete in accordance with the CONTRACT documents whatever be the defects, omissions or errors that may be found in the DOCUMENTS. The CONTRACTOR shall be deemed to have visited surroundings, to have satisfied himself to the nature of all existing structures, if any, and also as to the nature and the conditions of the Railways, Roads, Bridges and Culverts, means of transport and communication, whether by land, water or air, and as to possible interruptions thereto and the access and egress from the site, to have made enquiries, examined and satisfied himself as to the sites for obtaining sand, stones, bricks and other materials, the sites for disposal of surplus materials, the available accommodation as to whatever required, depots and such other buildings as may be necessary for executing and completing the works, to have made local independent enquiries as to the sub-soil, subsoil water and variations thereof, storms, prevailing winds, climatic conditions and all other similar matters effecting these works. He is deemed to have acquainted himself as to his liability of payment of Government Taxes, Customs duty and other charges, levies etc.
Any neglect or omission or failure on the part of the CONTRACTOR in obtaining necessary and reliable information upon the foregoing or any other matters affecting the CONTRACT shall not relieve him from any risks or liabilities or the entire responsibility from completion of the works at the scheduled rates and times in strict accordance with the CONTRACT.

It is, therefore, expected that should the CONTRACTOR have any doubt as to the meaning of any portion of the CONTRACT DOCUMENT he shall set forth the particulars thereof in

writing to EMPLOYER in duplicate, before submission of tender. The EMPLOYER may provide such clarification as may be necessary in writing to CONTRACT, such clarifications as provided by EMPLOYER shall form part of CONTRACT DOCUMENTS.

No verbal agreement or inference from conversation with any effect or employee of the EMPLOYER either before, during or after the execution of the CONTRACT agreement shall in any way affect or modify and of the terms or obligations herein contained.

Any change in layout due to site conditions or technological requirement shall be binding on the CONTRACTOR and no extra claim on this account shall be entertained.

24 Contract Performance Security:

24.1 The CONTRACTOR shall furnish to the EMPLOYER, within 15 days from the date of notification of award, a security in the sum of **10% of the accepted value of the tender or** the actual value of work to be done whichever is applicable due to any additional work or any other reasons, in the form of a Bank draft/Banker's cheque or Bank Guarantee/ Electronic BG or irrevocable Letter of credit (as per proforma enclosed) as Contract Performance Security with the EMPLOYER which will be refunded after the expiry of DEFECTS LIABILITY PERIOD..

Bidder will provide minimum Performance Guarantee of 10% of Contract value within 15 days of award (date of issuance of service order) OR 5% of Contract value within 15 days of award and balance to be deducted against each RA bills till balance 5% is deducted or bank guarantee of equivalent amount is submitted. The contract performance bank guarantee shall be valid for 03 (three) months beyond the expiry of Defect Liability Period. The value for Contract Performance Guarantee / Security Deposit shall be based on contract value excluding GST.

24.2 CONTRACTOR can furnish the Contract Performance Security in the form of Demand Draft or through a Bank Guarantee or through an irrevocable Letter of Credit from any Indian scheduled bank or a branch of an International bank situated in India and registered with Reserve Bank of India as scheduled foreign bank.
The bank guarantee or the Letter of Credit shall be submitted in the prescribed format.

24.3 If the CONTRACTOR/SUB-CONTRACTOR or their employees or the CONTRACTOR's agents and representatives shall damage, break, deface or destroy any property belonging to the EMPLOYER or others during the execution of the CONTRACT, the same shall be made good by the CONTRACTOR at his own expenses and in default thereof, the ENGINEER-IN-CHARGE may cause the same to be made good by other agencies and recover expenses from the CONTRACTOR (for which the certificate of the ENGINEER- IN-CHARGE shall be final).

24.4 All compensation or other sums of money payable by the CONTRACTOR to the EMPLOYER under terms of this CONTRACT may be deducted from or paid by the encashment or sale of a sufficient part of his Contract Performance Security or from any sums which may be due or may become due to the CONTRACTOR by the EMPLOYER of any account whatsoever and in the event of his Contract Performance Security being reduced by reasons of any such deductions or sale of aforesaid, the CONTRACTOR shall within ten days thereafter make good in cash, bank drafts as aforesaid any sum or sums which may have been deducted

from or realized by sale of his Contract Performance Security, or any part thereof. No interest shall be payable by the EMPLOYER for sum deposited as Contract Performance Security.

24.5 Failure of the successful bidder to comply with the requirements of this Clause shall constitute sufficient grounds for the annulment of the award and the forfeiture of bid security.

25 Time of Performance:

25.1 Time for Mobilization

As per scope of work

25.2 Time Schedule of Construction:

25.2.1 The general Time Schedule of construction is given in the TENDER DOCUMENT. CONTRACTOR should prepare a detailed monthly or weekly construction program jointly with the ENGINEER-IN-CHARGE within 15 days of receipt of LETTER/FAX OF INTENT or ACCEPTANCE OF TENDER. The WORK shall be executed strictly as per the Time Schedule given in the CONTRACT DOCUMENT. The period of construction given includes the time required for mobilization testing, rectifications, if any, retesting and completion in all respects in accordance with CONTRACT DOCUMENT to the entire satisfaction of the ENGINEER-IN-CHARGE.

25.2.2 The CONTRACTOR shall submit a detailed PERT network within the time frame agreed above consisting of adequate number of activities covering various key phases of the WORK such as permission, design, procurement, manufacturing, shipment and field erection activities within fifteen (15) days from the date of LETTER/FAX OF INTENT. This network shall also indicate the interface facilities to be provided by the EMPLOYER and the dates by which such facilities are needed.

25.2.3 CONTRACTOR shall discuss the network so submitted with the EMPLOYER and the agreed network which may be in the form as submitted with the EMPLOYER or in revised form in line with the outcome of discussions shall form part of the CONTRACT, to be signed within fifteen (15) days from the date of LETTER OF ACCEPTANCE OF TENDER. During the performance of the CONTRACT, if in the opinion of the EMPLOYER proper progress is not maintained suitable changes shall be made in the CONTRACTOR's operation to ensure proper progress.

The above L1, L2 schedule shall be reviewed periodically and reports shall be submitted by the CONTRACTOR as directed by EMPLOYER.

26 Force Majeure:

26.1 CONDITIONS FOR FORCE MAJEURES

In the event of either party being rendered unable by Force Majeure to perform any obligations required to be performed by them under the CONTRACT the relative obligation of the party affected by such Force Majeure shall upon notification to the other party be suspended for the period during which Force Majeure event lasts. The cost and loss sustained by the either party shall be borne by the respective parties.

The term "Force Majeure" as employed herein shall mean acts of God, earthquake, war (declared or undeclared), revolts, riots, fires, floods, rebellions, explosions, hurricane,

sabotage, civil commotions and acts and regulations of respective Government of the two parties, namely the EMPLOYER and the CONTRACTOR.

Upon the occurrence of such cause(s) and upon its termination, the party alleging that it has been rendered unable as aforesaid thereby, shall notify the other party in writing immediately but not later than 72 (Seventy-two) hours of the alleged beginning and ending thereof giving full particulars and satisfactory evidence in support of its claim.

Time for performance of the relative obligation suspended by the Force Majeure shall then stand extended by the period for which such cause lasts.

If deliveries of bought out items and/or works to be executed by the CONTRACTOR are suspended by Force Majeure conditions lasting for more than 2 (two) months the EMPLOYER shall have the option to terminate the CONTRACT or re-negotiate the contract provisions.

26.2 OUTBREAK OF WAR

26.2.1 If during the currency of the CONTRACT there shall be an out-break of war whether declared or not, in that part of the World which whether financially or otherwise materially affect the execution of the WORK the CONTRACTOR shall unless and until the CONTRACT is terminated under the provisions in this clause continue to use his best endeavor to complete the execution of the WORK, provided always that the EMPLOYER shall be entitled, at any time after such out-break of war to terminate or re-negotiate the CONTRACT by giving notice in writing to the CONTRACTOR and upon such notice being given the CONTRACT shall, save as to the rights of the parties under this clause and to the operation of the clauses entitled settlement of Disputes and Arbitration hereof, be terminated but without prejudice to the right of either party in respect of any antecedent breach thereof.

26.2.2 If the CONTRACT shall be terminated under the provisions of the above clause, the CONTRACTOR shall with all reasonable diligence remove from the SITE all the CONTRACTOR's equipment and shall give similar facilities to his SUB-CONTRACTORS to do so.

27 Price reduction schedule:

27.1 Time is the essence of the CONTRACT. In case the CONTRACTOR fails to complete the WORK within the stipulated period, then, unless such failure is due to Force Majeure as defined in Clause 26 here above or due to EMPLOYER's defaults, the Total Contract price shall be reduced by ½% of the total Contract Price per complete week of delay or part thereof subject to a maximum of 5% of the Total Contract Price, by way of reduction in price for delay and not as penalty. The said amount will be recovered from amount due to the Contractor/ Contractor's Contract Performance Security payable on demand.

The decision of the ENGINEER-IN-CHARGE in regard to applicability of Price Reduction Schedule shall be final and binding on the CONTRACTOR.

27.2 All sums payable under this clause is the reduction in price due to delay in completion period at the above agreed rate.

28 Rights of the employer to forfeit contract performance security:

28.1 Whenever any claim against the CONTRACTOR for the payment of a sum of money arises out or under the CONTRACT, the EMPLOYER shall be entitled to recover such sum by appropriating in part or whole the Contract Performance Security of the CONTRACTOR. In the event of the security being insufficient or if no security has been taken from the CONTRACTOR, then the balance or the total sum recoverable, as the case may be shall be deducted from any sum then due or which at any time thereafter may become due to the CONTRACTOR. The CONTRACTOR shall pay to the EMPLOYER on demand any balance remaining due.

29 Failure by the contractor to comply with the provisions of the contract:

29.1 If the CONTRACTOR refuses or fails to execute the WORK or any separate part thereof with such diligence as will ensure its completion within the time specified in the CONTRACT or extension thereof or fails to perform any of his obligation under the CONTRACT or in any manner commits a breach of any of the provisions of the CONTRACT it shall be open to the EMPLOYER at its option by written notice to the CONTRACTOR:

a) TO DETERMINE THE CONTRACT in which event the CONTRACT shall stand terminated and shall cease to be in force and effect on and from the date appointed by the EMPLOYER on that behalf, whereupon the CONTRACTOR shall stop forthwith any of the CONTRACTOR's work then in progress, except such WORK as the EMPLOYER may, in writing, require to be done to safeguard any property or WORK, or installations from damage, and the EMPLOYER, for its part, may take over the work remaining unfinished by the CONTRACTOR and complete the same through a fresh contractor or by other means, at the risk and cost of the CONTRACTOR, and any of his sureties if any, shall be liable to the EMPLOYER for any excess cost occasioned by such work having to be so taken over and completed by the EMPLOYER over and above the cost at the rates specified in the schedule of quantities and rate/prices.

b) WITHOUT DETERMINING THE CONTRACT to take over the work of the CONTRACTOR or any part thereof and complete the same through a fresh contractor or by other means at the risk and cost of the CONTRACTOR. The CONTRACTOR and any of his sureties are liable to the EMPLOYER for any excess cost over and above the cost at the rates specified in the Schedule of Quantities/ rates, occasioned by such works having been taken over and completed by the EMPLOYER.

29.2 In such events of Clause 29.1(a) or (b) above.
a) The whole or part of the Contract Performance Security furnished by the CONTRACTOR is liable to be forfeited without prejudice to the right of the EMPLOYER to
recover from the CONTRACTOR the excess cost referred to in the sub-clause aforesaid, the EMPLOYER shall also have the right of taking possession and utilizing in completing the works or any part thereof, such as materials equipment and plants available at work site belonging to the CONTRACTOR as may be necessary and the CONTRACTOR shall not be entitled for any compensation for use or damage to such materials, equipment and plant.

b) The amount that may have become due to the CONTRACTOR on account of work already executed by him shall not be payable to him until after the expiry of Six (6) calendar months reckoned from the date of termination of CONTRACT or from the taking over of the WORK or

part thereof by the EMPLOYER as the case may be, during which period the responsibility for faulty materials or workmanship in respect of such work shall, under the CONTRACT, rest exclusively with the CONTRACTOR. This amount shall be subject to deduction of any amounts due from the CONTRACT to the EMPLOYER under the terms of the CONTRACT authorized or required to be reserved or retained by the EMPLOYER.

29.3 Before determining the CONTRACT as per Clause 29.1(a) or (b) provided in the judgement of the EMPLOYER, the default or defaults committed by the CONTRACTOR is/are curable and can be cured by the CONTRACTOR if an opportunity given to him, then the EMPLOYER may issue Notice in writing calling the CONTRACTOR to cure the default within such time specified in the Notice.

29.4 The EMPLOYER shall also have the right to proceed or take action as per 29.1(a) or (b) above, in the event that the CONTRACTOR becomes bankrupt, insolvent, compounds with his creditors, assigns the CONTRACT in favour of his creditors or any other person or persons, or being a company or a corporation goes into voluntary liquidation, provided that in the said events it shall not be necessary for the EMPLOYER to give any prior notice to the CONTRACTOR.

29.5 Termination of the CONTRACT as provided for in sub-clause 29.1(a) above shall not prejudice or affect their rights of the EMPLOYER which may have accrued up to the date of such termination.

30 Contractor remains liable to pay compensation if action not taken under clause 29:

30.1 In any case in which any of the powers conferred upon the EMPLOYER BY CLAUSE 29.0 thereof shall have become exercisable and the same had not been exercised, the non-exercise thereof shall not constitute a waiver of any of the conditions hereof and such powers shall notwithstanding be exercisable in the event of any further case of default by the CONTRACTOR for which by any clause or clauses hereof he is declared liable to pay compensation amounting to the whole of his Contract Performance Security, and the liability of the CONTRACTOR for past and future compensation shall remain unaffected. In the event of the EMPLOYER putting in force the power under above sub-clause (a), (b) or (c) vested in him under the preceding clause he may, if he so desired, take possession of all or any tools, and plants, materials and stores in or upon the works or the site thereof belonging to the CONTRACTOR or procured by him and intended to be used for the execution of the WORK or any part thereof paying or allowing for the same in account at the CONTRACT rates or in case of these not being applicable at current market rates to be certified by the ENGINEER-IN-CHARGE whose certificate thereof shall be final, otherwise the ENGINEER-IN-CHARGE may give notice in writing to the CONTRACTOR or his clerk of the works, foreman or other authorized agent, requiring him to remove such tools, plant, materials or stores from the premises (within a time to be specified in such notice), and in the event of the CONTRACTOR failing to comply with any such requisition, the ENGINEER-IN-CHARGE may remove them at the CONTRACTOR's expense or sell them by auction or private sale on account of the CONTRACTOR and at his risk in all respects without any further notice as to the date, time or place of sale and the certificate of the ENGINEER-IN-CHARGE as to the expenses of any such removal and the amount of the proceeds and expenses of any such sale shall be final and conclusive against the CONTRACTOR.

31 Change in constitution:

31.1 Where the CONTRACTOR is a partnership firm, the prior approval of the EMPLOYER shall be obtained in writing, before any change is made in the constitution of the firm. Where the CONTRACTOR is an individual or a Hindu undivided family business concern, such approval as aforesaid shall, likewise be obtained before such CONTRACTOR enters into any agreement with other parties, where under, the reconstituted firm would have the right to carry out the work hereby undertaken by the CONTRACTOR. In either case if prior approval as aforesaid is not obtained, the CONTRACT shall be deemed to have been allotted in contravention of clause 37 hereof and the same action may be taken and the same consequence shall ensure as provided in the said clause.

32 Termination of contract

32(A) TERMINATION OF CONTRACT FOR DEATH:

If the CONTRACTOR is an individual or a proprietary concern and the individual or the proprietor dies or if the CONTRACTOR is a partnership concern and one of the partner dies then unless, the EMPLOYER is satisfied that the legal representative of the individual or the proprietary concern or the surviving partners are capable of carrying out and completing CONTRACT, he (the EMPLOYER) is entitled to cancel the CONTRACT for the uncompleted part without being in any way liable for any compensation payment to the estate of the diseased CONTRACTOR and/or to the surviving partners of the CONTRACTOR'S firm on account of the cancellation of CONTRACT. The decision of the EMPLOYER in such assessment shall be final and binding on the parties. In the event of such cancellation, the EMPLOYER shall not hold the estate of the diseased CONTRACTOR and/or the surviving partners of the CONTRACTOR'S firm liable for any damages for non-completion of CONTRACT.

32(B) TERMINATION OF CONTRACT IN CASE OF LIQUIDATION / BANKRUPTCY ETC.

If the Contractor shall dissolve or become bankrupt or insolvent or cause or suffer any receiver to be appointed of his business of any assets thereof compound with his Creditors, or being a corporation commence to be wound up, not being a member's voluntary winding up for the purpose of amalgamation or reconstruction, or carry on its business under a Receiver for the benefits of its Creditors any of them, EMPLOYER shall be at liberty:-
To terminate the contract forthwith upon coming to know of the happening of any such event as aforesaid by notice in writing to the Contractor or to give the Receiver or liquidator or other person, the option of carrying out the contract subject to his providing a guarantee up to an amount to be agreed upon by EMPLOYER for due and faithful performance of the contract.

32 (C) In case of termination of CONTRACT herein set forth (under clause 29.0) except under conditions of Force Majeure and termination after expiry of contract, the CONTRACTOR shall be put under holiday [i.e. neither any enquiry will be issued to the party by Maharashtra Natural Gas Limited against any type of tender nor their offer will be considered by MNGL against any ongoing tender (s) where contract between MNGL and that particular CONTRACTOR (as a bidder) has not been finalized] for **three years** from the date of termination by Maharashtra Natural Gas Limited to such CONTRACTOR**.**

33 Members of the employer not individually liable:

33.1 No Director, or official or employee of the EMPLOYER shall in any way be personally bound or liable for the acts or obligations of the EMPLOYER under the CONTRACT or answerable for any default or omission in the observance or performance of any of the acts, matters or things which are herein contained.

34 Employer not bound by personal representations:

34.1 The CONTRACTOR shall not be entitled to any increase on the scheduled rates or any other right or claim whatsoever by reason of any representation, explanation statement or alleged representation, promise or guarantees given or alleged to have been given to him by any person.

35 Contractor's office at site:

35.1 The CONTRACTOR shall provide and maintain an office at the site for the accommodation of his agent and staff and such office shall be open at all reasonable hours to receive instructions, notice or other communications. The CONTRACTOR at all time shall maintain a site instruction book and compliance of these shall be communicated to the ENGINEER-IN CHARGE from time to time and the whole document
to be preserved and handed over after completion of works.

36 Contractor's subordinate staff and their conduct

36.1 The CONTRACTOR, on or after award of the WORK shall name and depute a qualified engineer having sufficient experience in carrying out work of similar nature, to whom the equipments, materials, if any, shall be issued and instructions for works given. The CONTRACTOR shall also provide to the satisfaction of the ENGINEER-IN- CHARGE sufficient and qualified staff to superintend the execution of the WORK, competent sub-agents, foremen and leading hands including those specially qualified by previous experience to supervise the types of works comprised in the CONTRACT in such manner as will ensure work of the best quality, expeditious working. Whenever in the opinion of the ENGINEER-IN-CHARGE additional properly qualified supervisory staff is considered necessary, they shall be employed by the CONTRACTOR without additional charge on accounts thereof. The CONTRACTOR shall ensure to the satisfaction of the ENGINEER-IN-CHARGE that SUB-CONTRACTORS, if any, shall provide competent and efficient supervision, over the work entrusted to them.

36.2 If and whenever any of the CONTRACTOR's or SUBCONTRACTOR'S agents, sub-agents, assistants, foremen, or other employees shall in the opinion of ENGINEER-IN- CHARGE be guilty of any misconduct or be incompetent or insufficiently qualified or negligent in the performance of their duties of that in the opinion of the EMPLOYER or the ENGINEER-IN-CHARGE, it is undesirable for administrative or any other reason for such person or persons to be employed in the works, the CONTRACTOR, is so directed by the ENGINEER-IN-CHARGE, shall at once remove such person or persons from employment thereon. Any person or persons so removed from the works shall not again be employed in connection with the WORKS without the written permission of the ENGINEER-IN- CHARGE. Any person so removed from the WORK shall be immediately re-placed at the expense of the CONTRACTOR by a qualified and competent substitute. Should the CONTRACTOR be requested to repatriate any person removed from the works he shall do so and shall bear all costs in connection herewith.

36.3 The CONTRACTOR shall be responsible for the proper behavior of all the staff, foremen, workmen, and others, and shall exercise a proper degree of control over them and in particular and without prejudice to the said generality, the CONTRACTOR shall be bound to prohibit and prevent any employees from trespassing or acting in any way detrimental or prejudicial to the interest of the community or of the properties or occupiers of land and properties in the neighborhood and in the event of such employee so trespassing, the CONTRACTOR shall be responsible therefore and relieve the EMPLOYER of all consequent claims or actions for damages or injury or any other grounds whatsoever. The decision of the ENGINEER-IN-CHARGE upon any matter arising under this clause shall be final. The CONTRACTOR shall be liable for any liability to EMPLOYER on account of deployment of CONTRACTOR's staff etc. or incidental or arising out of the execution of CONTRACT.

The CONTRACTOR shall be liable for all acts or omissions on the part of his staff, Foremen and Workmen and others in his employment, including misfeasance or negligence of whatever kind in the course of their work or during their employment, which are connected directly or indirectly with the CONTRACT.

36.4 If and when required by the EMPLOYER and CONTRACTOR's personnel entering upon the EMPLOYER's premises shall be properly identified by badges of a type acceptable to the EMPLOYER which must be worn at all times on EMPLOYER's premises. CONTRACTOR may be required to obtain daily entry passes for his staff/employees from EMPLOYER to work within operating areas. These being safety requirements, no relaxations on this account shall be given to CONTRACTOR.

37 Sub-letting of works:

37.1 No part of the CONTRACT nor any share or interest therein shall in any manner or degree be transferred, assigned or sublet by the CONTRACTOR directly or indirectly to any person, firm or corporation whatsoever without the consent in writing, of the ENGINEER/EMPLOYER except as provided for in the succeeding sub-clause.

i) SUB-CONTRACTS FOR TEMPORARY WORKS ETC.:
The EMPLOYER may give written consent to Sub- contract for the execution of any part of the WORK at the site, being entered in to by CONTRACTOR provided each individual Sub- contract is submitted to the ENGINEER-IN-CHARGE before being entered into and is approved by him.

ii) LIST OF SUB-CONTRACTORS TO BE SUPPLIED:
At the commencement of every month the CONTRACTOR shall furnish to the ENGINEER-IN- CHARGE list of all SUB-CONTRACTORS or other persons or firms engaged by the CONTRACTOR and working at the SITE during the previous month with particulars of the general nature of the Subcontract or works done by them.

iii) CONTRACTOR'S LIABILITY NOT LIMITED BY SUBCONTRACTORS:
Notwithstanding any sub-letting with such approval as aforesaid and notwithstanding that the ENGINEER-IN-CHARGE shall have received copies of any Subcontracts, the contractor shall be and shall remain solely responsible for the quality, proper and expeditious execution of the Contract in all respects as if such sub-letting or

Subcontracting had not taken place, and as if such work had been done directly by the CONTRACTOR

The CONTRACTOR shall bear all responsibility for any act or omission on the part of sub- contractors in regard to work to be performed under the CONTRACT.

iv) EMPLOYER MAY TERMINATE SUB-CONTRACTS:
If any SUB-CONTRACTOR engaged upon the works at the site executes any works which in the opinion of the ENGINEER-IN-CHARGE is not in accordance with the CONTRACT documents, the EMPLOYER may by written notice to the CONTRACTOR request him to terminate such subcontract and the CONTRACTOR upon the receipt of such notice shall terminate such Subcontract and dismiss the SUB-CONTRACTOR(S) and the later shall forthwith leave the works, failing which the EMPLOYER shall have the right to remove such SUB- CONTRACTOR(S) from the site.

v) NO REMEDY FOR ACTION TAKEN UNDER THIS CLAUSE:
No action taken by the EMPLOYER under the clause shall relieve the CONTRACTOR of any of his liabilities under the CONTRACT or give rise to any right or compensation, extension of time or otherwise failing which the EMPLOYER shall have the right to remove such SUB-CONTRACTOR(S) from the site.

38 Power of entry:

38.1 If the CONTRACTOR shall not commence the WORK in the manner previously described in the CONTRACT documents or if he shall at any time in the opinion of the ENGINEER-IN-CHARGE.

i) fail to carry out the WORK in conformity with the CONTRACT documents, or
ii) fail to carry out the WORK in accordance with the Time Schedule, or
iii) substantially suspend work or the WORK for a period of fourteen days without authority from the ENGINEER-IN-CHARGE, or
iv) fail to carry out and execute the WORK to the satisfaction of the ENGINEER-IN-CHARGE, or
v) fail to supply sufficient or suitable construction plant, temporary works, labour, materials or things, or
vi) Commit, suffer, or permit any other breach of any of the provisions of the CONTRACT on his part to be performed or observed or persist in any of the above mentioned breaches of the CONTRACT for fourteen days, after notice in writing shall have been given to the CONTRACTOR by the ENGINEER-IN-CHARGE requiring such breach to be remedied, or
vii) if the CONTRACTOR shall abandon the WORK or
viii) If the CONTRACTOR during the continuance of the CONTRACT shall become bankrupt, make any arrangement or composition with his creditors, or permit any execution to be levied or go into liquidation whether compulsory or voluntary not being merely a voluntary liquidation for the purpose of amalgamation or reconstruction

then in any such case, the EMPLOYER shall have the power to enter upon the WORK and take possession thereof and of the materials, temporary WORK, construction plant, and stock thereon, and to revoke the CONTRACTOR's license to use the same, and to complete the

WORK by his agents, other CONTRACTORS or workmen or to relate the same upon any terms and to such other person, firm or corporation as the EMPLOYER in his absolute discretion may think proper to employ and for the purpose aforesaid to use or authorize the use of any materials, temporary work, CONSTRUCTION PLANT, and stock as aforesaid, without making payment or allowance to the CONTRACTOR for the said materials other than such as may be certified in writing by the ENGINEER-IN-CHARGE to be reasonable, and without making any payment or allowance to the CONTRACTOR for the use of the temporary said works, construction plant and stock or being liable for any loss or damage thereto, and if the EMPLOYER shall by reason of his taking possession of the WORK or of the WORK being completed by other CONTRACTOR (due account being taken of any such extra work or works which may or be omitted) then the amount of such excess as certified by the ENGINEER-IN- CHARGE shall be deducted from any money which may be due for work done by the CONTRACTOR under the CONTRACT and not paid for. Any deficiency shall forthwith be made good and paid to the EMPLOYER by the CONTRACTOR and the EMPLOYER shall have power to sell in such manner and for such price as he may think fit all or any of the construction plant, materials etc. constructed by or belonging to and to recoup and retain the said deficiency or any part thereof out of proceeds of the sale.

39 Contractor's responsibility with the mechanical, electrical, intercommunication system, air conditioning contractors and other agencies:

39.1 Without repugnance of any other condition, it shall be the responsibility of the CONTRACTOR executing the work of civil construction, to work in close cooperation and coordinate the WORK with the Mechanical, Electrical, Air-conditioning and Intercommunication Contractor's and other agencies or their authorized representatives, in providing the necessary grooves, recesses, cuts and opening etc., in wall, slabs beams and columns etc. and making good the same to the desired finish as per specification, for the placement of electrical, intercommunication cables, conduits, air-conditioning inlets and outlets grills and other equipments etc. where required. For the above said requirements in the false ceiling and other partitions, the CONTRACTOR before starting-up the work shall in consultation with the Electrical, Mechanical, Intercommunication, Air-conditioning contractor and other agencies prepare and put-up a joint scheme, showing the necessary openings, grooves, recesses, cuts, the methods of fixing required for the WORK of the aforesaid, and the finishes therein, to the ENGINEER-IN-CHARGE and get the approval. The CONTRACTOR before finally submitting the scheme to the ENGINEER-IN-CHARGE, shall have the written agreement of the other agencies. The ENGINEER- IN-CHARGE, before communicating his approval to the scheme, with any required modification, shall get the final agreement of all the agencies, which shall be binding. No claim shall be entertained on account of the above.

The CONTRACTOR shall confirm in all respects with provision of any statutory regulations, ordinances or byelaws of any local or duly constituted authorities or public bodies which may be applicable from time to time to the WORK or any temporary works. The CONTRACTOR shall keep the EMPLOYER indemnified against all penalties and liabilities of every kind, arising out of non-adherence to such stains, ordinances, laws, rules, regulations, etc.

40 Other agencies at site:

40.1 The CONTRACTOR shall have to execute the WORK in such place and conditions where other agencies will also be engaged for other works such as site grading, filling, and leveling,

electrical and mechanical engineering works, etc. No claim shall be entertained due to WORK being executed in the above circumstances.

41 Notice:

41.1 TO THE CONTRACTOR:
Any notice hereunder may be served on the CONTRACTOR or his duly authorized representative at the job site or may be served by registered mail direct to the address furnished by the CONTRACTOR. Proof of issue of any such notice could be conclusive of the CONTRACTOR having been duly informed of all contents therein.

41.2 TO THE EMPLOYER:
Any notice to be given to the EMPLOYER under the terms of the CONTRACTOR shall be served by sending the same by Registered mail to or delivering the same at the respective site offices of M/S. MAHARASHTRA NATURAL GAS LIMITED addressed to the HEAD/SITE-IN-CHARGE.

42 Right of various interests:

42.1 i) The EMPLOYER reserves the right to distribute the work between more than one agency (ies). The CONTRACTOR shall cooperate and afford other agency (ies) reasonable opportunity for access to the WORK for the carriage and storage of materials and execution of their works.

ii) Wherever the work being done by any department of the EMPLOYER or by other agency(ies) employed by the EMPLOYER is contingent upon WORK covered by this CONTRACT, the respective rights of the various interests involved shall be determined by the ENGINEER-IN-CHARGE to secure the completion of the various portions of the work in general harmony.

43 Patents and royalties:

43.1 The CONTRACTOR, if licensed under any patent covering equipment, machinery, materials or compositions of matter to be used or supplied or methods and process to be practiced or employed in the performance of this CONTRACT, agrees to pay all royalties and license fees which may be due with respect thereto. If any equipment, machinery, materials, composition of matters, be used or supplied or methods and processes to be practiced or employed in the performance of this CONTRACT, is covered by a patent under which the CONTRACTOR is not licensed then the CONTRACTOR before supplying or using the equipment, machinery materials, composition method or processes shall obtain such licenses and pay such royalties and license fees as may be necessary for performance of this CONTRACT. In the event the CONTRACTOR fails to pay any such royalty or obtain any such license, any suit for infringement of such patents which is brought against the CONTRACTOR or the EMPLOYER as a result such failure will be defended by the CONTRACTOR at his own expense and the CONTRACTOR will pay any damages and costs awarded in such suit. The CONTRACTOR shall promptly notify the EMPLOYER if the CONTRACTOR has acquired the knowledge of any plant under which a suit for infringement could be reasonably brought because of the use by the EMPLOYER of any equipment, machinery, materials, process and methods to be supplied hereunder. The CONTRACTOR agrees to and does hereby grant to EMPLOYER, together with the right to extend the same to any of the subsidiaries of the EMPLOYER as

irrevocable, royalty free license to use in any country, any invention made by the CONTRACTOR or his employee in or as result of the performance of the WORK under the CONTRACT.

43.2 All charges on account of royalty, toilage, rent, octroi terminal or sales tax and/or other duties or any other levy on materials obtained for the work or temporary work or part thereof (excluding materials provided by the EMPLOYER) shall be borne by the CONTRACTOR.

43.3 The CONTRACTOR shall not sell or otherwise dispose of or remove except for the purpose of this CONTRACT, the sand, stone, clay, ballast, earth, rock or other substances, or materials obtained from any excavation made for the purpose of the WORK or any building or produce upon the site at the time of delivery of the possession thereof, but all such substances, materials, buildings and produce shall be the property of the EMPLOYER provided that the CONTRACTOR may with the permission of the ENGINEER-IN-CHARGE, use the same for the purpose of the work by payment of cost of the same at such a rate as may be determined by the ENGINEER-IN- CHARGE.

43.4 The EMPLOYER shall indemnify and save harmless the CONTRACTOR from any loss on account of claims against CONTRACTOR for the contributory infringement of patent rights arising out and based upon the claim that the use of the EMPLOYER of the process included in the design prepared by the EMPLOYER and used in the operation of the plant infringes on any patent right. With respect to any subcontract entered into by CONTRACTOR pursuant to the provisions of the relevant clause hereof, the CONTRACTOR shall obtain from the SUB-CONTRACTOR an undertaking to provide the EMPLOYER with the same patent protection that CONTRACTOR is required to provide under the provisions of this clause.

44 Liens:

44.1 If, at any time there should be evidence or any lien or claim for which the EMPLOYER might have become liable and which is chargeable to the CONTRACTOR, the EMPLOYER shall have the right to retain out of any payment then due or thereafter to become due an amount sufficient to completely indemnify the EMPLOYER against such lien or claim and if such lien or claim be valid, the EMPLOYER may pay and discharge the same and deduct the amount so paid from any money which may be or may become due and payable to the CONTRACTOR. If any lien or claim remain unsettled after all payments are made, the CONTRACTOR shall refund or pay to the EMPLOYER all money that the latter may be compelled to pay in discharging such lien or claim including all costs and reasonable expenses. EMPLOYER reserves the right to do the same.

44.2 The EMPLOYER shall have lien on all materials, equipments including those brought by the CONTRACTOR for the purpose of erection, testing and commissioning of the WORK.

44.3 The final payment shall not become due until the CONTRACTOR delivers to the ENGINEER-IN-CHARGE a complete release or waiver of all liens arising or which may arise out of his agreement or receipt in full or certification by the CONTRACTOR in a form approved by ENGINEER-IN-CHARGE that all invoices for labour, materials, services have been paid in lien thereof and if required by the ENGINEER-IN-CHARGE in any case an affidavit that so far as the CONTRACTOR has knowledge or information the releases and receipts include all the labour and material for which a lien could be filled.

44.4 CONTRACTOR will indemnify and hold the EMPLOYER harmless, for a period of two years after the issue of FINAL CERTIFICATE, from all liens and other encumbrances against the EMPLOYER on account of debts or claims alleged to be due from the CONTRACTOR or his SUB-CONTRACTOR to any person including SUB- CONTRACTOR and on behalf of EMPLOYER will defend at his own expense, any claim or litigation brought against the EMPLOYER or the CONTRACTOR in connection therewith. CONTRACTOR shall defend or contest at his own expense any fresh claim or litigation by any person including his SUB-CONTRACTOR, till its satisfactory settlement even after the expiry of two years from the date of issue of FINAL CERTIFICATE.

45 Delays by employer or his authorized agents:

45.1 In case the CONTRACTOR's performance is delayed due to any act or omission on the part of the EMPLOYER or his authorized agents, then the CONTRACTOR shall be given due extension of time for the completion of the WORK, to the extent such omission on the part of the EMPLOYER has caused delay in the CONTRACTOR's performance of his WORK.

45.2 No adjustment in CONTRACT PRICE shall be allowed for reasons of such delays and extensions granted except as provided in TENDER DOCUMENT, where the EMPLOYER reserves the right to seek indulgence of CONTRACTOR to maintain the agreed Time Schedule of Completion.

In such an event the CONTRACTOR shall be obliged for working by CONTRACTOR's personnel for additional time beyond stipulated working hours as also Sundays and Holidays and achieve the completion date/interim targets.

46 Payment if the contract is terminated:

46.1 If the CONTRACT shall be terminated as per Tender pursuant to Clause no. 29 of GCC, the CONTRACTOR shall be paid by the EMPLOYER in so far as such amounts or items shall not have already been covered by payments of amounts made to the CONTRACTOR for the WORK executed and accepted by ENGINEER-IN-CHARGE prior to the date of termination at the rates and prices provided for in the CONTRACT and in addition to the following:

a) The amount payable in respect of any preliminary items, so far as the Work or service comprised therein has been carried out or performed and an appropriate portion as certified by ENGINEER-IN- CHARGE of any such items or service comprised in which has been partially carried out or performed.

b) Any other expenses which the CONTRACTOR has expended for performing the WORK under the CONTRACT subject to being duly recommended by ENGINEER-IN-CHARGE and approved by EMPLOYER for payment, based on documentary evidence of his having incurred such expenses.

46.2 The CONTRACTOR will be further required to transfer the title and provide the following in the manner and as directed by the EMPLOYER.

a) Any and all completed works.
b) Such partially completed WORK including drawings, information and CONTRACT rights as the CONTRACTOR has specially performed, produced or acquired for the performance of the CONTRACTOR.

47 No waiver of rights:

47.1 Neither the inspection by the EMPLOYER or any of their officials, employees, or agents nor any order by the EMPLOYER for payment of money or any payment for or acceptance of the whole or any part of the Work by the EMPLOYER nor any extension of time, nor any possession taken by EMPLOYER shall operate as a waiver of any provision of the CONTRACT, or of any power herein reserved to the EMPLOYER, or any right to damages herein provided, nor shall any waiver of any breach in the CONTRACT be held to be a waiver of any other subsequent breach.

48 Certificate not to affect right of employer and liability of contractor:

48.1 No interim payment certificate(s) issued by the Engineer-in-Charge of the EMPLOYER, nor any sum paid on account by the EMPLOYER, nor any extension of time for execution of the work granted by EMPLOYER shall affect or prejudice the rights of the Employer against the CONTRACTOR or relieve the CONTRACTOR of his obligations for the due performance of the CONTRACT, or be interpreted as approval of the WORK done or of the equipment supplied and no certificate shall create liability for the EMPLOYER to pay for alterations, amendments, variations or additional works not ordered, in writing, by EMPLOYER or discharge the liability of the CONTRACTOR for the payment of damages whether due, ascertained, or certified or not or any sum against the payment of which he is bound to indemnify the EMPLOYER.

49 Language and measures:

49.1 All documents pertaining to the CONTRACT including Specifications, Schedules, Notices, Correspondence, operating and maintenance Instructions, DRAWINGS, or any other writing shall be written in English language. The Metric System of measurement shall be used in the CONTRACT unless otherwise specified.

50 Transfer of title:

50.1 The title of Ownership of supplies furnished by the CONTRACTOR shall not pass on to the EMPLOYER for all Supplies till the same are finally accepted by the EMPLOYER after the successful completion of PERFORMANCE TEST and GUARANTEE TEST and issue of FINAL CERTIFICATE.

50.2 However, the EMPLOYER shall have the lien on all such works performed as soon as any advance or progressive payment is made by the EMPLOYER to the CONTRACTOR and the CONTRACTOR shall not subject these works for use other than those intended under this CONTRACT.

51 Release of information:

51.1 The CONTRACTOR shall not communicate or use in advertising, publicity, sales releases or in any other medium, photographs, or other reproduction of the Work under this CONTRACT or description of the site dimensions, quantity , quality or other information, concerning the Work unless prior written permission has been obtained from the EMPLOYER.

52 Brand names:

52.1 The specific reference in the SPECIFICATIONS and documents to any material by trade name, make or catalogue number shall be construed as establishing standard or quality and performance and not as limited competition. However, TENDERER may offer other similar equipments provided it meets the specified standard design and performance requirements.

53 Completion of contract:

53.1 Unless otherwise terminated under the provisions of any other relevant clause, this CONTRACT shall be deemed to have been completed at the expiration of the PERIOD OF LIABILITY as provided for under the CONTRACT.

54 Spares:

54.1 The CONTRACTOR shall furnish to the EMPLOYER all spares required for COMMISSIONING of the plants, recommendatory and/or mandatory spares, which are required essential by the manufacturer/supplier. The same shall be delivered at SITE, 3(Three) months before COMMISSIONING.

Also the CONTRACTOR should furnish the manufacturing drawings for fast wearing spares.

54.2 The CONTRACTOR guarantees the EMPLOYER that before the manufacturers of the equipments, plants and machineries go out of production of spare parts for the equipment furnished and erected by him, he shall give at least twelve (12) months' advance notice to the EMPLOYER, so that the latter may order his requirement of spares in one lot, if he so desires.

SECTION-V Performance of Work

55 Execution of work:

55.1 All the Works shall be executed in strict conformity with the provisions of the CONTRACT Documents and with such explanatory detailed drawings, specification and instructions as may be furnished from time to time to the CONTRACTOR by the ENGINEER-IN-CHARGE whether mentioned in the CONTRACT or not. The CONTRACTOR shall be responsible for ensuring that works throughout are executed in the most substantial, proper and workmanlike manner with the quality of material and workmanship in strict accordance with the SPECIFICATIONS and to the entire satisfaction of the ENGINEER-IN-CHARGE. The CONTRACTOR shall provide all necessary materials equipment labour etc. for execution and maintenance of WORK till completion unless otherwise mentioned in the CONTRACT.

56 Co-ordination and inspection of work:

56.1 The coordination and inspection of the day-to-day work under the CONTRACT shall be the responsibility of the ENGINEER-IN-CHARGE. The written instruction regarding any particular job will normally be passed by the ENGINEER-IN-CHARGE or his authorized representative. A work order book will be maintained by the CONTRACTOR for each sector in which the aforesaid written instructions will be entered. These will be signed by the CONTRACTOR or his authorized representative by way of acknowledgement within 12 hours.

57 Work in monsoon and dewatering:

57.1 Unless otherwise specified elsewhere in the tender, the execution of the WORK may entail working in the monsoon also. The CONTRACTOR must maintain a minimum labour force as may be required for the job and plan and execute the construction and erection according to the prescribed schedule. No extra rate will be considered for such work in monsoon.

57.2 During monsoon and other period, it shall be the responsibility of the CONTRACTOR to keep the construction work site free from water at his own cost.

58 Work on Sundays and holidays:

58.1 For carrying out Work on Sundays, and Holidays, the CONTRACTOR will approach the ENGINEER-IN-CHARGE or his representative at least two days in advance and obtain permission in writing. The CONTRACTOR shall observe all labour laws and other statutory rules and regulations in force. In case of any violations of such laws, rules and regulations, consequence if any, including the cost thereto shall be exclusively borne by the CONTRACTOR and the EMPLOYER shall have no liability whatsoever on this account.

59 General conditions for construction and erection work:

59.1 The working time at the site of work is 48 hours per week. Overtime work is permitted in cases of need and the EMPLOYER will not compensate the same. Shift working at 2 or 3 shifts per day will become necessary and the CONTRACTOR should take this aspect into consideration for formulating his rates for quotation. No extra claims will be entertained by the EMPLOYER no this account. For carrying out work beyond working hours the CONTRACTOR will approach the ENGINEER-IN-CHARGE or his authorized representative and obtain his prior written permission.

59.2 The CONTRACTOR must arrange for the placement of workers in such a way that the delayed completion of the WORK or any part thereof for any reason whatsoever will not affect their proper employment. The EMPLOYER will not entertain any claim for idle time payment whatsoever.

59.3 The CONTRACTOR shall submit to the EMPLOYER/ENGINEER-INCHARGE reports at regular intervals regarding the state and progress of WORK. The details and proforma of the report will mutually be agreed after the award of CONTRACT. The CONTRACTOR shall provide display boards showing progress and labour strengths at worksite, as directed by the ENGINEER-IN-CHARGE.

60 Alterations in specifications, design and extra works:

60.1 The WORK covered under this CONTRACT having to be executed by the CONTRACTOR on a lump sum firm price/item rate quoted by him, the EMPLOYER will not accept any proposals for changes in VALUE OF CONTRACT or extension in time on account of any such changes which may arise to the CONTRACTOR's scope of WORK as a result of detailed Engineering and thereafter during the execution of WORK. The only exception to this will be a case where the EMPLOYER requests in writing to the CONTRACTOR to upgrade the SPECIFICATIONS or the size of any major pieces of equipments, plant or machinery beyond what is normally required to meet the scope of WORK as defined in the CONTRACT DOCUMENT.

In such cases, a change order will be initialed by the CONTRACTOR at the appropriate time for the EMPLOYER's prior approval giving the full back-up data for their review and for final settlement of any impact on price within 30 (thirty) days thereafter.

60.2 The ENGINEER-IN-CHARGE shall have to make any alterations in, omission from, additions to or substitutions for, the Schedule of Rates, the original specifications, drawings, designs and instructions that may appear to him to be necessary or advisable during the progress of the WORK and the CONTRACTOR shall be bound to carry out the such altered/ extra/ new items of WORK in accordance with any instructions which may be given to him in writing signed by the ENGINEER-INCHARGE, and such alterations, omissions, additions or substitutions shall not invalidate the CONTRACT and any altered, additional or substituted work which the CONTRACTOR may be directed to do in the manner above specified as part of the WORK shall be carried out by the CONTRACTOR on the same conditions in all respects on which he agreed to do the main WORK. The time of completion of WORK may be extended for the part of the particular job at the discretion of the ENGINEER-IN-CHARGE, for only such alterations, additions or substitutions of the WORK, as he may consider as just and reasonable. The rates for such additional, altered or substituted WORK under this clause shall be worked out in accordance with the following provisions: -

I. <u>For Item Rate Contract</u>

a) If the rates for the additional, altered or substituted WORK are specified in the CONTRACT for the WORK, the CONTRACTOR is bound to carry on the additional, altered or substituted WORK at the same rates as are specified in the CONTRACT.

b) If the rates for the additional, altered or substituted WORK are not specifically provided in the CONTRACT for the WORK, the rates will be derived from the rates for similar class of WORK as are specified in the CONTRACT for the WORK. The opinion of the ENGINEER-IN- CHARGE, as to whether or not the rates can be reasonably so derived from the items in this CONTRACT will be final and binding on the CONTRACTOR.

c) If the rates for the altered, additional or substituted WORK cannot be determined in the manner specified in sub-clause (a) and (b) above, then the CONTRACTOR shall, within 7 days of the date of receipt of order to carry out the WORK, inform the ENGINEER-IN-CHARGE of the rates which it is his intention to charge for such class of WORK, supported by analysis of the rate or rates claimed, and the ENGINEER-IN-CHARGE shall determine the rate or rates on the basis of the prevailing market rates, labour cost at schedule of labour rates plus 10% to cover contractor's supervision, overheads and profit and pay the CONTRACTOR accordingly. The opinion of the ENGINEER- IN-CHARGE as to current market rates of materials and the quantum of labour involved per unit of measurement will be final and binding on the CONTRACTOR.

d) Where the item of work will be executed through nominated specialist agency as approved by the ENGINEER-IN-CHARGE, then the actual amount paid to such nominated agency supported by documentary evidence and as certified

by ENGINEER-IN-CHARGE shall be considered plus 10% (ten percent) to cover all contingencies, overhead, profits to arrive at the rates.

e) Provisions contained in the Sub-clause (a) & (d) above shall, however, not apply for the following: -

Where the value of additions of new items together with the value of alterations, additions/deletions or substitutions does not exceed by or is not less than plus/minus (+_)25% of the VALUE OF CONTRACT. The item rates in the Schedule of Rates shall hold good for all such variations between the above mentioned limits, irrespective of any increase/decrease of quantities in the individual items of Schedule of Rates.

Where the value of addition of new items together with the value of alterations, additions/deletions or substitutions reduces more than 25% of the contract value but is within the following limits the tenderer shall be paid compensation for decrease in the value of work, as follows:

Sl. No.	Range of Variation	Percentage compensation for decrease in the value of work in the respective range.
a)	Beyond (+) 25% up to & inclusive of (+) 50%	No increase and/or decrease shall be applicable for the Schedule of Rates (The rates quoted for this increase shall be valid).
b)	Beyond (-) 25% up to & inclusive of (-) 50%	For reduction beyond 25% contractor shall be compensated by an amount equivalent to 10% of the reduction in value of the contract as awarded. For example if the actual contract value is 70% of awarded value then compensation shall be 10% of (75-70) i.e. 0.5% of awarded contract value.

II. <u>For Lump sum Contracts</u>

CONTRACTOR shall, within 7 days of the date of receipt of order to carry out the WORK, inform the ENGINEER-IN-CHARGE of the rates which it is his intention to charge for such class of WORK, supported by analysis of the rate or rates claimed, and the ENGINEER-IN-CHARGE shall determine the rate or rates on the basis of the prevailing market rates, labour cost at schedule of labour rates plus 10% to cover contractor's supervision, overheads and profit and pay the CONTRACTOR accordingly. The opinion of the ENGINEER- IN-CHARGE as to current market rates of materials and the quantum of labour involved per unit of measurement will be final and binding on the CONTRACTOR.

61 Drawings to be supplied by the employer

61.1 The drawings attached with tender are only for the general guidance to the CONTRACTOR to enable him to visualize the type of work contemplated and scope of work involved. The CONTRACTOR will be deemed to have studied the DRAWINGS and formed an idea about the WORK involved.

61.2 Detailed working drawings on the basis of which actual execution of the WORK is to proceed, will be furnished from time to time during the progress of the work. The CONTRACTOR shall be deemed to have gone through the DRAWINGS supplied to him thoroughly and carefully and in conjunction with all other connected drawings and bring to the notice of the ENGINEER-IN-CHARGE discrepancies, if any, therein before actually carrying out the Work.

61.3 Copies of all detailed working drawings relating to the WORK shall be kept at the CONTRACTOR's office on the site and shall be made available to the ENGINEER-IN-CHARGE at any time during the CONTRACT. The drawings and other documents issued by the EMPLOYER shall be returned to the EMPLOYER on completion of the WORK.

62 Drawings to be supplied by the contractor:

62.1 The drawings/date which are to be furnished by the CONTRACTOR are enumerated in the special conditions of contract, and shall be furnished within the specified time.

62.2 Where approval/review of drawings before manufacture/ construction/fabrication has been specified, it shall be CONTRACTOR's responsibility to have these drawings prepared as per the directions of ENGINEER-IN-CHARGE and got approved before proceeding with manufacture/construction/fabrication as the case may be. Any change that may have become necessary in these drawings during the execution of the work shall have to be carried out by the CONTRACTOR to the satisfaction of ENGINEER-IN-CHARGE at no extra cost. All final drawings shall bear the certification stamp as indicated below duly signed by both the CONTRACTOR and ENGINEER-IN-CHARGE.

"Certified true for _____ (Name of Work)

Agreement No._____

Signed: _____ _____

(CONTRACTOR) (ENGINEER-IN-CHARGE)

62.3 The DRAWINGS submitted by the CONTRACTOR shall be reviewed by the ENGINEER-IN-CHARGE as far as practicable within 3 (Three) weeks and shall be modified by the CONTRACTOR, if any modifications and/or corrections are required by the ENGINEER-IN-CHARGE. The CONTRACTOR shall incorporate such modifications and/or corrections and submit the final drawings for approval. Any delays arising out of failure by the CONTRACTOR to rectify the drawing in good time shall not alter the Contract Completion Time.

62.4 As built drawings showing all corrections, adjustments etc. shall be furnished by the CONTRACTOR in six copies and one transparent for record purposed to the EMPLOYER.

63 Setting out works:

63.1 The ENGINEER-IN-CHARGE shall furnish the CONTRACTOR with only the four corners of the Works site and a level bench mark and the CONTRACTOR shall set out the Works and shall provide an efficient staff for the purpose and shall be solely responsible for the accuracy of such setting out.

63.2 The CONTRACTOR shall provide, fix and be responsible for the maintenance of all stakes, templates, level marks, profiles and other similar things and shall take all necessary precautions to prevent their removal or disturbance and shall be responsible for the consequence of such removal or disturbance should the same take place and for their efficient and timely reinstatement. The CONTRACTOR shall also be responsible for the maintenance of all existing survey marks, boundary marks, distance marks and center line marks, either existing or supplied and fixed by the CONTRACTOR. The work shall be set out to the satisfaction of the ENGINEER-IN-CHARGE. The approval there of joining with the CONTRACTOR by the ENGINEER- IN-CHARGE in setting out the work, shall not relieve the CONTRACTOR of any of his responsibility.

63.3 Before beginning the Works, the CONTRACTOR shall at his own cost, provide all necessary reference and level posts, pegs, bamboos, flags, ranging rods, strings and other materials for proper layout of the works in accordance with the schemes for bearing marks acceptable to the ENGINEER-IN-CHARGE. The center, longitudinal or face lines and cross lines shall be marked by means of small masonry pillars. Each pillar shall have distinct mark at the centre to enable theodolite to be set over it. No work shall be started until all these points are checked and approved by the ENGINEER-IN-CHARGE in writing but such approval shall not relieve the CONTRACTOR of any of his responsibilities. The CONTRACTOR shall also provide all labour, material and other facilities, as necessary, for the proper checking of layout and inspection of the points during construction.

63.4 Pillars bearing geodetic marks located at the sites of units of WORKS under construction should be protected and fenced by the CONTRACTOR.

63.5 On completion of WORK, the CONTRACTOR must submit the geodetic documents according to which the WORK was carried out.

64 Responsibility for level and alignment:

64.1 The CONTRACTOR shall be entirely and exclusively responsible for the horizontal and vertical alignment, the levels and correctness of every part of the WORK and shall rectify effectively any errors or imperfections therein, such rectifications shall be carried out by the CONTRACTOR, at his own cost, when instructions are issued to that effect by the ENGINEER- IN-CHARGE.

65 Materials to be supplied by contractor:

65.1 The CONTRACTOR shall procure and provide within the VALUE OF CONTRACT the whole of the materials required for the construction including steels, cement and other building materials, tools, tackles, construction plant and equipment for the completion and maintenance of the WORK except the materials which will be issued by the EMPLOYER and shall make his own arrangement for procuring such materials and for the transport thereof. The EMPLOYER may give necessary recommendation to the respective authority if so desired by the CONTRACTOR but assumes no further responsibility of any nature. The

EMPLOYER will insist on the procurement of materials which bear ISI stamp and/or which are supplied by reputed suppliers.

65.2 The CONTRACTOR shall properly store all materials either issued to him or brought by him to the SITE to prevent damages due to rain, wind, direct exposure to sun, etc. as also from theft, pilferage, etc. for proper and speedy execution of his works. The CONTRACTOR shall maintain sufficient stocks of all materials required by him.

65.3 No material shall be dispatched from the CONTRACTOR's stores before obtaining the approval in writing of the ENGINEER-IN-CHARGE.

66 Stores supplied by the employer:

66.1 If the SPECIFICATION of the WORK provides for the use of any material of special description to be supplied from the EMPLOYER's stores or it is required that the CONTRACTOR shall use certain stores to be provided by the ENGINEER-IN-CHARGE, such materials and stores, and price to be charged there for as hereinafter mentioned being so far as practicable for the convenience of the CONTRACTOR, but not so as in any way to control the meaning or effect of the CONTRACT, the CONTRACTOR shall be bound to purchase and shall be supplied such materials and stores as are from time to time required to be used by him for the purpose of the CONTRACT only. The sums due from the CONTRACTOR for the value of materials supplied by the EMPLOYER will be recovered from the running account bill on the basis of the actual consumption of materials in the works covered and for which the running account bill has been prepared. After the completion of the WORK, however, the CONTRACTOR has to account for the full quantity of materials supplied to him as per relevant clauses in this document.

66.2 The value of the stores/materials as may be supplied to the CONTRACTOR by the EMPLOYER will be debited to the CONTRACTOR's account at the rates shown in the schedule of materials and if they are not entered in the schedule, they will be debited at cost price, which for the purpose of the CONTRACT shall include the cost of carriage and all other expenses whatsoever such as normal storage supervision charges which shall have been incurred in obtaining the same at the EMPLOYER's stores. All materials so supplied to the CONTRACTOR shall remain the absolute property of the EMPLOYER and shall not be removed on any account from the SITE of the WORK, and shall be at all times open for inspection to the ENGINEER-IN-CHARGE. Any such materials remaining unused at the time of the completion or termination of the CONTRACT shall be returned to the EMPLOYER's stores or at a place as directed by the ENGINEER-IN-CHARGE in perfectly good condition at CONTRACTOR's cost.

67 Conditions for issue of materials:

67.1 i) Materials specified as to be issued by the EMPLOYER will be supplied to the CONTRACTOR by the EMPLOYER form his stores. It shall be responsibility of the CONTRACTOR to take delivery of the materials and arrange for its loading, transport and unloading at the SITE of WORK at his own cost. The materials shall be issued between the working hours and as per the rules of the EMPLOYER as framed from time to time.

ii) The CONTRACTOR shall bear all incidental charges for the storage and safe custody of materials at site after these have been issued to him.

iii) Materials specified as to be issued by the EMPLOYER shall be issued in standard sizes as obtained from the manufacturers.

iv) The CONTRACTOR shall construct suitable Godowns at the SITE of WORK for storing the materials safe against damage by rain, dampness, fire, theft etc. He shall also employ necessary watch and ward establishment for the purpose.

v) It shall be duty of the CONTRACTOR to inspect the materials supplied to him at the time of taking delivery and satisfy himself that they are in good condition. After the materials have been delivered by the EMPLOYER, it shall be the responsibility of the CONTRACTOR to keep them in good condition and if the materials are damaged or lost, at any time, they shall be repaired and/or replaced by him at his own cost according to the instructions of the ENGINEER-IN-CHARGE.

vi) The EMPLOYER shall not be liable for delay in supply or non-supply of any materials which the EMPLOYER has undertaken to supply where such failure or delay is due to natural calamities, act of enemies, transport and procurement difficulties and any circumstances beyond the control of the EMPLOYER. In no case, the CONTRACTOR shall be entitled to claim any compensation or loss suffered by him on this account.

vii) It shall be responsibility of the CONTRACTOR to arrange in time all materials required for the WORK other than those to be supplied by the EMPLOYER. If, however, in the opinion of the ENGINEER-IN-CHARGE the execution of the WORK is likely to be delayed due to the CONTRACTOR's inability to make arrangements for supply of materials which normally he has to arrange for, the ENGINEER-IN-CHARGE shall have the right at his own discretion to issue such materials, if available with the EMPLOYER or procure the materials from the market or as elsewhere and the CONTRACTOR will be bound to take such materials at the rates decided by the ENGINEER-IN-CHARGE. This, however, does not in any way absolve the CONTRACTOR from responsibility of making arrangements for the supply of such materials in part or in full, should such a situation occur nor shall this constitute a reason for the delay in the execution of the WORK.

viii) None of the materials supplied to the CONTRACTOR will be utilised by the CONTRACTOR for manufacturing item which can be obtained as supplied from standard manufacturer in finished form.

ix) The CONTRACTOR shall, if desired by the ENGINEER-IN-CHARGE, be required to execute an Indemnity Bond in the prescribed form for safe custody and accounting of all materials issued by the EMPLOYER.

x) The CONTRACTOR shall furnish to the ENGINEER-INCHARGE sufficiently in advance a statement showing his requirement of the quantities of the materials to be supplied by the EMPLOYER and the time when the same will be required by him for the works, so as to enable the ENGINEER-IN-CHARGE to make necessary arrangements for procurement and supply of the material.

xi) Account of the materials issued by the EMPLOYER shall be maintained by CONTRACTOR indicating the daily receipt, consumption and balance in hand. This account shall be maintained in a manner prescribed by the ENGINEER-IN-CHARGE along with all connected papers viz. requisitions, issues, etc., and shall be always available for inspection in the CONTRACTOR's office at SITE.

xii) The CONTRACTOR should see that only the required quantities of materials are got issued. The CONTRACTOR shall not be entitled to cartage and incidental charges for returning the surplus materials, if any, to the stores wherefrom they were issued or to the place as directed by the ENGINEER-IN-CHARGE.

xiii) Materials/Equipment(s) supplied by EMPLOYER shall not be utilized for any purpose(s) than issued for.

68 Material procured with assistance of employer/return of surplus:

68.1 Notwithstanding anything contained to the contrary in any or all the clauses of this CONTRACT where any materials for the execution of the CONTRACT are procured with the assistance of the EMPLOYER either by issue from EMPLOYER's stock or purchases made under order or permits or licenses issued by Government, the CONTRACTOR shall hold the said materials as trustee for the EMPLOYER and use such materials economically and solely for the purpose of the CONTRACT and not dispose them off without the permission of the EMPLOYER and return, if required by the ENGINEER-IN-CHARGE, shall determine having due regard to the condition of the materials. The price allowed to the CONTRACTOR, however, shall not exceed the amount charged to him excluding the storage charges, if any. The decision of the ENGINEER-IN-CHARGE shall be final and conclusive in such matters. In the event of breach of the aforesaid condition, the CONTRACTOR shall, in terms of the licenses or permits and/or criminal breach of trust, be liable to compensate the EMPLOYER at double rate or any higher rate, in the event of those materials at that time having higher rate or not being available in the market, then any other rate to be determined by the ENGINEER-IN-CHARGE and his decision shall be final and conclusive.

69 Materials obtained from dismantling:

69.1 If the CONTRACTOR in the course of execution of the WORK is called upon to dismantle any part for reasons other than those stipulated in Clauses 74 and 77 hereunder, the materials obtained in the WORK of dismantling etc., will be considered as the EMPLOYER's property and will be disposed off to the best advantage of the EMPLOYER.

70 Articles of value found:

70.1 All gold, silver and other minerals of any description and all precious stones, coins, treasure relics, antiquities and other similar things which shall be found in, under or upon the SITE, shall be the property of the EMPLOYER and the CONTRACTOR shall duly preserve the same to the satisfaction of the ENGINEER-IN-CHARGE and shall from time to time deliver the same to such person or persons indicated by the EMPLOYER.

71 Discrepancies between instructions:

71.1 Should any discrepancy occur between the various instructions furnished to the CONTRACTOR, his agent or staff or any doubt arises as to the meaning of any such instructions or should there be any misunderstanding between the CONTRACTOR's staff and the ENGINEER-IN-CHARGE's staff, the CONTRACTOR shall refer the matter immediately in writing to the ENGINEER-IN-CHARGE whose decision thereon shall be final and conclusive and no claim for losses alleged to have been caused by such discrepancies between instructions, doubts, or misunderstanding shall in any event be admissible.

72 Action where no specification is issued:

72.1 In case of any class of WORK for which there is no SPECIFICATION supplied by the EMPLOYER as mentioned in the Tender Documents such WORK shall be carried out in accordance with Indian Standard Specifications and if the Indian Standard Specifications do not cover the same, the WORK should be carried out as per standard Engineering Practice subject to the approval of the ENGINEER-IN-CHARGE.

73 Inspection of works:

73.1 The ENGINEER-IN-CHARGE will have full power and authority to inspect the WORK at any time wherever in progress either on the SITE or at the CONTRACTOR's premises/workshops wherever situated, premises/ workshops of any person, firm or corporation where WORK in connection with the CONTRACT may be in hand or where materials are being or are to be supplied, and the CONTRACTOR shall afford or procure for the ENGINEER-IN- CHARGE every facility and assistance to carry out such inspection. The CONTRACTOR shall, at all time during the usual working hours and at all other time at which reasonable notice of the intention of the ENGINEER-IN- CHARGE or his representative to visit the WORK shall have been given to the CONTRACTOR, either himself be present or receive orders and instructions, or have a responsible agent duly accredited in writing, present for the purpose. Orders given to the CONTRACTOR's agent shall be considered to have the same force as if they had been given to the CONTRACTOR himself. The CONTRACTOR shall give not less than seven days notice in writing to the ENGINEER-IN-CHARGE before covering up or otherwise placing beyond reach of inspection and measurement of any work in order that the same may be inspected and measured. In the event of breach of above the same shall be uncovered at CONTRACTOR's expense for carrying out such measurement or inspection.

73.2 No material shall be dispatched from the CONTRACTOR's stores before obtaining the approval in writing of the Engineer-in-Charge.

The CONTRACTOR is to provide at all time during the progress of the WORK and the maintenance period, proper means of access with ladders, gangways etc. and the necessary attendance to move and adopt as directed for inspection or measurements of the WORK by the ENGINEER-IN-CHARGE.

73.3 The CONTRACTOR shall make available to the ENGINEER-INCHARGE free of cost all necessary instruments and assistance in checking or setting out of WORK and in the checking of any WORK made by the CONTRACTOR for the purpose of setting out and taking measurements of WORK.

74 Tests for quality of work:

74.1 All workmanship shall be of the respective kinds described in the CONTRACT DOCUMENTS and in accordance with the instructions of the ENGINEER-IN-CHARGE and shall be subjected from time to time to such test at CONTRACTOR's cost as the ENGINEER-IN-CHARGE may direct at the place of manufacture or fabrication or on the site or at all or any such places. The CONTRACTOR shall provide assistance, instruments, labour and materials as are normally required for examining, measuring and testing any workmanship as may be selected and required by the ENGINEER-IN-CHARGE.

74.2 All the tests that will be necessary in connection with the execution of the WORK as decided by the ENGINEER- IN-CHARGE shall be carried out at the field testing laboratory of the EMPLOYER by paying the charges as decided by the EMPLOYER from time to time. In case of non-availability of testing facility with the EMPLOYER, the required test shall be carried out at the cost of CONTRACTOR at Government or any other testing laboratory as directed by ENGINEER-IN-CHARGE.

74.3 If any tests are required to be carried out in conjunction with the WORK or materials or workmanship not supplied by the CONTRACTOR, such tests shall be carried out by the CONTRACTOR as per instructions of ENGINEER-IN-CHARGE and cost of such tests shall be reimbursed by the EMPLOYER.

75 Samples for approval:

75.1 The CONTRACTOR shall furnish to the ENGINEER-IN-CHARGE for approval, when requested or if required by the specifications, adequate samples of all materials and finished to be used in the WORK. Such samples shall be submitted before the WORK is commenced and in ample time to permit tests and examinations thereof. All materials furnished and finishes applied in actual WORK shall be fully equal to the approved samples.

76 Action and compensation in case of bad work:

76.1 If it shall appear to the ENGINEER-IN-CHARGE that any work has been executed with unsound, imperfect or unskilled workmanship, or with materials of any inferior description, or that any materials or articles provided by the CONTRACTOR for the execution of the WORK are unsound, or of a quality inferior to that contracted for, or otherwise not in accordance with the CONTRACT, the CONTRACTOR shall on demand in writing from the ENGINEER-IN-CHARGE or his authorized representative specifying the WORK, materials or articles complained of notwithstanding that the same may have been inadvertently passed, certified and paid for, forthwith rectify or remove and reconstruct the WORK so specified and provide other proper and suitable materials or articles at his own cost and in the event of failure to do so within the period specified by the ENGINEER-IN-CHARGE in his demand aforesaid, the CONTRACTOR shall be liable to pay compensation at the rate of 1 % (One percent) of the estimated cost of the whole WORK, for every week limited to a maximum of 10% (ten percent) of the value of the whole WORK, while his failure to do so shall continue and in the case of any such failure the ENGINEER-IN-CHARGE may on expiry of notice period rectify or remove and re-execute the WORK or remove and replaced with others, the materials or articles complained of to as the case may be at the risk and expense in all respects of the CONTRACTOR. The decision of the Engineering-in-charge as to any question arising under this clause shall be final and conclusive.

77 Suspension of works:

77.1 i) Subject to the provisions of sub-para (ii) of this clause, the CONTRACTOR shall, if ordered in writing by the ENGINEER-IN-CHARGE, or his representative, temporarily suspend the WORKS or any part thereof for such written order, proceed with the WORK therein ordered to be suspended until, he shall have received a written order to proceed therewith. The CONTRACTOR shall not be entitled to claim compensation for any loss or damage sustained by him by reason of temporary suspension of the WORKS aforesaid. An extension of time for completion, corresponding with the delay caused by any such suspension of the WORKS as aforesaid will be granted to the CONTRACTOR should he apply for the same provided that the suspension was not consequent to any default or failure on the part of the CONTRACTOR.

ii) In case of suspensions of entire WORK, ordered in writing by ENGINEER-IN-CHARGE, for a period of more than two months, the CONTRACTOR shall have the option to terminate the CONTRACT.

78 Employer may do part of work:

78.1 Upon failure of the CONTRACTOR to comply with any instructions given in accordance with the provisions of this CONTRACT the EMPLOYER has the alternative right, instead of assuming charge of entire WORK, to place additional labour force, tools, equipments and materials on such parts of the WORK, as the EMPLOYER may designate or also engage another CONTRACTOR to carry out the WORK. In such cases, the EMPLOYER shall deduct from the amount which otherwise might become due to the CONTRACTOR, the cost of such work and material with ten percent (10%) added to cover all departmental charges and should the total amount thereof exceed the amount due to the CONTRACTOR, the CONTRACTOR shall pay the difference to the EMPLOYER.

79 Possession prior to completion:

79.1 The ENGINEER-IN-CHARGE shall have the right to take possession of or use any completed or partially completed WORK or part of the WORK. Such possession or use shall not be deemed to be an acceptance of any work completed in accordance with the CONTRACT agreement. If such prior possession or use by the ENGINEER-IN- CHARGE delays the progress of WORK, equitable adjustment in the time of completion will be made and the CONTRACT agreement shall be deemed to be modified accordingly.

80 (Defects liability period) twelve months period of liability from the date of issue of completion certificate:

80.1 The CONTRACTOR shall guarantee the installation/WORK for a period of 12 months from the date of completion of WORK as certified by the ENGINEER-IN-CHARGE which is indicated in the Completion Certificate. Any damage or defect that may arise or lie undiscovered at the time of issue of Completion Certificate, connected in any way with the equipment or materials supplied by him or in the workmanship, shall be rectified or replaced by the CONTRACTOR at his own expense as deemed necessary by the ENGINEER-IN-CHARGE or in default, the ENGINEER- IN-CHARGE may carry out such works by other work and deduct actual cost incurred towards labour, supervision and materials consumables or otherwise plus 100% towards overheads (of which the certificate of ENGINEER-IN-CHARGE shall be final) from any sums that may then be or at any time thereafter, become due to the

CONTRACTOR or from his Contract Performance Security, or the proceeds of sale thereof or a sufficient part on thereof.

80.2 If the CONTRACTOR feels that any variation in WORK or in quality of materials or proportions would be beneficial or necessary to fulfill the guarantees called for, he shall bring this to the notice of the ENGINEERIN-CHARGE in writing.

If during the period of liability any portion of the WORK/equipment, is found defective and is rectified/ replaced, the period of liability for such equipment/ portion of WORK shall be operative from the date such rectification/ replacement are carried out and Contract Performance Guarantee shall be furnished separately for the extended period of liability for that portion of WORK/ equipment only. Notwithstanding the above provisions the supplier's, guarantees/warrantees for the replaced equipment shall also be passed on to the EMPLOYER.

80.3 LIMITATION OF LIABILITY

Notwithstanding anything contrary contained herein, the aggregate total liability of CONTRACTOR under the Agreement or otherwise shall be limited to 100% of Agreement / Contract Value. However, neither party shall be liable to the other party for any indirect and consequential damages, loss of profits or loss of production.

81 Care of works:

81.0 From the commencement to completion of the WORK, the CONTRACTOR shall take full responsibility for the care for all works including all temporary works and in case any damages, loss or injury shall happen to the WORK or to any part thereof or to any temporary works from any cause whatsoever, shall at his own cost repair and make good the same so that at completion the WORK shall be in good order and in conformity in every respects with the requirement of the CONTRACT and the ENGINEER-IN- CHARGE's instructions.

81.1 <u>DEFECTS PRIOR TO TAKING OVER:</u>
If at any time, before the WORK is taken over, the ENGINEER-IN-CHARGE shall:

a) Decide that any works done or materials used by the CONTRACTOR or by any SUB-CONTRACTOR is defective or not in accordance with the CONTRACT, or that the works or any portion thereof are defective, or do not fulfill the requirements of CONTRACT (all such matters being hereinafter, called `Defects' in this clause), and

b) As soon as reasonably practicable, gives to the CONTRACTOR notice in writing of the said decision, specifying particulars of the defects alleged to exist or to have occurred, then the CONTRACTOR shall at his own expenses and with all speed make good the defects so specified.

In case CONTRACTOR shall fail to do so, the EMPLOYER may take, at the cost of the CONTRACTOR, such steps as may in all circumstances, be reasonable to make good such defects. The expenditure so incurred by the EMPLOYER will be recovered from the amount due to the CONTRACTOR. The decision of the ENGINEER-IN-CHARGE with regard to the amount to be recovered from the CONTRACTOR will be final and binding on the CONTRACTOR. As soon as the WORK has been completed in accordance with the

CONTRACT (except in minor respects that do not affect their use for the purpose for which they are intended and except for maintenance there of provided in clause 80.1 of General Conditions of Contract) and have passed the tests on completion, the ENGINEER-IN-CHARGE shall issue a certificate (hereinafter called Completion Certificate) in which he shall certify the date on which the WORK have been so completed and have passed the said tests and the EMPLOYER shall be deemed to have taken over the WORK on the date so certified. If the WORK has been divided into various groups in the CONTRACT, the EMPLOYER shall be entitled to take over any group or groups before the other or others and there upon the ENGINEER-IN-CHARGE shall issue a Completion Certificate which will, however, be for such group or groups so taken over only. In such an event if the group /section/ part so taken over is related, to the integrated system of the work, not withstanding date of grant of Completion Certificate for group/ section/ part. The period of liability in respect of such group/ section/ part shall extend 12 (twelve) months from the date of completion of WORK.

81.2 DEFECTS AFTER TAKING OVER:

In order that the CONTRACTOR could obtain a COMPLETION CERTIFICATE he shall make good, with all possible speed, any defect arising from the defective materials supplied by the CONTRACTOR or workmanship or any act or omission of the CONTRACT or that may have been noticed or developed, after the works or groups of the works has been taken over, the period allowed for carrying out such WORK will be normally one month. If any defect be not remedied within a reasonable time, the EMPLOYER may proceed to do the WORK at CONTRACTOR's risk and expense and deduct from the final bill such amount as may be decided by the EMPLOYER.

If by reason of any default on the part of the CONTRACTOR a COMPLETION CERTIFICATE has not been issued in respect of any portion of the WORK within one month after the date fixed by the CONTRACT for the completion of the WORK, the EMPLOYER shall be at liberty to use the WORK or any portion thereof in respect of which a completion certificate has not been issued, provided that the WORK or the portion thereof so used as aforesaid shall be afforded reasonable opportunity for completing these works for the issue of Completion Certificate.

82 Guarantee/transfer of guarantee:

82.1 For works like water-proofing, acid and alkali resisting materials, pre-construction soil treatment against termite or any other specialized works etc. the CONTRACTOR shall invariably engage SUB-CONTRACTORS who are specialists in the field and firms of repute and such a SUB-CONTRACTOR shall furnish guarantees for their workmanship to the EMPLOYER, through the CONTRACTOR. In case such a SUB-CONTRACTOR/ firm is not prepared to furnish a guarantee to the EMPLOYER, the CONTRACTOR shall give that guarantee to the EMPLOYER directly.

83 Training of employer's personnel:

83.1 The CONTRACTOR undertakes to provide training to Engineering personnel selected and sent by the EMPLOYER at the works of the CONTRACTOR without any cost to the EMPLOYER. The period and the nature of training for the individual personnel shall be agreed upon mutually between the CONTRACTOR and the EMPLOYER. These engineering personnel shall be given special training at the shops, where the equipment will be manufactured and/ or in their collaborator's works and where possible, in any other plant

where equipment manufactured by the CONTRACTOR or his collaborators is under installation or test to enable those personnel to become familiar with the equipment being furnished by the CONTRACTOR. EMPLOYER shall bear only the to and fro fare of the said engineering personnel.

84 Replacement of defective parts and materials:

84.1 If during the progress of the WORK, EMPLOYER shall decide and inform in writing to the CONTRACTOR, that the CONTRACTOR has manufactured any plant or part of the plant unsound or imperfect or has furnished plant inferior to the quality specified, the CONTRACTOR on receiving details of such defects or deficiencies shall at his own expenses within 7 (seven) days of his receiving the notice, or otherwise within such time as may be reasonably necessary for making it good, proceed to alter, re-construct or remove such work and furnish fresh equipments up to the standards of the specifications. In case the CONTRACTOR fails to do so, EMPLOYER may on giving the CONTRACTOR 7 (seven) day's notice in writing of his intentions to do so, proceed to remove the portion of the WORK so complained of and at the cost of CONTRACTOR's, perform all such works or furnish all such equipments provided that nothing in the clause shall be deemed to deprive the EMPLOYER of or affect any rights under the CONTRACT, the EMPLOYER may otherwise have in respect of such defects and deficiencies.

84.2 The CONTRACTOR's full and extreme liability under this clause shall be satisfied by the payments to the EMPLOYER of the extra cost, of such replacements procured including erection/installation as provided for in the CONTRACT; such extra cost being the ascertained difference between the price paid by the EMPLOYER for such replacements and the CONTRACT price portion for such defective plants and repayments of any sum paid by the EMPLOYER to the CONTRACTOR in respect of such defective plant. Should the EMPLOYER not so replace the defective plant the CONTRACTOR's extreme liability under this clause shall be limited to the repayment of all such sums paid by the EMPLOYER under the CONTRACT for such defective plant.

85 Indemnity

85.1 If any action is brought before a Court, Tribunal or any other Authority against the Employer or an officer or agent of the EMPLOYER, for the failure, omission or neglect on the part of the CONTRACTOR to perform any acts, matters, covenants or things under the CONTRACT, or damage or injury caused by the alleged omission or negligence on the part of the CONTRACTOR, his agents, representatives or his SUB-CONTRACTOR's, or in connection with any claim based on lawful demands of SUB-CONTRACTOR's workmen suppliers or employees, the CONTRACTOR, shall in such cases indemnify and keep the EMPLOYER and/or their representatives harmless from all losses, damages, expenses or decrees arising out of such action.

86 Construction aids, equipments, tools & tackles:

86.1 CONTRACTOR shall be solely responsible for making available for executing the WORK, all requisite CONSTRUCTION EQUIPMENTS, Special Aids, Barges, Cranes and the like, all Tools, Tackles and Testing Equipment and Appliances, including imports of such equipment etc. as required. In case of import of the same the rates applicable for levying of Custom Duty on such Equipment, Tools, & Tackles and the duty drawback applicable thereon shall be

ascertained by the CONTRACTOR from the concerned authorities of Government of India. It shall be clearly understood that EMPLOYER shall not in any way be responsible for arranging to obtain Custom Clearance and/or payment of any duties and/or duty draw backs etc. for such equipments so imported by the CONTRACTOR and the CONTRACTOR shall be fully responsible for all taxes, duties and documentation with regard to the same. Tenderer in his own interest may contact, for any clarifications in the matter, concerned agencies/Dept./Ministries of Govt. of India. All clarifications so obtained and interpretations thereof shall be solely the responsibility of the CONTRACTOR.

SECTION-VI Certificates and Payments

87 Schedule of rates and payments:

87.1 i) CONTRACTOR'S REMUNERATION:

The price to be paid by the EMPLOYER to CONTRACTOR for the whole of the WORK to be done and for the performance of all the obligations undertaken by the CONTRACTOR under the CONTRACT DOCUMENTS shall be ascertained by the application of the respective Schedule of Rates (the inclusive nature of which is more particularly defined by way of application but not of limitation, with the succeeding sub-clause of this clause) and payment to be made accordingly for the WORK actually executed and approved by the ENGINEERIN-CHARGE. The sum so ascertained shall (excepting only as and to the extent expressly provided herein) constitute the sole and inclusive remuneration of the CONTRACTOR under the CONTRACT and no further or other payment whatsoever shall be or become due or payable to the CONTRACTOR under the CONTRACT.

ii) SCHEDULE OF RATES TO BE INCLUSIVE:

The prices/rates quoted by the CONTRACTOR shall remain firm till the issue of FINAL CERTIFICATE and shall not be subject to escalation. Schedule of Rates shall be deemed to include and cover all costs, expenses and liabilities of every description and all risks of every kind to be taken in executing, completing and handing over the WORK to the EMPLOYER by the CONTRACTOR. The CONTRACTOR shall be deemed to have known the nature, scope, magnitude and the extent of the WORK and materials required though the CONTRACT DOCUMENT may not fully and precisely furnish them. Tenderer shall make such provision in the Schedule of Rates as he may consider necessary to cover the cost of such items of WORK and materials as may be reasonable and necessary to complete the WORK. The opinion of the ENGINEER-IN-CHARGE as to the items of WORK which are necessary and reasonable for COMPLETION OF WORK shall be final and binding on the CONTRACTOR, although the same may not be shown on or described specifically in CONTRACT DOCUMENTS.

Generality of this present provision shall not be deemed to cut down or limit in any way because in certain cases it may and in other cases it may not be expressly stated that the CONTRACTOR shall do or perform a work or supply articles or perform services at his own cost or without addition of payment or without extra charge or words to the same effect or that it may be stated or not stated that the same are included in and covered by the Schedule of Rates.

iii) SCHEDULE OF RATES TO COVER CONSTRUCTION EQUIPMENTS, MATERIALS, LABOUR ETC.:

Without in any way limiting the provisions of the preceding sub-clause the Schedule of Rates shall be deemed to include and cover the cost of all construction equipment, temporary WORK (except as provided for herein), pumps, materials, labour, insurance, fuel, consumables, stores and appliances to be supplied by the CONTRACTOR and all other matters in connection with each item in the Schedule of Rates and the execution of the WORK or any portion thereof finished, complete in every respect and maintained as shown or described in the CONTRACT DOCUMENTS or as may be ordered in writing during the continuance of the CONTRACT.

iv) SCHEDULE OF RATES TO COVER ROYALTIES, RENTS AND CLAIMS:
The Schedule of Rates (i.e., VALUE OF CONTRACT) shall be deemed to include and cover the cost of all royalties and fees for the articles and processes, protected by letters, patent or otherwise incorporated in or used in connection with the WORK, also all royalties, rents and other payments in connection with obtaining materials of whatsoever kind for the WORK and shall include an indemnity to the EMPLOYER which the CONTRACTOR hereby gives against all actions, proceedings, claims, damages, costs and expenses arising from the incorporation in or use on the WORK of any such articles, processes or materials, octroi or other municipal or local Board Charges, if levied on materials, equipment or machineries to be brought to site for use on WORK shall be borne by the CONTRACTOR.

v) SCHEDULE OF RATES TO COVER TAXES AND DUTIES:
No exemption or reduction of Customs Duties, Goods & Service Tax, quay or any port dues, transport charges, stamp duties or Central or State Government or local Body or Municipal Taxes or duties, taxes or charges (from or of any other body), whatsoever, will be granted or obtained, all of which expenses shall be deemed to be included in and covered by the Schedule or Rates. The CONTRACTOR shall also obtain and pay for all permits or other privileges necessary to complete the WORK.

vi) SCHEDULE OF RATES TO COVER RISKS OF DELAY:
The Schedule of Rates shall be deemed to include and cover the risk of all possibilities of delay and interference with the CONTRACTOR's conduct of WORK which occur from any causes including orders of the EMPLOYER in the exercise of his power and on account of extension of time granted due to various reasons and for all other possible or probable causes of delay.

vii) SCHEDULE OF RATES CANNOT BE ALTERED:
For WORK under unit rate basis, no alteration will be allowed in the Schedule of Rates by reason of works or any part of them being modified, altered, extended, diminished or committed. The Schedule of Rates are fully inclusive of rates which have been fixed by the CONTRACTOR and agreed to by the EMPLOYER and cannot be altered.

For lump sum CONTRACTS, the payment will be made according to the WORK actually carried out, for which purpose an item wise, or work wise Schedule of Rates shall be furnished, suitable for evaluating the value of WORK done and preparing running account bill.

Payment for any additional work which is not covered in the Schedule of Rates shall only be released on issuance of change order.

88 Procedure for measurement and billing of work in progress:

88.1 BILLING PROCEDURE:
Following procedures shall be adopted for billing of works executed by the CONTRACTOR.

88.1.1 All measurements shall be recorded in sextuplicate on standard measurement sheets supplied by EMPLOYER and submitted to EMPLOYER for scrutiny and passing.

88.1.2 EMPLOYER shall scrutinize and check the measurements recorded on the sheets and shall certify correctness of the same on the measurement sheets.

88.1.3 ENGINEER-IN-CHARGE shall pass the bills after carrying out the comprehensive checks in accordance with the terms and conditions of the CONTRACTS, within 7 days of submission of the bills, complete in all respects and send the same to the Employer to effect payment to the CONTRACTOR.

88.1.4 MNGL shall make all endeavour to make payments of undisputed amount of the bills submitted based on the joint measurements within 15 (Fifteen) days from the date of certification by the Engineer-in-Charge.

88.1.5 Measurements shall be recorded as per the methods of measurement spelt out in EMPLOYER SPECIFICATIONS / CONTRACT DOCUMENT. EMPLOYER shall be fully responsible for checking the measurements quantitatively and qualitatively as recorded in the Measurement Books/ Bills.

88.1.6 While preparing the final bills overall measurements will not be taken again. Only volume of work executed since the last measured bill along with summary of final measurements will be considered for the final bill. However, a detailed check shall be made as to missing measurements and in case there are any missing items or measurements the same shall be recorded.

88.2 SECURED ADVANCE ON MATERIAL:
Unless otherwise provided elsewhere in the tender, no `Secured Advance' on security of materials brought to site for execution of contracted items(s) shall be paid to the Contractor whatsoever.

88.3 DISPUTE IN MODE OF MEASUREMENT:
In case of any dispute as to the mode of measurement not covered by the CONTRACT to be adopted for any item of WORK, mode of measurement as per latest Indian Standard Specifications shall be followed.

88.4 ROUNDING OF AMOUNTS:
In calculating the amount of each item due to the CONTRACTOR in every certificate prepared for payment, sum of less than 50 paise shall be omitted and the total amount on each certificate shall be rounded off to the nearest rupees, i.e., sum of less than 50 paise shall be omitted and sums of 50 paise and more up to one rupee shall be reckoned as one rupee.

89 Lump sum in tender:

89.1 The payment against any Lump sum item shall be made only on completion of that item as per the provision of the CONTRACT after certification by ENGINEER-IN-CHARGE.

90 Running account payments to be regarded as advance:

90.1 All running account payments shall be regarded as payment by way of advance against the final payment only and not as payments for WORK actually done and completed and shall not preclude the requiring of bad, unsound and imperfect or unskilled work to be removed and taken away and reconstructed or re-erected or be considered as an admission of the due performance of the CONTRACT, or any part thereof, in this respect, or of the occurring of any claim by the CONTRACTOR, nor shall it conclude, determine or affect in any way the powers of the EMPLOYER under these conditions or any of them as to the final settlement and adjustment of the accounts or otherwise, or in any other way vary or affect the CONTRACT. The final bill shall be submitted by the CONTRACTOR within one month of the date of physical completion of the WORK; otherwise, the ENGINEER-IN-CHARGE's certificate of the measurement and of total amount payable for the WORK accordingly shall be final and binding on all parties

91 Notice of claims for additional payments:

91.1 Should the CONTRACTOR consider that he is entitled to any extra payment for any extra/additional WORKS or MATERIAL change in original SPECIFICATIONS carried out by him in respect of WORK he shall forthwith give notice in writing to the ENGINEER-IN-CHARGE that he claims extra payment. Such notice shall be given to the ENGINEER-IN-CHARGE upon which CONTRACTOR bases such claims and such notice shall contain full particulars of the nature of such claim with full details of amount claimed. Irrespective of any provision in the CONTRACT to the contrary, the CONTRACTOR must intimate his intention to lodge claim on the EMPLOYER within 10 (ten) days of the commencement of happening of the event and quantify the claim within 30 (thirty) days, failing which the CONTRACTOR will lose his right to claim any compensation/reimbursement/damages etc. or refer the matter to arbitration. Failure on the part of CONTRACTOR to put forward any claim without the necessary particulars as above within the time above specified shall be an absolute waiver thereof. No omission by EMPLOYER to reject any such claim and no delay in dealing therewith shall be waiver by EMPLOYER of any of these rights in respect thereof.

91.2 ENGINEER-IN-CHARGE shall review such claims within a reasonably period of time and cause to discharge these in a manner considered appropriate after due deliberations thereon. However, CONTRACTOR shall be obliged to carry on with the WORK during the period in which his claims are under consideration by the EMPLOYER, irrespective of the outcome of such claims, where additional payments for WORKS considered extra are justifiable in accordance with the CONTRACT provisions, EMPLOYER shall arrange to release the same in the same manner as for normal WORK payments. Such of the extra works so admitted by EMPLOYER shall be governed by all the terms, conditions, stipulations and specifications as are applicable for the CONTRACT. The rates for extra works shall generally be the unit rates provided for in the CONTRACT. In the event unit rates for extra works so executed are not available as per CONTRACT, payments may either be released on day work basis for which daily/hourly rates for workmen and hourly rates for equipment rental shall apply, or on the unit rate for WORK executed shall be derived by interpolation/ extrapolation of unit rates already

existing in the CONTRACT. In all the matters pertaining to applicability of rate and admittance of otherwise of an extra work claim of CONTRACTOR the decision of ENGINEER-IN-CHARGE shall be final and binding.

92 Payment of contractor's bill:

92.1 No payment shall be made for works estimated to cost less than Rs.10,000/- till the whole of the work shall have been completed and a certificate of completion given. But in case of works estimated to cost more than Rs.10,000/-, that CONTRACTOR on submitting the bill thereof be entitled to receive a monthly payment proportionate to the part thereof approved and passed by the ENGINEER-IN-CHARGE, whose certificate of such approval and passing of the sum so payable shall be final and conclusive against the CONTRACTOR. This payment will be made after making necessary corrections/deductions as stipulated elsewhere in the CONTRACT DOCUMENT for materials, Contract Performance Security, taxes etc.

92.2 Payment due to the CONTRACTOR shall be made by the EMPLOYER by Account Payee cheque forwarding the same to registered office or the notified office of the CONTRACTOR. In no case will EMPLOYER be responsible if the cheque is mislaid or misappropriated by unauthorized person/persons. In all cases, the CONTRACTOR shall present his bill duly pre-receipted on proper revenue stamp payment shall be made in Indian Currency.

92.3 In general payment of final bill shall be made to CONTRACTOR within 60 days of the submission of bill on joint measurements, after completion of all the obligations under the CONTRACT.

93 Receipt for payment:

93.1 Receipt for payment made on account of work when executed by a firm, must be signed by a person holding due power of attorney in this respect on behalf of the CONTRACTOR, except when the CONTRACTOR's are described in their tender as a limited company in which case the receipts must be signed in the name of the company by one of its principal officers or by some other person having authority to give effectual receipt for the company.

94 Completion certificate:

94.1 APPLICATION FOR COMPLETION CERTIFICATE:
When the CONTRACTOR fulfils his obligation under Clause 81.1 he shall be eligible to apply for COMPLETION CERTIFICATE.

The ENGINEER-IN-CHARGE shall normally issue to the CONTRACTOR the COMPLETION CERTIFICATE within one month after receiving any application therefore from the CONTRACTOR after verifying from the completion documents and satisfying himself that the WORK has been completed in accordance with and as set out in the construction and erection drawings, and the CONTRACT DOCUMENTS.

The CONTRACTOR, after obtaining the COMPLETION CERTIFICATE, is eligible to present the final bill for the WORK executed by him under the terms of CONTRACT.

94.2 COMPLETION CERTIFICATE:

Within one 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 given nor shall the WORK be deemed to have been executed until all scaffolding, surplus materials and rubbish is cleared off the SITE completely nor until the WORK shall have been measured by the ENGINEER-IN-CHARGE whose measurement shall be binding and conclusive. The WORKS will not be considered as complete and taken over by the EMPLOYER, until all the temporary works, labour and staff colonies are cleared to the satisfaction of the ENGINEER-IN-CHARGE.

If the CONTRACTOR fails to comply with the requirements of this clause on or before the date fixed for the completion of the WORK, the ENGINEER-IN-CHARGE may at the expense of the CONTRACTOR remove such scaffolding, surplus materials and rubbish and dispose off 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 shall have no claim in respect of any such scaffolding or surplus materials as aforesaid except for any sum actually realized by the sale thereof.

94.3 COMPLETION CERTIFICATE DOCUMENTS:
For the purpose of Clause 94.0 the following documents will be deemed to form the completion documents:

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

ii) Six (6) sets of construction drawings showing therein the modification and correction made during the course of execution and signed by the ENGINEER-IN-CHARGE.

iii) COMPLETION CERTIFICATE for `embedded' and `covered' up work.

iv) Certificates 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 the EMPLOYER for the WORK and list of surplus materials returned to the EMPLOYER's store duly supported by necessary documents.

95 Final decision and final certificate:

95.1 Upon expiry of the period of liability and subject to the ENGINEER-IN-CHARGE being satisfied that the WORKS have been duly maintained by the CONTRACTOR during monsoon or such period as hereinbefore provided in Clause 80 & 81 and that the CONTRACTOR has in all respect duly made-up any subsidence and performed all his obligations under the CONTRACT, the ENGINEER-IN- CHARGE shall (without prejudice to the rights of the EMPLOYER to retain the provisions of relevant Clause hereof) otherwise give a certificate herein referred to as the FINAL CERTIFICATE to that effect and the CONTRACTOR shall not be considered to have fulfilled the whole of his obligations under CONTRACT until FINAL 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 EMPLOYER.

96 Certificate and payments on evidence of completion:

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

97 Deductions from the contract price:

97.1 All costs, damages or expenses which EMPLOYER may have paid or incurred, which under the provisions of the CONTRACT, the CONTRACTOR is liable/will be liable, will be claimed by the EMPLOYER. All such claims shall be billed by the EMPLOYER to the CONTRACTOR regularly as and when they fall due. Such claims shall be paid by the CONTRACTOR within 15 (fifteen) days of the receipt of the corresponding bills and if not paid by the CONTRACTOR within the said period, the EMPLOYER may, then, deduct the amount from any moneys due i.e., Contract Performance Security 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 EMPLOYER of such claims.

SECTION-VII Taxes and Insurance

98 Taxes, Duties, Octroi / LBT etc:

98.1 The CONTRACTOR agrees to and does hereby accept full and exclusive liability for the payment of any and all Taxes, Duties, including Goods & Service Tax, octroi / LBT etc. now or hereafter imposed, increased, modified, all the taxes, duties, octroi / LBT etc. now in force and hereafter increased, imposed or modified, from time to time in respect of WORKS and materials and all contributions and taxes for unemployment compensation, insurance and old age pensions or annuities now or hereafter imposed by any Central or State Government authorities which are imposed with respect to or covered by the wages, salaries, or other compensations paid to the persons employed by the CONTRACTOR and the CONTRACTOR shall be responsible for the compliance of all SUB-CONTRACTORS, with all applicable Central, State, Municipal and local law and regulation and requirement of any Central, State or local Government agency or authority. CONTRACTOR further agrees to defend, indemnify and hold EMPLOYER harmless from any liability or penalty which may be imposed by the Central, State or Local authorities by reason or any violation by CONTRACTOR or SUB-CONTRACTOR of such laws, suits or proceedings that may be brought against the EMPLOYER arising under, growing out of, or by reason of the work provided for by this CONTRACT, by third parties, or by Central or State Government authority or any administrative sub-division thereof.

Tax deductions will be made as per the rules and regulations in force in accordance with acts prevailing from time to time.

Tenderer should quote all inclusive prices including the liability of Goods & Service/ Turnover Tax whether on the works contract as a whole or in respect of bought out components used by the CONTRACTOR in execution of the CONTRACT. EMPLOYER shall not be responsible for any such liability of the CONTRACTOR in respect of this CONTRACT. Since MNGL would be paying CENVAT, Goods & Service Tax, and claims reimbursement / set off for the same contractor shall furnish appropriate invoice to MNGL for such claims / set off by MNGL.

99 Goods & Service tax/turnover tax:

99.1 Tenderer should quote all inclusive prices including the liability of Goods & Service Tax/ Turnover Tax whether on the works contract as a whole or in respect of bought out components used by the CONTRACTOR in execution of the CONTRACT. EMPLOYER shall not be responsible for any such liability of the CONTRACTOR in respect of this CONTRACT. Since MNGL would be paying CENVAT, Goods & Service tax, and claims reimbursement / set off for the same contractor shall furnish appropriate invoice to MNGL for such claims / set off by MNGL

100 Statutory variations

100.1 Tenderer should quote prices inclusive of Goods & service tax applicable on finished product. Any statutory variations on all taxes & duties, Goods & service tax to be included on finished product during the contractual completion period, shall be to the Employer's account for which the Contractor will furnish documentary evidence(s) in support of their claims to MNGL. However, any increase in the rate of these taxes and duties (Goods & Service Tax) beyond the contractual completion period shall be to Contractor's account and any decrease shall be passed on to MNGL.

101 Insurance:

101.1 GENERAL
CONTRACTOR shall at his own expense arrange secure and maintain insurance with reputable insurance companies to the satisfaction of the EMPLOYER as follows:

CONTRACTOR at his cost shall arrange, secure and maintain insurance as may be necessary and to its full value for all such amounts to protect the WORKS in progress from time to time and the interest of EMPLOYER against all risks as detailed herein. The form and the limit of such insurance, as defined here in together with the under works thereof in each case should be as acceptable to the EMPLOYER. However, irrespective of work acceptance the responsibility to maintain adequate insurance coverage at all times during the period of CONTRACT shall be that of CONTRACTOR alone. CONTRACTOR's failure in this regard shall not relieve him of any of his responsibilities and obligations under CONTRACT.

Any loss or damage to the equipment, during ocean transportation, port/custom clearance, inland and port handling, inland transportation, storage, erection and commissioning till such time the WORK is taken over by EMPLOYER, shall be to the account of CONTRACTOR. CONTRACTOR shall be responsible for preferring of all claims and make good for the damage or loss by way of repairs and/or replacement of the parts of the Work damaged or lost. CONTRACTOR shall provide the EMPLOYER with a copy of all insurance policies and documents taken out by him in pursuance of the CONTRACT. Such copies of document shall be submitted to the EMPLOYER immediately upon the CONTRACTOR having taken such insurance coverage. CONTRACTOR shall also inform the EMPLOYER at least 60(Sixty) days in advance regarding the expiry cancellation and/or changes in any of such documents and ensure revalidation/renewal etc., as may be necessary well in time.

Statutory clearances, if any, in respect of foreign supply required for the purpose of replacement of equipment lost in transit and/or during erection, shall be made available by

the EMPLOYER. CONTRACTOR shall, however, be responsible for obtaining requisite licenses, port clearances and other formalities relating to such import. The risks that are to be covered under the insurance shall include, but not be limited to the loss or damage in handling, transit, theft, pilferage, riot, civil commotion, weather conditions, accidents of all kinds, fire, war risk (during ocean transportation only) etc. The scope of such insurance shall cover the entire value of supplies of equipments, plants and materials to be imported from time to time.

All costs on account of insurance liabilities covered under CONTRACT will be to CONTRACTOR's account and will be included in VALUE OF CONTRACT. However, the EMPLOYER may from time to time, during the currency of the CONTRACT, ask the CONTRACTOR in writing to limit the insurance coverage risk and in such a case, the parties to the CONTRACT will agree for a mutual settlement, for reduction in VALUE OF CONTRACT to the extent of reduced premium amounts.

CONTRACTOR as far as possible shall cover insurance with Indian Insurance Companies, including marine Insurance during ocean transportation.

i) EMPLOYEES STATE INSURANCE ACT:

The CONTRACTOR agrees to and does hereby accept full and exclusive liability for the compliance with all obligations imposed by the Employee State Insurance Act 1948 and the CONTRACTOR further agrees to defend, indemnify and hold EMPLOYER harmless for any liability or penalty which may be imposed by the Central, State or Local authority by reason of any asserted violation by CONTRACTOR or SUB-CONTRACTOR of the Employees' State Insurance Act, 1948, and also from all claims, suits or proceeding that may be brought against the EMPLOYER arising under, growing out of or by reasons of the work provided for by this CONTRACTOR, by third parties or by Central or State Government authority or any political sub- division thereof.

The CONTRACTOR agrees to fill in with the Employee's State Insurance Corporation, the Declaration Forms, and all forms which may be required in respect of the CONTRACTOR's or SUB- CONTRACTOR's employees, who are employed in the WORK provided for or those covered by ESI from time to time under the Agreement. The CONTRACTOR shall deduct and secure the agreement of the SUB-CONTRACTOR to deduct the employee's contribution as per the first schedule of the Employee's State Insurance Act from wages and affix the Employees Contribution Card at wages payment intervals. The CONTRACTOR shall remit and secure the agreement of SUB-CONTRACTOR to remit to the State Bank of India, Employee's State Insurance Corporation Account, the Employee's contribution as required by the Act. The CONTRACTOR agrees to maintain all cards and Records as required under the Act in respect of employees and payments and the CONTRACTOR shall secure the agreement of the SUBCONTRACTOR to maintain such records. Any expenses incurred for the contributions, making contributions or maintaining records shall be to the CONTRACTOR's or SUB-CONTRACTOR's account.

The EMPLOYER shall retain such sum as may be necessary from the total VALUE OF CONTRACT until the CONTRACTOR shall furnish satisfactory proof that all contributions as required by the Employees State Insurance Act, 1948, have been

paid. This will be pending on the CONTRACTOR when the ESI Act is extended to the place of work.

ii) WORKMEN COMPENSATION AND EMPLOYER'S LIABILITY INSURANCE:
Insurance shall be effected for all the CONTRACTOR's employees engaged in the performance of this CONTRACT. If any of the work is sublet, the CONTRACTOR shall require the SUB-CONTRACTOR to provide workman's Compensation and employer's liability insurance for the later's employees if such employees are not covered under the CONTRACTOR's Insurance.

iii) ACCIDENT OR INJURY TO WORKMEN:
The EMPLOYER shall not be liable for or in respect of any damages or compensation payable at law in respect or in consequence of any accident or injury to any workman or other person in the Employment of the CONTRACTOR or any SUB-CONTRACTOR save and except an accident or injury resulting from any act or default of the EMPLOYER, his agents or servants and the CONTRACTOR shall indemnify and keep indemnified the EMPLOYER against all such damages and compensation (save and except and aforesaid) and against all claims, demands, proceeding, costs, charges and expenses, whatsoever in respect or in relation thereto.

iv) TRANSIT INSURANCE
In respect of all items to be transported by the CONTRACTOR to the SITE of WORK, the cost of transit insurance should be borne by the CONTRACTOR and the quoted price shall be inclusive of this cost.

v) COMPREHENSIVE AUTOMOBILE INSURANCE
This insurance shall be in such a form as to protect the Contractor against all claims for injuries, disability, disease and death to members of public including EMPLOYER's men and damage to the property of others arising from the use of motor vehicles during on or off the `site' operations, irrespective of the Employer ship of such vehicles.

vi) COMPREHENSIVE GENERAL LIABILITY INSURANCE

a) This insurance shall protect the Contractor against all claims arising from injuries, disabilities, disease or death of member of public or damage to property of others due to any act or omission on the part of the Contractor, his agents, his employees, his representatives and Sub-Contractor's or from riots, strikes and civil commotion.

b) Contractor shall take suitable Group Personal Accident Insurance Cover for taking care of injury, damage or any other risks in respect of his Engineers and other Supervisory staff who are not covered under Employees State Insurance Act.

c) The policy shall cover third party liability. The third party (liability shall cover the loss/ disablement of human life (person not belonging to the Contractor) and also cover the risk of damage to others materials/ equipment/ properties during construction, erection and commissioning at site. The value of third party liability for compensation for loss of human life or partial/full

disablement shall be of required statutory value but not less than Rs. 2 lakhs per death, Rs. 1.5 lakhs per full disablement and Rs. 1 lakh per partial disablement and shall nevertheless cover such compensation as may be awarded by Court by Law in India and cover for damage to others equipment/ property as approved by the Purchaser. However, third party risk shall be maximum up to Rs. 10(ten) lakhs to death.

d) The Contractor shall also arrange suitable insurance to cover damage, loss, accidents, risks etc., in respect of all his plant, equipments and machinery, erection tools & tackles and all other temporary attachments brought by him at site to execute the work.

e) The Contractor shall take out insurance policy in the joint name of EMPLOYER and Contractor from one or more nationalized insurance company from any branch office at Project site.

f) Any such insurance requirements as are hereby established as the minimum policies and coverages which Contractor must secure and keep in force must be complied with, Contractor shall at all times be free to obtain additional or increased coverages at Contractor's sole expenses.

vii) ANY OTHER INSURANCE REQUIRED UNDER LAW OR REGULATIONS OR BY EMPLOYER:
CONTRACTOR shall also carry and maintain any and all other insurance(s) which he may be required under any law or regulation from time to time without any extra cost to EMPLOYER. He shall also carry and maintain any other insurance which may be required by the EMPLOYER.

102 Damage to Property or to any Person or any Third Party

102.1 i) CONTRACTOR shall be responsible for making good to the satisfaction of the EMPLOYER any loss or any damage to structures and properties belonging to the EMPLOYER or being executed or procured or being procured by the EMPLOYER or of other agencies within in the premises of all the work of the EMPLOYER, if such loss or damage is due to fault and/or the negligence or willful acts or omission of the CONTRACTOR, his employees, agents, representatives or SUB-CONTRACTOR.

ii) The CONTRACTOR shall take sufficient care in moving his plants, equipments and materials from one place to another so that they do not cause any damage to any person or to the property of the EMPLOYER or any third party including overhead and underground cables and in the event of any damage resulting to the property of the EMPLOYER or of a third party during the movement of the aforesaid plant, equipment or materials the cost of such damages including eventual loss of production, operation or services in any plant or establishment as estimated by the EMPLOYER or ascertained or demanded by the third party shall be borne by the CONTRACTOR. Third party liability risk shall be Rupees One lakh for single accident and limited to Rupees Ten lakhs.

iii) The CONTRACTOR shall indemnify and keep the EMPLOYER harmless of all claims for damages to property other than EMPLOYER's property arising under or by reason

of this agreement, if such claims result from the fault and/or negligence or willful acts or omission of the CONTRACTOR, his employees, agents, representative of SUB-CONTRACTOR.

SECTION-VIII Labour Laws

103 Labour laws:

103.1 i) No labour below the age of 18 (eighteen) years shall be employed on the WORK.

ii) The CONTRACTOR shall not pay less than what is provided under law to labourers engaged by him on the WORK.

iii) The CONTRACTOR shall at his expense comply with all labour laws and keep the EMPLOYER indemnified in respect thereof.

iv) The CONTRACTOR shall pay equal wages for men and women in accordance with applicable labour laws.

v) If the CONTRACTOR is covered under the Contract labour (Regulation and Abolition) Act, he shall obtain a license from licensing authority (i.e. office of the labour commissioner) by payment of necessary prescribed fee and the deposit, if any, before starting the WORK under the CONTRACT. Such fee/deposit shall be borne by the CONTRACTOR.

vi) The CONTRACTOR shall employ labour in sufficient numbers either directly or through SUB- CONTRACTOR's to maintain the required rate of progress and of quality to ensure workmanship of the degree specified in the CONTRACT and to the satisfaction of the ENGINEER-IN-CHARGE.

vii) The CONTRACTOR shall furnish to the ENGINEER-INCHARGE the distribution return of the number and description, by trades of the work people employed on the works. The CONTRACTOR shall also submit on the 4th and 19th of every month to the ENGINEER-IN-CHARGE a true statement showing in respect of the second half of the preceding month and the first half of the current month (1) the accidents that occurred during the said fortnight showing the circumstances under which they happened and the extent of damage and injury caused by them and (2) the number of female workers who have been allowed Maternity Benefit as provided in the Maternity Benefit Act 1961 on Rules made there under and the amount paid to them.

viii) The CONTRACTOR shall comply with the provisions of the payment of Wage Act 1936, Employee Provident Fund Act 1952, Minimum Wages Act 1948. Employers Liability Act 1938. Workmen's Compensation Act 1923, Industrial Disputes Act 1947, the Maternity Benefit Act 1961 and Contract Labour Regulation and Abolition Act 1970, Employment of Children Act 1938 or any modifications thereof or any other law relating thereto and rules made there under from time to time.

ix) The ENGINEER-IN-CHARGE shall on a report having been made by an Inspecting Officer as defined in Contract Labour (Regulation and Abolition) Act 1970 have the power to deduct from the money due to the CONTRACTOR any sum required or estimated to be required for making good the loss suffered by a worker or workers by

reason of non- fulfillment of the Conditions of the Contract for the benefit of workers, non-payment of wages or of deductions made from his or their wages which are not justified by the terms of the Contract or non-observance of the said regulations.

x) The CONTRACTOR shall indemnify the EMPLOYER against any payments to be made under and for the observance of the provisions of the aforesaid Acts without prejudice to his right to obtain indemnity from his SUB-CONTRACTOR's. In the event of the CONTRACTOR committing a default or breach of any of the provisions of the aforesaid Acts as amended from time to time, of furnishing any information or submitting or filling and Form/ Register/ Slip under the provisions of these Acts which is materially incorrect then on the report of the inspecting Officers, the CONTRACTOR shall without prejudice to any other liability pay to the EMPLOYER a sum not exceeding Rs.50.00 as Liquidated Damages for every default, breach or furnishing, making, submitting, filling materially incorrect statement as may be fixed by the ENGINEER-IN- CHARGE and in the event of the CONTRACTOR's default continuing in this respect, the Liquidated Damages may be enhanced to Rs.50.00 per day for each day of default subject to a maximum of one percent of the estimated cost of the WORK put to tender. The ENGINEER-IN-CHARGE shall deduct such amount from bills or Contract Performance Security of the CONTRACTOR and credit the same to the Welfare Fund constitute under these acts. The decision of the ENGINEER-IN-CHARGE in this respect shall be final and binding.

104 Implementation of apprentices act, 1961:

104.1 The CONTRACTOR shall comply with the provisions of the Apprentices Act, 1961 and the Rules and Orders issued there under from time to time. If he fails to do so, his failure will be a breach of the CONTRACT and the ENGINEER-IN-CHARGE may, at his discretion, cancel the CONTRACT. The CONTRACTOR shall also be liable for any pecuniary liability arising on account of any violation by him of the provisions, of the Act.

105 Contractor to indemnify the employer:

105.1 i) The CONTRACTOR shall indemnify the EMPLOYER and every member, office and employee of the EMPLOYER, also the ENGINEER-IN-CHARGE and his staff against all actions, proceedings, claims, demands, costs and expenses whatsoever arising out of or in connection with the matters referred to in Clause 102.0 and elsewhere and all actions, proceedings, claims, demands, costs and expenses which may be made against the EMPLOYER for or in respect of or arising out of any failure by the CONTRACTOR in the performance of his obligations under the CONTRACT DOCUMENT. The EMPLOYER shall not be liable for or in respect of or arising out of any failure by the CONTRACTOR in the performance of his obligations under the CONTRACT DOCUMENT. The EMPLOYER shall not be liable for or in respect of any demand or compensation payable by law in respect or in consequence of any accident or injury to any workmen or other person. In the employment of the CONTRACTOR or his SUB-CONTRACTOR the CONTRACTOR shall indemnify and keep indemnified the EMPLOYER against all such damages and compensations and against all claims, damages, proceedings, costs, charges and expenses whatsoever in respect thereof or in relation thereto.

ii) PAYMENT OF CLAIMS AND DAMAGES:

Should the EMPLOYER have to pay any money in respect of such claims or demands as aforesaid the amount so paid and the costs incurred by the EMPLOYER shall be charged to and paid by the CONTRACTOR and the CONTRACTOR shall not be at liberty to dispute or question the right of the EMPLOYER to make such payments notwithstanding the same, may have been made without the consent or authority or in law or otherwise to the contrary.

iii) In every case in which by virtue of the provisions of Section 12, Sub-section (i) of workmen's compensation Act, 1923 or other applicable provision of Workmen Compensation Act or any other Act, the EMPLOYER is obliged to pay compensation to a workman employed by the CONTRACTOR in execution of the WORK, the EMPLOYER will recover from the CONTRACTOR the amount of the compensation so paid, and without prejudice to the rights of EMPLOYER under Section 12, Sub-section (2) of the said act, EMPLOYER shall be at liberty to recover such amount or any part thereof by deducting it from the Contract Performance Security or from any sum due to the CONTRACTOR whether under this CONTRACT or otherwise. The EMPLOYER shall not be bound to contest any claim made under Section 12, Sub-section (i) of the said act, except on the written request of the CONTRACTOR and upon his giving to the EMPLOYER full security for all costs for which the EMPLOYER might become liable in consequence of contesting such claim.

106 Health and sanitary arrangements for workers:

106.1 In respect of all labour directly or indirectly employed in the WORKS for the performance of the CONTRACTOR's part of this agreement, the CONTRACTOR shall comply with or cause to be complied with all the rules and regulations of the local sanitary and other authorities or as framed by the EMPLOYER from time to time for the protection of health and sanitary arrangements for all workers.

106.2 The CONTRACTOR shall provide in the labour colony all amenities such as electricity, water and other sanitary and health arrangements. The CONTRACTOR shall also provide necessary surface transportation to the place of work and back to the colony for their personnel accommodated in the labour colony.

SECTION-IX Applicable Laws and Settlement of Disputes

107 Arbitration:

107.1 Unless otherwise specified, the matters where decision of the Engineer-in-Charge is deemed to be final and binding as provided in the Agreement and the issues/disputes which cannot be mutually resolved within a reasonable time, all disputes shall be referred to arbitration by Sole Arbitrator.

The Employer [Maharashtra Natural Gas Limited] shall suggest a panel of three independent and distinguished persons to the bidder/contractor/supplier/buyer (as the case may be) to select any one among them to act as the Sole Arbitrator.

In the event of failure of the other parties to select the Sole Arbitrator within 30 days from the receipt of the communication suggesting the panel of arbitrators, the right of selection of the sole arbitrator by the other party shall stand forfeited and the EMPLOYER (MNGL) shall have

discretion to proceed with the appointment of the Sole Arbitrator. The decision of Employer on the appointment of the sole arbitrator shall be final and binding on the parties.

The award of sole arbitrator shall be final and binding on the parties and unless directed/awarded otherwise by the sole arbitrator, the cost of arbitration proceedings shall be shared equally by the parties. The Arbitration proceedings shall be in English language and venue shall be Pune in Maharashtra, India.

Subject to the above, the provisions of (Indian) Arbitration & Conciliation ACT 1996 and the Rules framed there under shall be applicable. All matters relating to this contract are subject to the exclusive jurisdiction of the court situated at Pune.

Bidders/suppliers/contractors may please note that the Arbitration & Conciliation Act 1996 was enacted by the Indian Parliament and is based on United Nations Commission on International Trade Law (UNCITRAL model law), which were prepared after extensive consultation with Arbitral Institutions and centers of International Commercial Arbitration. The United Nations General Assembly vide resolution 31/98 adopted the UNCITRAL Arbitration rules on 15 December 1976.

108 Jurisdiction:

The CONTRACT shall be governed by and constructed according to the laws in force in INDIA. The CONTRACTOR hereby submits to the jurisdiction of the Courts situated at **Pune, MAHARASHTRA STATE** for the purposes of disputes, actions and proceedings arising out of the CONTRACT, the courts at **Pune, MAHARASHTRA STATE** only will have the jurisdiction to hear and decide such disputed, actions and proceedings.

SECTION-X Safety Codes

109 General:

109.1 CONTRACTOR shall adhere to safe construction practice and guard against hazardous and unsafe working conditions and shall comply with EMPLOYER's safety rules as set forth herein. Prior to start of construction, CONTRACTOR will be furnished copies of EMPLOYER's "Safety Code" for information and guidance, if it has been prepared.

110 Safety regulations:

110.1 i) In respect of all labour, directly employed in the WORK for the performance of CONTRACTOR's part of this agreement, the CONTRACTOR shall at his own expense arrange for all the safety provisions as per safety codes of C.P.W.D., Indian Standards Institution. The Electricity Act, The Mines Act and such other acts as applicable.

ii) The CONTRACTOR shall observe and abide by all fire and safety regulations of the EMPLOYER. Before starting construction work CONTRACTOR shall consult with EMPLOYER's safety Engineers or ENGINEER- IN-CHARGE and must make good to the satisfaction of the EMPLOYER any loss or damage due to fire to any portion of the work done or to be done under this agreement or to any of the EMPLOYER's existing property.

111 First aid and industrial injuries:

111.0 i) CONTRACTOR shall maintain first aid facilities for its employees and those of its SUB-CONTRACTOR.

ii) CONTRACTOR shall make outside arrangements for ambulance service and for the treatment of industrial injuries. Names of those providing these services shall be furnished to EMPLOYER prior to start of construction and their telephone numbers shall be prominently posted in CONTRACTOR's field office.

iii) All critical industrial injuries shall be reported promptly to EMPLOYER, and a copy of CONTRACTOR's report covering each personal injury requiring the attention of a physician shall be furnished to the EMPLOYER.

112 General rules:

112.1 Smoking within the premises of City Gas Station is strictly prohibited. Violators of the no smoking rules shall be discharged immediately.

113 Contractor's barricades:

113.0 i) CONTRACTOR shall erect and maintain barricades required in connection with his operation to guard or protect: -

a) Excavations
b) Hoisting Areas.
c) Areas adjudged hazardous by CONTRACTOR's or EMPLOYER's inspectors.
d) EMPLOYER's existing property subject to damage by CONTRACTOR's Operations.
e) Rail Road unloading spots.

ii) CONTRACTOR's employees and those of his SUBCONTRACTOR's shall become acquainted with EMPLOYER's barricading practice and shall respect the provisions thereof.

iii) Barricades and hazardous areas adjacent to, but not located in normal routes of travel shall be marked by red flasher lanterns at nights.

114 Scaffolding:

114.1 i) Suitable scaffolding should be provided for workmen for all works that cannot safely be done from the ground or from solid construction except such short period work as can be done safely from ladders. When a ladder is used an extra Mazdoor shall be engaged for holding the ladder and if the ladder is used for carrying material as well, suitable footholds and handholds shall be provided on the ladder and the ladder shall be given an inclination not steeper than 1 in 4 (1 horizontal and 4 vertical).

ii) Scaffolding or staging more than 4 meters above the ground or floor, swing suspended from an overhead support or erected with stationary support shall have a guard rail properly attached, bolted, braced and otherwise retarded at least one meter high above the floor or platform of such scaffolding or staging and extending

along the entire length of the outside and ends thereof with only such openings as may be necessary for the delivery of materials. Such scaffolding or staging shall be so fastened as to prevent it from swaying from the building or structure.

iii) Working platform, gangway and stairway should be so constructed that they should not sag unduly or unequally and if the height of platform of the gangway or the stairway is more than 4 meters above the ground level or floor level, they should be closely boarded, should have adequate width and should be suitably fastened as in ii) above.

iv) Every opening in the floor of a building or in a working platform shall be provided with suitable means to prevent the fall of persons or materials by providing suitable fencing of railing whose minimum heights shall be 1 meter.

v) Safe-means of access shall be provided to all working platforms and other working places, every ladder shall be securely fixed. No portable single ladder shall be over 9 meters in length while the width between side rails in rung ladder shall in no case be less than 30 cm for ladder up to and including 3 meters in length. For longer ladder this width should be increased 5mm for each additional foot of length. Uniform steps spacing shall not exceed 30 cms. Adequate precautions shall be taken to prevent danger from electrical equipment. No materials on any of the sites or work shall be so stacked or placed 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 defense of every suit, action or other proceeding of law that may be brought by any person for injury sustained owing to neglect of the above precautions and pay any damages and costs which may be awarded in any such suit or action or proceeding to any such person or which may with the consent of the CONTRACTOR be paid to compromise any claim by any such person.

115 Excavation and trenching:

115.1 All trenches 1.2 meters or more in depth shall at all times be supplied with at least one ladder for each 50 meters length or fraction thereof.

Ladder shall be extended from bottom of the trenches to at least 1 meter above the surface of the ground. The sides of the trenches which are 1.5M 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 1.5 meters of the edge of the trench or half of the trench width whichever is more. Cutting shall be done from top to bottom. Under no circumstances undermining or under-cutting shall be done.

116 Demolition/general safety:

116.1 i) Before any demolition work is commenced and also during the progress of the demolition work

a) All roads and open areas adjacent to the work site shall either be closed or suitably protected.

b) No electric cable or apparatus which is liable to be a source of danger shall remain electrically charged.

c) All practical steps shall be taken to prevent danger to persons employed from risk of fire or explosion or flooding. No floor, roof or other part of the building shall be so overloaded with debris or materials as to render it unsafe.

ii) All necessary personal safety equipment as considered adequate by the ENGINEER-IN-CHARGE should be kept available for the use of the persons employed on the SITE and maintained in condition suitable for immediate use, and the CONTRACTOR shall take adequate steps to ensure proper use of equipment by those concerned.

a) Workers employed on mixing asphaltic materials, cement and lime mortars shall be provided with protective footwear and protective gloves.

b) Those engaged in white washing and mixing or stacking or cement bags or any material which are injurious to the eyes be provided with protective goggles.

c) Those engaged in welding and cutting works shall be provided with protective face & eye shield, hand gloves, etc.

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

e) 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 an hour before the workers are allowed to get into the manholes, and the manholes so opened shall be cordoned off with suitable railing and provided with warning signals or board to prevent accident to the public.

f) The CONTRACTOR shall not employ men below the age of 18 years and women on the work of painting with 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.

1) No paint containing lead or lead product shall be used except in the form of paste or readymade paint.

2) Suitable face masks should 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.

3) Overalls shall be supplied by the CONTRACTOR to the workmen and adequate facilities shall be provided to enable the working painters to wash them during and on cessation of work.

iii) When the work is done near any place where there is risk of drowning, all necessary safety equipment should be provided and kept ready for use and all necessary steps taken for prompt rescue 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.

iv) Use of hoisting machines and tackles including their attachments, anchorage and supports shall conform to the following standards or conditions:

a) These shall be of good mechanical construction, sound materials and adequate strength and free from patent defect and shall be kept in good working order.

b) Every rope used in hoisting or lowering materials or as 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, winch 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 gears referred to above shall be plainly marked with the safe working load of the conditions under which it is applicable and the same shall be clearly indicated. No part of any machine or any gear referred to above in this paragraph shall be loaded beyond safe working load except for the purpose of testing.

e) In case of departmental machine, the safe working load shall be notified by the ENGINEER- IN-CHARGE. As regards CONTRACTOR's machines, the CONTRACTOR shall notify the safe working load of the machine to the ENGINEER-IN-CHARGE whenever he brings any machinery to SITE of WORK and get it verified by the Engineer concerned.

v) Motors, gears, transmission lines, electric wiring and other dangerous parts of hoisting appliances should be provided with efficient safeguards. Hoisting appliances should be provided with such means as to reduce to minimum the accidental descent of the load, adequate precautions should be taken to reduce the minimum risk of any part or parts of a suspended load becoming accidentally displaced. When workers are employed on electrical installations which are already energized, insulating mats, wearing apparel, such as gloves, sleeves, and boots as may be necessary should be provided. The workers shall not wear any rings, watches and carry keys or other materials which are good conductors of electricity.

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

vii) These safety provisions should be brought to the notice of all concerned by displaying on a notice board at a prominent place at the work-spot. The person responsible for compliance of the safety code shall be named therein by the CONTRACTOR.

viii) 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 Welfare Officer, ENGINEER-IN- CHARGE or safety Engineer of the Administration or their representatives.

ix) Notwithstanding the above clauses there is nothing in these to exempt the CONTRACTOR for the operations of any other Act or rules in force in the Republic of India. The work throughout including any temporary works shall be carried out in such a manner as not to interfere in any way whatsoever with the traffic on any roads

or footpath at the site or in the vicinity thereto or any existing works whether the property of the Administration or of a third party.

In addition to the above, the CONTRACTOR shall abide by the safety code provision as per C.P.W.D. Safety code and Indian Standard Safety Code from time to time.

117 Care in handling inflammable gas:

117.1 The CONTRACTOR has to ensure all precautionary measures and exercise utmost care in handling the inflammable gas cylinder/inflammable liquids/paints etc. as required under the law and/or as advised by the fire Authorities of the EMPLOYER

118 Temporary combustible structures:

118.1 Temporary combustible structures will not be built near or around work site.

119 Precautions against fire:

119.1 The CONTRACTOR will have to provide Fire Extinguishers, Fire Buckets and drums at worksite as recommended by ENGINEER-IN-CHARGE. They will have to ensure all precautionary measures and exercise utmost care in handling the inflammable gas cylinders/ inflammable liquid/ paints etc. as advised by ENGINEER-IN-CHARGE. Temporary combustible structures will not be built near or around the work-site.

120 Explosives:

120.1 Explosives shall not be stored or used on the WORK or on the SITE by the CONTRACTOR without the permission of the ENGINEER-IN-CHARGE in writing and then only in the manner and to the extent to which such permission is given. When explosives are required for the WORK they will be stored in a special magazine to be provided at the cost of the CONTRACTOR in accordance with the Explosives Rules. The CONTRACTOR shall obtain the necessary license for the storage and the use of explosives and all operations in which or for which explosives are employed shall be at sole risk and responsibility of the CONTRACTOR and the CONTRACTOR shall indemnify the EMPLOYER against any loss or damage resulting directly or indirectly there from.

121 Mines act:

121.1 SAFETY CODE: The CONTRACTOR shall at his own expense arrange for the safety provisions as required by the ENGINEER-IN-CHARGE in respect of all labour directly employed for performance of the WORKS and shall provide all facilities in connection therewith. In case the CONTRACTOR fails to make arrangements and provides necessary facilities as aforesaid, the ENGINEER-IN- CHARGE shall be entitled to do so and recover the costs thereof from the CONTRACTOR.

121.2 Failure to comply with Safety Code or the provisions relating to report on accidents and to grant of maternity benefits to female workers shall make the CONTRACTOR liable to pay Company Liquidated Damages an amount not exceeding Rs.50/- for each default or materially incorrect statement. The decision of the ENGINEER-IN-CHARGE in such matters based on reports from the Inspecting Officer or from representatives of ENGINEER-IN-

CHARGE shall be final and binding and deductions for recovery of such Liquidated Damages may be made from any amount payable to the CONTRACTOR from all the provisions of the Mines Act, 1952 or any statutory modifications or re-enactment thereof the time being in force and any Rules and Regulations made there under in respect of all the persons employed by him under this CONTRACT and shall indemnify the EMPLOYER from and against any claim under the Mines Act or the rules and regulations framed there under by or on behalf of any persons employed by him or otherwise.

122 Preservation of place:

122.1 The CONTRACTOR shall take requisite precautions and use his best endeavours to prevent any riotous or unlawful behaviour by or amongst his worker and others employed or the works and for the preservation of peace and protection of the inhabitants and security of property in the neighborhood of the WORK. In the event of the EMPLOYER requiring the maintenance of a Special Police Force at or in the vicinity of the site during the tenure of works, the expenses thereof shall be borne by the CONTRACTOR and if paid by the EMPLOYER shall be recoverable from the CONTRACTOR.

123 Outbreak of infectious diseases:

123.1 The CONTRACTOR shall remove from his camp such labour and their facilities who refuse protective inoculation and vaccination when called upon to do so by the ENGINEER-IN-CHARGE's representative. Should Cholera, Plague or other infectious diseases break out the CONTRACTOR shall burn the huts, beddings, clothes and other belongings or used by the infected parties and promptly erect new huts on healthy sites as required by the ENGINEER-IN-CHARGE failing which within the time specified in the Engineer's requisition, the work may be done by the EMPLOYER and the cost thereof recovered from the CONTRACTOR.

124 Use of intoxicants:

124.1 The unauthorized sale of spirits or other intoxicants, beverages upon the work in any of the buildings, encampments or tenements owned, occupied by or within the control of the CONTRACTOR or any of his employee is forbidden and the CONTRACTOR shall exercise his influence and authority to the utmost extent to secure strict compliance with this condition.

In addition to the above, the CONTRACTOR shall abide by the safety code provision as per C.P.W.D. safety code and Indian Standard Code framed from time to time.

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Annexure-I to GCC

PROFORMA OF INDEMNITY BOND FOR SUPPLY OF MATERIALS BY EMPLOYER

(To be executed on non-judicial stamped paper of appropriate value)

WHEREAS MAHARASHTRA NATURAL GAS LIMITED (hereinafter referred to as MNGL) which expression shall unless repugnant to the context includes their legal representatives, successors and assigns having their registered office at Pune has entered into a CONTRACT with _____ (hereinafter referred to as the CONTRACTOR which expression shall unless repugnant to the context include their legal representatives, successors and assigns) for _____on the terms and conditions as set out, inter-alia, in the CONTRACT No..... Dated..... and various documents forming part thereof hereinafter collectively referred to as the "CONTRACT" which expression shall include all amendments, modifications and/or variations thereto.

AND WHEREAS

i) MNGL has agreed to supply to the CONTRACTOR, equipment, plants and materials (finished, semi-finished and raw)for the purpose of EXECUTION of the said CONTRACT by the CONTRACTOR (the equipment, plants and materials to be supplied by MNGL to the CONTRACTOR, hereinafter for the sake of brevity referred to as the "said materials") and pending execution by the CONTRACTOR of the CONTRACT incorporating the said materials, the said materials shall be under the custody and charge of the CONTRACTOR and shall be kept, stored, altered, worked upon and/or fabricated at the sole risk and expense of the CONTRACTOR.

ii) As a pre-condition to the supply of the said materials by MNGL to the CONTRACTOR, MNGL has required the CONTRACTOR to furnish to MNGL an Indemnity Bond in the manner and upon terms and conditions hereinafter indicated.
NOW, THEREFORE, in consideration of the premises aforesaid the CONTRACTOR hereby irrevocably and unconditionally undertakes to indemnify and keep indemnified MNGL from and against all loss, damage and destruction (inclusive but not limited to any or all loss or damage or destruction to or of the said materials or any item or part thereof by theft, pilferage, fire, flood, storm, tempest, lightning, explosion, storage, chemical or physical action or reaction, binding, warping, exposure, rusting, faulty workmanship, faulty fabrication, or faulty method or technique of fabrication, strike, riot, civil commotion, or other act or omission or commission whatsoever within or beyond the control of the CONTRACTOR, misuse and misappropriation (inclusive but not limited to the misuse or misappropriation by the CONTRACTOR and the Contractor's servants and/or agents) whatsoever to, or of in the said materials or any part of them thereof from the date that the same or relative part of item thereof was supplied to the CONTRACTOR up to and until the date of return to MNGL of the said materials or relative part of item thereof or completed fabricated works(s) incorporating the said material and undertake to pay to MNGL forthwith on demand in writing without protest or demur the value as specified by MNGL of the said material or item or part thereof, lost, damaged, destroyed, misused and/or misappropriated, as the case may be or, together with MNGL 'S costs and expenses (inclusive of but not limited to handling, transportation, cartage, insurance, freight, packing and inspection costs/or expenses up to) and aggregate limit of
Rs._____ (Rupees _____
_____).

AND THE CONTRACTOR hereby agrees with MNGL that:

i) This Indemnity/Undertaking shall be a continuing Indemnity/ Undertaking and shall remain valid and irrevocable for all claims of MNGL arising hereunder up to and until the midnight of

_____. However, if the CONTRACT for which this Indemnity/Undertaking is given is not completed by this date, the CONTRACTOR hereby agrees to extend the Indemnity/Undertaking till such time as is required to fulfill the CONTRACT.

ii) This Indemnity/Undertaking shall not be determined by any change in constitution or upon insolvency of the CONTRACTOR but shall be in all respects and for all purposes be binding and operative until payment of all moneys payable to MNGL in terms of hereof.

iii) The mere statement of allegation made by or on behalf of MNGL in any notice or demand or other writing addressed to the CONTRACTOR as to any of the said material or item or part thereof having been lost , damaged, destroyed, misused or misappropriated while in the custody of the CONTRACTOR and/or prior to completion of the completed fabricated work(s) and delivery to job site thereof incorporating the said materials shall be conclusive of the factum of the said material or item or part thereof having been supplied to the CONTRACTOR and/or the loss, damage, destruction, misuse or misappropriation thereof, as the case may be, while in the custody of the CONTRACTOR and/or prior to the completion of the completed fabricated work(s) and delivery to job site thereof incorporating the said materials without necessity on the part of MNGL to produce any documentary proof or other evidence whatsoever in support of this.

iv) The amount stated in any notice of demand addressed by MNGL to the CONTRACTOR as to the value of such said materials lost, damaged, destroyed, misused or misappropriated, inclusive relative to the costs and expenses incurred by MNGL in connection therewith shall be conclusive of the value of such said materials and the said cost and expenses as also of the amount liable to be paid to MNGL to produce any voucher, bill or other documentation or evidence whatsoever in support thereof and such amount shall be paid without any demur and on demand and no dispute shall be raised concerning the same.

The undersigned has full power to execute this Indemnity Bond on behalf of the CONTRACTOR under the Power of Attorney dated_____.

(SIGNED BY COMPETENT AUTHORITY)

Place:

Dated:

Official seal of the CONTRACTOR

Annexure-II to GCC

MAHARASHTRA NATURAL GAS LIMITED	**Tender for Item Rate Contract for a period of 1-year for laying of underground PE pipeline & aboveground GI / MLC pipe for CGD Network of MNGL for Pune GA.** **Bid No.: MNGL/CP/2026-27/134**

PROFORMA FOR CONTRACT AGREEMENT

SO No. dated ----------

Contract Agreement for the work of ---------- of Maharashtra Natural Gas Limited made on ---------- between (Name and Address)---------- , hereinafter called the “CONTRACTOR” (which term shall unless excluded by or repugnant to the subject or context include its successors and permitted assignees) of the one part and MAHARASHTRA NATURAL GAS LIMITED hereinafter called the “EMPLOYER” (which term shall, unless excluded by or repugnant to the subject or context include its successors and assignees) of the other part.

WHEREAS

A. The EMPLOYER being desirous of having provided and executed certain work mentioned, enumerated or referred to in the Tender Documents including Letter Inviting Tender, General Tender Notice, General Conditions of Contract, Special Conditions of Contract, Specifications, Drawings, Plans, Time Schedule of completion of jobs, Schedule of Rates, Agreed Variations, other documents has called for Tender.

B. The CONTRACTOR has inspected the SITE and surroundings of WORK specified in the Tender Documents and has satisfied himself by careful examination before submitting his tender as to the nature of the surface, strata, soil, sub-soil and ground, the form and nature of site and local conditions, the quantities, nature and magnitude of the work, the availability of labour and materials necessary for the execution of work, the means of access to SITE, the supply of power and water thereto and the accommodation he may require and has made local and independent enquiries and obtained complete information as to the matters and thing referred to, or implied in the tender documents or having any connection therewith and has considered the nature and extent of all probable and possible situations, delays, hindrances or interferences to or with the execution and completion of the work to be carried out under the CONTRACT, and has examined and considered all other matters, conditions and things and probable and possible contingencies, and generally all matters incidental thereto and ancillary thereof affecting the execution and completion of the WORK and which might have influenced him in making his tender.

C. The Tender Documents including the Notice Letter Inviting Tender, General Conditions of Contract, Special Conditions of Contract, Schedule of Rates, General Obligations, SPECIFICATIONS, DRAWINGS, PLANS, Time Schedule for completion of Jobs, Letter of Acceptance of Tender and any statement of agreed variations with its enclosures copies of which are hereto annexed form part of this CONTRACT though separately set out herein and are included in the expression “CONTRACT” wherever herein used.

AND WHEREAS

The EMPLOYER accepted the Tender of the CONTRACTOR for the provision and the execution of the said WORK at the rates stated in the schedule of quantities of the work and finally approved by EMPLOYER (hereinafter called the "Schedule of Rates") upon the terms and subject to the conditions of CONTRACT.

NOW THIS AGREEMENT WITNESSETH AND IT IS HEREBY AGREED AND DECLARED AS FOLLOWS: -

1. In consideration of the payment to be made to the CONTRACTOR for the WORK to be executed by him, the CONTRACTOR hereby covenants with EMPLOYER that the CONTRACTOR shall and will duly provide, execute and complete the said work and shall do and perform all other acts and things in the CONTRACT mentioned or described or which are to be implied there from or may be reasonably necessary for the completion of the said WORK and at the said times and in the manner and subject to the terms and conditions or stipulations mentioned in the contract.

2. In consideration of the due provision execution and completion of the said WORK, EMPLOYER does hereby agree with the CONTRACTOR that the EMPLOYER will pay to the CONTRACTOR the respective amounts for the WORK actually done by him and approved by the EMPLOYER at the Schedule of Rates and such other sum payable to the CONTRACTOR under provision of CONTRACT, such payment to be made at such time in such manner as provided for in the CONTRACT.

A N D

3. In consideration of the due provision, execution and completion of the said WORK the CONTRACTOR does hereby agree to pay such sums as may be due to the EMPLOYER for the services rendered by the EMPLOYER to the CONTRACTOR, such as power supply, water supply and others as set for in the said CONTRACT and such other sums as may become payable to the EMPLOYER towards the controlled items of consumable materials or towards loss, damage to the EMPLOYER'S equipment, materials construction plant and machinery, such payments to be made at such time and in such manner as is provided in the CONTRACT.

   It is specifically and distinctly understood and agreed between the EMPLOYER and the CONTRACTOR that the CONTRACTOR shall have no right, title or interest in the SITE made available by the EMPLOYER for execution of the works or in the building, structures or work executed on the said SITE by the CONTRACTOR or in the goods, articles, materials etc., brought on the said SITE (unless the same specifically belongs to the CONTRACTOR) and the CONTRACTOR shall not have or deemed to have any lien whatsoever charge for unpaid bills will not be entitled to assume or retain possession or control of the SITE or structures and the EMPLOYER shall have an absolute and unfettered right to take full possession of SITE and to remove the CONTRACTOR, their servants, agents and materials belonging to the CONTRACTOR and lying on the SITE.

   The CONTRACTOR shall be allowed to enter upon the SITE for execution of the WORK only as a licensee simpliciter and shall not have any claim, right, title or interest in the SITE or the structures erected thereon and the EMPLOYER shall be entitled to terminate such license at any time without assigning any reason.

   The materials including sand, gravel, stone, loose, earth, rock etc., dug up or excavated from the said SITE shall, unless otherwise expressly agreed under this CONTRACT, exclusively belong to the EMPLOYER and the CONTRACTOR shall have no right to claim over the same and such excavation and materials should be disposed off on account of the EMPLOYER according to the instruction in writing issued from time to time by the ENGINEER-IN-CHARGE.

In Witness whereof the parties have executed these presents in the day and the year first above written.

Signed and Delivered for and on
on behalf of EMPLOYER.

MAHARASHTRA NATURAL GAS LIMITED

_____

_____

Date: _____

Place: _____

Signed and Delivered for and
on behalf of the CONTRACTOR.

(NAME OF THE CONTRACTOR)

_____

_____

Date: _____

Place: _____

IN PRESENCE OF TWO WITNESSES

1._____
_____
_____

2._____
_____
_____

1. _____
_____
_____

2. _____
_____
_____

PART – D

SPECIAL CONDITIONS OF CONTRACT

SPECIAL CONDITIONS OF THE CONTRACT (SCC)

The following Special Conditions of Contract shall supplement the General Conditions of Contract. Whenever there is a conflict, the provisions herein shall prevail over those in the General Conditions of the Contract. The corresponding clause number of the GCC is indicated in parentheses.

1.0 DEFINITIONS

Bid Documents: shall mean documents issued to the bidder pursuant to IFB and listed in ITB Clause.

2.0 INTERPRETATIONS

2.1 Where any portion of the GCC is repugnant to or at variance with any provisions of the SCC then, unless a different intention appears, the provisions of the SCC shall be deemed to govern the provisions of the GCC and SCC provisions shall prevail to the extent of such repugnancy, or variations exist.

2.2 In Contract Documents unless otherwise stated specifically, the singular shall include the plural and vice versa wherever the context so requires.

2.3 Notwithstanding the sub-division of the Contract Documents into separate sections and volumes every part of each shall be deemed to be supplementary to and complementary of every other part and shall be read with and into the Agreement so far as it may be practicable to do so.

2.4 All headings, subtitles and marginal notes to the clauses of the GCC, SCC or to the Specifications or to any other part of Bid Document are solely for the purpose of giving a concise indication and not a summary of the contents thereof, and they shall never be deemed to be part thereof or be used in the interpretation or construction thereof.

2.5 The terms fully capitalized and/or initial capitalized shall be interchangeable and shall have the meaning as assigned to fully capitalized term or initial capitalised term.

3.0 INSPECTIONS AND TESTS
The SCC provisions shall supplement GCC Clause as detailed below.

3.1 During execution of work, the works shall be inspected by the Owner or its authorised representative for acceptance of the same.

3.2 For contractor's supplied items, Third Party Inspection report shall be submitted by the contractor.

3.3 The Owner or its representative shall have the right to inspect and/ or to test the material to confirm their conformity to the specifications

3.4 If any inspected or tested material fail to conform the specifications, the Owner may reject them and the Contractor shall either replace the rejected materials or make all the alterations necessary to meet the specifications, free of cost to the Owner.

3.5 Contractor shall hire Third Party Inspection Agency (TPIA) for carrying out the inspection of contractor supplied material as per approved ITP. TPIA charges shall be borne by contractor.

Name of approved TPIA are as under:
1. Moody International (India) Pvt. Ltd.,
2. Dr. Amin Controllers Pvt. Ltd.,
3. Certification Engineers International Ltd.,
4. International Certification Service Pvt. Ltd.,
5. Bureau Veritas (India) Pvt. Ltd.,
6. Hertz Inspection & Services Pvt. Ltd.,
7. Quality Evaluation and Systems Team Pvt. Ltd.
8. TUV SUD South Asia,
9. Apave Assessment India Pvt. Ttd. (Formely Vincotte International India Assessment Service Pvt. Ltd.),
10. TUV India Pvt. Ltd.,
11. Llyod Register,
12. SGS India Pvt. Ltd.,
13. TUV – Nord,
14. DNV-GL,
15. ABS,

3.6 Contractor shall obtain MNGL's approval before finalizing the TPIA

4.0 STATUTORY VARIATIONS IN TAXES

4.1 The entire work covered under this contract shall be treated as works contract services. Bidder shall be required to quote their unit rates for all the SOR items inclusive of all applicable taxes viz. GST freight, Insurance including Transit Insurance as defined in the tender document. Any statutory variation in the GST during the scheduled completion period only shall be considered by the owner against documentary evidence.

5.0 PAYMENT TERMS AND MODE OF PAYMENT
GCC clause is modified as below:

5.1 1st running bill (RA bill) shall be processed only after submission of statuary documents like Workmen Compensation (WC) policy, Insurance policies (Open transit policy), labour license, BOCW registration, Contractor All Risk (CAR) policy, GST registrations of Maharashtra . Running bill shall be processed only after submission of RPFC/ESI challans of previous month and BOCW Challan.

5.2 The Payment terms for Execution of Work shall be as stipulated in scope of work.
The contractor shall submit material reconciliation statement. Contractor will raise the RA bill on monthly basis and payment shall be made on certification of bill by Engineer- in-Charge as stipulated in scope of work.

5.3 The Payment shall be released through RTGS only.

5.4 Contractor to note that they can raise RA bills up to 90% of total awarded value of individual Purchase/ Work Order, balance amount will be paid on closure of Purchase / Work Order.

5.5 DEFECT LIABILITY PERIOD

a) The Contractor warrants that the work carried out under the Agreement are meeting the requirement of the Bid document and will rectify/ repair any defective work on receipt of instructions from Owner.

b) The Owner shall promptly notify the Contractor in writing of any claims/recovery arising under this warranty.

c) Upon receipt of such notice, the Contractor shall, within a reasonable period, repair or replace the defective Goods or parts thereof, free of cost to the Owner. No claim whatsoever shall lie on the Owner for the replaced parts/ goods thereafter. In the event of any correction of defects or replacement of defective material during the warranty period, the warranty for the corrected / replaced Goods or item or material shall be extended to a further period of twelve (12) Months from the date of such repair/replacement if put to use immediately or eighteen (18) Months. Defect liability period shall be 12 months from the date of handing over of the system to MNGL. The defect liability period shall be 12 months from the date of installation & commissioning of network.

d) If the Contractor, having been notified, fails to remedy the defect(s) within a reasonable period, the Owner may proceed to take such remedial action as may be necessary, at the Contractor's risk and expense and without prejudice to any other rights which the Owner may have against the Contractor under the Agreement.

6.0 PAYMENT METHODOLOGY

6.1 The contractor shall raise invoices on monthly basis for works carried out duly certified by Engineer-in- Charge in triplicate. The contractor to ensure that the invoices of completed work should be raised & duly certified by Engineer-in-charge within one month to avoid any statutory penalties on delay in paying taxes.

6.2 **The payments to the Contractor will be released within 45 days from the date of receipt of invoice, duly certified by EIC as per the terms and conditions of the Contract**.

6.3 Owner will release payment as per payment terms

7.0 COMPENSATION FOR IDLE TIME

7.1 The Owner shall make every reasonable effort to have free issue materials and right - of - use (ROU) available so as not to delay laying activities. No Idle time claim shall be entertained under any circumstances.

8.0 PRICE REDUCTION SCHEDULE (PRS)
GCC clause 27.0 is modified as below:

8.1 In case contractor fails to complete the work/ services within stipulated period as defined in Contract then unless such failure is due to force majeure as defined in Bid document, there will be reduction in order value @ 0.5% per week of delay or part thereof “on the delayed work portion” subject to maximum of 5% of order value.

8.2 Owner may without prejudice to any methods of recovery, deduct the amount of such PRS from any money due or which may at any time become due to contractor from its obligations or liabilities under the contract or by recovery against the performance bank guarantee. Both Owner and contractor agree that the above percentage of price reduction are genuine pre-estimates of the loss/ damage which Owner would have suffered on account of delay/ breach on the part of contractor and the said amount will be payable on demand without there being any proof of the actual loss/ damage caused by such delay/ breach. Owner decision in the matter of applicability of price reduction shall be final and binding.

9.0 ALTERATIONS IN SPECIFICATIONS, DESIGN AND EXTRA WORKS

9.1 The ENGINEER-IN-CHARGE shall have to make any alterations in, omission from, additions to or substitutions for, the Schedule of Rates, the original specifications, drawings, designs and instructions that may appear to him to be necessary or advisable during the progress of the WORK and the CONTRACTOR shall be bound to carry out the such altered/ extra/ new items of WORK in accordance with any instructions which may be given to him in writing signed by the ENGINEER-IN-

CHARGE, and such alterations, omissions, additions or substitutions shall not invalidate the CONTRACT and any altered, additional or substituted work which the CONTRACTOR may be directed to do in the manner above specified as part of the WORK shall be carried out by the CONTRACTOR on the same conditions in all respects on which he agreed to do the main WORK. The time of completion of WORK may be extended for the part of the particular job at the discretion of the ENGINEER-INCHARGE, for only such alterations, additions or substitutions of the WORK, as he may consider as just and reasonable. The rates for such additional, altered or substituted WORK under this clause shall be worked out in accordance with the following provisions: -

For Item Rate Contract

(a) If the rates for the additional, altered or substituted WORK are specified in the CONTRACT for the WORK, the CONTRACTOR is bound to carry on the additional, altered or substituted WORK at the same rates as are specified in the CONTRACT.

(b) If the rates for the additional, altered or substituted WORK are not specifically provided in the CONTRACT for the WORK, the rates will be derived from the rates for similar class of WORK as are specified in the CONTRACT for the WORK. The opinion of the ENGINEER-INCHARGE, as to whether or not the rates can be reasonably so derived from the items in this CONTRACT will be final and binding on the CONTRACTOR.

(c) If the rates for the altered, additional or substituted WORK cannot be determined in the manner specified in sub-clause (a) and (b) above, then the CONTRACTOR shall, within 7 days of the date of receipt of order to carry out the WORK, inform the ENGINEER-INCHARGE of the rates which it is his intention to charge for such class of WORK, supported by analysis of the rate or rates claimed, and the ENGINEER-INCHARGE shall determine the rate or rates on the basis of the prevailing market rates, labour cost at schedule of labour rates plus 10% to cover contractor's supervision, overheads and profit and pay the CONTRACTOR accordingly. The opinion of the ENGINEER- IN-CHARGE as to current market rates of materials and the quantum of labour involved per unit of measurement will be final and binding on the CONTRACTOR.

(d) Where the item of work will be executed through nominated specialist agency as approved by the ENGINEER-IN-CHARGE, then the actual amount paid to such nominated agency supported by documentary evidence and as certified by ENGINEER-IN-CHARGE shall be considered plus 10% (ten percent) to cover all contingencies, overhead, profits to arrive at the rates.

10.0 HEALTH SAFETY AND ENVIRONMENT (HSE)

10.1 The Contractor will strictly adhere to Health Safety and Environment policy as stated in

Technical **Specifications** of this Bid document and/ or the policies followed by the Owner.

10.2 All the safety rules and regulations prevailing and applicable from time to time at the installations as directed by OWNER will be strictly adhered to by the Contractor.

10.3 Contractor has to ensure the safety of man and machine all the times. Damages to equipment due to bad workmanship/negligence will be recovered as per the decision of Engineer-in-Charge, which will be final and binding upon the contractor.

10.4 The contractor shall supply all the protective safety equipment like helmets / hard head hats, gumboots / safety shoes, hand gloves, safety belts, eye protection, ear protection etc. to his workmen at his own cost as required by operations.

10.5 Carrying / striking of matches, open flames, lighters or smoking or other such acts, which may cause fire hazards at the work site / in the terminals / installations, is strictly prohibited.

10.6 Tobacco/ Ghutka chewing or other such acts, are strictly prohibited at the site.

10.7 In addition to the PRS clause, penalties for violation of HSE shall be imposed as per “PENALTIES” clause of SCC.

10.8 Contractor shall follow MNGL’s Safety Manual.

11.0 PROVIDENT FUND

11.1 The Contractor shall strictly comply with the provisions of Employees Provident Fund Act applicable in India and register them with Regional Provident Fund Commission (RPFC) before commencing the work. The Contractor shall deposit employees and Owners contributions to the RPFC every month. The Contractor shall furnish along with each running bill, the challan / receipt for payment made to the RPFC for the preceding months.

11.2 In case the RPFC’s challan / receipt, as above, is not furnished, Owner shall deduct 5% (Five percent) of the payable amount from Contractor’s running bill and retain the same as a deposit such retained amount shall be refunded to Contractor on production of RPFC Challan /receipt for the period covered by the related running bill.

11.3 In case it is observed that contractor fails to submit requisite RPFC Challans along with bills more than once during the tenancy of the contract and submits subsequently a token penalty per instance may be imposed by owner as per clause 24.

12.0 POWER AND WATER CONNECTION

12.1 The Owner will not provide any power and water during construction period. Contractor shall apply and obtain necessary power and water connection from relevant authority and will pay its uses charges or arrange the same from the other sources.

13.0 CONSTRUCTION AIDS, EQUIPMENTS, TOOLS & TACKLES

13.1 CONTRACTOR shall be solely responsible for making available for executing the WORK, all requisite CONSTRUCTION EQUIPMENTS, Special Aids, Barges, Cranes and the like, all Tools, Tackles and Testing Equipment and Appliances, including Customs of such equipment etc. as required. In case of Customs of the same the rates applicable for levying of Custom Duty on such Equipment, Tools, & Tackles and the duty drawback applicable thereon shall be ascertained by the CONTRACTOR from the concerned authorities of Government of India. It shall be clearly understood that OWNER shall not in any way be responsible for arranging to obtain Custom Clearance and/or payment of any duties and/or duty draw backs etc. for such equipment so imported by the CONTRACTOR and the CONTRACTOR shall be fully responsible for all taxes, duties and documentation with regard to the same.

14.0 CONDITIONS FOR ISSUE OF MATERIALS

14.1 Whenever any material is issued by Owner, following conditions in addition to other conditions as specified in the contract shall be applicable.

14.2 Necessary indents will have to be raised by the Contractor as per procedure laid down by the Engineer in- charge from time to time, when he requires the above material for incorporation in permanent works.

14.3 Materials will be issued only for permanent works and not for temporary works, enabling works etc. unless specifically approved by the Engineer-in-charge and the same shall not be taken into account for the purpose of materials reconciliation.

14.4 The contractor shall bear all other cost including lifting, carting from issue points to work. Site/ contractor's store, custody and handling etc. and return of surplus/ serviceable scrap materials to Owner's storage points to be designated by the Engineer-in-charge etc. No separate payment for such expenditure will be made.

14.5 No material shall be allowed to be taken outside the plant without a gate pass.

14.6 The contractor shall be responsible for proper storage, preservation and watch & ward of the materials.

14.7 **All free issue material shall be issued to contractor against submission of indemnity bond against each PO (as per Format attached in bid document) for 150% value of the initial PO value.**

14.8 In case manufacturing defect found in free issue material, same shall be communicated to Engineer-In-Charge within one month from the date of issue of material and material shall be return to MNGL store within 45 days from the date of issue of material. In case contractor fail to return the defective materials to MNGL store, penalty equal to twice of landed cost of defective materials shall be imposed by Engineer in Charge & his decision will be final & binding on the contractor.

14.9 Contractor to ensure that all free issue material shall be installed within a maximum period of 30 days from the date of issue.

14.10 Unconsumed free issue material value at any point of time against any PO should not exceed 20% of the maximum PO Value.

14.11 FIM will be issued to contractor against PO only after receipt of CPBG & Indemnity bond.

15.0 BUILDING AND OTHER CONSTRUCTION WORKERS (BOCW), ACT 1996

15.1 Applicability – the said act is applicable to every establishment which employs or had employed on any day often preceding twelve months, 10 or more building workers in any 'Building or other construction work' (Building or other construction work means the construction, repairs, maintenance or demolition of or in relation to building , streets, roads, railways, tramways, airfields, drainages, embankment, transmission and distribution of power, water works, oil and gas installations, pipeline etc.(refer section 2(d) of the act). It does not include any building and other construction work to which the factory act 1948 and the mines act 1952 is applicable).

16.0 CONTRACTOR'S OBLIGATION AT SITE

16.1 Contractor shall establish site office in the respective areas, allotted to them with adequate facilities like three tables, six chairs, telephone, computer with mailing (internet), printer (including consumables), file rack etc. for effective communication and documentation.

16.2 In addition to above, contractor shall provide separate space with facilities like two tables, six chairs, two computers with mailing (internet), printer with consumables, file racks, AC etc. and one office boy within the site office for MNGL for effective monitoring & documentation of the project.

16.3 Contractor shall provide as and when required a wagon(s) suitable for soil removal, for the delivery or reinstatement materials and for the transport of pipe to and from site.

16.4 Contractor shall provide transport for their technical staff and operatives to move from site to site, and to move tools and equipment from site to site, this vehicle will also be fitted with a tow bar suitable for the towing of a mobile air compressor or pipe trailer.

16.5 Contractors shall make appropriate arrangements to ensure that their supervisor(s) are adequately mobile and can attend sites or meetings with MNGL, other authorities or customers as required, without any undue delay.

16.6 Contractors shall provide cell phones to their supervisors for day-to-day communication with MNGL and site representatives of MNGL.

16.7 Contractor shall employ a Project Manager / Coordinator, Billing engineer and site engineers on company roll. Contractor shall submit Electronic Challan cum Return (ECR) of PF deposit of all employees deployed on MNGL site as proof that employees are on company pay role. The Project Manager / Coordinator must have qualification of BE Mech / Diploma in Mech Engineering with min. 7 years, Billing engineer must be Graduate with minimum 3 years' experience & Site Engineers must have minimum Diploma in Mechanical Engineering with 3 years of work experience in gas pipe line job.

16.8 Project Manager/ Coordinator shall be single point of contact for all the works and must represent company in the meetings. However, for all monthly review meetings, Owner of the contractor company shall have to be present as and when called by MNGL

16.9 Any change in key persons working at site shall be informed to the Owner promptly

16.10 Owner will not allow switching/swapping of key personnel of any contractor working at site from one contractor to another during the continuity of the contract.

16.11 Contractor shall deploy Equipment, Tools & tackles etc., at site as defined in tender documents.

16.12 1 No. commercial vehicle (four wheelers with driver) shall deployed at site. It shall be well equipped with tools and tackles for attending online connections, VIP cases/ urgent installation and on-going execution work.

17.0 IT RELATED RESOURCES:

17.1 Contractor is required to arrange for Smartphones/Tablets for its teams/supervisor/Plumbers which would be required to capture the connection details through field mobility software provided by MNGL. The tentative requirement for smartphone shall be as follows:

- 4GB RAM.
- 5.3-inch Screen (minimum).
- 4G/ 5G (2300 MHz) Connectivity (5G for video uploads).
- GPS Chip (for Location Tracking) with A-GPS (for accuracy during absence of internet).
- GHz Quad Core Processor.
- 8MP+ Back Camera.

- 5MP+ Front Camera.
- 3,500+ mAh Battery Size.
- Android Version 6.0 and above.

17.2 Contractor shall arrange a high speed scanner at his office to ensure scanning and uploading of documents prepared on site as per MNGL requirement.

17.3 Contractor shall arrange to provide the optical code scanner with option for connectivity with smartphone to ensure automatic scanning and meter serial no. capturing in the smartphone application.

18.0 RECONCILIATION OF OWNER SUPPLIED MATERIALS

18.1 The Contractor is responsible for completing the “Material Used” section of the worksheet for each job completed. This record will be used for the reconciliation of material at the end of the job or contract.

18.2 The full replacement or repair costs of all damages items will be recharged to the contractor.

18.3 It is mandatory that the contractor is required to undertake and submit inventory details of free issue and purchased materials on fortnightly basis to Owner/ Owner’s representative as per the approved format of the owner. The inventory details shall be in correlation with the Daily progress chart and material reconciliation sheet. Material reconciliation statement of all free issue materials shall be carried out on every month & reconciliation statement shall be submitted to MNGL

18.4 After the final reconciliation is carried out, the variances in materials issued against materials used and returned, will be assessed. All unused, scrap materials and salvageable materials shall be the property of the Owner and shall be returned by the Contractor category-wise at his cost to the Owner’s designated store yard (s). In case the Contractor fails to do so or exceeds the limits of allowances specified below for scrap/ serviceable materials, then recovery for such quantities not returned as well as returned in excess of permitted limit by the Contractor will be done at the penal rate i.e. 125% of landed cost at the time of final bill/ closing of contract by Engineer-in-charge shall be effected from the Contractor's bill (s) or from any other dues of the Contractor to the Purchaser. Contractor shall be responsible for the adjustment and measurement of the surplus materials to be returned to the store. Contractor shall also be responsible for suitable segregation of returned materials into
separate stacks of serviceable and scrap materials. Wherever certain material is covered under Contractor's scope of supply whether part or in full for any item of work covered under SOR, no allowance towards wastage/ scrap etc. shall be accounted for during execution stage.

Item	Scrap	Unaccountable
Gas Meters	0%	0%
Regulators	0%	0%
MLC pipe Brass fitting set	0%	0%
Gas Isolation, Appliance Valves	0%	0%
MDPE Pipes	1% (Less than the length defined below)	1%
GI pipe	1% (Less than 0.5 meter)	1%
Copper Tube/MLC Pipe	1% (Less than 0.3 meter)	1%

Note: "Pipe length less than 5.0 m for Dia- 125mm & 180mm shall be considered as nonreturnable scrap. Pipe length less than 10 m for Dia- 20mm/32mm/63mm shall be considered as non-returnable scrap."

18.5 Material consumption will be recorded on area wise basis. Material issued from the MNGL stores shall be consumed, recorded and returned using the same MNGL item code.

18.6 Any payments due to the Contractor may be withheld to cover these charges.

18.7 All waste materials, part lengths of pipe and other partly used items are the property of MNGL and must be returned to the stores with the appropriate documentation so that they can be considered as part of the material reconciliation.

19.0 COMPLIANCE WITH LAW

19.1 Contractor shall abide by all prevailing Laws of India including but not limited to:

a) Apprentices Act.
b) Contract labour (Regulation & Abolition) Act.
c) Employers Liability Act.
d) Environment Protection Act.
e) Factory Act.
f) Industrial Dispute Act.
g) Minimum Wages Act.
h) Payment of Wages Act.
i) Workman Compensation Act.
j) Building and Other Construction Workers (Regulation of Employment and Condition of service) Act, 1996
k) Any other Statute, Act, Law as applicable.

20.0 INSURANCE

The SCC provisions shall supplement GCC Clause as detailed below.

20.1 Contractor shall at his own expense arrange, secure and maintain insurance with reputed insurance companies to the satisfaction of the Owner as may be necessary and to its full value for all such amounts to protect the works in progress and his personnel from time to time and the interest of Owner against all risks as detailed in bid document. The form and the limit of such insurance as defined herein together with the under writer works thereof in each case should be as acceptable to the Owner. However, irrespective of work acceptance, the responsibility to maintain adequate insurance coverage at all times during the period of Contract shall be that of Contractor alone. Contractor's failure in this regard shall not relieve him of any of his responsibilities and obligation under the Contract.

Any loss or damage to the work/ material, during transportation, storage, erection and completion of work till such time the WORK is taken over by OWNER, shall be to the account of CONTRACTOR. CONTRACTOR shall be responsible for preferring of all claims and make good for the damage or loss by way of repairs and/or replacement of the parts of the Work damaged or lost. CONTRACTOR shall provide the OWNER with a copy of all insurance policies and documents taken out by him in pursuance of the CONTRACT. Such copies of document shall be submitted to the OWNER immediately upon the CONTRACTOR having taken such insurance coverage. CONTRACTOR shall also inform the OWNER at least thirty days in advance regarding the expiry cancellation and/or changes in any of such documents and ensure revalidation/renewal etc., as may be necessary well in time.

All costs on account of insurance liabilities covered under CONTRACT will be to CONTRACTOR's account and will be included in VALUE OF CONTRACT. However, the OWNER may from time to time, during the currency of the CONTRACT, ask the CONTRACTOR in writing to limit the insurance coverage risk and in such a case, the parties to the CONTRACT will agree for a mutual settlement, for reduction in VALUE OF CONTRACT to the extent of reduced premium amounts.

CONTRACTOR as far as possible shall cover insurance with Indian Insurance Companies.

(a) EMPLOYEES STATE INSURANCE ACT:

The CONTRACTOR agrees to and does hereby accept full and exclusive liability for the compliance with all obligations imposed by the Employee State Insurance Act 1948 and the CONTRACTOR further agrees to defend, indemnify and hold OWNER harmless for any liability or penalty which may be imposed by the Central, State or Local authority by reason of any asserted violation by CONTRACTOR or SUBCONTRACTOR of the Employees' State Insurance Act, 1948, and also from all claims, suits or proceeding that may be brought against

the OWNER arising under, growing out of or by reasons of the work provided for by this CONTRACTOR, by third parties or by Central or State Government authority or any political sub- division thereof.

The CONTRACTOR agrees to fill in with the Employee's State Insurance Corporation, the Declaration Forms, and all forms which may be required in respect of the CONTRACTOR's or SUB- CONTRACTOR's employees, who are employed in the WORK provided for or those covered by ESI from time to time under the Agreement. The CONTRACTOR shall deduct and secure the agreement of the SUBCONTRACTOR to deduct the employee's contribution as per the first schedule of the Employee's State Insurance Act from wages and affix the Employee's Contribution Card at wages payment intervals. The CONTRACTOR shall remit and secure the agreement of SUB-CONTRACTOR to remit to the State Bank of India, Employee's State Insurance Corporation Account, the Employee's contribution as required by the Act. The CONTRACTOR agrees to maintain all cards and Records as required under the Act in respect of employees and payments and the CONTRACTOR shall secure the agreement of the SUBCONTRACTOR to maintain such records. Any expenses incurred for the contributions, making contributions or maintaining records shall be to the CONTRACTOR's or SUB-CONTRACTOR's account.

The OWNER shall retain such sum as may be necessary from the total VALUE OF CONTRACT until the CONTRACTOR shall furnish satisfactory proof that all contributions as required by the Employees State Insurance Act, 1948, have been paid. This will be pending on the CONTRACTOR when the ESI Act is extended to the place of work.

(b) WORKMEN COMPENSATION AND OWNER'S LIABILITY INSURANCE:
Workmen Compensation and Owner's Liability Insurance shall be taken by the CONTRACTOR at its own cost covering all its employees who are engaged in the performance of this CONTRACT. If any of the work is sublet, the CONTRACTOR shall require the SUB-CONTRACTOR to provide workman's Compensation and Owner's liability insurance for the latter's employees if such employees are not covered under the CONTRACTOR's Insurance.

The policy shall indicate:
1. Contract No./ Work Order no.
2. Complete scope of work
3. Site/ location details
4. Details of workmen to be insured
5. Validity period of the insurance coverage

(c) TRANSIT INSURANCE
Open transit policy of all items to be transported by the CONTRACTOR to the SITE of WORK, shall be taken by the CONTRACTOR and monthly declaration of the materials

to be transported or transported to be declared to the insurance agency. This will include the materials to be supplied by the CONTRACTOR to MNGL site and or any free issue materials issued by MNGL, to be transported to site for execution of work. The cost of transit insurance should be borne by the CONTRACTOR and the quoted price shall be inclusive of this cost.

(d) CONTRACTOR'S ALL RISK INSURANCE POLICY (CAR)
The contractor shall take all risk insurance policy at its own cost to cover physical loss or damage to the works at the site occurring prior to acceptance of work or part hereof taken over by the owner at its sole discretion with an extended maintenance coverage for the contractor's liability including Third Party Liability in respect of any loss or damage during the warranty period. Endorsements to the policy shall include coverage for faulty workmanship and materials.

Contractor will be required to take insurance coverage of minimum 1.5 times the order value to cover the cost of free issue material/items issued by the Owner and the cost of materials being procured by the CONTRACTOR.

The policy shall indicate:

1. Contract No./ Work Order no.
2. Complete scope of work
3. Site/ location details
4. Type of risks covered
5. Validity period of the insurance coverage

The contractor shall take all risk insurance policy at its own cost to cover physical loss or damage to the works at the site occurring prior to acceptance of work or part thereof taken over by the owner at its sole discretion with an extended maintenance coverage for the contractor's liability in respect of any loss or damage during the warranty period. Endorsements to the policy shall include coverage for faulty workmanship and materials.

The policy shall indicate complete scope of work, site, location details of work, type of risks covered and validity of the insurance

(e) ANY OTHER INSURANCE REQUIRED UNDER LAW OR REGULATIONS OR BY OWNER:

CONTRACTOR shall also carry and maintain any and all other insurance(s), which he may be required under any law or regulation from time to time without any extra cost to OWNER. He shall also carry and maintain any other insurance which may be required by the OWNER

21.0 STATUTORY APPROVALS

21.1 General permissions shall be obtained by the Purchaser. However, working approval from any authority required as per statutory rules and regulation of Central/ State Government/Local Bodies shall be the Contractor's responsibility unless otherwise specified in the bid document. The application on behalf of the Purchaser for submission to relevant authorities along with copies of required certificates complete in all respects shall be prepared and submitted by the Contractor well ahead of time so that the actual construction/commissioning of the work is not delayed for want of the approval/ inspection by concerned authorities.

21.2 The Contractor shall be responsible for arranging the inspection of the work by the authorities and necessary co-ordination and liaison work. However, Owner will reimburse the statutory fees paid by the contractor at actual on production of documentary evidence.

21.3 Any change/ addition required to be made to meet the requirements of the statutory authorities shall be carried out by the Contractor without additional cost to Owner. The inspection and acceptance of the work by statutory authorities shall however, not absolve the Contractor from any of his responsibilities under this Contract.

22.0 SITE CLEANING

22.1 Contractor shall clean and keep clean (Housekeeping and cleanliness) the work site always to the satisfaction of the Engineer–in-charge for easy access to work site and to ensure safe passage, movement and working.

22.2 The Contractor shall dispose of the unserviceable materials, debris etc. to any area, as decided by the Engineer–In–Charge.

22.3 No extra payment shall be paid on this account.

23.0 WORKMANSHIP

23.1 Regarding work completion, the decision of the Engineer-in-Charge will be final and binding.

23.2 The work executed and material supplied shall be to the satisfaction of Engineer-in-Charge and contract price shall include for any incidental and contingent work although not specifically mentioned in the contract but is necessary for its completion in an efficient and workman like manner.

23.3 The Engineer-in-Charge or his authorized representative shall approve the quality of all the materials used by contractor from time to time.

24.0 PENALTIES – Penalties shall be as specified in scope of work.

25.0 VOID

26.0 COMPLETION DOCUMENT

26.1 Contractor in three sets shall submit the following documents in hard binder, as a part of completion documents:

a) Copies of the Inspection reports, welding, lowering etc, HDD Profiles, Approved construction drawing, As-built drawing, Pre testing, final Hydrostatic and other Test reports.
b) Consumption statements of PE Line Pipes certified by Owner's Site Engineer.
c) Material Reconciliation.
d) All other requirements as specified in the respective specifications.
e) Completion Certificate issued by Owner's Site Engineer.
f) No claim and No dues certificate by the Contractor.
g) Recovery statement, if any.
h) Statement for reconciliation of all the payments and recoveries made in the progress bills.
i) Copies of deviation statement and order of extension of time, if granted.
j) Copies of all documents related to statutory requirements like Labour License, CAR Policy, WCP, EPF, ESI challans etc.
k) Any other contractual documents required on completion.
l) Soft copy of Isometric drawing and other relevant documents.

27.0 TIME LIMIT FOR CLAIMS

27.1 Under no circumstances whatsoever, shall the contractor be entitled to any compensation from Owner on any account unless the contractor shall have submitted claim pertaining to the contract in writing to the Engineer-in-Charge within 30 days of cause of such a claim occurring. Contractor shall be deemed to have waived off is its writes rights to claim the same, if the claim is not raised within this period.

28.0 VOID

29.0 MATERIAL TO BE SUPPLIED BY THE CONTRACTOR

29.1 Contractor will place timely orders on Owner's specified manufacturers/agencies so as to receive the material in accordance with the execution of project activities. The orders to be placed by the contractor shall incorporate certain clauses with respect to delivery schedule, guarantee/warranty, inspection and despatch clearance by Owner. The items and quantities shall be in accordance with the work to be executed and shall be verified by Owner for its appropriations.

29.2 All material will be manufactured as per approved Quality Assurance Plan (QAP) only to be specified by Owner. Material will be inspected by owner's approved third party inspection (TPIA), the charges of which shall be borne by contractor.

29.3 After approval of QAP, Contractor will submit a schedule production plan mentioning qty's of production along with inspection call at-least one week in advance from the date of commencement of production.

29.4 Contractor will submit a written request to Owner for dispatch clearance of material. For this purpose, he will be required to submit detailed material test inspection report and release note issued by the TPIA. On getting the dispatch clearance, the contractor will arrange material dispatch to the designated project site(s).

29.5 Contractor shall arrange for proper storage of his material distinctly separate from free issued material. Contractor shall require appraising Owner regarding cover area, lock & key arrangement of its safe custody, resources marked safe and proper receiving, stocking, issuing, and maintaining all verifying records on regular basis.

29.6 Contract shall invariably submit copies of order placed by them on various agencies for sourcing material and shall ensure submission of invoices, challans/packing lists, LR Copy, material inspection report and guarantee/warranty certificate for each lot of material received at Owner's site.

29.7 All material should be covered under warranty for satisfactory performance for maximum period of defect liability of executed work. Any defect noticed during defect liability period shall be promptly attended as faulty material must be contractor's responsibility to take-up the matter with material supplier. Any delay on account of non-availability of ordered material or replacement of faulty material shall not be waived by the reason of material having ordered to and inspected by Owner's recommended agencies. Faulty material must be contractor's responsibility to take-up the matter with material supplier. Any delay on account of non-availability of ordered material or replacement of faulty material shall not be waived by the reason of material having ordered to and inspected by Owner's recommended agencies.

29.8 In case of non-availability of required material to be provided by the contractor and the material being available with MNGL, it can be issued to the contractor on chargeable basis. The charges payable by the contractor shall be in advance and at the last PO rate plus 15% overhead charges. However, any delay on account of non-availability of material shall be to contractor's account for applicability of PRS clause.

29.9 Before award of works order/ starting of work at allotted site, contractor shall provide details of stores and site office established by him for the intended work. Failing which the allocation of work may be deferred by Owner. Also, the contractors shall submit details of tools & tackles under his procession required for execution of the work. Owner shall verify all these aspects before allocating work to the contractor.

29.10 The networking work includes Horizontal Directional Drilling (HDD) at various locations by means of HDD machines of appropriate capacities. Contractor advised to apprise himself of all such requirements and confirm in writing to the owner of having HDD machines with him or having tie-up with some reputed contractor. Any delay during the executing due to nonavailability of HDD machine shall not be accepted by Owner.

29.11 Contractor will not transfer any free issue as well as his supplied material to any other site/ any other contractor without prior written approval of the Engineer- In-charge

30.0 STC TRAINING

30.1 STC Training is compulsory for each contractual manpower which shall be arranged by MNGL and cost of same shall be recovered from contractor @ Rs. 500 in their RA bills in case of absenteeism as per schedule provided by MNGL if the reason of absenteeism is attributable to contractor, the cost shall be recovered as per the expenditure of MNGL for arranging training on per person per training basis.

31.0 CONTRACT CUM EQUIPMENT PERFORMANCE BANK GUARANTEE

31.1 **Within thirty (15) Days of receipt of the Letter of Acceptance / Notification of Award, the successful bidder shall furnish to the Purchaser the Contract-Cum-Equipment Performance Bank Guarantee (CPBG) for value as per clause no 24.0 of GCC**

31.2 All bank guarantees will also have 30 day's claim period beyond expiry date.

31.3 The proceeds of the Contract-Cum-Equipment Performance Bank Guarantee shall be payable to the Purchaser as compensation for any loss or damage resulting from the Supplier's failure to complete its obligations under the Agreement.

31.4 The Contract-Cum-Equipment Performance Bank Guarantee shall be denominated in the currency of the Contract/ Letter of award.

31.5 A bank guarantee issued by a nationalized bank or a scheduled Indian bank or by the branch of a reputable international bank located in India and registered with RBI.

31.6 The Contract Performance Guarantee will be discharged by the Owner and returned to the Supplier not later than thirty (30) days following the date of completion of all the Supplier's performance obligations under the Contract, including any warranty obligations.

31.7 The Contract-Cum- Equipment Performance Bank Guarantee should be kept valid for 90 days beyond the completion of contract performance period. Additional one-month claim period shall be included in CPBG. For the format of the CPBG please refer Format F-10.

32.0 FALL CLAUSE

Fall Clause is not applicable.

33.0 GENERAL

33.1 All personnel of the contractor entering the work premises shall be properly and neatly dressed and shall wear uniform badges while working on premises of the Purchaser including work sites. Non-compliance of this clause shall attract a penalty of Rs. 1000 per instance.

33.2 Contractor shall provide all labour and necessary supervision to carry out the work as per the scope of work as defined in tender document, which forms part of this contract in accordance with the conditions of the contract laid down in this part of contract read in conjunction with General Conditions of Contract.

34.0 CLOSING OF PO

34.1 It is contractor's obligation to close the PO within 3 months, once the value is consumed or validity is expired. In case contractor fails to close the PO within this period, MNGL will short close the PO as per data available on the record. MNGL reserves the right to adjust any pending liability of the closed PO/contract from the any other running PO/contract.

PART E

SCOPE OF WORK

INDEX

1. INTRODUCTION
2. PROJECT DESCRIPTION
3. WORK TENDERED
4. SCOPE OF WORK
5. SCOPE OF SUPPLY
6. LIST OF APPROVED SUPPLIER FOR BOUGHT OUT ITEMS
7. TIME SCHEDULE
8. MEASUREMENT OF WORKS
9. TERMS OF PAYMENT
10. QUALITY ASSURANCE
11. NOTICE AND LICENCES
12. WORKING HOURS
13. RESPONSIBILITY OF CONTRACTOR
14. ADDITIONAL WORKS/EXTRA WORKS
15. CONSTRUCTION
16. DOCUMENTS, SPECIFICATION, STANDARDS AND DRAWINGS
17. HEALTH SAFETY AND ENVIRONMENT (HSE) MANAGEMENT
18. SCHEDULE OF LABOUR & EQUIPMENT
19. CONSTRUCTION EQUIPMENT
20. MINIMUM REQUIREMENT OF SKILLED MANPOWER
21. PROJECT SCHEDULING & MONITORING
22. ROUTE SURVEY
23. ORGANIZATION OF WORK
24. STRUCTURES, SERVICES AND OTHER PROPERTY
25. TRENCHING
26. LAYING
27. JOINTING OF POLYETHYLENE PIPE
28. BACKFILLING
29. CASING PIPE
30. RESTORATION
31. TESTING OF MDPE PIPELINE
32. PURGING
33. VALVE PIT
34. PERMANENT MARKERS
35. ASSISTANCE IN COMMISSIONING
36. RESIDUAL ENGINEERING
37. TECHNICAL SPECIFICATION FOR HDPE PIPES
38. TECHNICAL SPECIFICATION FOR WARNING MATS
39. TECHNICAL SPECIFICATION FOR MDPE FITTINGS INCLUDING TRANSITION FITTINGS

40. TECHNICAL SPECIFICATION FOR INSTALLATION OF ABOVE GROUND GI/Cu PIPING
41. ABOVE GROUND SERVICES PIPE: METER-COPPER INSTALLATION
42. INSTALLATION OF METERS & REGULATOR
43. RESTORATION
44. CONVERSION OF DOMESTIC APPLIANCES
45. TECHNICAL SPECIFICATION FOR COPPER FITTINGS (ENDFEED) FOR NATURAL GAS USE UP TO 100 mbar
46. TECHNICAL SPECIFICATION FOR FLUX
47. TECHNICAL SPECIFICATION FOR SOLDER WIRE
48. TECHNICAL SPECIFICATION FOR GI FITTINGS
49. SPECIAL NOTES PERTAINING TO SCHEDULE OF RATES (SOR)
50. PENALTY

A) **TECHNICAL**

1. **INTRODUCTION**

Maharashtra Natural Gas Limited (MNGL) is a Joint Venture company between Gail (India) Limited and Bharat Petroleum Corporation Ltd. (BPCL). MNGL has been setup to provide CNG (Compressed Natural Gas) as fuel vehicles through CNG filling stations and PNG (Piped Natural Gas) to Industrial, Commercial & Domestic Sectors in Pune including PMC, Pimpri-Chinchwad, Dapodi, Chakan, Hinjewadi and surrounding areas like Talegaon, Nashik-Dhule & Valsad(excluding already authorized areas),Sindhudurg,Ramanagara, Nanded-Parbhani-Buldhana & Nizamabad,Kamareddy,Nirmal,Adilabad,Asifabad and Mancherial GA.

For that, MNGL plans to install a PNG Distribution network in Pune GA. MNGL through this tender is seeking contractors to lay an underground Medium Density Polyethylene (MDPE) pipelines and provide Pune GA.

The main scope of this specification comprises of laying of underground Medium Density Polyethylene (MDPE) main pipelines and services pipelines from the DRS to PE / GI transition fitting (inclusive). All the materials shall be supplied by contractor except MDPE pipes, GI and Cu/MLC pipes, meters, regulators and valves (MCV, RIV and appliance valve), rectification (if any). The scope covers the activities associated with supply laying, testing and commissioning of MDPE main pipelines and services pipelines of sizes ranging from 20 mm to 180 mm OD up to and including the PE / GI transition fitting above ground level.

MNGL is planning to connect domestic, commercial and Industrial customers through this tender for City Gas Distribution Projects at **Pune GA.** However, the pipe route & number of connections planned is tentative & may undergo changes as per actual requirement as decided by the Engineer-in-Charge.

1.1 Special conditions of contract shall be read in conjunction with the General Conditions of Contract (GCC). Schedule of rates, specifications of work, drawings and any other document forming part of this contract wherever the context so requires.

1.2 Notwithstanding the sub-division of the document into these separate sections and volumes, every part of each with and into the contract so far as it may be practicable to do so.

1.3 Where any portion of the GCC is repugnant to or at variance with any provisions of the special conditions of contract, then unless a different intention appears, the provision(s) of the special conditions of contract shall be deemed to override the provision(s) of GCC only to the extent that such repugnancies of variations in the

special conditions of contract are not possible of being reconciled with the provisions of GCC.

1.4 Wherever it is stated in this Bidding Document that such and such a supply is to be effected or such and such a work is to be carried out, it shall be understood that the same shall be effected/carried out by the contractor at his own cost, unless a different intention is specifically and expressly stated herein or otherwise explicit from the context. Contract value (also referred to as Contract price) shall be deemed to have included such cost.

1.5 The materials, design and workmanship shall satisfy the applicable relevant Indian Standards, the job specifications stipulate requirements 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/codes of practice for detailed specifications cove1ring any part of the work covered in this Bidding on the contractor.

1.6 In partial modification to GCC the following shall apply:

In case of contradiction between Indian or other applicable Standards, General Conditions of Contract, Special Conditions of Contract, Specifications, drawings, Schedule of Rates, the following shall prevail in order of precedence:

i) Letter of acceptance along with statement of Agreed variations.
ii) Fax / Letter of Intent / Fax of Acceptance / Item Rate Contract
iii) Schedule of Rates as enclosures to letter of acceptance
iv) Job / Particular Specifications
v) Drawings
vi) Technical / Material Specifications
vii) Special Conditions of Contract
viii) General Conditions of Contract
ix) Indian Standards
x) Other Applicable Standards

1.7 It will be contractor's responsibility to bring to the notice of Engineer-in-charge any irreconcilable conflict in the contract documents before starting the work(s) of making the supply with reference which the conflict exists.

In the absence of any specifications covering any material, design of work(s) in the same shall be performed / supplies / executed in accordance with Standards Engineering Practice as per the instructions / directions of the Engineer-in-charge, which will be binding on the Contractor.

1.8 The requirements of any statutory body and authority like Indian boiler regulation, Tariff Advisory Committee, Chief controller of Explosives, etc, shall govern where these are more stringent than the requirements specified above.

1.9 Owner's representative means authorized representative of Owner (i.e. M/s MNGL).

2. PROJECT DESCRIPTION

Maharashtra Natural Gas Limited (MNGL) is a Joint Venture company between GAIL (India) Limited and Bharat Petroleum Corporation Ltd. (BPCL). MNGL has been setup to provide CNG (Compressed Natural Gas) as fuel to vehicles through CNG filling stations and PNG (Piped Natural Gas) to Industrial, Commercial & Domestic Sectors in PMC, PCMC, Chakan, Talegaon, Hinjewadi and surrounding area, Nashik-Dhule & Valsad(excluding already authorized areas), Sindhudurg, Ramanagara, Nanded-Parbhani-Buldhana and Nizamabad-Nirmal-Nirmal-Adilabad, Mancherial,Asifabad GA.

MNGL through this tender is seeking contractors to lay an underground Medium Density Polyethylene (MDPE) pipelines, above ground GI/ Cu/MLC works and provide Natural Gas connections to Commercial/ Industrial & Domestic consumers in PMC, PCMC, Chakan, Talegaon, Hinjewadi and surrounding area of Pune GA.

The main scope of this specification comprises of Laying, testing and commissioning of underground Medium Density Polyethylene (MDPE) pipelines of sizes ranging from 20 mm to 180 mm OD from the DRS to PE / GI transition Fitting & installation of GI/Cu Pipelines for Natural Gas supply to Domestic and commercial/ industrial consumers. The scope also covers supply & installation of the GI fitting & other associated fittings for aboveground installation and all MDPE Pipeline's associated Fittings, Valves, HDPE Casing, Warning Mat, etc. for underground installation for City gas project of Maharashtra Natural Gas Limited (MNGL) for Pune area. The scope also covers the laying of MDPE service pipelines and GI & Copper/MLC piping to connect new customers in the charged areas. The scope also includes the residual engineering of MDPE Pipeline network from the down stream of Service Regulators within the colonies.

Project Details
A brief description of the proposed facilities are given below :-

Pune GA- PMC, PCMC, Chakan, Talegaon, Hinjewadi & surrounding area

MDPE Pipeline Diameter	: 180 mm to 20 mm
Pipe Material	: MDPE PE-80/100, SDR-11
Operating Pressure/ Rating	: 4 kg/cm^2 (g) in Main pipeline and 100 mbar in LP Pipeline

3.0 **WORK TENDERED**

Work tendered in this bid package pertains to laying of underground MDPE Pipeline (including supply of casing pipe, associated fittings, valves, etc.) and GI Service pipe installation (including supply of GI fitting) to domestic & commercial/ industrial consumers complete with associated facilities.

The Contractor is to broadly carry out the following activities:-

3.1 Laying of the underground MDPE Pipeline, supply & installation of valves & fittings (wherever required) along with associated facilities from the proposed DRS for each industry / commercial consumer / housing society / cluster as indicated in drawings or as directed by the owner/EIC.

3.2 Complete aboveground installation of GI/Cu/MLC piping system including Meters, Regulators, Valves, etc.

3.3 Valve chamber wherever required.

3.4 Installation of MDPE pipeline including supply of casing pipe (with or without casing) at all crossing of rail, road, utilities, underground pipeline & water bodies (drain, stream & nala etc.).

4.0 **SCOPE OF WORK**

The scope of work covered in this Contract will be as described in to SCC, Particular job specifications, Standard Specifications, Schedule of Rates etc. & various other parts of this Bidding Document.

The scope of work shall generally be, but not limited to the following:-

4.1 Plan and prepare a schedule for execution and work implementation as per QA/QC plans to be issued by MNGL. Contractor has to submit the Construction/ Execution procedures before commencement of work.

4.2 **Primary responsibility of obtaining permissions from various authorities, management of sites, land owning agencies for road cutting / excavation for laying of pipeline to complete the job is contractors responsibility. Liasioning with concerned authorities (Government / Private) during the execution of the job is the scope of the Contractor.**

4.3 Receipt of free issue items from MNGL's designated stores, loading, transportation, unloading at Contractor’s stores near project sites.

4.4 Proper storing, stacking, identification, providing security, and insurance, during storage, laying and upto handing over of pipelines.

4.5 Making trial pits to determine the underground utilities /services such as existing pipelines, Cables (Electrical/Communication), Conduits, U/G drainage, Sewers, tunnels, Subways foundations etc, and deciding optimum routes and depths for laying the pipelines based on the route plans provided in the tender.

4.6 Obtaining the approval for optimum route and ROU from the concerned authority and EIC. Grading the ROU as per requirement for proper movement of workmen, equipment and QA/QC personnel.

4.7 Wherever required the grass/turfing, pavement, linings, drains roads and other such 'pucca' area shall be locally removed to facilitate trenching and pipe laying works. The same is to be reinstated as original.

4.8 Supply & Installation of Safety/ Warning Signs, barricading of the entire route to be trenched. Pits to be similarly barricaded along the warning sign.

4.9 To make trenches with stable slopes but restricting minimum disturbance to above ground/underground services/ installation as per specifications and approved route plans; keep the trenches free from water and soil till placement of pipes;

4.10 Uncoiling/ stringing the PE pipes of required sizes (i.e. 20, 32, 63, and 90, 125 & 180 mm) pipes into trenches as per specification.

4.11 Joining the pipe ends with fittings and valves by approved electro-fusion techniques as per specification.

4.12 Removal (if any in GI-Cu/MLC work), Installation of pipe fittings/installation like elbow, tee, reducers, tapping saddles, joints, connectors, transition fittings, valves etc. including construction of supports, valves pits, inspection chambers etc. as per specification.

4.13 Laying pipeline using trench less technology methods with or without casing pipes as per specification and as directed by EIC.

4.14 Supply & Laying of HDPE duct as casing pipe wherever applicable, alongwith MDPE Pipe.

4.15 Supply of good quality GI sleeves, Transition Fitting Guard, MS enamel coated sleeves, concrete casing pipes, sand and other material, fittings to be supplied by the Contractor as per provisions of tender.

4.16 Back filling and compaction by jumping jack compactor using approved 'good' soil or using excavated earth or borrow earth as per requirement and specification and replacement of tiles, slabs removed during the excavation. Cleaning all unserviceable material, debris, excess earth near trenches etc to designated disposal area.

4.17 Carrying out pneumatic testing and purging as per specifications and approved procedures; providing all tools, tackles, instruments, manpower and other related accessories for carrying out the testing of pipes.

4.18 Nitrogen purging (including supply), commissioning & gas charging of tested pipeline as per approved procedure.

4.19 Restoration of existing ground features such as grass/ turfing, paving, roads, drains, concrete, floral beds, fencing, titles, flooring masonry etc. to original condition and to match with adjoining conditions- functionally and aesthetically upto the entire satisfaction of MNGL any other third party agency designated by MNGL and local authorities, failing which, it will be done at the risk and cost of the contractor. Obtaining satisfactory completion certificates for the restoration work done from the concerned authorities.

4.20 Installing of permanent site markers, warning signs, valve chamber etc.

4.21 Returning surplus material to MNGL stores, reconciliation of free issue material/ consumables and obtaining 'no objection certificates' from MNGL

4.22 Handing over the completed works to MNGL for their operation / use purposes.

4.23 Maintaining the completed pipelines/installation for any defect, failures during defect liability period.

4.24 Preparation and submission of As–built drawings, details of crossings, utility graphs, measurement sheets and deviation statements on completion / commissioning of work by way of drawing, sketches and tables.

4.25 Any other activity(ies) not mentioned/ covered explicitly above, but otherwise required for satisfactory completion/ operation/ safety/ statutory/ maintenance of the works shall also be covered under the Scope of work and has to be completed by the Contractor within specified schedule at no extra cost to MNGL.

4.26 **Procurement**

4.26.1 CONTRACTOR shall procure and supply all the materials other than OWNER supplied materials, required for permanent installation of main pipeline and aboveground GI/Cu Installation in sequence and at appropriate time. All equipment, materials, components etc. shall be suitable for the intended service. Approved vendor list has been indicated

in the bid package for various items. For items which are not covered in the vendor list, CONTRACTOR shall obtain OWNER's prior approval for the vendor.

4.26.2 CONTRACTOR shall procure all materials, components, equipment, consumable etc. required for successful completion of the pipeline system. CONTRACTOR shall also procure and supply spares required for pre-commissioning and commissioning/ start up as recommended for all items supplied by him as per specifications provided in the bid package. Where no specification is available in the contract, the same shall be prepared by the CONTRACTOR based on the piping material specification and shall be subject to OWNER's approval.

4.26.3 Material take-off with complete description of size, rating, material, thickness and specifications.

4.26.4 Only single offer shall be provided by the bidder fully complying to specifications/ drawings/ requirements for OWNER's review and approval. CONTRACTOR shall provide for inspection of the items at vendor's works by the OWNER/ OWNER's REPRESENTATIVE or by a reputed inspection agency and shall submit inspection reports for OWNER's clearance.

4.26.5 Stores management including receipt, warehousing, preserving the material in good condition, issue of material to construction site, reconciling/ handing over surplus material to OWNER for OWNER supplied items.

4.26.6 Carryout proper documentation of inspection and quality assurance programmes for all equipment and bulk materials duly approved by OWNER. CONTRACTOR shall maintain an accurate and traceable listing of procurement records for the location, quality and character of all permanent materials in the Project.

4.26.7 CONTRACTOR shall immediately report to the OWNER of all changes which will affect material quality, and recommend any necessary corrective actions to be taken.

4.26.8 Submit periodic manufacturing progress reports highlighting hold ups and slippages, if any, to OWNER and take remedial measures.

4.26.9 Interact with authorities such as Sales Tax, Octroi / LBT, Excise, Customs etc. as necessary and arrange for transportation of the materials under his scope of supply to site.

4.26.10 All purchase requisitions including purchase orders shall be approved by OWNER/ OWNER's REPRESENTATIVE.

4.26.11 Compliance with vendor's and supplier's instructions and recommendations for transportation, handling, installation & commissioning.

4.27 **Construction**

4.27.1 All construction works shall be carried out as per "Approved for Construction" drawings, procedures, specification and applicable codes and standards. Any changes at site shall also need prior approval from the OWNER and revision of drawings. Construction drawings will be submitted by the Contractor in a phased manner for owner's approval in accordance with the procurement and construction plan prepared and furnished by contractor & agreed by Owner.

Owner will take minimum 7 working days from the date of submission of the documents / drawings submitted by the contractor for owner's comments / approval.

4.27.2 **Statutory Approvals**

The Owner shall provide to the Contractor the basic / in principal approval for laying the pipeline. However, the Contractor at his own initiative shall obtain all permissions, permits and licenses necessary for the performance of the work. If any such permission, permit or license required for the performance of the work by the contractor can only be granted at the request or recommendation of the Owner, the Owner shall at the request of the Contractor, provide recommendatory letters to the contractor to obtain or procure the same. The contractor shall not, however be entitled to any additional compensation over and above contracted rates of services for any hardship or increased cost caused by any idleness, suspension or disruption of work or any other account whatsoever as a result of the inability of the contractor to obtain the permission(s), permit(s), license(s) aforesaid to match with the progress of the work nor shall the same constitute a ground for extension of time.

a) The approval from any authority required as per statutory rules and regulations of

Central/ State Government, PWD, Irrigation Deptt. etc. shall be the contractor's responsibility unless otherwise specified in the tender document. The application on behalf of the Owner for submission to relevant authorities alongwith copies of required certificates complete in all respects shall be prepared and submitted by the Contractor well ahead of time so that the actual construction/ commissioning of the work is not delayed for want of the approval/ inspection by concerned authorities. The Contractor shall arrange the inspection of the works by the authorities and necessary coordination and liaison work in this respect shall be the responsibility of the Contractor. However statutory fees paid, if any, for all inspections and approvals by such authorities shall be reimbursed at actuals by the Owner to the Contractor on production of documentary evidence.

b) The defective work resulting from poor workmanship and/ or material supplied by contractor, as pointed out by any statutory authority shall be rectified by the contractor at no extra cost to the Owner. Any change/ addition required to be made to meet the requirements of the statutory authorities, the same shall be carried out by the contractor free of charge. The inspection and acceptance of the work by statutory authorities shall, however, not absolve the contractor from any of his responsibilities under this contract.

4.27.3 The Contractor shall comply with all the conditions and requirements issued by Authorities having jurisdiction in the area where the work is to be performed.

It shall be the Contractor's sole responsibility to make arrangements for land for setting up of its string fabrication yards, all storage areas for line pipe and other materials, wherever required, and all other work areas.

The Contractor shall make all arrangements for access to his work site at his own cost and responsibility. If no public road exists Contractor shall arrange on his own for access to his work area at no extra cost to the COMPANY.

The CONTRACTOR shall be responsible for claims if any arising out of damage/ obstruction to public utilities like lines of DOT etc. where the claims will cover the restoration costs as well as loss of revenue due to down time.

4.27.4 Providing schedules, progress reporting, organization chart at construction site, quality assurance plan and developing quality control procedures, as per requirements indicated elsewhere in the bid package.

4.27.5 Coordination and supervising the work of sub-contractors.

4.27.6 Transportation of appropriate materials and taking delivery of Company supply materials, store, worksite, intermediate storage points, maintaining and operating an adequate material control procedure at worksite.

4.27.7 Fabrication of all GI piping, structural components as per approved drawings.

4.27.8 All civil/ structural works, electrical and instrumentation, laying and commissioning works shall be performed in accordance with relevant specifications and requirements enclosed elsewhere in the bid package.

4.27.9 CONTRACTOR shall provide complete details of manpower, equipment etc. to be deployed. Mobilizing and providing all equipment's, manpower (skilled and unskilled), consumable and other resources etc. for each spread as required for the execution of the complete job defined herein and thereafter demobilizing the same upon completion of work.

4.27.10 Provide, maintain and operate all temporary facilities required for the construction related works and remove after completion of work. Providing barricades along the trench in city area as per instruction of Engineer-in-charge for safety.

4.27.11 Hook up/ tie-in of pipeline and piping system with other facilities like DRS/MRS etc.

4.27.12 All works related to cleaning, testing, pre-commissioning and commissioning of the work tendered.

4.27.13 Idle time preservation of pipeline, if required.

4.27.14 All incidental and associated works and any other works not specifically listed therein but are required to be carried out to complete entire work related to pipelines and terminals.

4.28 **Main Pipeline**

4.28.1 **Topographic Survey**

The contractor shall be deemed to have familiarized themselves with route prior to quoting and take care of all the eventualities. No extra cost shall be admissible in any form at a later date. Any additional survey/ route survey and their details required either for local detours during execution or for which the survey work for sections of pipeline have not been carried out by owner, shall be carried out by contractor in similar manner without any extra cost to the owner. However, laying and construction of entire pipeline including detoured portion and pipeline section/ sections of pipeline for which survey work has not been carried out by Owner, shall be within the scope of contractor without any cost implication. **Contractor shall be deemed to have considered such survey works while formulating his bid.**

Preliminary schematic layout of MDPE pipeline route and other standard drawings are included in the Bid Package. These drawings are indicative & tender purpose only and are furnished to enable Bidder to estimate the quantum of work and to quote a firm price for the work. Final construction drawings of all type shall be prepared and submitted for approval to Owner by successful bidder / contractor at or before project execution stage. Approved for Construction drawings may vary to some extent from the drawings included in the Bid Package. Contractor shall carry out all works in accordance with the construction drawings duly approved by Owner without any extra time & cost implication to the Owner.

4.28.2 **Familiarization of Pipeline Route**

Bidders are advised to make site visits to familiarize themselves with all the salient features of terrain and available infrastructure along the pipeline route. Contractor shall be deemed to have considered all constraints and eventualities on account of site

conditions along pipeline route while formulating his bid. Contractor shall not be eligible for any compensation in terms of cost and/ or time, on account of site conditions along pipeline route varying to any extent from whatever described in the Bid Package and the drawings furnished along with the Package.

4.28.3 **Soil Investigation**

Work will be in **Pune GA.** hence the pipeline route and its major crossing location in general may encounter hard soil area / rocky area while excavating by open cut / trenchless method. It shall be Bidder's responsibility to familiarize himself with sub-soil conditions along the pipeline route, and work out the lengths of pipeline to be laid in different subsoil conditions including quantum of rock excavation by control blasting (Permission / approval / NOC / work permit will however be obtained by the contractor) / cutting and chiseling of hard soil / rock / stone, that would be necessary and shall be required while formulating their bid. **Unit rates for pipeline construction as quoted by Bidder shall include the above and be inclusive of all excavation. Contractor shall not be entitled for any extra compensation in terms of time and cost for any kind of excavation and variation in actual site condition from the data furnished in the tender document, whatsoever.**

The survey drawings / documents detail to the extent available are being furnished to the bidder along with tender document. It shall be bidder's responsibility to verify the available data and satisfy himself with regard to accuracy and utility of data.

4.28.4 The city condition field / other fields may have lots of PVC, PE & utility pipelines or other pipelines & cables being used for city utility / other utilities purposes. CONTRACTOR shall ensure that these lines shall not be damaged/ cut affecting the water / power / communication / other supply to concerned Users / Owners / Authorities. Wherever required temporary necessary precautions had to be maintained for uninterrupted supply.

4.28.5 **Right of Way (ROW)/ Right of Use (ROU)**

For MDPE laying (Mainline/4 Bar pressure) construction purposes, in Pune GA. pipeline restricted ROU / Corridor and ROU acquisition / principal permission from respective OWNER's like PMC, PCMC,PMRDA, ZP, MIDC, Municipal Council, Nagarpanchyat, Grampanchyat, NHAI , PWD, Railway, Metro, Private land owner (if required) etc. for laying the pipeline including permission for all crossing i.e. rail, road, river, foreign hydrocarbon & utility pipelines, utility cables etc. and day to day coordination on site during execution, will be in the scope of contractor. For LP pipeline (100 mbar operating pressure) construction purposes, permissions from the societies, Bungalows, individual houses, authority (for tapping etc.) & other private parties for laying of pipelines and day to day coordination, will be the scope of contractor.

Where the pipeline passes through city areas / industrial areas / forest areas etc., the ROU will be restricted to required width may reduce up to 1 meter as made available by concerned department. Contractor shall carry out construction work in the width as made available to him with no time and cost implication to the Owner. It shall be Contractor's sole responsibility to make arrangement for any additional land required for fabrication, construction, storage and all other work areas, if required.

The contractor shall notify the owner the probable date of commencement of work at ROU site at least three (3) weeks in advance to enable the owner to arrange handing over of the ROU/ site on the date requested. Should contractor fail in such notification, the owner shall not be liable for any claim by contractor, of whatsoever nature, for delay in the available of a ROU/ site.

4.28.6 "Receiving and Taking-over" as defined in the specifications of OWNER supplied pipes at OWNER's designated stacking yards/ dump site. Management of dumpsite after receiving and taking over of pipes transportation including loading/ unloading, handling, stacking, hauling and stringing of pipes from OWNER's stacking yards to CONTRACTOR's worksite(s)/ workshop(s)/ pipeline Right-of-use (ROU), including arranging all necessary intermediate storage area(s) required thereof till the pipes are installed in permanent installation.

4.28.7 Carrying out inspection of OWNER supplied pipes, fitting & valves etc. at the time of receiving and taking-over. Carrying out all handling, lifting, stacking of above materials required during inspection.

4.28.8 Loading, unloading, handling, stacking, storing and transportation to workshop/ work site of all materials that may be used for the construction of pipeline system either supplied by OWNER at their designated stack yard/ dump site/ store and/ or by CONTRACTOR as the case may be.

4.28.9 All necessary approvals, work permits and liasioning / coordination works for ROU acquisition / permission for laying of pipeline and its all crossing from concerned local authorities and respective OWNER's having jurisdiction, as applicable for performing the work including shifting/ relocation and restoration of telephone/ electrical poles and underground pipes and other utilities etc. as required by local authorities and as directed by OWNER shall be responsibility of contractor.

4.28.10 Stacking, clearing, grading, fencing of Right-of-Use (ROU) as required, trenching to all depths in all types of soil including soft & hard rock, controlled rock blasting (if permitted, however, permission / approval / NOC / work permit will be obtained by the contractor) by special techniques, chiseling or otherwise cutting etc. to a width to also accommodate the MDPE pipeline as per relevant standards, drawings, specification etc. transportation of MDPE pipes to ROU along the route, stringing, aligning, bending, jointing including testing, inspection, field jointing including supply of all materials as

per specifications, sand padding, laying and lowering of the pipeline, back filling, slope breakers as required, carrying out road, canal, utility and submerged minor water course crossings including bank stabilization of water course crossings as required, crossing of nallah/ canal by HDD / conventional method. Supply and installation of antibuoyancy measures viz. extra cover etc. on pipeline as shown in approved drawings and as directed by OWNER, installation of supports wherever required, supply of select backfill material as required, clean-up, pigging, flushing, pneumatic testing, nitrogen purging / pre-commissioning and commissioning of complete pipeline system, including all associated works as per relevant specifications, standards and approved drawings.

4.28.11 Installation of casing pipes (by open cut/ moling/ HDD) assembly, including supply of all materials (excluding free issue material if any) viz. as per the drawings/ specifications enclosed with bid package.

Cased crossings shall be installed at locations indicated in alignment sheets or as per instruction of Engineer-in-charge. The number of crossings indicated in drawings is subject to change based on engineering, construction and statutory requirements or the requirements of the authority having jurisdiction over a utility crossing.

4.28.12 All works/ provisions including installation of slope breakers to be provided in the trench in areas where slope is more than 1 in 10.

4.28.13 Sand / soft soil padding around pipe wherever required in areas where trenching has been done in hard soil area / rocky area including supply of sand/ soft soil. The thickness of sand/ soft soil padding at the top of coated pipe shall be minimum 150 mm and bottom of coasted pipe shall be minimum 150 mm or as per standard drawing no. **MNGL/PLNG/DWG-09**, whichever is more.

4.28.14 Installation of all inline/ online instruments/ valves/ fittings/ transition fittings/ appurtenances etc. as per requirements of approved drawings.

4.28.15 **Crossings**

4.28.15.1 **Railway Crossings (If applicable as per SOR)**

The general arrangement drawings for railway crossings shall be approved by Indian Railways and construction shall be carried out accordingly. These drawings shall be made available to the Contractor at appropriate time during the execution of the project. Pipeline at railway crossings shall be provided with a casing pipe. The casing pipe shall be at least three nominal pipe sizes larger than carrier and shall be installed by boring/ jacking. It should be noted that the extent of casing pipe generally specified by Railways, is 15.0m beyond centerlines of the outermost tracks on either side or 0.6 meter beyond the ROU limits of railways on either side, whichever is more. All railway crossings shall be cased crossings. The railway crossing shall comply with the

requirements of API 1102 and Indian Railway regulations. The crossing angle shall be as close to 90° as possible.

4.28.15.2 **Road Crossings**

i) The method of crossing of roads such as open cut/ boring shall be firmed up by Contractor in consultation with concerned authorities and Company. The Contractor shall also take due care to identify and take due precautions so as not to disturb or damage the utilities like cables, water lines and other structures.

ii) After laying the pipeline in a road crossing by open cut method, the Contractor shall completely restore the road to its original condition.

iii) While laying the pipeline in road crossings by open cut method the Contractor should ensure that the traffic is not stopped during the execution of work. This may be done by cutting half of the road at a time so as to enable the traffic to pass on the remaining half of the road. Alternatively, the Contractor can provide diversion roads to maintain the flow of traffic.

iv) The Contractor shall provide proper caution boards during day time and danger lights during night time when the cutting operation of the road is going on.

For cased crossings, the pipeline should be taken through the casing pipe which should be at least 1.5 meters below the road top as specified or as per the requirements of local authorities, whichever is higher. All national highway and state highway as indicated in relevant drawings/ alignment sheets/ or as directed by Engineer-in-charge shall be cased crossing.

4.28.15.3 Crossings of rivers/ streams/ canals by conventional method :

i) No damage should be caused to any irrigation sources, while laying the pipeline through canal crossings.

ii) The flood banks of the River/ Canal should be brought to the original condition, if they are damaged by the laying of the pipeline. Stabilization of banks shall be carried out as per requirements of concerned authorities.

iii) In general the top of the pipeline shall be taken at least 2.5 meter below the scour level of river crossing. If scour level is not known minimum 3.5 m cover should be kept unless specified otherwise.

iv) The top of pipeline shall be at least 1.5m to 2.0m below the drain/ canal bed unless specified other wise.

v) Pre-construction survey, preparation of the detailed construction methodology/ plan and time etc. shall have to be finalised by Contractor in consultation with concerned authorities having jurisdiction over canals/ rivers. Company shall provide assistance by providing introductory letters.

vi) Pre-construction surveys, preparation of detailed construction method statement and calculations for OWNER's approval.

vii) Geo-technical investigations, if required.

viii) Site preparation, arranging required land for setting up of string fabrication yard and obtaining necessary permissions from concerned authorities.

ix) The major canals with lining/ perennial canals need to be crossed by HDD/ boring method only.

4.28.15.4 **Laying/Crossings by Horizontal Directional Drilling (HDD)**

Contractor shall cross the roads / water crossings by HDD method at various depth in different locations as directed by Owner / Consultant either as per site conditions or as per instruction received from concerned authorities, whichever will be higher / stringent and decision of Owner / Consultant in this regard shall be final & binding to the contractor. Before start of HDD, the contractor shall ascertain by pre-construction survey all underground obstacles namely electrical/ telecommunication cable, foreign pipeline, water line, drain/ sewerage line and prepare crossing profile drawings showing all elevations & levels. The contractor shall also ascertain the type of soil & their terrain whether rocky or normal by way of trial pit etc. before start of job. The contractor shall submit procedure; profile drawing with complete design calculations of HDD as per requirement of ASME B31.8/ OISD norms and safety requirement that pipe is not under stress during and after crossing for Owner/ Consultant's approval prior to start the execution of works.

Contractor shall determine the minimum allowable elastic bend radius for pipe from the following considerations:

i) Maximum longitudinal stress during installation

Total maximum longitudinal stress in the pipeline due to tension and bending at any location shall not exceed 90% of the SMYS of the pipe material.

Contractor shall in order to check this requirement evaluate the maximum tensile forces to which the pipeline is subjected to at any phase of its installation during the pulling operation.

ii) Maximum equivalent stress during final hydrostatic test

After installation the pipeline shall be hydrostatically tested (for 6 hours) at a pressure stipulated in the Special Conditions of Contract. During hydrostatic testing the combined equivalent stress in the pipeline due to bending and test pressure shall not exceed 90% of the SMYS of pipe material.

iii) Maximum equivalent stress during service

Permissible values of maximum equivalent stress during service shall be governed by the requirements of ANSI N31.8/ B31.4 as applicable. The details of pipeline operating parameters are provided in the Special Conditions of Contract.

The minimum allowable radius of curvature for the pipeline shall be the highest value of the minimum pipeline elastic radius as computed from the considerations outlined in clause no. i), ii) & iii) above after correction for drilling inaccuracies whichever results in the highest permissible value of minimum elastic bend radius.

Contractor shall ensure all safety norms regarding distances from end point or from bottom of crossing and also ensure that external coating of pipe is not damaged during pulling & handling of pipe for crossing. For field joint coating in pipeline string made for HDD, special type of heat shrink sleeve shall be used as per specification enclosed with the tender. For line pipe coating repair, special type of high shear strength repair patch material shall be used which characteristic shall be same or equivalent as original wraparound heat shrink sleeve used in pipeline string for HDD crossing.

The contractor shall ensure that no any u/g existing utilities/ pipelines/ cable etc. are damaged. It shall be responsibility of contractor to compensate any loss or damage to other agency if damaged while crossing. All statutory permission from concerned authority shall be arranged by Contractor before start of job. Contractor shall deploy only MNGL's approved HDD Agency and approval of agency shall be sought before deploying HDD agency.

4.28.16 **Testing & Purging**

A) Testing

Pressure testing will be carried out with compressed air. Compressed air will be provided by Contractor for testing purposes and is to be included in the SOR rates.

For main pipelines work (MP & LP) the Contractor shall perform progressive pressure testing with two pressure gauges to avoid having to find leaks in long lengths of pipe.

For GI pipelines work the Contractor shall perform progressive pressure testing with digital pressure gauge.

For Cu/MLC tubing work the Contractor shall perform progressive pressure testing with digital pressure gauge.

Measuring instruments shall have been calibrated and their accuracy and sensitivity confirmed **(least count of pressure gauge shall be 1 mbar OR 3 decimal pressure gauge (0.000 barg) of suitable range for MDPE main pipeline testing)**. For testing of Network, calibrated pressure gauges of suitable range shall be supplied by the contractor. The pressure gauges shall be calibrated from time to time as desired by Engineer-in-Charge. All testing shall be witnessed and approved by the EIC or his delegated representative. Tie-in joints may be tested at working pressure following commissioning.

Supply of all kind of fittings, gauges etc which is required to perform the testing of MDPE, GI, Cu/MCL pipeline is in the scope of contractor.

B) Purging

Purging shall be carried out in accordance with the principles defined in the American Gas Association publication 'Purging Principles and Practice".

Nitrogen required for purging will also be provided by the Contractor. Nitrogen shall be supplied in labeled, tested and certified cylinders, and completed with all necessary regulators, hoses and connections, which will be in good condition and working order.

In addition the Contractor shall submit and get approved a Purging Plan before commencing any purging work. The Plan shall include, but not be limited to, the provision of the following materials and equipment: Personal safety equipment, Fire extinguisher, Purging adaptor, Purge stack with flame trap and gas sampling point, Gas sampling equipment (may be gas leak detector), squash-off tool, Polyethylene connecting pipe work.

The Plan shall also include the purging process along with detail on the sequence of events. The process is to also specifically mention the need to lay a wet cloth over the PE main and in contact with the ground, to disperse static electricity during the purging work.

A purge stack with flame trap shall be used when purging services. Care shall be taken to ensure that the purge outlet is so located that vent gas cannot drift into buildings.

4.28.17 **Markers**

Installation of all types of markers including all associated civil works. Any other work not specifically mentioned above but required for making the entire pipeline system ready for operation.

4.28.18 **Priorities**

The Contractor shall start the execution work for entire length of mainline simultaneously and shall deploy adequate manpower, machinery, tool & tackles etc. accordingly.

However, Owner may, at its sole option, assign priority of construction to either any spread or any section in spread of total pipeline length or to any part/ segment of the work. Contractor shall comply with such priority of execution and their deployment without any time and cost implication to the Owner.

4.28.19 **Survey Pillars**

Owner has got the entire pipeline route surveyed and survey pillars have been established along the pipeline centerline or the ROW centerline and along the pipeline route. However, the pipeline route survey had been carried out sometime back and when Contractor mobilize at site, the survey pillars may be missing from ground. It shall be Contractor's responsibility to re-establish all missing survey pillars based on the survey data furnished by the Owner. Such work shall be done at no extra cost or time to Owner.

4.28.20 **Forest/ Plantation Areas**

Where the pipeline route passes through forest/ plantation areas, Contractor shall clear only the minimum width required for laying the pipeline as per Owner approved procedure for pipeline construction. Number of trees/ plants to be felled down shall be restricted to a minimum.

4.28.21 **Restoration of ROU**

Clean-up and restoration of ROW and other conveniences like road, rail, canals, cultivable land etc. to original conditions as per specification and drawings to the entire satisfaction of OWNER and/ or Authorities having jurisdiction over the same, including disposal of surplus construction materials to a location identified by CONTRACTOR approved by local authority without causing any disturbance to environment, locals and to the entire satisfaction of OWNER.

Upon restoration of ROU the Contractor shall furnish documentary evidence in support of acceptance of the same duly signed by land Owner without any extra cost.

4.28.22 Preparation and submission of as built drawings, pipe books, documents, photographs of major activities, and project records as per specification and instructions of the OWNER including furnishing of all Test Certificates/ Inspection Reports for all materials used for permanent installation in requisite numbers as mentioned elsewhere in this document.

4.28.23 **ROW Clearing**

During ROU clearing, the vegetation shall be cut off at ground level leaving the roots intact. Only stumps and roots directly over the trench shall be removed for pipeline installation.

4.28.24 **Pre-commissioning and Commissioning Assistance**

4.28.24.1 Pre-commissioning including supply of all materials, consumables and manpower of the complete pipeline system

4.28.24.2 Making the entire system ready for commissioning and providing assistance during the complete duration of commissioning operations.

4.28.24.3 Completion of all mainline activities as detailed in SOR.

4.28.25 **Civil Works**

Civil works shall be carried out as per scope mentioned at SOR and as per Indian Standard norms.

4.28.26 **Other Works**

- Obtaining all necessary approvals and work permits, as applicable, for performing the work.
- Carrying out all additional surveys, test and collection of data not furnished by company but required for construction of facilities.
- Any other work not specifically listed herein but required for the construction of the terminals and making it ready for the operation.

4.29 **Temporary Works**

All temporary works, ancillary works, enabling works, including dewatering of surface and subsoil water, temporary drains at the work site, preparing approaches to working areas, wherever required, for execution of the work, shall be the responsibility of Contractor.

4.30 **Temporary Fencing**

The Contractor shall, at his own costs and expenses, erect and maintain in good condition temporary fences and gates along the boundaries of the site assigned to him wherever required as per instruction of Engineer-in-charge. Wherever trenching is being done specially at crossing site near habitation and public movement. The contractor shall fence with bamboo or other materials of sufficient strength for all excavations and shall light the same at night. The Contractor shall, except when authorized by the Engineer-in-Charge, confine his men, materials and plant etc. within the site of which he is given possession. The Contractor shall not use any part of the

site for purpose not connected with the works unless prior written permission or consent of the Owner/Engineer-in-Charge has been obtained. Access to site shall be made only through the approved gateways. The Contractor shall maintain sufficient watchmen at site to the satisfaction of the Owner/Engineer-in-Charge.

4.31 **Contractor's Temporary Structure**

The Contractor may, at his own costs and expenses and subject to the approval of the Engineer-in-Charge and statutory authorities, construct offices, stores, workshop and remove the same as per the orders of the Engineer-in-Charge on completion of the contract. Whenever required the Contractor shall furnish such details of his temporary works as may be called for by the Owner/Engineer-in-Charge as to their safety and efficiency. The Owner/Engineer-in-Charge may direct those temporary works which he considers unsafe or, inefficient be removed and replaced in a satisfactory manner. The Contractor shall immediately follow Owner/Engineer-in-Charge's direction/instruction, on maintenance of all the equipments and he shall ensure that they are suitable for the work and is maintained in such a manner as to ensure their efficient working. The Owner/Engineer-in-Charge, may if they deem fit, direct the Contractor to remove from site any equipment which are not efficient and/or prejudicial to the quality of work to be replaced by equipment to their satisfaction. The Contractor shall immediately follow Owner/Engineer-in-Charge's direction/instruction.

4.32 **Statutory Approvals**

All associated activities required for obtaining necessary clearances, permissions, approvals, all licenses from all concerned authorities in respect of pipeline crossing & all related works shall be the responsibility of the Contractor and the cost of the same shall be deemed to have been included in the quoted prices.

The approval from any authority required as per statutory rules and regulations of Central/State Government shall be the Contractor's responsibility unless otherwise specified in the Bidding Document. The application on behalf of the Owne/r for submission to relevant authorities alongwith copies of required certificate complete in all respects shall be prepared and submitted by the Contractor well ahead of time so that the actual construction of the work is not delayed for want of the approval/inspection by concerned authorities. The inspection of the works by the authorities shall be arranged by the Contractor and necessary coordination and liason work in this respect shall be the responsibility of the Contractor. However statutory fees paid, if any, for all inspections and approvals by such authorities shall be reimbursed at actual by the Owner to the Contractor on production of documentary evidence.

Any change/addition required to be made to meet the requirements of the statutory authorities shall be carried out by the Contractor free of charge. The inspection and acceptance of the work by statutory authorities shall however, not absolve the Contract from any of his responsibilities under this Contract.

4.33 SURVEY AND LEVEL/SETTING OUT WORK

4.33.1 Before the WORK or any part thereof are begun, the CONTRACTOR's agent and the Engineer-in-Charge's representative shall together survey and take levels of the SITE and decide all particulars on which the survey is to be made, and on which measurements of the WORK are to be based. Such particulars shall be plotted by the CONTRACTOR and after agreement the drawings shall be signed by the Engineer-in-Charge.

4.33.2 The CONTRACTOR shall be entirely responsible for the horizontal and vertical alignment, the level and correctness of every part of the WORK and shall rectify any errors or imperfections therein. Such rectifications shall be carried out by the CONTRACTOR at his own cost, when instructions are issued to this effect by the Engineer-in-Charge or his representative.

4.33.3 The Engineer-in-Charge shall furnish the relevant existing grid point with Bench Mark on the land. It shall be CONTRACTOR's responsibility to set out the necessary control points in and to set out the alignment of the various works. The CONTRACTOR shall have to employ efficient survey team for this purpose and the accuracy of such setting out work shall be CONTRACTOR's responsibility.

4.33.4 The CONTRACTOR shall give the Engineer-in-Charge not less than 24 (twenty four) hours notice in writing of his intention to set out or give levels for any part of the WORK so that arrangements may be made checking the same.

4.33.5 WORK shall be suspended for such times as necessary for checking lines and levels on any part of the WORK.

4.33.6 The CONTRACTOR shall at his own expense provide all assistance, which the Engineer-in-Charge may require for checking the setting out of WORKS.

4.33.7 Before commencement of any activity, contractor's quality control set up duly approved by company must be available at site.

4.34 ORDER OF WORKS/PERMISSIONS/RIGHT OF ENTRY/CARE OF EXISTING SERVICES.

4.34.1 The order in which the WORK shall be carried out shall be subject to the approval of the Engineer-in-charge and shall be so as to suit the detailed method of construction adopted by the CONTRACTOR, as well as the agreed joint program. The WORK shall be carried out in a manner so as to enable the other contractors, if any, to work concurrently.

OWNER reserves right to fix up priorities which will be conveyed by Engineer-in-Charge and the CONTRACTOR shall plan and execute work accordingly.

4.34.2 **Existing Service**

4.34.2.1 Drains, pipes, cables, overhead wires and similar services encountered in course of the works shall be guarded from injury by the CONTRACTOR at his own cost, so that they may continue in full and uninterrupted use to the satisfaction of the Owners thereof, or otherwise occupy any part of the SITE in a manner likely to hinder the operation of such services.

4.34.2.2 Should any damage be done by the CONTRACTOR to any mains, pipes, cables or lines (whether above or below ground etc.), whether or not shown on the drawings the CONTRACTOR must make good or bear the cost of making good the same without delay to the satisfaction of the Engineer-in-Charge.

4.35 **MAKE OF MATERIAL/BOUGHT OUT ITEMS**

Approved vendors for various major items are enclosed as Appendix-I to Particular Job Specification with this tender document. The bidder shall consider such names only as indicated in the aforesaid list and clearly indicate in the bid the name(s) as selected against these items. For any other item not covered in the list enclosed with this tender document, prior approval shall be obtained by the contractor for its make/ supplier's name.

4.36 **INSPECTION OF SUPPLY ITEMS**

All inspections and tests shall be made as required by the specifications forming part of this contract. Contractor shall advise Owner/ Consultant in writing at least 10 days in advance of the date of final inspection/tests. Manufactures inspection or testing certificates for equipment and materials supplied, may be considered for acceptance at the discretion of Owner/ Consultant. All costs towards testing etc. shall be borne by the contractor within their quoted rates. All inspection of various items shall be carried out based on Quality Assurance Plan, which will be submitted by the Contractor and duly approved by Owner/ Consultant.

4.37 **ESCALATION**

The Unit Rates quoted shall be kept firm till completion of work/contract and no price Escalation shall be paid.

4.38 **Construction Equipment & Mechanization of Construction Activities**

Contractor shall, without prejudice to his overall responsibility to execute and complete the Work as per specifications and time schedule, adopt as far as practicable, mechanized construction techniques for major site activities. However, Contractor agrees that he will deploy the required numbers and types of the part &

machinery applicable for different activities in consultation with the Engineer-In-Charge during execution of works.

The Contractor shall mechanize the construction activities to the maximum extent by deploying all necessary construction equipment/machinery in adequate numbers and capacities.

Wherever Structural/Piping works are included in the scope, the Contractor's responsibilities shall include establishing and maintaining of a proper fabrication workshop with transportation facilities to site to carryout fabrication of steel structures, piping specials etc., preparing approaches working areas for the movement/operation of cranes and levelling the areas for assembly/erection to ensure effective mechanization on the works. The Contractor shall acquaint himself with availability of access, facilities such as railway siding, local labour etc. and the Contractor may have to build temporary access roads to aid his work and the quoted and agreed rates shall be deemed to include the same. It may be noted that all fabrication work shall be carried out in fully mechanized workshops to reduce site fabrication to minimum.

For speedy execution of work, Contractor shall also ensure use of computer software for at least the following:

(i) Billing
(ii) Planning & Scheduling
(iii) Progress Reporting
(iv) Material Control & Warehousing
(v) Safety Records
(vi) Resource Deployment
(vii) Communication

Contractor further agrees that Contract price is inclusive of all the associated costs) which he may incur for actual mobilization, required in respect of use of mechanized construction techniques and that the Owner/Consultant in this regard shall entertain no claim whatsoever.

4.39 **Site Organization**

The Contractor shall provide all necessary superintendence during the design and execution of the Works and as long thereafter as the Engineer-in-Charge may consider necessary for the proper fulfilling of the Contractor's obligations under the Contract. Such superintendence shall be given by sufficient persons having adequate knowledge of the operations to be carried out including the methods and techniques required, the hazards likely to be encountered and methods of preventing accident(s) for the satisfactory and safe execution of the Work. The workmen deployed ,by the Contractor should also possess the necessary license etc., if required under any law, rules and regulations.

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 augment the same as decided by the Engineer-in-Charge depending on the exigencies of Work.

4.39.1 **SUPERVISION**

All construction work will be carried out as per direction of EIC, and this will be the primary point of contact between the Contractor and MNGL on site. All work will be issued and sanctioned through the EIC and site control exercised by site engineers. The Contractor shall ensure that technical quality standards are maintained, that construction is carried out cost effectively and that a good customer and public image is maintained for MNGL.

The Contractor will appoint his own supervisors of minimum number instructed by EIC. These personnel will be responsible to the SE for monitoring construction standards and for ensuring that all detailed technical requirements are met on each and every job which is undertaken. The Contractor's supervisor(s) will have day to day liaison with the SE, and will provide the SE with technical reports and audits, and other management information as is required on work progress and construction quality standards.

The Contractor's supervisor shall have mobile telephones or pagers to ensure that they can be contacted at all times. The Contractor will also nominate one person who can be contacted if necessary out of hours, for the duration of the works. The Contractor's supervisor will have access to transport at all times to allow them to visit sites and attend meetings with MNGL as is required. The normal day to day issue of work instructions, communication between MNGL and the Contractor's supervisor and the SE. No deviation from the approved technical specification / issued construction drawings shall be undertaken without written approval of EIC.

5.0 SCOPE OF SUPPLY

5.1 Owner's Scope of Supply (Free Issue Item)

Free Issue Materials shall be issued to the Contractor from the designated store(s) of Owner. Contractor shall be responsible for lifting the free issue materials from Owner's storage point(s) and transporting the same to work site(s) at his own cost.

MNGL's storage point for free issue material of this project shall be located in Pune City or its nearby region.

Contractor shall also return materials after completion of work to MNGL's designated store in Pune City or its nearby region or as directed by MNGL / Engineer-in-charge.

The following free issue item will be supplied by the owner.

A) **MDPE Pipes PE 100 SDR 11**

i) MDPE pipe (20mm)
ii) MDPE Pipes (32mm OD)
iii) MDPE Pipes (63mm OD)
iv) MDPE Pipes (90mm OD)
v) MDPE pipes (125 mm OD)
vi) MDPE pipes (180 mm OD)

B) **GI Pipes bare/painted/power coated**

i) GI Pipes (½ ")
ii) GI Pipes (¾")
iii) GI Pipes (1")
iv) GI Pipes (1½")
v) GI Pipes(2")

C) **Copper Pipes**

i) Copper Pipes (12 mm OD)
ii) MLC pipes (14mm OD)

D) **Isolation & Appliance Valves**

i) ½" Isolation Ball Valve
ii) ¾" Isolation Ball Valve
iii) 1" Isolation Ball Valve
iv) 1½" Isolation Ball Valve
v) ½" Appliance Ball Valve
vi) ¼" Appliance Ball Valve etc.

E) **Meters**

Commercial Meter (Diaphragm Meter) – 16 m^3/hr
Commercial Meter (Diaphragm Meter) – 10 m^3/hr
Commercial Meter (Diaphragm Meter) – 6 m^3/hr
Commercial Meter (Diaphragm Meter) – 2.5 m^3/hr
Domestic Meter (Diaphragm Meter) – 2.5 m^3/hr etc.
RPD/Diaphragm meter -25m3/hr
RPD/Diaphragm meter -40m3/hr

F) **Regulator**

Commercial Regulator 4 kg/cm^2 to 300 mbar, Flow rate of 6, 10, 15, 25,50,100 & 200 m^3/hr
Service Regulator 4 kg/cm^2 to 100 mbar, Flow rate of 25 & 50 m^3/hr
Domestic Regulator 100 mbar to 21 mbar, Flow rate of 2.5 m^3/hr etc.
Domestic Regulator 4 bar to 21 mbar, Flow rate of 2.5 m^3/hr etc.

G) **Service Regulator**
- i) 25 SCMH
- ii) 50 SCMH
- iii) 100 SCMH
- iv) 200 SCMH

H) **DRS**
- i) 5000 SCMH
- ii) 10000 SCMH
- iii) 15000 SCMH

I) MDPE Stop off Valves
- i) MDPE Stop off Valves dia 125 mm
- ii) MDPE Stop off Valves dia 90 mm
- iii) MDPE Stop off Valves dia 63 mm

J) Brass fittings Set for MLC Pipe work inside Kitchen:
Set of 5 nos Brass Fittings: Meter-Regulator inlet & Outlet brass fitting, ½" Meter Control Valve (MCV2) brass connector, ¼" Appliance valve brass connector

5.1 Conditions for issue of Company Supplied Material

Whenever any material is issued by Owner, following conditions for issue of material in addition to other conditions specified in the contract shall be applicable.

Contractor shall prepare and submit Material Issue Vouchers to enable stage wise issue of materials. All materials shall be issued for incorporation in permanent works only and shall not be used for any temporary or ancillary works without the written consent of Engineer-in-charge. These materials shall be issued to the contractor from the Owner's storage points. Contractor shall be responsible, at this own cost, for lifting of the materials from Owners issue points, measuring, weighing, loading, unloading, transportation and return of materials to designated storage points. Contractor shall also be responsible for constructing covered godowns with adequate supports and clearances for safe storage of materials.

In every RA bill contractor shall submit an account for all the materials issued by the owner in the proforma prescribed by the Engineer-in-charge. On completion of the work, the contractor shall submit materials appropriation statement for all materials issued by Owner.

All materials issued by the COMPANY to the CONTRACTOR shall be preserved against deterioration and corrosion. Any damages/losses suffered on account of poor or improper storage while under CONTRACTOR'S custody and non-compliance with the requirements stipulated herein shall be considered as losses suffered due to willful negligence on the part of the CONTRACTOR and he shall be liable to compensate the COMPANY, for the losses suffered, at penal rates as elaborated elsewhere in the bid document.
Various equipments/ materials intended for the installation will be received by COMPANY in unpacked, skidded, crated, packed or loose condition and will be stored in the COMPANY warehouses & open yards. In general, material will be issued to the CONTRACTOR in "as-received" condition. It will be the CONTRACTOR'S responsibility to draw, load and transport all materials from Company's designated place (s) of issue to the point of installation.

All materials supplied by the COMPANY shall be duly protected by the CONTRACTOR at his own cost with appropriate preservative like primer/lacquer coating, grease etc, if required.

The Contractor shall be required to take Insurance Cover in terms of general conditions of contract.

The CONTRACTOR shall check that valves, fittings and specials are not subject to corrosion from hydrostatic test liquid remaining saturated in the packings. Any such conditions when detected should be brought to the notice of the Engineer-in-charge and remedial measures taken as directed. Small and medium size pipe fittings shall be stored in rack to be constructed from this purpose in a covered godown. When large size pipe fittings are to be stored, these may be kept in the open on surfaced storage yards on proper wooden supports.

All machined surfaces shall be properly greased and shall be maintained and protected from damages.

Openings of equipment, machinery, valves etc. shall be kept blocked/ covered with blinds to prevent entry of foreign matter.

All valves supplied independently, as well as along with equipment and machinery shall be stored separately, inside the covered godown on racks.

As far as possible materials shall be transported to the erection site, just prior to their actual erection and shall not be left laying around indefinitely. Instructions for the Engineer-in-charge shall be followed strictly in this regard.

Necessary indents will have to be raised by the Contractor as per procedure laid down by the Engineer-in-charge from time to time, when he requires the above material for incorporation in permanent works.

Materials will be issued only for permanent works and not for temporary works, enabling works etc. unless specifically approved by the Engineer-in-charge and the same shall not be taken into account for the purpose of materials reconciliation.

The contractor shall bear all other cost including lifting, carting from issue points to work site/ contractor's store, custody and handling etc. and return of surplus/ serviceable scrap materials to Owner's storage points to be designated by the Engineer-in-charge etc. No separate payment for such expenditure will be made.

No material shall be allowed to be taken outside or transfer to other contractor, site etc. without prior approval form EIC.

The contractor shall be responsible for proper storage, preservation and watch & ward of the materials.

Maximum material stock allowable in contractor's storage location for issuing further material:

Sl. No.	Material	Qty	Unit
1.	Meter	75	No.
2.	MLC Pipe Brass fittings set	75	No.
3.	Copper Pipe/MLC Pipe	300	Meter
4.	Domestic Regulator	75	No.
5.	Appliance Valve	75	No.
6.	GI Pipe ½"	800	Meter
7.	Isolation Ball Valve ½"	200	No.
8.	MDPE Pipe 32mm	800	Meter
9.	Service Regulator	2	No.

Maximum material quantity to be issued by AIC:

Sl. No.	Material	Qty	Unit
1.	Meter	200	No.
2.	MLC Pipe Brass fittings set	200	No.
3.	Copper Pipe/MLC pipe	1000	Meter
4.	Domestic Regulator	200	No.
5.	Appliance Valve	200	No.

6.	**GI ½"**	**1500**	**Meter**
7.	**Isolation Ball Valve ½"**	**500**	**No.**
8.	**MDPE 32mm**	**1500**	**Meter**
9.	**Service Regulator**	**5**	**No.**

If contractor required the material quantity over the quantity mentioned in above table, EIC approval is required.

5.3 Reconciliation of Owner supplied materials

5.3.1 In every RA bill, the contractor shall submit an account for all materials issued by Owner in the proforma prescribed by the Engineer-in-charge. On completion of the work the contractor shall submit "Material Appropriation Statement" for all materials issued by the Owner in the proforma prescribed by the Engineer-incharge.

Also after every 3 months physical verification of Material supplied by MNGL shall be shown to MNGL AIC/EIC/GET/CSA and in case of any shortfall of material recovery will be done in immediate basis in next RA/Final bill as per actual cost of material plus 25% administrative charges by MNGL.

In case of any faulty Domestic/Commercial Diaphragm Meters and Regulators found within warranty period., it shall be returned to MNGL store with proper reasons of fault/condition with AIC/EIC approval.

For missing Domestic/Commercial Diaphragm Meter a penalty of Rs.5000 in addition to actual cost and 25% administrative charges will be deducted by MNGL.

Waste materials part lengths of pipes and other partly used items are the property of MNGL and must be returned to the store with the appreciate documentation so that they can be considered as part of the material reconciliation.

Item	Unaccountable	Accountable-Scrap
Gas Meters	0%	0%
Regulators	0%	0%
Gas Isolation, Appliance Valves	0%	0%
MLC Pipe Brass Fittings Set	0%	0%
GI Service Pipes	1%	1% (less than 0.5 mtrs)
Cu Pipes/MLC pipes	1%	1% (less than 0.3 mtrs)
PE Pipes	1%	1% (less than 2.0 mtrs)

Accountable scrap shall be at actual as per site assessment subject to maximum as stated above.

For unused pipe from a standard coil/length of MDPE, GI and Cu/MLC pipe must be returned to the store as good/standard length or by giving the fitting additionally.

The percentage allowance shall be accounted on the basis of final measurement book/ consumption.

5.3.2 All unused, scrap materials and salvageable materials shall be the property of the Owner and shall be returned by the Contractor category-wise at his cost to the Owner's designated store yard(s). In case the Contractor fails to do so/ or exceeds the limits of allowances specified above for scrap/ serviceable materials, then recovery for such quantities not returned as well as returned in excess of permitted limit by the Contractor will be done at the penal rate i.e. 125% of landed cost at the time of final bill/ closing of contract by Engineer-in-charge shall be effected from the Contractor's bill(s) or from any other dues of the Contractor to the Owner. Contractor shall be responsible for the adjustment/ weighment / measurement of the surplus materials to be returned to the store. Contractor shall also be responsible for suitable segregation of returned materials into separate stacks of serviceable and scrap materials.

5.3.3 Wherever certain material is covered under Contractor's scope of supply whether part or in full for any item of work covered under SOR, no allowance towards wastage/ scrap etc. shall be accounted for during execution stage.

5.4 **Contractor's Scope of Supply**

All materials except what is under Owner's scope of supply as mentioned in above, and required for successful completion of works in all respects shall be supplied by the Contractor with the submission of all TC and the cost of such supply shall be deemed to have been included in the quoted price without any additional liability on the part of Owner.

The procurement and supply, in sequence and at the appropriate time, of all materials and consumables required for completion of the work as defined in this Bid document except the materials specifically listed below, shall be entirely the CONTRACTOR'S responsibility and item rates quoted for the execution of the CONTRACT shall be inclusive of supply of all these materials. The material to be supplied by the Contractor shall be as per specification and preferred make as indicated in Appendix-I or duly approved / recommended for use by MNGL. The materials will be, but not by way of limitations, as follows:-

All materials except what is under Owner's scope of supply (Free Issue Materials) as mentioned below, and required for successful completion of works in all respects shall be supplied by the Contractor and the cost of such supply shall be deemed to have been included in the quoted price without any additional liability on the part of Owner.

The following indicative materials to be supplied by the contractor **as required** to complete the work. The contractor shall submit the Test Certificates of all the free issue materials used at site. **The materials shall be procured as per the standards specified in the PNGRB Regulations for Technical Standards and Specifications including Safety Standards for City or Local Natural Gas Distribution Networks.**

Unless otherwise specified contractor will supply all size of HDPE casing pipe GI fittings (powder coated) and other materials as per SOR & scope of supply necessary to complete the laying of gas main pipelines and service pipelines. However free issue item would be supplied to the contractor as per Owner's scope of supply mentioned in the tender documents.

The contractor is to procure all bought out items from approved vendors and accordingly keep MNGL informed. The inspection of bought out items would be carried out by MNGL / Third Party Inspection or as instruction by EIC.

In general PE pipe shall be of the following lengths indicated.

20mm/32mm	100 to 300 Mtrs. coils
63 mm	100 Mtrs. coils
90 mm	50 Mtrs. coils
125 mm	50 Mtrs. coils
180 mm	10 to 12 Mtrs. lengths

The Contractor shall provide the skilled labour, tools, material and equipment necessary for the proper execution of the Work. This will include but not be limited to list of specialized items included in the enclosure furnished herewith.

Material under Contractor's Scope of Supply

A) **HDPE Casing Pipes PE 63, PN 6**
- i) HDPE Ducting Pipes (50mm)
- ii) HDPE Ducting Pipes (75mm)
- iii) HDPE Ducting Pipes (125mm)
- iv) HDPE Ducting Pipes (250mm) etc.

B) **MDPE Valves**
- i) MDPE Ball Valve 32mm OD
- ii) MDPE Ball Valve (with Stem) 63 mm OD
- iii) MDPE Ball Valve (With Stem) 90 mm OD

iv) MDPE Ball Valve (With Stem) 125 mm OD
v) MDPE Ball Valve (With Stem) 125 mm OD etc.

C) **Warning Grid**
Warning Mat 300mm Wide-1mm Thick

D) **MDPE Fittings:**

a) **Bends**
i) Bends (90 Degree), 180mm, 125mm, 90mm, 63mm, 32mm (MDPE)
ii) Bends (45 Degree), 180 mm, 125 mm, 90mm, 63mm, 32 mm (MDPE)

b) **Coupler**
i) Coupler 20mm (MDPE)
ii) Coupler 32 mm (MDPE)
iii) Coupler 63mm (MDPE)
iv) Coupler 90mm (MDPE)
v) Coupler 125mm (MDPE)
vi) Coupler 180mm (MDPE) etc.

c) **End Caps**
i) Ends caps 20mm (MDPE)
ii) Ends caps 32mm (MDPE)
iii) Ends caps 63mm (MDPE)
iv) Ends caps 90mm (MDPE)
v) Ends caps 125mm (MDPE)
vi) Ends caps 180mm (MDPE) etc.

d) **Equal Tee**
i) Equal Tee 20mm OD (MDPE)
ii) Equal Tee 32mm OD (MDPE)
iii) Equal Tee 63mm OD (MDPE)
iv) Equal Tee 90mm OD (MDPE)
v) Equal Tee 125mm OD (MDPE)
vi) Equal Tee 180mm OD (MDPE) etc.

e) **Saddle Tapping Tee**
i) Saddle Tapping Tee 32x20 (MDPE)
ii) Saddle Tapping Tee 63x20 (MDPE)
iii) Saddle Tapping Tee 63 x32 (MDPE)
iv) Saddle Tapping Tee 90x20 (MDPE)
v) Saddle Tapping Tee 90x32 (MDPE)

vi) Saddle Tapping Tee 125x32 (MDPE)
vii) Saddle Tapping Tee 125x63 (MDPE)
viii) Saddle Tapping Tee 180x32 (MDPE)
ix) Saddle Tapping Tee 180x63 (MDPE) etc.

f) **Reducer**
i) Reducers 32x20 (MDPE)
ii) Reducers 63x32 (MDPE)
iii) Reducing Tee 90x63 (MDPE)
iv) Reducing Tee 125x63 (MDPE)
v) Reducing Tee 125x90 (MDPE)
vi) Reducing Tee 180x63 (MDPE)
vii) Reducing Tee 180x125 (MDPE) etc.

g) **Transition Fitting**
i) PE to G.I. (20 mm to 1/2")
ii) PE to G.I. (20 mm to 3/4")
iii) PE to G.I. (32 mm to 1")
iv) CS to PE (4" to 125mm) - Steel weld adaptor
v) CS to PE (4" to 180mm) - Steel weld adaptor etc.

E) **GI Fittings (powder coated)**
i) Elbows F End (½") (GI)
ii) Elbows F End (¾") (GI)
iii) Elbows F End (1") (GI)
iv) Elbows F End (1½") (GI)
v) M & F Elbows End (½") (GI)
vi) M & F Elbows End (¾") (GI)
vii) M & F Elbows End (1") (GI)
viii) M & F Elbows End (1½") (GI)
ix) Equal Tee (½") (GI)
x) Equal Tee (¾") (GI)
xi) Equal Tee (1") (GI)
xii) Equal Tee (1½") (GI)
xiii) Union (½") (GI)
xiv) Union (¾") (GI)
xv) Union (1") (GI)
xvi) Union (1½") (GI)
xvii) Sockets (½") (GI)
xviii) Sockets (¾") (GI)
xix) Sockets (1") (GI)
xx) Sockets (1½") (GI)
xxi) Reduced Elbows (¾" x ½") (GI)
xxii) Reduced Elbows (1" x ¾") (GI)

xxiii) Reduced Elbows (1½" x ¾") (GI)
xxiv) Reduced Elbows (1½" x 1") (GI)
xxv) Reduced Elbows (2" x 1½") (GI)
xxvi) Hex Nipple Size (½" x 2") Long (GI)
xxvii) Hex Nipple Size (½" x 3") Long (GI)
xxviii) Hex Nipple Size (¾" x 2") Long (GI)
xxix) Hex Nipple Size (1" x 2") Long (GI)
xxx) Hex Nipple Size (1½" x 2") long (GI)
xxxi) Reduced Sockets (¾" x ½") long (GI)
xxxii) Reduced Sockets (1" x ¾") (GI)
xxxiii) Reduced Sockets (1½" x ¾") (GI)
xxxiv) Reduced Sockets (1½" x 1") (GI)
xxxv) Reduced sockets (2" x 1½") (GI)
xxxvi) GI Plugs ¾" etc.

F) Copper Tube & MLC Pipe associated fittings
It including brass elbow, brass equal tee, ¼" end plug with washer (female thread), meter bracket, clam.

G) HDPE Ducts, 40 mm OD, # 6 kg/cm^2.

H) All supports and fixture for GI Raisers, Copper Tube, Regulators and Meters as approved by the EIC

I) Steel braided hose of min 1.0 Mtr length (Suraksha/equivalent make as per ISI standard)

J) Burner nozzles for conversion of burners as approved by the EIC

K) Pipeline route markers and RCC Protection tiles as approved by the EIC

L) Transition fitting Guard / GI Sleeve / Concrete Sleeves / MS Sleeve as per the instructions of EIC etc.

The contractor's supply of material is not limited up to above, it covers all the fittings, material etc. which is requires to complete the job in all respect as per scope of works.

In case of non-availability of contractor's scope of material and contractor fails to arrange material in time and any site/works/activities get delayed then suitable penalty upto Rs.10,000 will be applicable and will be deducted from upcoming RA/Final bill/bills of contractor.

5.6 **Equipment & Machinery**

All vehicular type machinery shall be in good working order and shall not cause spillage of oil or grease. To avoid damage to paved surfaces the Contractor will provide pads of timber or thick rubber under the hydraulic feet or outriggers of machinery.

In addition to above, the contractor must have dedicated bar coded electrofusion (Automatically readable) machine with power generator (at any point of time minimum 2 nos.), Pipe Cutters (like circular guillotine), End Scrapers, Pipe Straightener, approved Top loading clamp for fusing saddle tapping tee, clamps of all sizes for Electro-fusion fittings, re-rounding tools and test ends etc. for pipes of following diameters 180mm, 125mm, 90mm 63mm, 32mm & 20mm for this project. Contractor has to arrange his own all equipments for trenchless crossings such as HDD, Moling & rock cutting equipment, HDPE fusion equipment at the site whenever required.

Contractor must also have to arrange his own equipment for restoration work like water tanker and jumping jack compactor for compaction of backfilled trenches and roller and other required equipment/ machinery for asphalting/ road works.

5.7 **Imported Backfill and Material**

The Contractor shall be responsible to arrange the supply of any imported backfill including approved Sweet earth/ Coarse Sand and aggregate etc. Payment for the supply of sand only is included in Schedule of Rates. The other soils shall be supplied without any cost implication to Owner.

In case specified trench depths are not achieved & if directed by Engineer-in-charge Contractor to provide concrete casing pipes/ slabs or cement concrete, without any cost implication to Owner.

5.8 **Other Materials**

The Contractor shall supply the following items where required.

- All materials required for form work, trench support, temporary trench crossings.
- All sign boards, barricades, tin sheets, lights and protective equipment.
- All minor items not expressly mentioned in the Contract but which are necessary for the satisfactory completion and performance of the Work under this Contract.
- Permanent markers as shown in the drawings enclosed in the tender.

5.9 INSURANCE FOR FREE ISSUE MATERIAL

5.9.1 Insurance for Free Issue Material

Contractor shall at his own expense arrange, secure and maintain insurance cover for Owner's supplied free issue materials as defined in Tender Document. Contractor's quoted price shall be inclusive of all costs on account of insurance liabilities covered under the Contract. Contractor to note that the beneficiary of insurance cover shall be MNGL. (The approximate cost of free issues material is Rs. 50.0 Lakhs). The Contractor may take the insurance as per the following schedule.

Upto 12 months – 40.0% of the value
Upto 18 months – 80.0% of the value
Upto 24 months – 100.0% of the value

5.9.2 **Insurances in India**

5.9.2.1 In addition to the insurance covers specified in the General conditions of Contract to be obtained and maintained by the Contractor, Contractor shall at his own expense arrange, secure and maintain insurance with Indian insurance companies to the satisfaction of the owner as may be necessary and to its full value for all such amounts to protect the works in progress from time to time and the interest of Owner against all risks as detailed herein. The form and the limit of such insurance as defined herein together with the under writer works thereof in each case should be as acceptable to the Owner. However, irrespective of work acceptance the responsibility to maintain adequate insurance coverage at all times during the period of Contract shall be that of Contractor alone. Contractor's failure in this regard shall not relieve him of any of this responsibilities and obligations under Contractor.

5.9.2.2 Any loss of damage to the equipment during inland transportation, storage, erection and commissioning till such time the Work is taken over by Owner shall be to the account of Contractor. Contractor shall be responsible for preferring of all claims and make good for the damage or loss by way of repairs and/ or replacement of the parts of the Work damaged or lost. Contractor shall provide the Owner with a copy of all insurance policies and documents shall be submitted to the owner immediately upon the Contractor having taken such insurance coverage. Contractor shall also inform the Owner regarding the expiry cancellation and/ or changes in any of such documents and ensure revalidation/ renewal etc., as may be necessary well in time.

5.9.2.3 The risks that are to be covered under the insurance shall include, but not be limited to the loss or damage in handling, transit, theft, pilferage, riot, civil commotion, weather conditions, accidents of all kinds, fire, war risk etc. The scope of such insurance shall cover the entire value of supplies of equipments, plants and materials.

5.9.2.4 All cost on account of insurance liabilities covered under this Contract will be to Contractor's account and will be included in Contract Price. However, the Owner may from time to time, during the currency of the Contract, ask the Contractor in writing to limit the insurance coverage risk and in such a case, the parties to the Contract will agree for a mutual settlement, for reduction in Value Of Contract to the extent of reduced premium amounts.

5.9.2.5 Contractor as far as possible shall cover insurance with Indian Insurance Companies.

6.0 LIST OF APPROVED SUPPLIER FOR BOUGHT OUT ITEMS

PE FITTINGS & PE VALVES

1) M/s Friatech AG, Germany (represented by M/s Sherman Sales in India)
2) M/s Jain Irrigation systems Ltd. Jalgaon (Fusion, UK)
3) M/s George Fisher Piping Systems Pvt. Ltd., Mumbai
4) M/s Plasson Ltd.
5) M/s Agru, Australia
6) M/s Kimplas Piping Systems Ltd., Nashik
7) M/s. Al-Aziz Plastics Pvt. Ltd., Mumbai (For Electrofusion fittings upto 125 mm)
8) M/s. Aliaxis Utilities and Industry Pvt. Ltd., New Delhi (Formerly Glynwed Pipe Systems (India) Pvt. Ltd.)
9) M/s. Daeyoun Co. Ltd., **South Korea Make (For PE Valves only)** (represented by M/s. Rhino Services Pvt. Ltd., Mumbai)

HDPE PIPES & DUCT

1) M/s Climax Synthetics (P) Ltd., Vadodra
2) M/s Indian Poly Pipes, Calcutta
3) M/s Jain Irrigation Systems Ltd., Jalgaon
4) M/s Kirti Industries (India) Ltd., Indore
5) M/s Ori Plast Limited, Calcutta
6) M/s Phoel Industries Limited, Delhi
7) M/s Sangir Plastics (P) Ltd., Mumbai
8) M/s Veekay Plast,Jaipur
9) M/s Kisan Irrigation
10) M/s Dutron Polymers Ltd.
11) M/s Manikya Plastichem (P) Ltd

WARNING GRID

1. M/s. Bina Enterprises, Mumbai
2. M/s. K.B. Industries, Nashik
3. M/s. M.N.C. Industrial Corporation, New Delhi
4. M/s. Pooja Packaging, Mumbai
5. M/s. Rolls Packs Pvt. Ltd., Mumbai
6. M/s. Shubham Paperplas, Mumbai
7. M/s. Sparco Multiplast Pvt. Ltd., Ahmedabad
8. M/s. Shree Enterprises, Silvassa (Make – Shree Plastometch)

GI FITTINGS

1 M/s Jainsons Industries, Jalandhar
2 M/s RAJNESH Malleables Ltd.,Delhi
3 M/s Industrial Valves & Components, Delhi
4 M/s Sarin industries Ltd., Delhi
5 M/s. Mehta Brothers & Co., Mumbai (Jinan Mech Brand)
6 M/s. Jupiter Metal Industries Ltd.
7. M/S Poline Technologies Pvt Ltd
8. M/s Chokhawala Distributors

Copper FITTINGS

1 M/s Jay Banas Metals Pvt. Ltd., Gandhinagar
2 M/s Mehta Tubes Ltd., Mumbai
3 M/s Rajco Metal Industries Pvt. Ltd., Mumbai

FORGED FITTINGS

1. M/s Commercial Supplying Agency, Mumbai
2. M/s Dee Development Engineers Ltd.
3. M/s Eby Industries, Mumbai
4. M/s Flash Forge Pvt. Ltd., Vishakhapatnam
5. M/s Gujarat Infra Pipes Pvt. Ltd., Vadodara
6. M/s M.S. Fittings Mfg. Co. Pvt. Ltd., Kolkata
7. M/s Stewarts & Lloyds of India Ltd., Kolkata
8. M/s Teekay Tubes Pvt. Ltd., Mumbai
9. M/s Pipe Fit, Baroda
10. M/s Sawan Engineers, Baroda
11. M/s Sky Forge, Faridabad
12. M/s Vijay Cycle & Steel Industries, Jalandhar

Brass Fittings

1. M/s. Chandan Enterprises, Mumbai
2. M/s. Greenglobe Fuel Solutions, Mumbai
3. M/s. NSSL Ltd., Mumbai
4. M/s. Umesh Enterprises, Mumbai
5. M/s. Paras Industries, Jamnagar
6. M/s. Om Brass Industries, Jamnagar
7. M/s Chokhawala Distributors, Gujrat
8. M/s. Radiant Corporation, Pune.
9. M/s Polyne Technologies Pvt Ltd
10. M/s Supreme Industries Ltd, Mumbai
11. M/s Nexgen Composite Industries Pvt Ltd, Baddi
12. Chokhawala Distributors, Gujrat

Notes:

1) For procuring bought out items from vendors other than those listed above, the same may be acceptable subject to the following:-
   a) The vendor/supplier of bought out item(s) is a regular and reputed manufacturer/supplier of said item(s) for intended services and the sizes being offered is in their regular manufacturing/supply range.
   b) The vendor/supplier should not be in the Holiday list of MNGL.
   c) Should have supplied at least 50% of required quantity or minimum 1 number whichever is higher of maximum size and rating of item(s) as required for intended services.

   The bidder should enclose documentary evidences i.e. PO copies, Inspection Certificate, end-user certificate etc. for all the bought out components, alongwith their bids.

2) For any other item(s) for which the vendor list is not provided, bidders can supply those item(s) from reputed vendors/ suppliers who have earlier supplied same item(s) for the intended services in earlier projects and the item(s) offered is in their regular manufacturing/ supply range.

   The bidder is not required to enclose documentary evidences (PO copies, Inspection Certificate, end-user certificate etc.) alongwith their offer. However in case of successful bidder, these documents shall be required to be submitted by them for prior approval of MNGL within 30 days from date of Placement of Order.

7 TIME SCHEDULE

7.1 The work shall be executed strictly as per time schedule given below table. The period of completion given includes the time required for mobilization as well as testing, rectifications, if any, retesting, demobilization and completion in all respects to the satisfaction of the Engineer-in-Charge.

Name of Work	Time of Completion
Item rate contract for Laying of Underground MDPE Pipelines & Aboveground GI / Cu/MLC Installation in **Pune GA** for City Gas Distribution Network of MNGL.	i) **Contract Period: Contract period shall be One year from the date of Notification of Award. Also, this contract may be extended up to further 6 months at the sole discretion of MNGL.** SO will be issued against the contract. The period of the SO Value from the date of award shall be as per following- **Pune** 1) 75 Lacs - 4 months 2) 62.5- 3.5 months 3) 50 Lacs- 3 months Work front will be provided to the contractor through written communication. The initial mobilization time shall be 7 days from the date of Service order ii) The completion date of the Contract shall be considered as the last date on which MDPE pipeline / domestic connections is tested and commissioned. It shall be the Contractor's responsibilities to hand over each line separately vide proper written communication. iii) MNGL reserves the rights to extend the Work Order validity date with same terms & conditions if the total work could not be completed within the stipulated time

	period due to unforeseen reasons. Note: Contractor shall be required to mechanically complete the pipeline in part as per the requirement of the Company / EIC before the scheduled completion date.
Note: 1) The time of completion shall be reckoned from the date of award of SO. 2) The time indicated is for completing all the works in all respects as per specifications, codes, drawings and instructions of Engineer-in-charge. 3) It should be noted that the period of construction given above includes permission preconstruction survey, preparation of design, other execution document / drawings, procurement and supply of materials including their inspection & testing, mobilization at site, installation, construction, laying, fabrication, erection inspection, testing, rectification (if any), pre-commissioning, commissioning and demobilization works etc. complete in all respects to the entire satisfaction of Owner/ Engineer-in-charge.	

7.2 A joint programme of execution of work will be prepared by the Engineer-in-Charge and Contractor. This programme will take into account the time of completion mentioned in 2.3.1 above.

7.3 Monthly/Weekly execution programme will be drawn up by the Engineer-in-Charge jointly with the Contractor based on availability of materials, work fronts and the joint programme of execution as referred to above. The contractor shall scrupulously adhere to the Targets/Programmes by deploying adequate personnel, Construction Equipment, Tools and Tackles and also by timely supply of required materials coming within his scope of supply as per Contract. In all matters concerning the extent of target set out in the weekly/monthly programme and the degree of achievement, the decision of the Engineer-in-Charge will be final and binding on the Contractor.

7.4 Contractor shall give every day category-wise labour and equipment deployment report alongwith the progress of work done on previous day in the proforma prescribed by the Engineer-in-Charge.

8.0 **MEASUREMENT OF WORKS**

In addition to the provisions of Clause 88.1 of the General Conditions of Contract and associated provisions thereof, the following shall apply.

8.1 The mode of measurement shall be as mentioned in relevant standard specification incorporated in the Bidding Document. Any other mode of measurements not covered in above specifications shall be followed in accordance with relevant BIS codes/ Schedule of Rates/ Specifications etc. and/ or as decided by Engineer-in-charge.

8.2 Payment will be made on the basis of joint measurements taken by Contractor and certified by Engineer-in-charge. Measurement shall be based on "Approved for Construction" drawings, to be the extent that the work conforms to the drawings and details are adequate.

8.3 Wherever work is executed based on instructions of Engineer-in-charge or details are not adequate in the drawings, physical measurements shall be taken by Contractor in the presence of Engineer-in-charge.

8.4 Measurements of weights shall be in metric tonnes corrected to the nearest Kilogram. Linear measurements shall be in meters corrected to the nearest centimeters.

8.5 The weights mentioned in the drawing or shipping list shall be the basis for payment. If mountings for panels etc. are packed separately, their erection weights shall include all mountings.

8.6 Welds, bolts, nuts, washers etc. shall not be measured. Rates for structural steel work shall be deemed to include the same.

8.7 No other payment either for temporary works connected with this Contractor for any other item such as weld, shims, packing plates etc. shall be made. Such items shall be deemed to have been included for in the rates quoted.

8.8 Measurement will be made for various items under schedule of rates on the following basis as indicated in the unit column.

i) Weight : MT or Kg
ii) Length : M (Metre)
iii) Number : No.
iv) Volume : Cu.M
v) Area : Sq.M

8.9 Length of pipes shall be measured along the curvilinear centre of the pipelines laid/ installed and shall include all types of specials, fittings, bends etc. but excluding all types of valves. Length of valves shall be excluded from piping measurement and shall be considered on number basis.

9.0 TERMS OF PAYMENT

Pending completion of the whole works, provisional progressive payments for the part of work executed by the contractor shall be made by Owner on the basis of said work completed and certified by the Owner's representative as per the agreed milestone payment schedule and the percentage break-ups given below.

Contractor shall submit his invoices to the Owner's representative monthly in the manner as instructed by Owner. Each invoice will be supported by documentation acceptable to Owner and certified by the Owner's representative. Payments made by owner to the contractor for any part of the work shall not deem that the Owner has accepted the work.

The Contractor has to raise the RA bill on monthly basis or as per instructions of MNGL with all HR compliance supporting documents as per check list with each RA/Final bill and payment shall be made as per the following terms:-

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The Contractor has to raise the RA bill on monthly basis or as per instructions of MNGL with all HR compliance supporting documents as per check list with each RA/Final bill and payment shall be made as per the following terms:-

9.1 MDPE Laying for
9.1.1 `For Pune GA

For SOR item 1.1,1.2,1.3

60%	MDPE pipeline should in continuation from 00.00 point and complete the Trenching, lowering, jointing of pipeline, back-filling, crossings, compaction, permissions, Liasioning,Testing & flushing of network & restoration of the trench as per scope of work for the complete stretch. Submission of all TC, Area wise Material consumption, periodic material reconciliation etc.
25%	Installation of Permanent Markers/Plate Markers, Valve chamber and SR installation etc as per the scope of work for the complete stretch & submission of Auto-CAD check print drawings.
10%	Certified As-Built drawing submission, closing of punch points (if any), N_2 Purging, Commissioning of the system/Pipeline, Handing

	over of documents to O&M Dept.
5%	Submission of documents, Final material reconciliation, Closure of Service order.

For SOR item 1.5, 1.6,1.9, 1.10, 1.11, 1.12,1.13,1.15

90%	Testing & flushing of network, jointing of pipeline, installation of Permanent Markers, Valve chambers, SR & restoration of the trench etc, irrespective of any scenario/weather to complete all works, permissions, Liasioning, restoration, Completion of Restoration of trench inside the society & submission of Society NOC, authority NOC in case of public roads, Submission of all TC, Area wise Material consumption, Periodic material reconciliation etc. **For Safety barricade:** Colored photographs with location identification/landmark is required with back filling report, Gap between two safety barricade shall not be more than 1m and shall be covered by caution tape at minimum three location.
10%	Completion of all other associated works/Repair/rework, Submission of documents, Final material reconciliation, Closure of Service order

For SOR item 1.4,1.16,1.17,1.18

90%	Testing & flushing of network, jointing of pipeline, commissioning, installation of Permanent Markers, Valve chambers, SR & restoration of the trench etc, irrespective of any scenario/weather to complete all works, permissions, Liasioning, restoration, Completion of Restoration of trench inside the society & submission of Society NOC, NOC in case of public roads, Submission of all TC, Area wise Material consumption, Periodic material reconciliation, Certified As-Built drawing submission,Handing over of documents to O&M Dept. etc.
10%	Completion of all other associated works/Repair/rework, Submission of documents, Final material reconciliation, Closure of Service order,

For SOR item 1.7, 1.8,1.14

85%	After successful testing of the system/pipeline, After completion of all respective work and submission of TC, Submission of NOC in all respects.
10%	After successful commissioning in respective area/line/network. Certified As-Built drawing submission etc, After submission of all

	documents.
5%	Submission of documents, Closure of Service order

For SOR item 1.19

85%	MDPE pipeline should in continuation from 00.00 point and complete the Trenching, lowering, jointing of pipeline, back-filling, crossings, compaction, permissions, Liasioning,Testing & flushing of network & restoration of the trench as per scope of work for the complete stretch. Submission of all TC, Area wise Material consumption, periodic material reconciliation, Installation of Permanent Markers/Plate Markers, Valve chamber and SR etc as per the scope of work for the complete stretch & submission of Auto-CAD check print drawings.
10%	After successful commissioning in respective area/line/network. Certified As-Built drawing submission etc, After submission of all documents.
5%	Submission of documents, Closure of Service order

9.2 GI and Cu/MLC laying:

For SOR item 2.1, 2.2, 3.1,

85%	After completion of GI installation up to MCV-I, GI testing, Complete details of installation till MCV-I, Submission of TC. Installation of plate markers, Painting.
10%	Purging, Commissioning of the system, Submission of documents, Submission of all documents etc. (Before Commissioning testing is required)
5%	Submission of documents, Final material reconciliation, Closure of Service order.

For SOR item 2.3 (a), 3.2

80%	Meter cu installation, testing, MJC submission to AIC/EIC
15%	Purging, Commissioning of the system, After submission of documents, completion of all works including conversion of all types of appliances and submission of JMR to AIC/EIC.
5%	Submission of documents, Final material reconciliation, Closure of Service order

For SOR item 2.3 (b)

90%	Meter cu installation, testing, Purging, Commissioning of the system, After submission of documents, completion of all works including conversion of all

	types of appliances and submission of JMR to AIC/EIC.
10%	Submission of documents, Final material reconciliation, Closure of Service order.

For SOR item 2.3(c)

95%	After successful testing of already installed Meter, Cu and conversion work of all type of appliances with supply of rubber tube and necessary Cu fittings, Clips and submission of JMR to AIC/EIC.
5%	Submission of documents, Closure of Service order

For SOR item 2.4 (a), 2.4(b), 2.5,

75%	Meter & Regulator installation, testing, MJC submission to AIC/EIC, Permission, Liasioning, restoration which needs to complete the job, Submission of TC.
20%	Purging, Commissioning of the system, After submission of documents, completion of all works including conversion of appliance and submission of JMR to AIC/EIC.
5%	Submission of documents, Final material reconciliation, Closure of Service order

For SOR item 2.6

90%	After completion of GI testing, purging, commissioning, Complete details of GI installation till MCV-I, Submission of TC. Installation of plate markers, Painting. (Before Commissioning testing is required)
10%	Submission of documents, Final material reconciliation, Closure of Service order.

For SOR item 3.3, 3.4

85%	After supply & installation of the fitting, Submission of JMR along with TC, Completion of the job with required patch up (restoration) etc. and successful completion of testing & flushing of the pipeline.
10%	Purging, Commissioning of the system, After submission of documents, completion of all works.
5%	Closure of Service order.

10.0 QUALITY ASSURANCE

10.1 Detailed quality assurance program to be followed for the execution of Contract under various divisions of works will be mutually discussed and agreed to in line with SCC-Technical. Bidder shall prepare the QAP and get it approved by EIC.

10.2 The Contractor shall establish document and maintain an effective quality assurance system as outlined in recognized codes.

10.3 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 the quality assurance, plans or procedures to be followed for quality control in respect of Design, Engineering, 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/Consultant 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.

10.4 The Contractor has to ensure the deployment of quality Assurance and Quality Control Engineer(s) depending upon the quantum of work.

11 **NOTICE AND LICENCES**

The Contractor shall at his costs and expenses give to the Municipal or Panchayat, Police and other authorities all notices etc., that may be required in law to be given and obtain all necessary permissions and licences etc., for temporary obstructions, enclosures and pay all fees, taxes charges etc. which may be leviable by such authorities for that purpose. The Contractor shall make good any damage to the adjoining property whether public or private.

12 **WORKING HOURS**

Depending upon the requirements, time schedule/ drawn up programmes and the target set to complete the job in time the works may have to continue beyond normal working hours to the extent of round the clock and on holidays also for which no extra claim shall be entertained.

13 **RESPONSIBILITY OF CONTRACTOR**

Preparing approaches and working area for the movement and operation or the cranes, leveling the area for assembly and erection shall also be the responsibility of the Contractor. The Contractor shall acquaint himself with access availability, facilities such as railway siding, local labour etc.

The procurement and supply in sequence and at the appropriate time of all materials and consumables covered under Contractor's scope of supply, shall be entirely the Contractor's responsibility. Contractor shall not use any of the equipment or materials issued to him by Owner for temporary works, manufacturing erection aids etc. Misuse of materials will be seriously viewed and deduction at penal rates will be made from the Contractors bill for such quantities that are misused.

Contract Price is deemed to be inclusive of all expenses towards above responsibilities.

14 **ADDITIONAL WORKS/EXTRA WORKS**

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

15.0 **CONSTRUCTION**

OWNER reserves the right to inspect all phases of Contractor's operations to ensure conformity to the SPECIFICATIONS. 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 a 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 the Contractor or any Sub-Contractor is found by OWNER's representatives to be unsatisfactory or not in accordance with the DRAWINGS, procedures and SPECIFICATIONS, the Contractor shall, upon verbal notice of such, revise the work in a manner to conform to the relevant DRAWINGS, procedures and SPECIFICATIONS.

15.1 **Rules and Regulations**

Contractor shall observe in addition to Codes specified in respective specification, 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.

15.2 **Procedures**

Various procedures and method statements to be adopted by Contractor during the construction as required in the respective specifications shall be submitted to Engineer-in-Charge in due time for approval. No construction activity shall commence unless approved by Engineer-in-Charge in writing.

15.3 **Security**

The work being in protected area, entry into the work area shall be restricted and governed by issue of photo gate passes by the Security/CISF. The Contractor shall arrange to obtain through the Engineer-in-Charge, well in advance, all necessary entry permits/gate pass for his staff and labour and entry and exit of his men and materials shall be subject to vigorous check by the security staff. The Contractor shall not be eligible for any claim or extension of time whatsoever on this account.

15.4 **Field Inspection**

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.

15.5 **Erection and Installation**

The CONTRACTOR shall carry out required supervision and inspection as per quality Assurance plan and furnish all assistance required by the OWNER in carrying out inspection work during this phase. The OWNER will have engineers, inspectors or other authorized representatives present who are to have free access to the WORK at all times. If an OWNER's representative notifies the CONTRACTOR's authorized representative not lower than a Foreman of any deficiency, or recommends action regarding compliance with the SPECIFICATIONS, the CONTRACTOR shall make every effort to carry out such instructions to complete the WORK conforming to the SPECIFICATIONS and approved DRAWINGS in the fullest degree consistent with best industry practice.

15.6 **Construction Aids, Equipment, Tools & Tackles**

CONTRACTOR shall be solely responsible for making available for executing the work, all requisite Construction Equipments, Special Aids, Tools, Tackles and testing equipments and appliances. Such construction equipments etc. shall be subject to examination by owner and approval for the same being in first class operating condition. Any discrepancies pointed out by OWNER shall be immediately got rectified, repaired or the equipment replaced altogether, by CONTRACTOR. OWNER shall not in any way be responsible for providing any such equipment, machinery, tools and tackles.

The OWNER reserves the right to rearrange such deployment depending upon the progress and priority of work in various sections.

Tie-end between main line and starting point of terminal is included in the scope of contract, as and when main line section is available for Tie-ins.

15.7 RESOURCES FACILITIES

15.7.1 **Recruitment of Personnel by Contractor**

The Contractor shall not recruit personnel of any category from among those who are already employed by the other agencies working at the sites but shall make maximum use of local labor available.

15.7.2 **Construction Water and Power Supply**

No water and power will be provided by the owner. It should be the responsibilities of the contractor to arrange water and power at his own cost.

15.7.3 **Land for Residential Accommodation**

Owner shall not provide any land for residential accommodation of contractors staff and labor.

16.0 **DOCUMENTS, SPECIFICATION, STANDARDS AND DRAWINGS**

16.1 Owner shall furnish tender purpose drawings as listed in content of the tender document and other typical standard drawings attached with respective technical specifications of the tender document. Contractor shall prepare detail engineering drawing, bill of materials and all construction drawings and submit to Consultant/CSA/GET/AIC/EIC for approval prior to start of the job / any procurement.

Contractor shall ensure the timely certification of all measurement book/inspection reports form CSA, GET, AIC & EIC at least once in a week or as directed/communicated by AIC/EIC, if fails a deduction of Rs 100.00 per inspection report will be applicable for delay in submission.

16.2 Contractor shall prepare isometric drawings, any specific detail drawings (if required by Engineer-in-charge) & bill of materials and submit the same for Owner/ Consultant's approval/ record.

Contractor shall prepare drawing for utilities line as required or as per SOR and submit the same for Owner/ Consultant's approval/ record.

16.3 No construction small or big shall be carried out without proper construction / standard drawings duly approved by Owner's Engineers at Delhi or site office or Owner's representative duly authorized to do so.

However, detail pipeline route alignment sheets, detail-crossing drawings with crossing methodology shall be submitted by Contractor for prior approval after survey carried out by contractor at site before execution of pipeline work. Any additional survey and data required to complete above shall be also done by Contractor without any extra time & cost implementation to Owner.

16.4 After Completion of construction & commissioning of pipeline system, Contractor shall incorporate all the correction in drawings, prepare and issue the drawings "as built drawings" as listed below to Owner as final submission of drawings. For Mainline pipeline alignment sheet, all block valves location & details, all X-ing details, pipe book etc. and for tap-off point & consumers premises, various DRS, MRS/SRM at Industrial / Commercial Consumer's Stations – layout drawing, piping GAD, Isometric and all civil drawings including hook-up arrangement with DPRS / IPRS / Meter Regulator. For final submission only 4 sets of documents plus the original transparencies shall be handed over by Contractor. Any construction done by Contractor without duly approved

drawings shall be wholly at his risk and cost. Soft copy of all as-built drawings shall be also submitted in AutoCAD. **Please refer guidelines attached for preparation of as-built drawing.** For details of documentation to be submitted for mainline and terminal refer enclosed specification for documentation for pipeline construction enclosed elsewhere with the tender.

16.5 **Specifications**

The work shall be carried out by CONTRACTOR strictly in accordance with the following specifications :-

1) PNGRB guideline (T4S)
2) Laying of Underground MDPE Main Pipeline
2) Installation of Aboveground GI Piping for Domestic & Commercial Consumers
3) GI Fittings
4) HDPE Pipes etc.

The contractor shall carry out the work in accordance with the requirement of latest relevant applicable standards, this specification, MNGL's Engineering Standards; relevant Oil India Safety Directorate (OISD) norms, PNGRB Regulations for Technical Specifications(T4S), ASME B31.8 – Gas Transmission and Distribution Piping Systems; Australian Standard 3723 – Installation and Maintenance of Plastics Pipe Systems for Gas; and the American Gas Association Document – Purging Principles and Practice. ISO:4437/ IS:14885 for underground polyethylene pipes and MNGL's approved procedures.
Should the contractor find any discrepancy, ambiguity or conflict in or between any of the Standards and the contract documents, then this should be promptly referred to the Engineer-in-Charge (EIC) for his decision, which shall be considered binding on the contractor.

The manpower deployed on the respective work shall be adequately trained & shall have necessary skills to executive / supervise the work. However, the assessment on the qualification of the personal shall be at the discretion of EIC.

Fusion operators and other skilled personnel shall be approved by MNGL and identification cards duly signed by EIC shall be issued to them. Only those personnel who are approved by EIC shall be allowed to execute the critical activities like joining of PE Pipes.

16.6 **Drawings/ "As Built" Drawings**

Notwithstanding the provisions contained in standard specifications, upon completion of WORK, the CONTRACTOR shall complete all of the related drawings to the "AS BUILT" stage and provide the OWNER, the following:-

a) One complete set of all original tracings.

b) Five complete bound sets of CONTRACTOR's specifications including design calculations.

c) Five complete sets, in the form of hand bound volumes, of the manufacturer's data book for all the equipment's; instruments etc. including certified prints and data. Data books shall be completed with index as to tag numbers associated with manufacturer's data shown, Equipment data shall include as a minimum requirement the principle and descriptions of operations, installation and maintenance instructions, drawings and dimensions, parts list and priced purchase orders including those of major sub-vendors and suppliers. Requirements pertaining to "VENDOR DATA REQUIREMENT" attached with standard specifications for the documents to be included in the Data Book for each equipment, instruments etc. shall also be complied with.

d) Soft copy of all the as built drawings prepared in AutoCAD in one set of rewritable compact Disc and photographs covering measure activities at site.

f) The Contractor shall submit colored photographs covering all the activities of pipeline constructions highlighting the progress or other areas of work in 2 sets to Engineer-in-charge at site office along with monthly progress report. Similarly photographs for problem areas should be submitted well in advance with a proposed methodology to execute the works and meet the construction schedule. The cost of same shall be deemed to be inclusive in the rates and no separate payment shall be made.

g) All as-built drawings as mentioned in specification for documentation enclosed elsewhere in the tender.

Guidelines for preparation of As-laid/ As-built Drawings:-

A) Preparation of As-laid/ As-built drawings:

a. Medium pressure network:

i. The As laid drawing for MP laying should be in the scale of 1:500. For smaller stretches/ tap offs, scale of 1: 50 or as suggested by MNGL engineer should be used. It is mandatory to mention "scale used" in the drawing.

ii. Diameter, pipe material, length and location of pipeline whether on road or on footpath, should be clearly indicated.

iii. Distance of pipeline from electric pole/ permanent property, i.e. boundary wall, gate of the society, manhole of other utility (Manhole owner name to be mentioned) should be provided at every 25 meters and at every change in alignment/ orientation of pipeline.

iv. Trench details (i.e. top cover of the pipe) at every 50 meters, details of every change in depth (increase or decrease), details and offset distance from other utilities present (e.g. MSEB, BSNL, MIDC water line etc.) and details (material, size and length) of additional protection like sleeve (if any) provided to our pipeline should be clearly indicated.

v. Details of PE stop off valve and other fittings used (i.e. tee, elbow, coupler, transition fittings etc.) should be shown with adequate information on chainage, orientation and offsets (X and Y coordinates) from permanent structure in the immediate vicinity.

vi. Technical deviation (if any) should be provided with reference to the building/ permanent structures around, and the same should be cited clearly with all the relevant details, including separate sketches.

vii. Total as laid length (size wise), bill of materials with a standard legend approved by MNGL (attached herewith) should be mentioned in each sheet.

viii. Complete details of nallah crossings should be shown in separate sketch.

ix. Names of roads, major landmarks and buildings should be mentioned appropriately for reference.

x. Details like name and exact location of the society/ commercial customer/ industrial customer in which SR/ MRS module is installed should be provided.

xi. Proper chainage (with reference to the distance from DRS/ starting point) and mention of all the drawings to be referred in continuation should be cited correctly.

xii. Distance from at least 3 permanent structures should be provided for starting point, end points and for tap off locations.

xiii. Direction of gas flow should be indicated in each of the drawing.

xiv. Text on the as laid drawings should be clearly visible etc as directed by EIC.

b. Low Pressure network:

i. The as laid drawing should be in the scale of 1:200 (or as suitable). It is mandatory to mention “scale used” in the drawing.

ii. Diameter, pipe material, length and location of pipeline whether on road or on footpath (inside society) should be clearly indicated.

iii. Distance of pipeline from electric pole/ permanent property, i.e. boundary wall, gate of the society, manhole of other utility (Manhole owner name to be mentioned) should be provided at every 25 meters and at every change in alignment/ orientation of pipeline.

iv. Trench details (i.e. top cover of the pipe) at every 50 meters, details of every change in depth (increase or decrease), details and offset distance from other utilities present (e.g. MSEB, BSNL, MIDC water line etc.) and details (material, size and length) of additional protection like sleeve (if any) provided to our pipeline should be clearly indicated.

v. Details of fittings used (i.e. tee, elbow, coupler, transition fittings etc.) should be shown with adequate information on distance, orientation and offsets (X and Y coordinates) from permanent structure in the immediate vicinity.

vi. Details of crimp position, kitchen positions and riser nos to be mention in the drawing.

vii. Technical deviation (if any) should be provided with reference to the building/ permanent structures around, and the same should be cited clearly with all the relevant details, including separate sketches.

viii. Total as laid length (size wise), bill of materials with a standard legend approved by MNGL (attached herewith) should be mentioned in each sheet.

ix. Complete details of nallah crossings should be shown in separate sketch.

x. Names of roads, major landmarks and buildings should be mentioned appropriately for reference.

xi. Details like name and exact location of the society in which SR module is installed should be provided.

xii. Proper distances and mention of all the drawings to be referred in continuation should be cited correctly.

xiii. Distance from at least 3 permanent structures should be provided for starting point, end points and for tap off locations.

xiv. Direction of gas flow should be indicated in each of the drawing.

xv. Text on the as laid drawings should be clearly visible. Etc as directed by EIC.

16.6.1 **The As-built is an essential document for MNGL, thus contractor shall ensure the submission of Approved as-built drawing and GIS updation within 15 days from date of commissioning. If fails a penalty of Rs 10,000.00 per MP line stretch/ society will be applicable.**

16.7 **DOCUMENTS TO BE SUBMITTED/ PRODUCED ALONGWITH R.A. BILLS**

i) Covering letter.
ii) Tax invoice.
iii) Abstract of cost.
iv) Final measurement cum consumption sheet.
v) Material reconciliation.
vi) HR compliance documents- Legal and statutory compliance as per requirement. (like. Labour Licence No./ ESIC/ PF Challan/ECR, Wedge register, muster roll, payment proof, professional tax, receipt of Labour welfare fund, Copy of BG etc.
vii) Insurance Policy/WCP as per relevant clauses of Contract Agreement.
viii) Consumption sheet along with certified inspection reports.
viii) Material inspection report with TC (if any)
vi) Any other document required for the purpose of processing the bills.

Contractor shall submit scan copy also of all the documents in each RA bills to AIC/EIC on monthly basis along with hard copy.

16.8 **COMPLETION DOCUMENT – MDPE & GI**

The following documents shall be submitted in hard binder by the BIDDER in two sets (one original and one copy), as a part of completion documents:-

a) Copy of complete approved RA bills.
b) Final Bill with all documents as defines in clause no 16.7 of SSC.
c) Material Reconciliation, stores issue, total material consumption report. & return statements
d) No Due and NO claim certificate by the BIDDER

e) Statement for reconciliation of all the payments and recoveries made in the progress bills
f) Recovery, PRS statement if any.
g) SOR Deviation statement.
h) Work and Claim Status.
i) Delay analysis (If required).
j) Copies of Time extension. if granted.
k) All other requirements as specified in the respective specifications.
l) Any other contractual documents required on completion.
m) Total list of total houses & commercial establishments in the area allotted to him giving details of connections provided & reasons where connection could not be given / completed.
n) Test reports & test certificates of gauges etc.
o) Any other documents / records required by EIC.

Note: All the material issue / consumption reports shall be submitted along with SAP generated statements.

16.9 **STATEMENT OF FINAL BILLS-ISSUE OF NO DEMAND CERTIFICATE**

The final bill of Contractor shall be accompanied by no-demand certificate from the following departments of the Owner:

i) Administration & Personnel Department regarding vacation of land, housing accommodation, recovery of tents etc.
ii) Fire and Safety Officer and CISF.

The Contractor shall obtain such no-demand certificates from the concerned authorities and furnish the same to the Engineer-in-Charge.

16.10 **ORDER PLACEMENT OF BOUGHT OUT ITEMS**

The contractor is required to place firm order for all bought out items within 15 days from the date of placement of order, failing which owner reserves the right to procure the same at the risk & cost of the contractor.

17.0 **HEALTH SAFETY AND ENVIRONMENT (HSE) MANAGEMENT**

After the award of the contract, detailed Health, Safety and Environment (HSE) programmed to be followed for execution of contract under various divisions of works will be mutually discussed and agreed between Contractor, Client & PMC.

The Contractor shall establish document and maintain an effective Health, Safety and Environment (HSE) management system.

The Contractor shall adhere to the Health, Safety and Environment (HSE) management system as per MNGL Specification and General Conditions of Contract.

It will be the Contractor's responsibility to acquaint his site staff and operatives of all current safety legislation, statutory requirements and MNGL's safety standards. In addition, and before any work takes place all the Contractor's operatives shall be given training in site safety by the trained person under supervision of MNGL. If the Contractor wishes to start any new operatives on site, he must first inform the SE, who will arrange for such training to be arranged.

The Contractor shall conform to the requirements outlined elsewhere in the tender document. In addition, the Contractor shall observe safe working practices in the storage and handling of cleaning fluids, flammable fluids, etc, and ensure smoking or naked flames are not permitted in the vicinity when these materials are being used.

Trench walls shall be battered with sufficient slope in order to minimize a trench collapse. Where there is a danger of an earth slide or collapse, the trench shall remain open for the minimum time possible with proper barricading. The Contractor is to ensure that no person enters a trench, which is of a depth of 1.5 metres or greater, unless the trench has adequate shoring or the sides are battered to such an extent as to prevent a trench collapse

The Contractor shall also protect all work sites with warning signs, barricades and night lighting. The Contractor shall inspect all fenced excavations daily, and maintain them in good order.

The trenches/ pits shall not be kept open in night times. However in case the same is essential the same shall be properly barricaded with proper lighting arrangements & manned.

The Contractor shall provide all safety equipments like helmets, boots, insulated crowbar etc. to the labour which are necessary for safe working practice.

Contractor shall ensure the use of Full body Safety harness belt with ascender-descender and three life line. All other kind of equipment and tools like only belt, Jhula etc are prohibited.

Any accident causing injury to any person or damage to property or equipment shall be reported to the EIC.

Where the EIC determines that the work is being performed by the Contractor in an unsafe manner, he may suspend the Work until corrective action is taken by the Contractor.

17.1 The contractor should make First Aid Box available at all the sites. The contents of the kit shall include the following items as a minimum.

1	Triangular bandages 90 cm wide x 127 cm base	8 Nos
2	First Aid Dressings	6Nos (3med+3Large)
3	Burn Dressings	3 Nos
4	Roller Bandages	4 Nos
5	Absorbent white Gauze	1 Roll
6	Water proof Adhesive Tape	1 Roll
7	Premeditated Adhesive Dressing Strips	10 Nos
8	Cotton Wool, Sterilized	3 Pkts
9	Ophthalmic pads	2 Nos
10	Antiseptic & Burn Ointment	1 Tube
11	Aspirin Tablets	1 Strip
12	Mouth to mouth Resuscitator, plastic consisting of a short oral airway with a non-return valve.	2 Nos
13	Rust less Safety Pins on a card	10 Nos
14	Scissors	1 Pair
15	Inflatable splints, arm	1 Set
16	Leg	1 Set
17	Tweezers	1 Pair
18	Silica-gel or any other dehumidifier	1 Capsule
19	First aid manual containing instructions for first aid as well as mouth to mouth resuscitation	1 No

17.1.1 All the items shall be contained in a weatherproof box. The container shall be suitable for mounting on as well as being carried in hand.

17.1.2 All the contents shall be kept in clearly marked and easy to remove cartons stored in such a manner that there is no rattling or spilling over even when the container is being moved. Whenever applicable the cartons shall bear instructions for use, dosage etc.

17.1.3 The contractor must provide PPEs to all the workmen, PPE will include

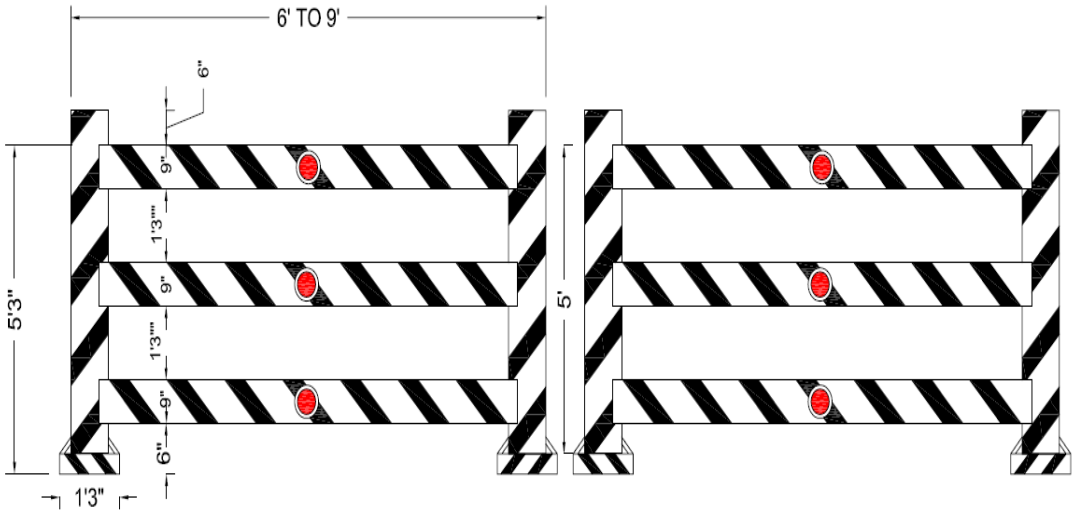
Sr. No.	Item	Standard/Inspection Criteria	Salient Feature
1	Safety Shoe	IS5852-77 For steel	Safety shoe with injection molded PVC / nitrile rubber sole, collar

Sr. No.	Item	Standard/Inspection Criteria	Salient Feature
		toe IS 10667-83 Guide for selection	cushion, fully leather lined with steel toe cap as per BIS. Shoe sole to be anti skid and provide adequate insulation. No nails be used on sole.
2	Gum Boot	IS 12254-19	Full size (up to Knee height) Molded foot wear made up of PVC and cotton fabric with Fiber toe cap
3	Safety helmet	IS2925-84	Made of high density polyethylene thermoplastic with radium Should have head harness and chin strapped for fixing Polyester fiber reinforced polycarbonate /polyester fiber glass material shall also be considered.
4	Hand Gloves		
	Cotton	IS6994(PT 1)-73	Should be PVC dotted for grip 
	Rubber (Elect Resistant)	IS6994-73	Suitable for 11 KV Working potential
5	Overall / dangri/ Boiler Suit -	IS8519-77	One piece apparel of cotton material.
6	Safety goggles X: For Drilling & Grinding	IS7524	Impact resistant & thermally toughened glass, suitable to be worn over normal spectacles.
7	Ear muff with head band-	IS6229-80	Noise protection should be made of high impact polypropylene for rugged use. No metal parts to be used. Should attenuate sound level

Sr. No.	Item	Standard/Inspection Criteria	Salient Feature
			by 30 to 30 db.
8	Ear plug	IS9167-79	Moisture & heat resistant. Should be made of soft pliable, non allergic rubber should reduce sound level by minimum 17 db.
9	High Visibility Jackets	EN 471	The vest of jacket shall be made of net type cloth and must be made of dual colour, vertically to give more visibility and the glass bed reflective fabric mounted on fluorescent organic fabric around the vertical band of each shoulder and horizontally tape around the chest and back to create 360 degree visibility as per EN 471 
			Cross belt 2 inch "Glass Bead EN – 471 reflective tape having cross at back & two vertical bands in front having Velcro opening both sides.

Sr. No.	Item	Standard/Inspection Criteria	Salient Feature
			

17.1.4 The contractor must provide barricades and safety sign boards at and around open trench, working area:



DETAILS OF BARRICADE

Category	Hard Hat	Gum Boot	Safety Shoes	Hand Gloves		High Visibility Jacket	Safety Goggles	Coverall	Ear plug/ Ear Muff
				A type	B type				
Labour	□	□	--	□	--	□	--	--	--
Helper	□	--	□	□	--	□	--	--	--
GI Plumber	□	--	□	□	--	□	□	--	□
Cu Plumber	□	--	□	--	--	□	□	--	□
CV technician	□	--	□	--	--	□	--	--	--
PE technician	□	□	--	--	□	□	□	□	□
Breaker Operator	□	□	--	--	□	□	□	□	□

Compressor Operator	□	--	□	□	--	□	--	--	□
Supervisor/ Engineer/ Safety officer	□	--	□	--	--	□	--	--	□

A type hand gloves: Cotton hand gloves with PVC dotted for grip
B type hand gloves: Rubber hand gloves (11 KvA)
Ear plug/ Ear muff should be available with all the site people during flushing/ purging/ commissioning activities.

17.2 **General Guidelines During and Before Erection**

17.2.1 The Contractor shall be responsible for organizing the lifting of the structural element, equipment in the proper sequence, that orderly progress of the work is ensured and access routes for erecting the other structures/ equipments are kept open.

17.2.2 During the performance of the work the Contractor at his own cost, shall keep structures, materials and equipment adequately braced by guys, struts or otherwise approved means which shall be Supplied and installed by the Contractor as required till the installation work is satisfactorily completed.

Such guys, shoring, bracing, strutting, planking supports etc. shall not interfere with the work of other agencies and shall not damage or cause distortion to other works executed by him or other agencies.

17.2.3 Manufacturer's recommendations and detailed specifications for the installation of the various equipment and machines shall be fulfilled by the Contractor.

17.2.4 Various tolerances required as marked on the drawings and as per specifications and instructions of the Engineer-in-Charge, shall be maintained.

17.2.5 Verticality shall be maintained. Verticality shall be verified with the Theodolite/advanced instruments.

17.2.6 Contractor shall ensure safety at site as define above or as required by the authority if noncompliance found at site, MNGL may take following action without any prior notice.

i) If MNGL will provide the PPEs and Barricades etc from third party, the cost of the same will be recovered from upcoming RA bill with addition of 25% administration charges.

Or

ii) A penalty of Rs 10,000.00 shall be applicable for each written communication (e-mail, letter, audit report etc.) of non- compliance of safety.

17.3 **Construction Photographs**

The Owner desires to have area wise/ society wise/ stretch wise photographs showing the progress of construction. Contractor has to keep all the photographs in hard or soft form and submit the same to EIC as per requirement. Before utilizing any photograph for publicity, the Contractor shall obtain prior approval of the Owner.

17.4 Following points shall be taken care by the contractor before during execution works.

i) Contractor shall be responsible for taking necessary precautions regarding traffic (installation of notice / warning boards).
ii) Contractor shall be totally responsible for the occurrence of any accident during excavation of road and shall be liable for damages / expenses due to the same.
iii) Concerned authority / Owner shall not be responsible for any loss / damage.
iv) One copy of the permission shall be made available with contractor's responsible workman at the place where excavation is undertaken.
v) While executing the subject work, excavation shall be done in consultation with the concerned authority engineer of that area.
vi) Necessary safety measures shall be taken for the gas pipeline, since high tension lines and other services carriers are running alongwith in gas pipeline route in the area.

18.0 SCHEDULE OF LABOUR & EQUIPMENT

Schedule of Labour Rates as follow shall be used for analysing rates for extra items. However actual Labour rates shall be as per applicable statutory requirements and prevailing statutory compliances.

Sl. No.	Classification Personnel	Rates in INR for 8 hours Standard Time (Rs)
1.	Engineer	2500/-
2.	Surveyor Foreman	2000/-
3.	Pipe Fitter	1040/-
4.	Pipe Welder	1040/-
5.	Gas Cutter	1040/-
6.	Grinder	1040/-
7.	Mason	1040/-
8.	Plumber	1040/-
9.	Carpenter	1040/-
10.	Painter	1040/-
11.	Electrician	1040/-
12.	Cable Jointer	1040/-
13.	Instrument Technician	1040/-
14.	Rigger	1040/-
15.	Watchman/Helper	869/-
16.	Concrete Mixer Operator	1040/-
17.	Heavy Machine Operator	1040/-
18.	Fusion Operation/ Jointer	1040/-

NOTES:-
Rates are final and Tenderer is to sign only without deviation.

Schedule of equipment rates as following shall be used for analysing rates for extra items. However actual equipment rates shall be as per applicable statutory requirements.

SL. NO.	DESCRIPTION OF EQUIPMENT	HOURLY RENTAL RATES FOR EXTRA WORKS INCLUDING CONSUMABLES
1)	Dozers	Rs. 1100/-
2)	Back Hoe 1.2 m3	Rs. 1500/-
3)	Back Hoe 0.7 m3	Rs. 1000/-
4)	Side Boom 45 ton	Rs. 2000/-
5)	Side Boom 15 ton	Rs. 1200/-
6)	Moling machine	Rs. 1200/-
7)	Bending machine	Rs. 400/-
8)	Welding machine	Rs. 300/-
9)	Compressors 210 CFM	Rs. 500/-
10)	Crane upto 15 T	Rs. 1100/-
11)	Dewatering Pumps	Rs. 125/-
12)	Fusion Jointing Machine	Rs. 250/-
13)	Diesel operated power generators	Rs. 200/-
14)	Grinding machine	Rs. 50/-
15)	Gas cutting set with cylinders	Rs. 100/-
16)	Compressor 600 CFM Capacity	Rs. 750/-
17)	Trucks	Rs. 225/-
18)	Car/Jeep	Rs. 200/-
19)	Pipe beveling m/c	Rs. 150/-
20)	Tractor with trolley	Rs. 225/-
21)	Tripod with 5 Tons Chain Pulley Block	Rs. 100/-
22)	Pipe Trailor 20 T capacity	Rs. 450/-
23)	High pressure test pump upto 200 Bar capacity	Rs. 450/-
24)	Dumper	Rs. 350/-
25)	External x-ray with generator	Rs. 500/-

19.0 CONSTRUCTION EQUIPMENT

19.1 Minimum construction equipment to be deployed by contractor. However, Any other equipment required for completion of pipeline laying work but not specifically mentioned here, shall be deployed by contractor without any additional cost. The list of equipment mentioned below are the minimum to be deployed by contractor and

contractor shall ensure the availability at site of listed equipments in good working condition.

Sl. No.	Description of Item	Qty. to be Deployed*
1	Electro-fusion machine with Bar Code and control box with leads	1 No's
2	Moling Equipment, HDD Equipment	As per requirement
3	MDPE Squeeze Tools for 180 & 125mm pipe (Hydraulic)	2 No's
4	MDPE Squeeze Tools for 125, 90, 63mm Pipes	2 No's each
5	MDPE Squeeze Tools for 32 and 20mm Pipes	1 No's each
6	Universal pipe scrapper 20mm – 180mm/ hand scrappers	1 No's
7	Tapping tools for PE service tees (if required)	1 No's
8	PE pipe cutter 125, 90, 63 mm pipe	1 No's each
9	PE pipe cutter/ Guillotine 180, 125 mm	1 No's
10	Pipe alignment clamps for jointing of elbow, tee etc. 180, 125, 90,63,32 & 20mm pipe	1 No for each
11	Jumping Jack compactor	1 No
12	Power Generator (5.5 kVA)	1 No
13	Conversion Kit	1 No per technician and 1 No's extra
14	Pneumatic Test Pumps	1 No per plumber team
15	Die sets for thread preparation (1", ¾", ½")	1 No per plumber team
16	Pipe Cutter for GI (1", ¾", ½") & Cu	1 No each for per plumber team
17	Pressure Gauge 7 Kg	2 No's
18	Pressure Gauge 400 mbar	2 No's
19	Manometer	2 No's
20	Full body Safety harness belt with ascender & descender	1 No's

Any other equipment required for completion of pipeline laying work but not specifically mentioned above here, shall be deployed by contractor without any additional cost.

Contractor shall deploy above mentioned equipments in good working condition.

Contractor shall indicate the quantities to be deployed against each Item / equipment.

19.2 **Contractor shall ensure the availability of above maintain minimum construction equipment, For non-compliance a penalty of Rs 5,000.00 shall be applicable against each written communication (e-mail, letter, audit report etc.) by MNGL.**

20.0 **MINIMUM REQUIREMENT OF SKILLED MANPOWER**

20.1 Minimum No. of Skilled Manpower to be deployed by contractor. The below proposed list of skilled manpower is the minimum to be deployed by Contractor and Contractor shall ensure the availability of these at site.

Sl. No.	Description	Educational qualification	Manpower requirement
1	Project Manager (Pune site)	BE/Engg Diploma/Graduate with minimum 5/8/10 year experience in the relative field	1
2	Computer operator-cum-Back office	Good computer knowledge.	1
3	Site Supervisor MDPE	Graduate with good experience in the relative field	1
4	Site Supervisor (M/cu)		1
5	Conversion Technician	Good experience in relative field	1
6	MDPE Technician	2-3 years experience in relative field	1
7	Plumber	-	As required
9	Labour	-	As required

The above proposed list of skilled manpower is the minimum to be deployed by Contractor.

NOTE:-

(1) Crew as required shall be deployed based on the Scope of Work finalized and as per instruction of EIC.

(2) The details of minimum manpower required to be mobilized by the execution contractor to complete the entire work within schedule given above is not exhaustive. Contractor is required to augment the above list with additional numbers/categories of workmen as required and directed by Engineer-In charge to complete the work within the completion time schedule and quoted price.

(3) The Manpower as identified above should have required qualification and adequate relevant experience.
(4) These manpower are to be mobilized within 15 days of award of work.

20.2 **Specific Requirements**
Specific requirements of manpower as communicated by EIC shall be mobilize within 15 days by Contractor.

20.3 **Contractor shall ensure the mobilization of maintain minimum manpower, for non-compliance a penalty of Rs 5,000.00 per person shall be applicable against each written communication (e-mail, letter, audit report etc.) by MNGL.**

21.0 **PROJECT SCHEDULING & MONITORING**
The Contractor shall proceed with the Work under the Contract with due expedition and without delay.

The EIC may direct in what order and at what time the various stages or parts of the work under the Contract shall be performed.

Contractor has to regularly submit daily progress reports, weekly progress reports, graphs with utilities, testing reports, material consumption and inventory reports, deviation statements etc.

The following schedules/documents/reports shall be prepared and submitted by the Bidder/Contractor for review/approval at various stages of the contract.

21.1 **Along with Bid**

a) Time Schedule
The Completion Time Schedule for the work (including mobilization period) as per time schedule to Invitation for bid, PART-A of Tender in all respect, from the date of issue of telex/telegram/letter/Fax of Intent.

The Bidder is required to submit a Project Time Schedule in Bar Chart Form, along with the Bid. The Schedule shall cover all aspects like sub-ordering, manufacturing and delivery, indicated in the Bid Document. The Owner interface activities shall be clearly identified with their latest required dates. Owner reserves the right to disqualify the Bidder if the above Schedule submitted by the Bidder is not in line with the over all Project requirement.

b) Scheduling & Monitoring System
The Bidders should describe their system of Project Scheduling and monitoring, the extent of computerization, level of detailing, tracing methodology etc. with the name of computer package and sample outputs.

21.2 **After the Award of Contract**

a) Overall Project Schedule

The Contractor shall submit within 1 week of LOA, a sufficiently detailed over all Project Schedule in the activity network form, clearly indicating the major milestones, interrelationship/ interdependence between various activities together with analysis of critical path and floats.

The network will be reviewed and approved by Engineer- in-Charge and the comments if any shall be incorporated in the network before issuing the same for implementation. The network thus finalised shall form part of the contract document and the same shall not be revised without the prior permission from Engineer-in- Charge during the entire period of contract.

b) Progress Measurement Methodology

The contractor is required to submit within 1 week of award of WORK, the methodology of progress measurement of sub-ordering, manufacturing/ delivery, sub- contracting construction and commissioning works and the basis of computation of overall services/physical progress informed. Owner reserves the right to modify the methodology in part or in full.

c) Functional Schedules

The contractor should prepare detailed functional schedules in line with network for functional monitoring and control and submit scheduled progress covers for each function viz. ordering, delivery and construction.

21.3 **Project Review Meetings**

The Contractor shall present the programme and status at various review meetings as required.

a) Weekly Review Meeting

Level of Participation	:	Contractor's/Consultant's RCM/ Site In charge & Job Engineers.
Agenda	:	a) Weekly programme v/s actual achieved in the past week & programme for next week. b) Remedial Actions and hold up analysis. c) Client query/ approval.
Venue	:	Site Office

b) Monthly Review Meeting

Level of Participation	:	Senior Officers of MNGL and Contractors.
Agenda	:	a) Progress Status/ Statistics b) Completion Outlook c) Major holds up/slippages

d) Assistance required
e) Critical issues
f) Client query/ approval

Venue : MNGL Office/ Site at the discretion of Owner

21.4 **Progress Reporting Proforma**

A) Monthly Progress Report

This report shall be submitted on a monthly basis within 10(ten) calendar days from cut-off date, as agreed upon covering overall scenarios of the work. The report shall include, but not limited to the following:

a) Brief Introduction of the work.
b) Activities executed/ achievements during the month.
c) Schedule versus actual percentage progress and progress curves for Detail Engg. Sub-ordering, Manufacturing/ Delivery, Subcontracting, Construction, Commissioning and Overall and quantum wise status & purchase orders against schedule.
d) Area of concern/ problem/ hold-ups, impacts and action plans.
e) Resources deployment status.
f) Annexures giving status summary for drawings, MRs, deliveries, sub-contracting and construction.
g) Procurement status for items to be supplied by Contractor.

B) Weekly Reports

The report will be prepared and submitted by the Contractor on weekly basis and will cover following items:

a) Activities programmed and completed during the week.
b) Resource deployed men and machines.
c) Quantities achieved against target in construction
d) Record of Mondays lost.
e) Construction percentage progress schedule and actual.

C) Daily Repots

a) Activity program for the day
b) Progress of the previous day and commutative progress.
c) Manpower & machinery deployed.

21.4.1 Contractor shell ensure the submission of DPR by end of the day or up to 10AM of next day to MNGL through email on daily basis

21.4.2 Contractor has to prepare and update the progress data like Society status, Customer complaint status etc. and kept it in hard or soft. MNGL can ask for such reports or data at any time or it may require in review meeting. Contractor shell ensure the timely submission or availability of such required data in

review meeting or time as communicated. if fails penalty of Rs 5000.00 shall be applicable in each such case for non-submission of data.

21.5 **Progress Reports**

21.5.1 CONTRACTOR shall make every effort to keep the OWNER adequately informed as to the progress of the WORK throughout the CONTRACT period.

CONTRACTOR shall keep the OWNER informed well in advance of the construction schedule so as to permit the OWNER to arrange for requisite inspection to be carried out in such a manner as to minimize interference with progress of WORK. It is imperative that close coordination be maintained with the OWNER during all phases of WORK.

21.5.2 By the 10th (tenth) of each month, CONTRACTOR shall furnish the OWNER a detailed report covering the progress as of the last day of the previous month. These reports will indicate actual and scheduled percentage of completion of construction as well as general comments of interest or the progress of various phases of the WORK. The frequency of progress reporting by the CONTRACTOR shall be weekly.

21.5.3 Once a week, CONTRACTOR shall submit a summary of the WORK accomplished during the preceding week in form of percentage completion of the various phases of the WORK, to the OWNER.

21.5.4 Progress reports shall be supplied by CONTRACTOR with documents such as chart, networks, photographs, test certificate etc. Such progress reports shall be in the form and size as may be required by the OWNER and shall be submitted in at least 3 (three) copies.

21.5.5 Contractor shall prepare daily progress report (DPR) in the desired format and submit along with schedule/planning of next day to Engineer-in-charge.

21.5.6 All progress or activity performed by the contractor shall be recorded in measurement card/inspection report. The format of the same will be provided by MNGL.

21.5.7 Contractor has to submit the activity plan one day before. Contractor cannot start or perform any activity without TPI/CSA and prior information.

21.5.8 Contractor shall ensure the preparation of all inspection report/ measurement card, immediate after the completion of the activity and also ensure the timely certification of measurement / other inspection reports by TPIA/CSA and MNGL.

21.5.9 It is Contractors responsibility to get the measurement / inspection reports certified from TPIA/CSA and MNGL within three days from the completion date

of respective activity. (MJC and JMR shall be prepared on spot get the signature of TPIA/CSA and Customer), If fails Contractor has to take approval from EIC to get the inspection report certified from TPIA/CSA & MNGL with proper justification.

22.0 ROUTE SURVEY

22.1 Plans detailing the size, operating pressure and approximate location of the proposed mains, connections and associated regulator installations will be issued to the contractor at the start of the works.

22.2 The final alignment of mains will be worked out at site in consultations with the site engineers after route survey and trial pits, at his cost, have been carried out. Any change in routing from the issued drawings due to site constraint will be notified to EIC & his specific written approval shall be obtained before carrying out the job.

22.3 **Service Lines**

22.3.1 A survey will be conducted jointly by MNGL/ third party inspection and the contractor at each premises or housing colony to be supplied. The survey record will note customer details, the potential gas supply points and proposed regulator positions and estimates of material quantities. The contractor's representatives will make as sketch of the agreed pipe routes if necessary.

22.3.2 The contractor will be responsible for contacting the customer and making the necessary arrangements for access, and appointments to carry out the work. Contractor shall maintain job card and complaint books at site. MNGL will not be responsible for any time lost due to broken appointments or disputes with customers.

23.0 ORGANIZATION OF WORK

23.1 All construction work will be carried out as per direction of EIC, and this will be the primary point of contact between the contractor and MNGL on site. All work will be issued and sanctioned through the EIC and site control exercised by Site Engineer MNGL. The contractor shall ensure that technical quality standards are maintained, that construction is carried out cost effectively and that a good customer and public image of MNGL is maintained.

23.2 The contractor will appoint his own supervisors of minimum number instructed by EIC. These personnel will be responsible to the SE for monitoring construction standards and for ensuring that all detailed technical requirements are met on each and every job which is undertaken. The contractor's supervisor(s) will have day to day liaison with the SE, and will provide the SE with technical reports and audits, and other management information as is required on work progress and construction quality standards.

23.3 The contractor's supervisor shall have mobile telephones to ensure that they can be contacted at all times. The contractor will also nominate one person who can be contacted if necessary out of hours, for the duration of the works. The contractor's supervisor will have access to transport at all times to allow them to visit sites and attend meetings with MNGL as is required. The normal day to day issues of work instructions, communication between MNGL and the contractor's supervisor and the SE. No deviation from the approved technical specification / issued construction drawings shall be undertaken without written approval of EIC.

24.0 STRUCTURES, SERVICES AND OTHER PROPERTY

24.1 Location of Underground Utilities

The contractor shall locate all buried utility pipes, underground cables, water mains and other obstructions intersecting or adjacent to the Works, and shall make available the necessary labor to expose and record the depth of cover over all obstructions in advance of excavation. This shall be done far enough in advance of excavation to facilitate gradual change in grade or position found necessary to clear any obstructions.

In addition, the contractor shall excavate trial pits as necessary to determine the pipe route. The number of trial pits will be agreed with the EIC in advance of any excavation. In any event, trial pits shall be made at intervals of a maximum of 30 meters. Restoration of the abandoned trial pits and trenches shall be the contractor's responsibility. No payments shall be made for such type of jobs.

There will be no additional payments in respect of abandoned trenches incurred because of insufficient or inadequate trial pits, or any associated lost time or delays.

24.2 Protection of Structures and Utilities

The Contractor shall at his own cost, support and protect all buildings, walls, fences or other structures and all utilities e.g. Electrical cables, Telephone Cables, Water pipelines, Sewer pipelines etc., and property which may, unless so protected, be damaged as a result of the execution of the works. He shall also comply with the requirements in the specification relating to protective measures applicable to particular operations or kind of work. Special care shall be taken while laying Pipelines near the trees.

24.3 Interference with Traffic, Street Drainage and General Public

The Work shall be executed in such a manner as to cause a minimum of inconvenience to persons requiring to use public or private roads, lanes, thoroughfares, walkways, rights-of use or passages through which the Works are to

be executed. The trench shall be back filled, compacted, leveled and extra earth shall be removed immediately after laying of pipeline to avoid public inconvenience. Closure of roads, etc, shall not be permitted without the approval of the EIC.

The Contractor shall comply with all local Authorities requirements to traffic, and keep roads open to traffic, and maintain access to and within any private property.

Wherever the pipe route crosses driveways, access tracks or entrances to private properties, the Contractor shall give the owner, occupier or relevant authority at least 24 hours prior notice of intended commencement of excavation and shall be restricted to pass through.

The Contractor shall not, in any circumstance, use a private driveway, access track or entrance without the prior approval of the EIC.

The Contractor shall provide suitable access where necessary in the form of temporary bridges, culverts, flumes, etc, of a size and type approved by the EIC.

The Contractor shall comply with all relevant road Laws. Where limits and/or speed limits have been placed in the vicinity of the Works, the Contractor shall provide for the necessary movement of plant and equipment in accordance with the requirements of the relevant authority.

The Contractor shall not obstruct any drainage pipes or channels in any road but shall deviate them where necessary and use all proper measures to provide for the free passage of water.

The Contractor shall deliver the completed works after proper cleaning of the site.

The contractor shall conduct his operations at all times, with a view to minimizing as far as practicable noise from plant and other objectionable nuisance (e.g. oil leakage).

25.0 TRENCHING

The schematic diagram with the detail of trench is enclosed as Annexure.

The Contractor shall perform the excavation works so as to enable the pipe to be laid in conformity with the levels, depths, slopes, curves, dimensions and instructions shown on the Drawings, Specifications or as otherwise directed by the EIC.

The cost of breaking of surface like PCC, RCC, Asphalt, Blocks, tiles, bricks etc for laying of MDPE pipeline is already covered under the SOR of MDPE laying.

Contractor shall excavate and maintain the pipeline trench on staked centerline as per approved alignment sheets taking into account the horizontal curves of the pipelines.

While trenching care shall be taken to ensure that all underground structures and utilities are disturbed to the minimum. Suitable crossing shall be provided and maintained over the ROU wherever necessary to permit general public, property owners or his tenants to cross or move stock or equipment from side of the trench or another.

Trenching shall be made with sufficient slopes on sides in order to minimize collapsing of the trench. On slopes wherever there is danger of land slides, the pipeline trench shall be maintained open only for the time strictly necessary. MNGL may require excavation by hand tools, local rerouting and limiting the period of executing of the works. Before trench cuts through water table, proper drainage shall be ensured, both near the ditch and ROU in order to guarantee the soil stability.

The Contractor shall ensure that trench bottom is maintained in the square form as far as possible, with equipment, so as to avoid/ minimize the hand grading at the bottom of the trench. The Contractor shall do all such handwork in the trench as required to free the bottom of trench from loose rock, pebbles and to trim protruding roots from the bottom and sidewalls of the trench.
Excavation by blasting is not permitted wherever required in hard strata other mechanical tools shall be used.

The contractor shall ensure that excavated soil is stacked at a distance of minimum 300 mm from trench edge. Contractor shall provide proper walk over plates for pedestrian crossing.

25.1 **Depth of Trench**

The minimum depth of cover shall be measured from top of pipe to the top of undisturbed surface of the soil or top of the graded working strip or top of road or top of rail, whichever is lower.

The depth of the trench will be such as to provided minimum cover as stipulated below:

a) For Distribution Main and Service Lines

i)	Major Water Crossing/ Canal	2.5 meter
ii)	Uncased/ Cased Road Crossing	1.5 meter
iii)	Rail/ Road/nala Cased Crossing	1.5 meter
iv)	Normal Areas	1.0 meter

The minimum depth as mentioned above may be greater than as may be required by Government/ Public authorities under jurisdictions. The Contractor shall perform such work without extra compensation, according to the requirement of concerned authorities.

In cases of Drain/ Culvert crossing through open cut where excavation cut is more than 1.5m, the extra excavation shall be paid in quantity basis. The rate shall include backfilling as specified.

In case the depth could not be achieved due to practical problems and the same is demonstrated, EIC after examining thoroughly and considering the codes and standards may allow the contractor to provide suitable protection by way of concrete casing pipes, HDPE pipe or slabs without extra cost to MNGL.

Sr. no.	Deviation details	Control measures	Approving authority
1	**Medium Pressure PE pipeline network (4 bar)**		
A	Top cover between 0.80 to 0.99 meter	Additional protection of RCC/HDPE Pipe + 4" PCC below warning mat.	AIC
B	Top cover between 0.6 to 0.80 meter	Additional protection of RCC/HDPE pipe + 6" thick PCC	EIC/HOD
C	Top cover less than 0.6 meter	Based on risk assessment on case to case basis	
2	**Low Pressure PE pipeline network (100 bar)**		
A	Top cover between 0.75 to 1.0 meter	Additional protection of RCC/HDPE Pipe below warning mat.	AIC
B	Top cover between 0.5 to 0.75 meter	Additional protection of RCC/HDPE Pipe + 4" PCC below warning mat.	EIC/HOD
C	Top cover less than 0.5 meter	Additional protection of RCC/HDPE pipe + 6" thick PCC Or Based on risk assessment on case to case basis	

25.2 **Width of Trench**

The width of the trench shall be wide enough to provide bedding around the pipe and to prevent damage to the pipe inside the trench. Unless otherwise directed by the EIC and where ground conditions permit, the minimum distance from the inside edge of the trench wall to the outside of the pipe shall be as per drawing enclosed herewith.

The minimum trench width (at bottom) should be:

Dia 20 and 32 mm:	350 mm
Dia 63 to 180 mm:	400mm

25.3 **Trench Base**

The trench bottom shall be cut or trimmed to provide a uniform bedding for the pipe, and shall be free of stones, metal, wood, vegetation, clods of earth or other debris before placement of the pipe.

Hard rock is defined as trench material with a single piece dimension exceeding 1.5 m in length in any direction which cannot be removed other than by the use of pneumatic chisel/drill or sledge hammer and chisel. Additional Rates will be paid for hard rock excavation as per the SOR.

Excavation through soil mixed with boulders that have been used for a road base, Road surface, PCC, RCC etc will not be considered as hard rock for the purposes of payment.

25.4 **Clearances**

Unless otherwise approved, the following clearances shall be maintained between the external wall of the gas pipe and the external surface of other underground assets in the vicinity of the Works.

- 150 mm, where the gas pipe crosses other assets, other than electric cables, whereupon the clearance shall be 300 mm.

- 300 mm, where the gas pipe is on a similar alignment to the other assets.

Where the above clearances cannot be achieved, or in other special circumstances, the EIC may approve/specify protection with concrete/MS coated pipe, HDPE pipe etc. The protective material shall be supplied and installed by the Contractor at his cost.

25.5 **Under Ground Interferences**

The Contractor shall locate and expose manually all underground facilities (if any) during trenching. Safety barriers, if required shall be erected to prevent any damages or accident. On locations where pipeline is laid under the existing facilities and near

the approaches to the crossing, the trench shall be gradually deepened to avoid sharp bends.

All sewers, drains, ditches and other natural waterways encountered while trenching shall be maintained open and functional by providing proper temporary installations if required. Suitable dewatering pumps shall be deployed to dewater, if required.

Whenever it is permitted by Authorities and/ or MNGL to open cut paved road crossing, or where line is routed within the road pavement, the Contractor shall remove the paving in accordance with the restrictions and requirements of the authorities having jurisdiction thereof as directed by MNGL. After laying the pipeline, backfilling shall be immediately performed and all the areas connected with the works shall be temporarily restored.

In case of damage to any above referred structures/ utilities the contractor shall be responsible for repairs/ replacement immediately at his own cost, which shall be carried out to satisfaction of concerned authorities / resident / MNGL. If contractor fails to attend it on immediate basis or showing his unwillingness, MNGL may complete the job from another agency at risk & cost of executing agency / contractor with additional 50% administrative charges.

25.6 **Others**

Throughout the period of execution of such work, the Contractor shall provide and use warning signs, traffic lights or lanterns, barricades, fencing, watchman etc. as required by the local authorities having jurisdiction and/ or MNGL.

For all roads, paths, walkways etc. that are open-cut, the Contractor shall provided temporary diversions properly constructed to allow the passage of normal traffic with the minimum of inconvenience and interruptions.

The paving shall be restored to its original condition after the pipeline is installed.

The Contractor shall excavate to additional depth at all the points where the contour of the earth may require extra depth, or where as deep trench is required at the approaches to crossings of roadways, railroads, rivers, streams, drainage ditches without any extra cost implication to MNGL.

The Contractor shall excavate all such aforesaid depths as may be required at no extra cost of MNGL.

The trench shall be cut to a grade that will provide a firm, uniform and continuous support for the pipe.

The Contractor shall take conducive measures to ensure the protection of underground utilities as per the instructions of MNGL or relevant authorities.

Where the pipeline crosses underground utilities/ structures, Contractor shall first manually excavate to a depth and in such a manner that the utilities/ structures are located, then proceed with the conventional methods.

The locations, where the pipeline has to be laid more or less parallel to an existing pipeline cable and/ or other utilities in the Right-of-way the Contractor shall maintain proper distances and perform the work to the satisfaction of MNGL and other utility agencies. In such locations, the Contractor shall perform work in such a way that even under the worst weather and flooding conditions, the existing pipeline/ utilities remain stable and shall neither become undermined nor have the tendency to slide towards the trench.

25.7 **Bedding**

The contractor shall ensure that the pipe when placed in the trench is supported and surrounded by a bed of screened excavated soil, which shall be stone free and have a maximum grit size of 5mm in order to ensure no damage occurs to the pipe.

However in case of rocky soil, the bedding shall be done with approved/ good quality packing sand, subject to the approval of the EIC, the size distribution of the sand/ shall be the same as per soil. The packing sand shall be placed to a minimum thickness of 150mm around the pipe in case of rocky terrain. The payment for supply of sand will be as per SOR item.

Unless directed by the EIC the quantity of bedding & surrounding sand shall confirm to specifications. There shall be no void space in packing sand around the pipe.

26.0 LAYING

Laying of MDPE pipelines shall commence only after ensuring proper dimensions and clean surface of the trench. The trench bottom shall be free from the presence of cuts, stones, roots, debris, stakes, rock projections upto 150mm below underside of pipe and any other material which could lead of perforation/ tearing of the pipe wall. After ensuring above the MDPE pipe coil shall be uncoiled smoothly through proper equipment's/ care inside the trench ensuring no damage to pipe coil during laying. The Contractor must ensure that pipe caps are provided before lowering of pipeline. The trench after this can be released for back filling leaving adequate lengths open at the ends, for jointing.

Where given specific approval by the EIC a pipe may pass through an open drain or nala. Where this is permitted the pipe shall be installed inside a concrete or steel sleeve for protection. The sleeve material shall be procured and laid by the

Contractor. In general the GI Sleeve and MS sleeves material specification shall be confirming to IS 1239 (Heavy Duty) specification of reputed make. The payment for the length of pipe in the sleeve will be made as per SOR. All other work necessary to break through the walls of the obstruction, and to seal the annulus between the pipe and the sleeve and the sleeve and the wall, shall be deemed to be included in the rates.

Open ends of pipe placed in the trench shall be securely capped or plugged to prevent the ingress of water or other matter. The Contractor is to ensure that nothing enters the inside of the pipe during the laying process as this could cause a future blockage or regulator malfunction due to dust, etc.

Service lines shall be installed in accordance with the drawing enclosed. Note that the service pipe rises out of the ground at the customer's premises within a GI sleeve pipe. The vertical portion of the sleeve shall be fixed to the wall of the premises in a secure manner. A bending tool shall be used to bend the GI sleeve pipe so that it has the appropriate curvature and is free of kinks. The bending of the sleeve, its fitting and clamping, and the installation of the transition fitting excluding service-isolating valve, is all included in the service connection rate. A rate is included in the SOR for the provision of sleeves for PE laying.

The installation of the GI sleeve (2 ½" and 3") for service lines shall be done by sealing the annulus, between the pipe and the sleeve and the wall shall be deemed to be included in the rates. Making of pedestal of size 150x150x150 mm around the sleeve, excavation & restoration within the size of the pedestal and vertical length of pipe shall be deemed included in the rates of MDPE laying.

Valves shall be installed at locations shown on the Design Plan or as directed by the EIC and joined with PE pipes by electro-fusion techniques. The valves shall be supported on a bed of fine fill of grit size not greater than 5mm to achieve equivalent support as the incoming and outgoing pipe work.

Laying graphs with details of depth, length, offsets from fixed references, other utility crossings, fittings, size of casing pipe used for the pipeline shall be prepared on daily basis and submitted to Site Engineers of the Owner for approval. These details will be further incorporated into As-Built Drawings.

For any deviation, contractor has to take prior approval from EIC as per approved format of MNGL.

27.0 JOINTING OF POLYETHYLENE PIPE

The procedure for jointing of PE pipe and fittings is enclosed. Only Bar coded electro-fusion machine (Automatically Readable) that can read the bar code of the fittings

automatically shall be used for jointing of MDPE pipe / fittings. Manual feeding electro-fusion machines are not acceptable for jointing purpose

The contractor shall flush the Pipeline with air to remove dust, water, mud etc. before fusing the joints. Before jointing, the Contractor shall place packing sand under the pipes on both sides of the joint to keep the pipes in line and at the correct alignment during the jointing process. Alignment clamps with the correct size shells should be used to align the pipe during the electro-fusion cycle.

The Contractor shall ensure that polyethylene pipe is only cut with an approved plastic pipe cutting tool (Rotary cutter up to 32 mm / Guillotine cutter for 63mm and above). Before fusion is attempted he shall remove the oxidized surface of the pipe using Universal scrapper up to 63mm / rotary Peeler for 63 mm and above inserted into the electro-fusion coupling. The tool must remove a layer of 0.1 mm to 0.4 mm from the outer surface of the polyethylene pipe. It may also be **noted that no fusion will be allowed without clamping device and only the approved cutting tools** (Hack Saw shall not be allowed for cutting the Pipe) shall be used.

The contractor has to supply all the consumables required for carrying fusion of the joints (like cloth/ paper napkin, acetone etc.).

If, upon inspection, the EIC determines a joint is defective, Contractor shall remove the joint by an approved method. The cost of this work shall be borne by the Contractor.

For electro-fusion jointing, the contractor must bring own tools, tackles and equipments.

Contractors has ensure that first he get the approval for his Jointer to perform on site. Only, approved Jointer shall carry out the fusion of all joints. Contractors shall provide the list of jointers to be used on the job and make arrangements for qualification testing of the jointers in presence of MNGL/Consultant/TPIA. Contractors have to issue the identity cards signed by MNGL/Consultant to qualified jointer. Applicable penalties shall be levied, in case; it is found that fusion is being carried by non-qualified jointers as per the provisions made in SCC.

Contractor shall arrange generator for power supply for fusion machine. Taking power connection from electric poles, connections without written permission from concerned authorities or residential premises is strictly not permitted.

28.0 BACKFILLING

Backfilling shall be done after ensuring that appurtenance have been properly fitted and the pipe is following the ditch profile at the required depth that will provide the required cover and has a bed which is free of extraneous material and which allows

the pipe to rest smoothly and evenly. Dewatering shall be carried out prior to backfilling. No backfilling shall be allowed if the trench is not completely dewatered.

Prior to backfilling it should be ensured that the post padding where required of compacted thickness 150mm is put over and around the pipe immediately after lowering.

Backfilling shall be carried out immediately after the post padding where required has been completed in the trench, inspected and approved by MNGL, so as to provide a natural anchorage for the pipe, avoiding, sliding down of trench sides and pipe moment in the trench. If immediate backfilling is not possible, a padding of at least 200mm of earth, free of rock and hard lumps shall be placed over and around the pipe and coating.

The backfill material shall contain no extraneous material and/ or hard lumps of soil, which could damage the pipe and/ or coating or leave voids in the backfilled trench. In case, it is required and directed by EIC, screening of the backfill material shall be carried out with specified equipment before backfilling the trench.

The surplus material shall be neatly crowned directly over the trench and the adjacent excavated areas on both sides of the trench to such a height which will, in MNGL opinion of provide adequately for future settlement of the trench backfill during the maintenance period and thereafter. The down shall be high enough to prevent the formation of the depression in the soil when backfill has settled into its permanent position should depression occur after backfill, Contractor shall be responsible for remedial work at no extra cost to Company. Surplus material, including rock, left from this operation shall be disposed off to the satisfaction of land owner or authority having jurisdiction at no extra cost to MNGL.

Where rock, gravel, lumps of hard soil or like materials are encountered at the time of trench excavation, sufficient earth or select backfill materials shall be placed around and over the pipe to form a protective cushion extending at least to a height of 150mm above the top of the pipe. Select backfill materials for padding that are acceptable shall be screened soil, containing no gravel. All these works shall be carried out by Contractor at no extra cost to MNGL. Loose rock may be returned to the trench after the required selected backfill material has been placed, provided the rock placed in the ditch will not interfere with the use of the land by landowner, or tenant.

In case where hard rock is encountered or as desired by EIC sand padding is to be provided upto height of 150mm around the pipe and the same shall be paid as per SOR.
When the trench has been dug through drive ways or roads, all backfilling shall be executed with suitable material in layers as approved by MNGL and shall be

thoroughly compacted. Special compaction methods as specified may be adopted. All costs incurred there upon shall be borne by the Contractor.

Trenches excavated in dikes which are the properties of railways or which are parts of main roads shall be graded and backfilled in their original profile and condition. If necessary, new and/ or special backfill materials shall be supplied and worked-upto.

PE Warning Grid/Mat 1mm thick and 300mm wide will be placed on distribution main and on service lines inside premises, after backfill of the trench upto a height of 300mm on the top of the carrier pipes. The warning grid is to be unrolled centrally over the pipe section and thereafter further backfilling will commence.

Backfilling activity shall include proper compaction by jumping jack compactor and watering in layers of 150mm above the warning mat. Proper crowning of not more than 150mm shall be done. All the excavated material required to be used during the Restoration process shall be stacked and kept separately and properly. Wherever Road cutting/ Tiles removal/ PCC cutting has been done during excavation for laying, the area shall be back filled and compacted immediately so that no inconvenience is caused to the general public.

Electro-fusion of joints is to be undertaken immediately after lowering and the activity shall not be kept pending for lack of Electro-fusion jointing. The backfilling shall be considered complete only after the joint in completed.

Debris and other surplus material shall be removed immediately after the back filling. If contractor fails to attend it on immediate basis or showing his unwillingness, MNGL may complete the job from another agency at the risk & cost of executing agency / contractor with additional 50% administrative charges.

The contractor shall not be entitled for payment on laying & backfilling till the above activities are completed.

29.0 CASING PIPE

The tentative sizes of the HDPE casing pipe for Moling/ HDD/deviation/extra protection etc shall be as follows:-

Size of MDPE pipe	Size of HDPE pipe
20 mm	50mm
32 mm	75/90 mm
63 mm	90/125 mm
90 mm	200 mm
125 mm	250 mm
180 mm	315 mm

However, size of the casing pipe may vary according to length of the carrier pipe and requirement of laying of OFC Duct.

30.0 RESTORATION

Clean-up and restoration of ROW and other conveniences like road, rail, canals, cultivable land etc. to original conditions as per specification and drawings to the entire satisfaction of OWNER and / or Authorities having jurisdiction over the same, including disposal of surplus construction materials to a location identified by CONTRACTOR approved by local authority without causing any disturbance to environment, locals and to the entire satisfaction of Land Owner.
Upon restoration of ROU the Contractor shall furnish documentary evidence in support of acceptance of the same duly signed by land Owner without any extra cost.

Restoration of existing ground features such as grass / turfing, paving, roads, drains, concrete, floral beds, fencing, titles, flooring masonry etc. to original condition and to match with adjoining conditions - functionally and aesthetically up to the entire satisfaction of MNGL any other third party agency designated by MNGL and local authorities, failing which, it will be done at the risk and cost of the contractor. Obtaining satisfactory completion certificates for the restoration work done from the concerned authorities.

Contractor must also have to arrange his own equipment for restoration work like water tanker and jumping jack compactor for compaction of backfilled trenches and roller and other required equipment / machinery for restoration work of roads by asphalting / concreting / tiles.

Restoration activity shall include proper compaction by jumping jack compactor and watering. All the excavated/excess material required to be stacked and kept separately and properly. Wherever Road cutting/ Tiles removal/ PCC cutting has been done during excavation for restoration, the area shall be restored and compacted immediately so that no inconvenience is caused to the general public.

Debris and other surplus material shall be removed immediately after the restoration. If the contractor fails, MNGL may get the work done form third party and will recover from RA bill.

RESTORATION by concrete/blocks:

Wherever the restoration is required, the roads, footpaths (including roads and footpaths inside colonies) shall be restored to original condition, and the same shall be done as per concerned local authorities' norms and to the satisfaction of the

concerned local Authority. To retard curing of the installed concrete, wet sack cloth is to be placed on the finished surface and kept damp for a period of 36 hours.

Where slabs and blocks are to be restored, the level of the compacted sub-base is to be adjusted according to the slab/block thickness. The slabs or blocks should be laid on moist bedding material, which should be graded sand, mortar or mortar mix. The slabs or blocks should be tapped into position to ensure they do not rock after laying.

The restored slabs or blocks should match the surrounding surface levels. Joint widths should match the existing conditions, and be filled with a dry or wet mix of mortar.

The sketch for restoration of Road, Footpath and Channel is enclosed herewith and is indicative. However, the restoration shall be done in accordance with the norms of concerned land owning agencies.

Turf shall be replaced in highly developed grassed area. In lesser-developed grassed areas topsoil should be replaced during the restoration process.

Where permanent surface restorations cannot be completed immediately, the Contractor shall provide and maintain a suitable temporary running surface for vehicular traffic and pedestrians. The Contractor will be responsible for the maintenance of all restoration carried out, for the duration of the Contract guarantee period.

The Contractor is to ensure the restoration work is properly supervised, and that the material used is suitable for the purpose and properly compacted. Where the required standards are not achieved the Contractor will be required to replace the defective restoration work.

Note that Payment for pipe laying will only be authorized on satisfactory restoration, and where the sites has been cleared of all surplus materials, etc.

Contractor has to obtain the clearance certificate from the concerned local authorities after completion of the restoration work. The restoration specification specified in the tender is only a typical specification and the contractor has to carry out restoration as per latest version of the (PWD/ IRC) specification to its original condition and also to the entire satisfaction of land owner (Private/Public).

The expenditure incurred towards testing of the material used for restoration as per applicable standards, shall be born by the contractor.

Restoration Procedure/Guide line :

1. Purpose and Objective:

The main purpose and objective of this document is to ensure that all the works are carried out with proper specifications and standards with high quality and timely accomplishment & the restoration of infrastructure is according to standards Aimed at achieving the original condition of the road infrastructure.

2. Documents to be maintained:
   The following documents shall be maintained during the execution of the job and shall be handed over to MNGL/consultant/TPIA after completion the job;
   - Copy of permission letter obtained by authority.
   - Drawing/Sketch showing the details of stretch to be cut, highlighting the type of surface and its chainage/length (area).
   - Stage wise photographs of the stretch.
   - TC of the construction materials to be used.
   - Routine Test certificates for construction materials during progress of job.
   - NOC from land owning authority

3. Restoration of the trenches/Pits:
   After completion of backfilling activity by the gas pipeline laying contractor / agency, restoration work shall be carried out by the restoration agency, depending upon the surface types the following specification shall be adopted;

Sr. No	Surface Types	Specification Recommended
1	Restoration of trenches for Asphalted / Bituminous Roads	i. Excavation over areas up to 0.37 m deep in any soil/murum/existing road surface & getting out and removing (disposed) the excavated material away from site etc. ii. Rolling and consolidating formation surface in cutting with power roller 2-4 tonne etc. iii. Soling with broken boulders interstices filled, surface formed and rolled with power roller and consolidated to reqd. gradient & camber 200 mm spread thk. iv. Kankar or laterite spread rolled & consolidated 100 mm spread thk to gradient and camber reqd. v. Surface dressing by spraying evenly paving bitumen @ 20 kg/10 sqm blinding with 12.5 mm stone chippings @ 0.14 cum/10sqm and rolling to reqd gradient and camber. vi. Preparing surfaces by brushing with wire brushes on any surface for removing caked mud etc. sweeping with brooms etc. vii. Applying evenly priming tack coat @ 5 kg/10 sqm of paving bitumen.

		viii. Premix bituminous macadam laid/rolled & compacted with vibratory roller to reqd. gradient & camber (consolidated thickness 40 mm thk.) binder content 4% by weight of total mix. ix. Bituminous premix asphaltic dense concrete (25 mm consolidated thickness) with 6% binder content by wt. of total mix rolled & compacted with vibratory roller to reqd. gradient & camber complete incl. tack coat 5 kg/10 sqm bituminous.
2	Cement Concrete Surface	Top Surface- PCC 1:2:4, Min as original thickness compacted with plate vibrator shall be laid over base course. Base course- PCC 1:5:10, min 75mm thick laid over compacted backfilled earth.
3	Chequered Cement concrete Tiles/Pre-cast CC Tiles/Kota stone floor/red stone floor. Inter locking CC/paver black	Top Surface- Tiles/floor (as per original surface) shall be laid over cement Sand Mortar 1:6,min 20mm thick over base course. Base course- PCC 1:5:10, min 75mm thick laid over compacted backfilled earth.
4.	Groove cutting	Groove cutting in RCC/CC/PCC etc. with supply of all type of tools, material, manpower, helper etc as required and bitumen filling (if required) in the gap after the trench restoration as per specifications and cleaning the area complete to the satisfaction of EIC.

Note: During the execution of underground pipeline contractor has ensure the convenience of the customers/peoples etc. To reduce the inconvenience, contractor shall have to complete the restoration work of the society, Building, Loop etc as soon as possible. if contractor is not willing to perform the job or there will be any delay from the given date as communicated, a penalty of Rs 10,000.00 per written communication for noncompliance will be applicable.

31.0 TESTING OF MDPE PIPELINE

Pressure testing will be carried out with compressed air and minimum two pressure gauges. Compressed air will be provided by Contractor for testing purposes and is to be included in the rates.

For main pipelines work the Contractor shall perform progressive pressure testing to avoid having to find leaks in long lengths of pipe. The test pressure shall be 6.0 bar(g), and there shall be no unaccountable pressure loss during the test period.

Test procedure with sketches showing the pipeline to be tested, vent points, gauge location, and inlet pressure print is to prepared & got approved by EIC.

For main line the test duration shall be 24 hrs. With these tests the pressure should be allowed to stabilize for a period of 30 minutes after pressurization. The holding period may then commence and continue for 24 hours. Measuring instruments shall have been calibrated and their accuracy and sensitivity confirmed **(least count of pressure gauge shall be 1 mbar OR 3 decimal pressure gauge (0.000 barg) of suitable range for MDPE main pipeline testing).** For testing of Network, calibrated pressure gauges of suitable range shall be supplied by the contractor. The pressure gauges shall be calibrated from time to time as desired by Engineer-in-Charge. All testing shall be witnessed and approved by the EIC or his delegated representative. Tie-in joints may be tested at working pressure following commissioning.

For service/short length lines (100 mtrs or less) in some cases testing will be carried out independently of the testing of the mains for which the test duration may be reduced to 4 hrs. The service testing in this case will be performed after the service installation is complete but before the service tee has been tapped. Also in some cases the tapping of the service tee/elbow/coupler will be delayed pending the completion and purging of the main pipelines.

32.0 PURGING

Purging shall be carried out in accordance with the principles defined in the American Gas Association publication **'Purging Principles and Practice"**.

Nitrogen required for purging will also be provided by the Contractor. Nitrogen shall be supplied in labeled, tested and certified cylinders, and completed with all necessary regulators, hoses and connections, which will be in good condition and working order.

In addition the Contractor shall submit and get approved a Purging Plan before commencing any purging work. The Plan shall include, but not be limited to, the provision of the following materials and equipment: Personal safety equipment, Fire extinguisher, Purging adapter, Purge stack with flame trap and gas sampling point, Gas sampling equipment (may be gas leak detector), squash-off tool, Polyethylene connecting pipe work.

The Plan shall also include the purging process along with detail on the sequence of events. The process is to also specifically mention the need to lay a wet cloth over

the PE main and in contact with the ground, to disperse static electricity during the purging work.

A purge stack with flame trap shall be used when purging services. Care shall be taken to ensure that the purge outlet is so located that vent gas cannot drift into buildings.

33.0 VALVE PIT

The valve pit shall be constructed in accordance with enclosed drawing & payment shall be as per SOR item.
The construction of RCC valve chambers shall be taken up immediately after installation of valve pit. Chamber cover shall be SFRC as per dimensions provided in drawing.
"MNGL-Stop off Valve" name shall be embossed on valve chamber cover for easy identification.

33.1 Workmanship

The excavation work shall be done at a location given by Engineer–in-Charge. All care shall be taken not to damage existing facilities and surface of construction shall be restored to its original state.

Sandbags to be placed below pipeline without disturbing the laid pipe. Gunny bags and Sand should be of approved quality.

Precast RC slab shall be placed as indicated in the drawing issued to the contractor. PCC to be placed below the pipe as indicated. Once PCC is set sand is to be filled and properly rammed so that pipe and pre-cast concrete blocks are firmly placed.

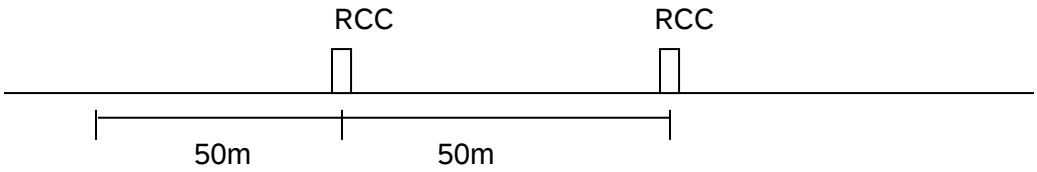
Valve will be supplied without the operating stem. Contractor has to supply the operating stem with a handle for the valves of the different sizes. The Contractor has to take prior approval for design and material specification of the stem for installation. Approved quality sand is to be placed in between area.

Surrounding area to be properly cleared and PCC to be placed around the location where precast slab with CI Manhole cover is placed. The RC precast slab to be laid in level and finished smooth.

34.0 PERMANENT MARKERS

34.1 Permanent Marker (As per typical Drawings Placed at Tender) shall be installed on the ROU at every 50m as shown below and as per the instructions of the EIC immediately after laying of the pipeline. The installation of the type of the Permanent Marker shall be decided by the EIC depending on the site condition. The Markers shall be painted before installation as per the approved procedure. The supply of the

paint and painting as per the specification is in contractor's scope. Separate payment for installation of the markers shall be paid to the Contractor as per the SOR item.



34.2 The artwork shown in the drawing is typical for all the markers. The contractor must take prior approval for the artwork from EIC before installation of Markers. The artwork must have MNGL's logo and specify the location of the pipeline from the marker.

34.3 Markers should be installed properly. Plate markers are installed inside the societies and other locations, where installation of RCC route marker or pole marker is not possible.

35.0 ASSISTANCE IN COMMISSIONING

Contractor shall provide the required personnel, Vehicles, labour, supervision, tools, equipment, instruments and technical assistance for performance tests and commissioning activities as per requirement of MNGL.

Prior to commissioning Contractors has to take the written approval from EIC and O&M. For approval contractor has to submission a copy of planning of commissioning, testing report, line diagram/ approved as built, pre-commission report, closer of chick points etc to EIC before 3 days of schedule date.

Contractor has ensure the submission of all commissioning record as define above (like approved as built, copy of testing reports, pre-commissioning reports etc.) within 2 days to O&M. if fails it will attract the penalty as define in contract.

36.0 RESIDUAL ENGINEERING

The contractor is required to carry out the design of the LP Network in case there are any minor changes in the routing and change in the location of the Service Regulator without any additional cost to MNGL. The contractor shall submit the same to EIC for approval before commencement of the work.

37. TECHNICAL SPECIFICATION FOR HDPE PIPES

1.0 INTENT OF SPECIFICATION

The intent of this specification is to establish minimum requirements to manufacture and supply of HDPE Pipes used for casing purpose of carrier pipe, supplying natural gas.

2.0 SCOPE OF WORK

2.1 The scope of the tenderer will include manufacture/ supply, inspection/ testing/ marking/ packaging/ handling and despatch of HDPE Pipes of ratings and grades as indicated in the Material Requisition & Schedule of Rates, as per IS:4984 (Specification for HDPE Pipes for water supply).

2.2 All codes and standards for manufacture, testing, inspection etc. shall be of latest edition.

2.3 Purchaser reserves the right to delete or order additional quantities during execution of order, based on unit rates and other terms & conditions in the original order.

3.0 INSTRUCTION OF TENDERER

3.1 Length of the Pipes and their supply will be as per following :-

- DN 50
- DN 75
- DN 125
- DN 250
- DN 315

3.2 Protection

i) The ends shall be protected by proper end caps to prevent from shocks and ingress of the foreign body.

ii) Coils shall be covered by black PVC/ PE Film to prevent exposure to direct sun light.

3.3 The successful bidder shall submit following for approval of Purchaser/ Consultant after placement of order

a) The Quality Assurance Plan (QAP & Sampling Plan)
b) Material test report as per clause 5 of IS:4984.
c) Performance Requirements (clause 8 of IS:4984)
d) Type Test (clause 9.1 of IS:4984).

3.4 The bidder shall submit following documents at the time of bidding,

a) BIS Certification
b) List of current orders in hand for similar items with full details such as specification, name of purchaser etc.
c) Details of the largest supply executed

d) Name and address of proposed test laboratories alongwith their credentials/ past records for carrying out all required tests.

38.0 TECHNICAL SPECIFICATION FOR WARNING MATS

Purpose	:	For using as a warning sign for Under Ground Natural Gas Pipeline
Width	:	300mm
Thickness	:	1.0mm thick
Material of the mat	:	The material shall be of high density Polyethylene
Colour of the mat	:	Golden Yellow
Mechanical Properties of HDPE		
Tensile Strength	:	Minimum 1.8 kg/cm$^{P\ 2}$
Elongation at Break	:	Minimum 125%
Bundle Length	:	1.0mm thick warning mat shall be supplied as 50 mtrs. bundle.
Test Certificates	:	Vendor has to submit the all test certificates to Purchaser
Inspection	:	The manufacturer has to submit the QAP before commencement of production
Art Work	:	A sample piece of 30mm wide and 200mm long of every batch shall be checked by immersing in 20% solution of Ammonium Sulphide for period of 2 weeks at a temperature of 15°C for colour intactness of the strip. Copy of Art work shall have English/Marathi Languages alternatively is as follows:

HIGHLY INFLAMMABLE GAS PIPELINE BELOW

MAHARASHTRA NATURAL GAS LIMITED

IN EMERGENCY PLEASE CONTACT
PHONE NOS. .....

GA wise Emergency numbers are as follows-

Pune – 9011676767 / 9604015444 Toll Free No. 1800 266 2696

For each GA Emergency contact numbers/Toll Free No. to be confirmed with AIC/EIC before start of laying works/placing order of Warning Mat.

39.0 TECHNICAL SPECIFICATION FOR MDPE FITTINGS INCLUDING TRANSITION FITTINGS

1.0 SCOPE AND FIELD OF APPLICATION

This specification elaborates the requirements for Electrofusion fittings in the nominal size range 16 to 180 mm made from PE compound used with PE pipes for supply of natural gas and to be used at operating temperature not more than 40°C.

The material grades to be used are PE 80 and PE 100. The fittings shall be yellow or black in colour.

2.0 SYMBOLS & DEFINITIONS

2.1 Symbols for Electrofusion Fittings

2.1.1 Symbols for Electrofusion Socket Fittings

The dimensions and main symbols used in this part of ISO 8085 are shown in figure 1, where D1 is the mean inside diameter in the fusion zone comprising the mean inside diameter measured in a plane parallel to the plane of the mouth at a distance of L3 + 0.5 L2 from the plane at the mouth.

D2 is the minimum bore comprising the minimum diameter of the flow channel through the body of the fitting.

L1 is the depth of penetration of the pipe or of the male end of a spigot fittings.

L2 is the nominal length of the fusion zone corresponding to the heated length.

L3 is the nominal unheated entrance length of the fitting comprising the distance between the mouth of the fittings and the near end of the fusion zone.

2.1.2 Symbols for Electrofusion Tapping Tees

The main symbols used for tapping tees are shown in Figure 2, where. **h** is the height of the service pipe and comprising the distance between the axis of the main pipe and the axis of the service pipe.

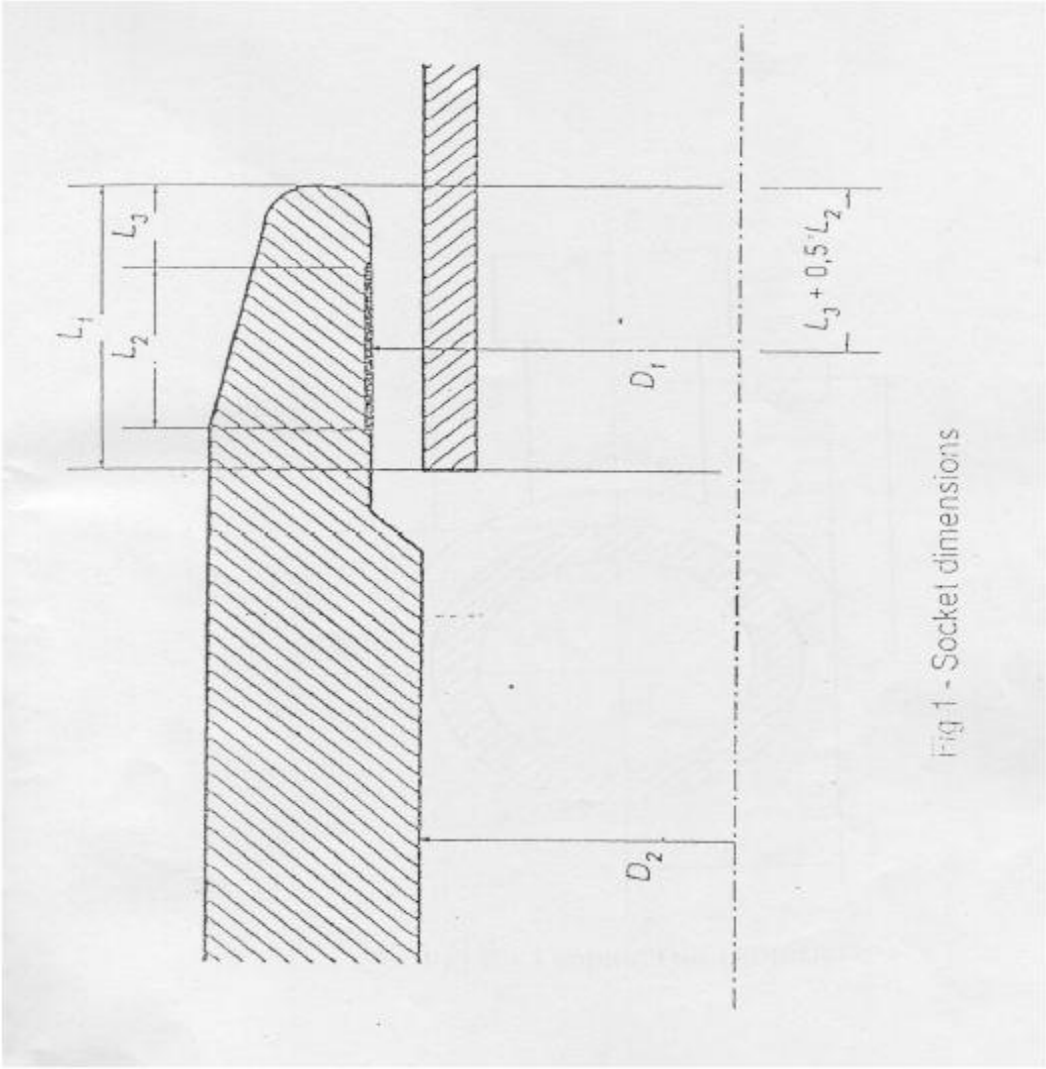


Fig 1 - Socket dimensions

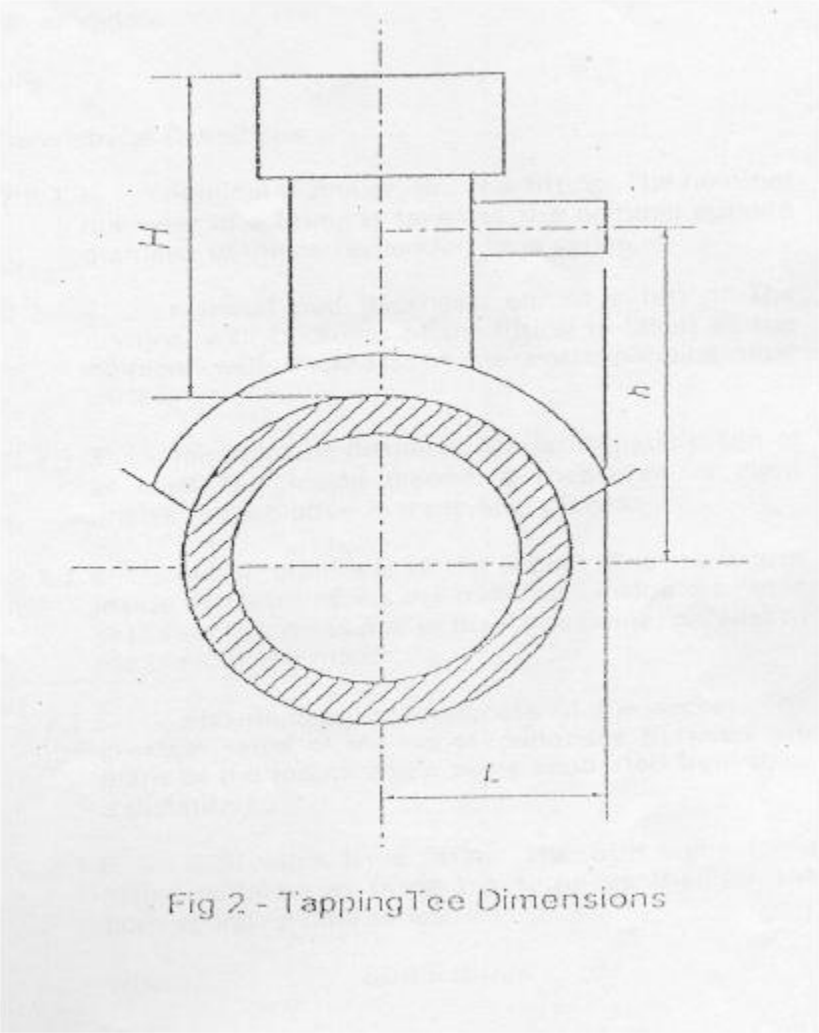


Fig 2 - TappingTee Dimensions

L is the width of the tapping tee and comprising the distance between the axis of the main pipe and the plane of the mouth of the service pipe.

H is the height of the saddle which comprises the distance from the top of the main to the top of the tapping tee or saddle.

2.2 Definitions

2.2.1 Geometrical Definitions

2.2.1.1 Nominal diameter, dn, of a fitting:

The nominal diameter of a fitting is taken as the nominal outside diameter of the corresponding pipe series.

2.2.1.2 Nominal wall thickness. en, of a fitting:

The nominal wall thickness of the fittings is taken as the nominal wall thickness of the corresponding pipe series.

2.2.1.3 Mean inside diameter:

The arithmetic mean of at least two inside diameter measured at right angles to each other in transverse planes.

2.2.1.4 Out of roundness of the Socket:

The maximum inside diameter minus the minimum inside diameter of the socket, measured in the same plane, parallel to the plane of the mouth.

2.2.1.5 Maximum out of roundness of the socket:

The greatest value of the out of roundness between the plane of the mouth and a plane separated from it by a distance L1.

2.2.1.6 SDR value for a fitting:

The SDR value for a fittings is taken as being the same as that for the corresponding pipe series.

Where, SDR = dn/en

2.2.1.7 Wall thickness, E of a fitting:

The wall thickness of a fittings at any point of the body of the fitting which could be submitted to a stress inducted by the pressure of the gas in the piping system.

2.2.2 Material Definition

2.2.2.1 Virgin Material :

Materials in form such as granules or powder that has not been subjected to use or processing other than that required for its manufacturer and to which no reprocessable or recyclable materials have been added.

2.2.2.2 Own Reprocessable Material :

Material prepared from rejected unused pipes, fittings or valves, including trimmings from the production of pipes, fittings or valve, that will be reprocessed in a manufacturer's plant after having been previously processed by the same manufacturer by a process such as injection moulding or extrusion.

2.2.2.3 Compound:

A homogenous mix of base polymer (PE) and additives, i.e. antioxidants, pigments, UV-stabilizers and others..., at a dosage level necessary for the processing and of components of this standards. The additives shall not have a negative influence on the performance with respect to feasibility. All additives shall be uniformly dispersed.

2.2.3 Definition related to Material Characteristics

2.2.3.1 Lower Confidence Limit (LCL):

A quantity with the unit in mega pascals (MPs), which can be considered as a property of the material representing the 97.5% lower confidence limit of the predicted long-term hydrostatic strength at a temperature 20° C for 50 years in water.

2.2.3.2 Overall Service (Design) Coefficient (C):

An over all coefficient with a value larger than 1.0 which takes into consideration service conditions as well properties of the components of a piping system other than those represented in lcl. For gas applications, C can have any value equal to or greater than 2.0.

2.2.3.3 Minimum Required Strength (MRS):

The value of the LCL rounded down to the next lower value of the R 10 series when the LCL is less than 10 Mpa, or to the next lower value of the R 20 series when the LCL is greater than or equal to 10 Mpa.

Note: R10 and R 20 series are the Renard number series according the ISO 3 and ISO 497

2.2.3.4 Melt Mass Flow Rate (MFR):

A value relating to the viscosity of the molten material at a specified temperature and rate of shear.

2.2.4 Definitions Related to Service Conditions

2.2.4.1 Gaseous Fuel:

Any fuel which is in the gaseous state at a temperature of + 15° C and a pressure of 1 bar.

2.2.4.2 Maximum Operating Pressure (MOP)

The maximum effective pressure of the gas in the piping system, expressed in bar, which is allowed in continuous use. It takes into account the physical and the mechanical characteristics of the components of a piping system.

Note : It is given by the equation : $MOP = \frac{20 * MRS}{C*(SDR-1)}$

2.2.5 Definition on Design of Electrofusion Fittings:

2.2.5.1 Electrofusion Socket Fitting:

A polyethylene (PE) fittings which contains one or more integral heating elements, that are capable of transforming electrical energy into heat to realise a fusion joint with a spigot – end or a pipe.

2.2.5.2 Electrofusion Saddle Fitting:

A polyethylene (PE) fitting (top loading or wrap around) which contains one or more integral heating elements, that are capable of transforming electrical energy into heat to realise a fusion joint onto a pipe.

2.2.5.3 Tapping Tee:

An Electrofusion saddle fitting which contains an integral cutter, to cut through the pipe wall. The cutter remains in the body of the saddle after installation.

2.2.5.4 Branch Saddle:

An Electrofusion saddle fitting which requires an ancillary cutting tool for drilling a hole in the adjoining main pipe.

2.2.5.5 U Regulation :

Control of the energy supplied during the fusion process of an Electrofusion fitting, by means of the voltage parameter.

2.2.5.6 I Regulation:

Control of the energy supplied, during the fusion process of an electrofusion fitting by means of the current parameter.

3.0 **DESIGNATION**

3.1 Fittings shall be designed according to the grade of material, nominal diameter and Standard Dimension Ratio (SDR).

3.2 **Grade of Material:**

3.2.1 Fittings shall be classified according to the grade of material as given in following table:

Table–1

Material	M.R.S. Mpa	LCL (20° C, 50 Yrs 97.5%) Mpa	Maximum allowable Operating Pressure
PE 80	**8.0**	8.00 ≤ LCL ≤ 9.99	5.5 Bar
PE 100	**10.0**	10.00 ≤ LCL ≤ 11.19	7.0 Bar

3.3 **Nominal Diameter**

The Nominal Diameter for fittings covered in this standard are 16, 20, 25, 32, 40, 63, 75, 90, 110, 125, 140, 160 ,180 mm.

3.4 **Material**

3.4.1 Polyethylene Compound:

The Polyethylene compound used in the manufacture of fitting shall be a cadmium free compound. It shall be free from visible water, shall comply with the requirements as specified in Table – 2.

Table-2 : Characteristics of PE Compound

Characteristics	Units	Requirements	Test Parameters	Test Method
Conventional Density	Kg/m3	≥ 930 (base polymer)	23 °C	ISO 1183 - ISO 1872/1
Melt Mass-flow Rate	g/10 min	± 20% of value nominated by compound producer	190 °C condition 18	ISO 1133
Thermal Stability	Minutes	> 20	200 °C (2)	ISO TR 10837
Volatile Content at Extrusion	mg/kg	≤ 350		ISO 4437 Annex. A
Water Content (3)	mg/kg	≤ 300		ASTM D 4019
Carbon Black	%	2,0 ≤.....≤ 2,5		ISO 6964

Content	(m/m)			
Carbon Black Dispersion (4)	Grade	≤ 3		ISO DIS 11420
Pigment Dispersion (5)	Grade	≤ 3		ISO DIS 13949
Resistance to Gas Constituents	h	≥ 20	80 °C 2 Mpa	ISO 4437 Annex. B
Resistance to rapid crack propagation (RCP) (6) Full Scale (FS) test : d ≥ 250mm	Mpa	The critical pressure in the FS test shall be greater than or equal to the value of the MOP of the system multiplied by 1:5	0°C	ISO DIS 13478
Or S4 Test : in principle according to all diameters (7)	Mpa	The critical pressure in the S4 test shall be equal to or greater than the value of the MOP of the system divided by 2,4 (8)	0°C	ISO DIS 13477
Resistance to slow crack growth en > 5mm	h	165	165 80 °C, 8,0 bar (f) (9) 80 °C, 9,2 bar (f) (10)	ISO DIS 13479

1) Non black compound shall conform to the weathering requirements to ISO 4437
2) Test may be carried out at 210°C providing that there is a clear correlation to the results at 200°C, in case of dispute the reference temperature shall be 200°C
3) Only applicable if the compound does not conform to the requirement for volatile content. In case of dispute the requirements for water content shall apply
4) Carbon black dispersion for black compounds only.
5) Pigment dispersion method for non-black compounds only.
6) Only applicable for fittings which incorporate extruded pipe elements.
7) Shall be performed on pipe with a wall thickness of ≥15 mm.
8) This factor 2.4 is still under study and may be subject to change. If the requirement is not met, then retesting by using the Full Scale (FS) test shall be performed
9) Test parameter for PE 80.
10) Test parameter for PE 100.

4.0 **DESIGN**

- Fittings shall be designed for system operation at the pressures given in Table – I
- Fittings shall be free from cracks, voids, blisters, distortion, dent or other defects.

- Fittings shall be capable of being fusion jointed to pipes using control boxes. The fittings shall exhibit the strengths and fusion compatibility with, pipes of respective sizes.
- Each fitting shall be bar coated and shall have a permanent fusion indicator.
- Heating coil design shall be such that it should not be damaged during assembly leading to short circuit of heating coil.

4.1 **Electrofusion Socket Fittings**

Electrofusion Socket Fittings shall incorporate a method of controlling pipe penetration within each socket. The inner cold zone of each socket shall not be less than (0.1 d + 5) mm for sizes upto 125 mm & 0.1 d for sizes greather than 125 mm.

4.2 **Tapping Tees**

Tapping tees shall be capable of installation by a force between 1 kN and 1.5 kN applied from above and on the centre line of the tapping tees stack. The tapping tees shall provide a means of cutting through the pressurised main pipe and allowing the gas flow into the outlet pipe.

4.3 **Transition Pieces**

To make connection between steel pipe and MDPE pipe specially fabricated transition pieces consisting of steel and MDPE pipes should conform to the requirements mentioned herein.

4.3.1 MDPE Pipe:

The MDPE pipe with one end plain should conform to the specification (IS:14885/ SDR 11)

4.3.2 Steel Pipe:

Black ERW steel pipe should conform to the specifications as laid in API STD 5L (latest revision)

4.3.2.1 Pipe End:

One end of the pipe should be bevelled for welding angle of bevel should be 30° + 5°.

4.3.3 Jointing between Steel and MDPE Pipes:

Steel and MDPE pipes should be so jointed in the factory so as to have a monolithic joint which is leak free and should be mechanically as strong or stronger than the PE Pipe.

4.4 **Transition Fittings (MDPE Pipes to threaded G.I. Fitting):**

Transition fitting for jointing of MDPE Pipes confirming to specification IS:14855/ SDR 11 to threaded G.I. tubing confirming to specification. The MDPE end of the transition fitting shall be jointed with MDPE Pipe with the electrofusion method.

5.0 ELECTRICAL CHARACTERISTICS

For each size and type of fitting, the manufacturer shall declare the nominal resistance of the heating element and specify the production tolerances.

The manufacturer shall demonstrate that satisfactory joint can be made using the extremes of these tolerances.

All fittings shall have mechanically shrouded malo electrical terminals. The fittings terminals connections shall be suitable for use with voltage less than or equal to 48 volts. Considerations should be given to the design of the shroud with respect to impact damage. When hollow terminal pins are used, the hole at the top of the pin shall be less than 1 mm diameter. The terminal pin material shall be corrosion resistant and the surface finish shall be N7.

Fittings incorporation two electrofusion sockets shall have both sockets fused in a single operation.

The heating elements shall be suitable designed to prevent short circuiting or local overheating/ under heating during the fusion operation. Protective coating applied to the heating element shall not have a detrimental effect on the joint.

The heating element wire shall not be disturbed during assembly.

6.0 DIMENSIONS

6.1 Measuring Temperature

Fittings shall not be measured within 24 hrs. of manufacturer to allow for normalization. The fittings shall be measured at an ambient temperature of 23 ± 2°C, after a conditioning period of 5 Hrs.

Methods of measurements shall provided the appropriate degree of accuracy, and the reference conditions specified in this clause 6 apply in case of disputes in dimensional measurement.

6.2 Dimensional Stability

6.2.1 Couplers (Including all forms of socket fittings)

All coupler dimensions shall conform to their specified value when the fitting has been stored for a period of 12 months at a temperature of 30 ± 2°C.

6.2.2 Tapping Tees and Branch Saddles:

All tapping tee and branch saddle dimensions shall conform to their specified agreed values when the fitting has been stored for a period of 12 month at a temperature of 30 ± 2°C.

TABLE 3 : SOCKET DIMENSIONS

Pipe Size d mm	Limits for average diameter d on each fitting measured over apparent fusion length L mm		Apparent fusion length L mm	Penetration depth L mm
	Maximum	Minimum	Maximum	Minimum
16	16.6	16.4	15	41
20	20.6	20.4	16	41
25	25.6	25.4	18	41
32	32.9	32.5	18	41
40	41.0	40.6	18	49
50	51.1	50.7	20	55
55	56.1	55.7	21	63
63	64.1	63.7	23	63
75	76.3	75.9	25	70
90	91.5	91.1	28	79
110	111.3	111.1	32	82
125	126.7	126.2	35	87
140	141.7	141.2	38	92
160	162.1	161.4	42	98
180	182.1	181.5	46	105

Notes:

The apparent fusion length, L, is the length of the integral heating elements, from the first regular section of the element to the end of the regular section, on one side of the fitting. This dimension to be measured from outside edge to outside edge of wire.

- Any protrusions into the bore of the fitting (e.g. centralization ribs) shall not prevent easy assembly in the field.

- The overall length of a straight coupler is equal to twice the quoted maximum penetration depth L.

TABLE 4: OVERALL LENGTH OF REDUCERS

Major Diameter mm	Maximum Length mm

25	90
32	90
63	120
90	180
125	215
180	280
200	245
225	260
250	280
280	300
315	320

TABLE 5: BRANCH SADDLE ASSEMBLY OUTLET LENGTH

Off-take Size mm	Shut-off method	Dimension from flange face to crown of main		Dimension from pipe end to crown of main	
		Class B fitting mm	Class B fitting mm	Class B fitting mm	Class B fitting mm
63	Valve	-	-	-	-
63	Squeeze	-	260*	-	-
90	Valve	-	-	400	-
90	Squeeze	400	180**	-	-
125	Valve	-	-	550	-
125	Squeeze	360	180***	-	-
180	Valve	-	-	750	-
180	Squeeze	360	180+	-	-
250	Valve	-	-	-	-
250	Squeeze	360	180++	-	-

* Flange size DN 50
** Flange size DN 100
*** Flange size DN 150
+ Flange size DN 250
++ Flange size DN 250

7.0 PERFORMANCE REQUIREMENTS

7.1 Mechanical Characteristics

Fittings shall be tested using pipes, which conform to ISO 4437, Test samples shall be assembled in accordance with ISO DIS 11413, following the technical instruction of the manufacturer and using fusion equipment conforming ISO DIS 12176.2.

When tested in accordance with the test methods as specified in table – 6 using the indicated parameters, the fittings have mechanical characteristics confirming to the requirements given in Table 6.

TABLE 6: MECHANICAL PROPERTIES

Characteristics	Units	Requirements	Test	Parameters	Test Method
Hydrostatic strength at 20°C	H	Failure time ≥ 100	End caps orientation conditioning time. Type of test circumferential (hoop) stress pipe PE 80, PE 100, Test temperature.	Type a) free 1 h 9 Mpa, 12.4 Mpa, 20°C	ISO DIS 9356
Hydrostatic strength at 80°C	H	Failure time ≥ 165	End caps orientation conditioning time. Type of test circumferential (hoop) stress pipe PE 80, PE 100, Test temperature.	Type a) free 12 h water-in water 4.6 Mpa 5.5 Mpa 80°C	ISO DIS 9356
Hydrostatic strength at 80°C	H	Failure time ≥ 1000	End caps orientation conditioning time. Type of test circumferential (hoop) stress pipe	Type a) free 12 h water-in water 4 Mpa, 5 Mpa, 80°C	ISO DIS 9356

			PE 80, PE 100, Test temperature.		
Cohesive resistance	mm	Length of initiation of brittle fracture L/3	Test temperature choice of method	23°C	ISO 13954 (A) ISO 13955 (A) ISO 13956 (B)
Impact strength (B)		No failure No leakage	Test temperature Falling height Mass of the striker	20°C 23°C 5m 5kg	ISO DIS 13957

(A) Electrofusion Socket Fittings

(B) Tapping Tees

For hydrostatic strength test at 80°C only brittle failure shall be taken into account. If ductile failure occurs before the required time, a lower stress shall be selected and the minimum test time will be obtained from the line through the stress/ time points given in Table – 7.

TABLE 7
Hydrostatic strength (80°C) – Stress/ Minimum Failure Time Correlation

PE-80		PE-100	
Stress Mpa	Minimum Failure Time h	Stress Mpa	Minimum Failure Time h
4.6	165	5.5	165
4.5	219	5.4	233
4.4	293	5.3	332
4.3	394	5.2	476
4.2	533	5.1	688
4.1	727	5.0	1000
4.0	1000		

7.2 **Physical Characteristics**

When tested in accordance with the test methods as specified in Table 8 using the indicated parameters, the fittings shall have physical characteristics conforming to the requirements given in Table 8.

TABLE 8 : Physical Characteristics of Fittings

Property	Units	Requirements	Test Parameters	Test Method
Thermal Stability	minutes	> 20	200° C (1)	ISO TR 10837
Melt Mass Flow Rate (MFR)	g/10 min	0.2 ≤ MFR ≤ 1.4 and after processing maximum deviation of ± 20% of the value measured on the batch compound	Condition 18	Rate ISO 4440.1

(1) Test may be carried out at 210 °C providing that there is a clear correlation to the results at 200 °C, in case of dispute the reference temperature shall be 200 °C.

7.3 Technical File

The manufacturer of the fittings shall make availability of a technical file (generally confidential) with all relevant data to prove the conformity of the fittings to this specification. It shall include all results of the type testing and shall conform to the specification relevant technical brochure (e.g. ISO 12093 for electro fusion fittings).

The technical description of the manufacturer shall include the following information:

1. Field of appliance (pipe and fitting temperature limits SDR's and out of roundness):
2. Assembly instructions:
3. Fusion instruction (fusion parameters with limits)
4. For saddles and tapping tee:

   - The means of attachment (tools and/ or under clamp).
   - The need to maintain the under clamp in position in order to ensure the performances of the assembly.

For electro fusion fitting, the format of the technical brochure shall conform to ISO DIS 12093.

In the event of modification of the fusion parameters, the manufacturer shall ensure that the joint conforms to this standard.

8.0 MARKING

Following information shall be embossed upto height of 0.15 mm onto the fitting and also in the form of bar code:

a) The manufacturer's identity
b) The size of the fitting in mm
c) Material and Designation
d) The date of manufacturer (code may be used)
e) Fusion time in seconds
f) Cooling time in minutes
g) Fusion parameters in BAR code
h) Lot Number.

The information may be printed on a label associated with the fitting.

9.0 PACKAGING

The fittings shall be packaged in bulk or individually protected where necessary in order to prevent deterioration. Whenever possible, they shall be placed in airtight plastic bags in card board boxes or cartons.

The cartons and/or individual bags shall bear at least one label with the manufacturer's name, date of manufacturer, type and dimensions of the part, number of units in the box, and any special storage conditions and storage time limits.

Note:

All the fittings required shall be bar coded electro fusion fitting type. In case bidder is quoting for spigot fittings, the necessary electro fusion coupler for all non Electrofusion ends shall be included in the complete package.

The transition fittings shall also be bar coded electro-fusion type for PE connection, NPT Female threading confirming to ANSI B1.20.1 for G.I connection & butt welded for carbon steel end.

The carbon steel material of transition fittings shall be confirming to APL 5L x 42 and thickness shall be of 4.8 mm.

All the fittings shall be used for the network operating at 4.0 Bar (g) Pressure.

40.0 TECHNICAL SPECIFICATION FOR INSTALLATION OF ABOVE GROUND GI /Cu/MLC PIPING

40.1 INTRODUCTION

The main intent of the specification is removal (if any), installation of above ground GI pipes, fittings, valves, meters and regulators, from the outlet of 'PE/GI transition fitting' up to the DOMESTIC consumers 'Appliance / stove/ oven valve' including the supply of Hose pipe as per the Distribution Schedule enclosed herewith.

The scope for commercial consumer includes removal (if any), installation of above ground GI pipes and associated fittings, valves, regulator up to and including meter. However, the piping may have to be carried out up to Appliance valve, in case of some commercial customers.

In case of large commercials, completely assembled metering skids would be supplied to the contractor who would be required to install and provide inlet & outlet connection.

This technical specification defines the basic guidelines to develop an acceptable design and suitable construction methodology for carrying out different activities listed out in the schedule of rates of this tender.

Compliance with these specifications and / or approval of any of the Contractor's documents shall in no case relieve the Contractor of his contractual obligations.

40.2 SCOPE OF WORK

Generally the following shall constitute the contractor's scope of work:

40.2.1 Plan and prepare a detailed execution schedule and procedure for implementation based on QA / QC formats plans issued by MNGL.

40.2.2 Receipt of Appliance Valve, Isolation Valves from MNGL's stores, providing security, and insurance, during and before installation and commissioning of pipelines. Obtaining the approval for optimum route and permission for work from the society/owner, concerned authority and EIC.

40.2.3 Selection of route and marking on walls / floors between 'transition fitting' to 'cooking oven / stove / appliance' making openings and making provisions for fixing clamps. Making temporary but stable platforms / scaffolding / rope ladder etc., required for installation of pipes / fittings at all heights / multi storied flats and locations. Providing safety equipment to workers / plumbers.

40.2.4 Installation of GI pipes of ½", ¾", 1", 1½" dia. between transition fittings (installed by PE contractor) and customer's kitchen appliances which would include NPT threading of pipes, and jointing of fittings such as elbows, tees, connectors, regulators, meters, isolation valves etc., as per laid procedures and specification including supply of GI fittings (powder coated) & Teflon tapes for sealing of joints. Painting of GI Pipes & fittings as per specification, if GI pipe is supplied. Painting of GI fittings only in case painted GI Pipe supplied. Scope covers the installation of GI pipes up to MCV2.

40.2.5 Installation of Copper pipes of ½" (12 mm) OD/MLC pipe of (14mm) OD from the downstream of Meter upto the isolation valve prior to the customers appliance, including the installation of valves including application of lacquer paint etc. to the satisfaction of EIC.

40.2.6 Supply, removal (if any) & Installation of clamps for fixing pipes, box for regulator wherever required, painting of steel pipes & fittings. Providing consumables grout material, repair / restoration of walls / floors / holes including the materials required for conversions along with tools and tackles etc., complete as per specification.

40.2.7 Conversion of all types of LPG kitchen appliances to NG based appliances inclusive of supply of nozzles. Signing of Joint Meter Records (JMRs) with customers.

40.2.8 To demonstrate to the customer regarding use, safety and maintenance related aspects of NG based appliances and installations.

40.2.9 Testing & Commissioning of installations including purging as per specification and handling over the installation of MNGL / customer to the entire satisfaction of MNGL.

40.2.10 Dismantling of scaffolding / temporary structures and cleaning of site.

40.2.11 Restoration of walls, flooring and other damages while executing the above ground installation.

40.2.12 Preparation and submission of above ground installation card for each house / commercial establishment indicating the list of materials used, reasons of not providing connections, testing pressure and date etc. Deviation statements, if any, on completion / commissioning of work.

40.2.13 Any other activity (ies) not mentioned / covered explicitly above, but otherwise required for satisfactory completion / operation / safety / statutory/ maintenance of the works shall also be covered under the Scope of work and has to be completed by the Contractor within specified schedule at no extra cost to MNGL.

40.3.0 MATERIAL, LABOUR, PLANT AND EQUIPMENT

40.3.1 SUPPLIED BY MNGL

Unless otherwise specified MNGL will supply to the contractor, free of charge, Appliance Valves ¼" & ½" and isolation Valves ½" & ¾" only, necessary to complete the laying of above ground service pipes. The contractor shall not use the said material from any other source of supply other than MNGL except with written approval from the EIC.

MNGL would also supply metering skid as free issue materials to be installed in large commercials.

Free Issue materials are as mentioned below:
GI Pipe – ½", ¾", 1" & 1½"
Copper Tube – 12 mm OD & 0.6mm thk
MLC pipe – 14mm OD & 4mm thk
Isolation Valves – ½", ¾", 1", 1½"
Appliance Valves – ¼" & ½"
MLC pipe brass fitting set
All types of Meters & Regulators

40.**3.2 SUPPLIED BY THE CONTRACTOR**

The contractor to supply all GI Fittings (only powder coated), Valves, Fittings, Clamps, Fixtures for Meters/Regulators etc. and other materials required for completion of said works.

The contractor shall provide the labour, tools (such as Hammer Drill, Piston Drill, Pipe cutters, Dies for threading, Pipe wrenches, spanners, all types of clamps, Plant and equipment necessary for the proper execution of the work. This will include but not be limited to list of specialised tools & tackles enclosed herewith. Contractor shall submit the specification of all the material to be supplied by him to EIC for approval and get the material checked & approved by him before commencement of execution.

The contractor is to be procure all bought out items from approved vendors and accordingly keep MNGL informed. The inspection of bought out items would be carried out by MNGL / Third Party Inspection or as instruction by EIC.

The contractor shall use forged fittings as per IS 1239 Part2. All forged fittings & pipes should be pure polyester powder coated of min.70-micron thickness.

40.**3.2.1 Plant and Equipment**

All vehicular type machinery shall be in good working order and shall not cause spillage of oil or grease. To avoid damage to paved surfaces the contractor will provide pads of timber or thick rubber under the hydraulic feet or outriggers of machinery.

40.**3.2.2 Sealant, grout**

The contractor shall be responsible to arrange the supply of any consumable sealant or ready mix grout material required for execution of work. The sealant / grout supplied by the contractor shall be compatible with the area to be restored / rectified.

No separate payment for the supply of sealant and grout shall be made to the contractor.

40.**3.2.3** **Clamps, Rawal Plugs, Screws, Nozzles etc.**

The locking Clamps, Rawal Plugs, Screws, Nozzles, etc shall be approved lot wise by EIC prior to installation. Re-drilling of existing appliance nozzles is strictly not permitted. Clamps shall be GI & powder coated or Aluminum. Screw shall be of SS in order to avoid rusting.

40.**3.2.4** **Other Materials**

The contractor shall supply the following items where required.

- All materials required for formwork, NPT threading, testing etc.
- All signs, barricades, lights and protective equipment.
- All material required for working at higher floor levels (i.e., scaffolding, Ladder, safety belts etc.).
- Special consumable such as grease for maintenance of domestic appliances and all paints or painting of G.I pipes, clamps, sleeves, brackets for meters, consumables such as Teflon Tapes, Petrol, diesel, fuels and oils required are to be supplied by the contractor and are included for within the rates.
- All minor items not expressly mentioned in the contract but which are necessary for the satisfactory completion and performance of the work under this contract.

40.**4.0 ISSUE OF WORK INSTRUCTIONS**

40.4.1 The contractor will be required to carry out GI installation in the areas where MDPE laying is under progress. However, testing of GI installation shall be done in conjunction with laying of MDPE Service Lines to respective premises. A general scheme of distribution to domestic consumer is indicated in the sketch enclosed herewith, for reference. It may vary in case of individual and multistoried flats. A general scheme of distribution to small commercials consumers is indicated in the sketch enclosed herewith for reference.

40.4.2 All skilled personnel like plumbers, conversion technicians shall be approved and certified by EIC. Those who are certified and possess the identify cards duly signed by EIC shall only be authorized to take up respective jobs. The contractor has to arrange the identify cards.

40.4.3 The rates to be quoted by contractor shall be inclusive of all preparatory / bye works, platforms, materials, labour, skills , supervision, tools , taxes, duties, levies, salaries, wages, overheads, profits, escalations, fluctuations in exchange rates and no change in the rates shall be admissible during tenancy of the contract.

40.4.4 The schedule of items of SOR have been described in brief and shall be held to be complete in all respect including safety requirements as per clause 9.0, tests,

inspection, QA/ QC works, enabling and sundry works. The payment shall be made against completed and measured works only. No extra works whatsoever shall be considered in execution of these items.

40.**5.0 PROGRESS OF WORK**

The contractor shall proceed with the work under the contract with due expedition and without delay.

The EIC may direct in what order and at what time the various stages or parts of the work under the contract shall be performed.

Weekly progress reports shall be submitted in the formats approved by MNGL, indicating broadly the laying, testing, RFC, conversions and extra piping.

40.**6.0 WORK SHEETS**

40.6.1 The quantities and other details will be checked by MNGL 's site engineer and the same shall be incorporated in measurement cards, signed & dated as certified on site. The cards will then be approved by the EIC.

40.6.2 Measurement sheets shall be prepared based on the measurement cards and checked and certified by the site engineers for billing purpose.

40.6.3 If measurement sheets submitted are illegible, incomplete or incorrectly booked, they will be returned to the contractor.

40.**7 PERMISSIONS / APPROVALS**

Contractor shall be responsible for obtaining approval from authorities like ADA / LDA and any other concerned authority, if required for completion of the work. Contractor must take the prior appointment from the resident for carrying out the work.

40.8 **RIGHT-OF-USE SURVEY AND MARKING**

The route of the pipeline to be installed shall be decided with consent of the consumer and SE / EIC. Contractor must ensure that the persons/ workers/ supervisors/workers at site shall have proper identity cards prior to entering the premises of the consumer.

No temporary or permanent deposit of any kind of material resulting from the work shall be permitted in the approach and any other position which might hinder the passage and / or natural water drainage or any area where there is objection from consumer.

The contractor shall obtain necessary permissions from landowners and tenants and shall be responsible for all damages caused by the construction and use of such approaches, pavements, gardens, rooms, walls, roof etc., at no extra cost to MNGL.

A survey will be conducted jointly by MNGL and the contractor at each premises or housing colony to be supplied. The survey record will note customer details, the potential gas supply points and proposed meter positions and estimates of material quantities. The contractor's representatives will make as sketch of the agreed pipe routes, if necessary.

The contractor will be responsible for contacting the customer and making the necessary arrangements for access, and appointments to carry out the work. MNGL will not be responsible for any time lost due to broken appointments or disputes with customers.

The contractor shall confine its operations within limits of the Right - in-use. The contractor shall restore any damage to property outside ROU, attributable to him.

The contractor shall also carryout all necessary preparatory work if needed to permit the passage of men and equipment. Lights, curbs, signs shall be provided wherever and / or required by the MNGL necessary to protect the public.

40.9 **PROTECTION OF STRUCTURES AND UTILITIES**

The contractor shall at his own cost, support and protect all buildings, walls, fences or other structures and all utilities and property which may, unless so protected, be damaged as a result of the execution of the works. He shall also comply with the requirements in the specification relating to protective measures applicable to particular operations or kind of work.

While painting contractor must take care of the consumer premises while carrying out the job/ such as spillage on floor, walls, ceilings, sun shades etc. if the same does occur, the contractor is to immediately make good to original.

40.10 **GI ABOVE GROUND SERVICE PIPE**

The GI service pipe installation work includes all work necessary to connect from the PE / GI transition fitting on the down-stream of the PE service, to the customer's appliance, including the installation of appliance valve and insulated valves, except meters Regulator. The contractor shall be required to provide all equipment, tools and materials necessary to execute the work in an efficient and effective manner. Amongst other things he will be required to provide ladders, scaffolding pipe, dies, tripods, vices, fittings and teflon tape, drills for concrete and other masonry, drills for timber and laminated surfaces inside customers property, bending tools, clamps, sleeves to facilitate the pipe passing through floors and walls, paint for pipe marking etc. GI pipes, valves and regulator shall be provided by MNGL.

All GI risers on the outside of buildings shall be fully supported to carry the weight of piping. Risers shall be supported by a flanged foot, or similar device, capable of supporting the total weight of the riser. The riser shall rise in a vertical line from its point of support to its highest point with a minimum of changes in direction. The threading of GI pipe shall be NPT and conforming to ASME / ANSI B1. 20.1.

Contractor has to supply different types / sizes of approved bracket clamps (Mild Steel) for fixing GI pipes suiting to the site conditions and the same shall be painted before fixing, as per the painting specifications. Every fresh lot of the clamps, brackets, regulators boxes and other consumables shall be approved by the EIC prior to start of installation. All riser and lateral pipe shall be clamped to the building at intervals not exceeding two meters.

Where pipe passes through a balcony floor, the floor surface shall be made slightly elevated around the service pipe or its surrounding sleeve to prevent the accumulation of water at that point. Where a short piece of sleeve is used around the gas pipe, the sleeve should be embedded in the concrete with a mix of mortar and the void between the pipe and sleeve filled with a suitable sealant. The sealant should be beveled such as to prevent an accumulation of water. Supply of clamps for all sizes of the GI pipes is in contractor's scope. Contractor has to take prior approval for design of clamps, paintings etc.

Pipe shall preferably enter a building aboveground and remain in a ventilated location. The location for entry shall be such that it can be routed to the usage points by the shortest practicable route.

The rates are to be paid in bands as shown in SOR which includes the supply of all fittings, clamps, drill holes, painting and installation of regulator in case 4 bar to 21 m bar etc.

INSTALLATION OF WELDED GI PIPES

The rest of materials other than the above mentioned like all types of fittings, all types of brass adaptors, meter/regulator supports/brackets, Anaconda, clamps, Screws, Rawal Plugs, etc. are in the scope of the contractor, which includes all the consumables.

Laying of GI pipe riser up to 40 mtr. Height with threaded joints and any riser having length more than 40 mtr. Height from the ground level should have welded type joint for complete length of pipe line in place of conventional threaded joints. In above said welded type risers Contractors shall use forged fittings GI pipe as per IS 1239 Part 1, Heavy class. All forged fittings should be painted min. 70-micron thickness after completion of welding, testing, etc. Supply of necessary equipment, electrodes

and other consumables is in the scope of the contractor. Contractor may conduct survey to assess the requirement of GI pipe (of height more than 40 mtr.).

Supply of welding rectifier/generator, and consumables like welding electrodes, wire brush, grinding wheels leather gloves etc shall be in the scope of contractor. The contractor shall ensure the removal of Zinc coating/painting before carrying of the seal welding.

Welding shall be performed with Advani orlikon, ESAB, D&H electrodes of size 2.5 mm dia for SMAW welding. Batch/Test certificates shall be furnished before welding.

The entire fillet welding shall be done using 2.5mm size electrodes for all size of pipes upto 50 NB pipe.

The pipeline shall be supported at average 1 mtrs length and at the bottom of the riser. The pipe shall be supported properly using angle supports, anchor fasteners and U/C–clamps as directed by EIC.
Leak testing: The inside surface of pipe shall be cleaned/flushed properly before testing. After successful cleaning, the pipeline shall be tested pneumatically**, test pressure of 250 mbar (g) shall be held for a minimum period of 15 min for threaded risers and 1 bar (g) pressure shall be held for a minimum period of 60 min for welded risers (stabilization period of 5 min should be provided at test pressure before taking initial reading in all the cases). No leakage shall occur during the test.**

The contractor shall complete the touch up job with red oxide coating and subsequently with canary yellow paint, to be supplied by the contractor, after successful testing.

PAINTING OF Forged/GI Fittings
The entire length of the pipeline along with fittings and clamps are to be painted after proper surface preparation and painting as follows.

- One coat of Primer application (Appropriate Zinc based primer)
- Two coats of synthetic enamel paint – canary yellow of minimum of 30 microns per coat of reputed make like Asian, Berger, Nerolac.

All painting materials including primers and thinners brought to site by contractor for application shall be procured directly from manufacturers/ dealers as per specifications and shall be accompanied by manufacturer's test certificates. Paint formulations without certificates are not acceptable.

Engineer-in-Charge at his discretion may call for tests for paint formulations. Contractor shall arrange to have such tests performed including batch wise test of wet paints for physical & chemical analysis. All costs there shall be borne by the contractor.

The painting work shall be subject to inspection and certification by Engineer-in-Charge at all times.

After installation of the entire piping system, final touching shall be done to the satisfaction of EIC.

Supply by the Contractor of all ladders, scaffolding and other equipment necessary to provide access to install the pipes.

Supply by the Contractor of all tools and equipment necessary to carry out cutting and threading of GI pipes to NPT Threading confirming to ANSI B1.20.1 wherever required. Contractor will be required to cut the G.I. pipe at suitable length to match with site requirement.

Supply by the Contractor of all tools and equipment necessary to install GI pipes. The Contractor will also be required to supply portable tripods and vices for pipe fabrication work on site. All consumable are in the scope of the contactor.

Supply of Teflon tape and its use by the contractor for all joints in GI pipe work for leakage free joint.

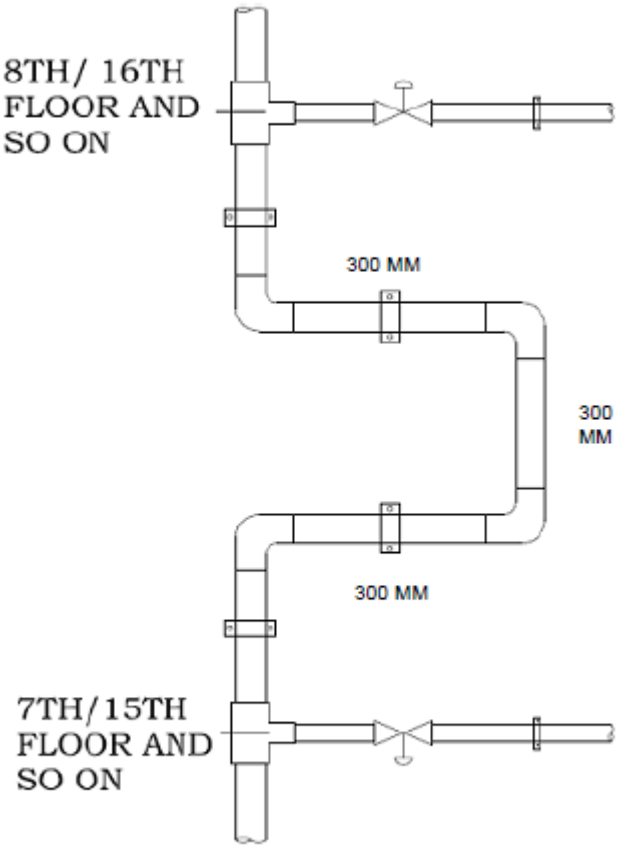
Installation of pipe saddle/ clamps/ supports (supplied by contractor) at 1.0 meter intervals.

Cleaning of pipes identification marking after installation. Any paint or identification tapes/ markers required will be supplied by contractor.
Breaking through or drilling of RCC/ brick walls, etc. and the subsequent making good. Where required, suitable protection for the pipe will be provided, in the form of mastic, tape, or a protective sleeve. Mastic tape/ protective sleeve shall be in scope of contractor. The rates include for this and any necessary grouting or sealing.

Supply by the Contractor of all tools, equipment and power required to drill the above holes. A power drill and portable generator must be supplied by the Contractor for this operation.

Final testing, purging and commissioning of riser from riser Isolation valve to Meter Isolation Valve as per MNGL requirement.

The contractor will also be required to submit the as laid drawings for GI/ERW pipe network, duly certified by concurred Third party Inspector and MNGL, in the format given by MNGL.



Typical Riser and lateral installation

The scope of GI service covers the pipe removal (if any, as per site condition and as directed & satisfactory of EIC), installation includes all work necessary to connect from the PE / GI transition fitting on the down-stream of the PE service, to the customer's appliance, including the installation of appliance valve and insulated valves, except meters Regulator.

40.11 SPECIFICATIONS FOR WELDING OF GI PIPES

The requirements stated herein shall be followed for the fabrication of fillet (sealing) type of welded joints of carbon steel (IS 1239 heavy class) piping systems connected with pipeline and related facilities.

The welded pipe joints shall include the following:

a) All line pipe joints of the circumferential fillet(seal) welded type

b) Contractor shall ensure removal of GI coating / painting before carrying out the seal welding
c) Attachments of fittings and other support pipes.

Base Material:
In general carbon steel (IS 1239 Heavy Class) is used in this specification.

Welding consumables:
The welding electrodes shall confirm to the class AWS E 6013. All electrodes shall be purchased in sealed containers and stored properly to prevent deterioration. The electrodes shall be handled with care to avoid any damage to the flux coating.

Welding Equipments:
Welding rectifiers OR welding generators shall be used.

Welding process:
Welding of carbon steel material under this specification shall be carried out using Shielded Metal Arc Welding process (SMAW).

Cleaning:
Before welding all rust and foreign matter shall be removed from the ends of pipe and fittings by wire brush. Cleaning shall be carried out for the surfaces to be welded and for a minimum distance of 25mm from the edge.

Alignment and Spacing:
Pipe shall be set up correctly spaced, allowing for temperature changes during welding. In correct alignment and shall in no circumstances be sprung into position. Temporary attachments of any kind shall not be welded to the pipe.

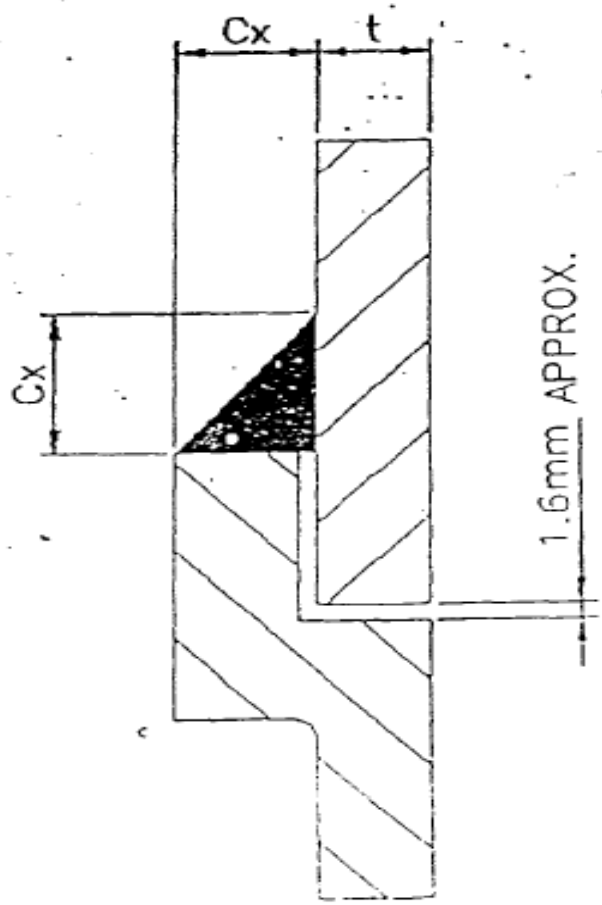
Weather conditions:
The parts being welded and the welding personnel shall be adequately protected from rain and strong winds. In the absence of such a protection no welding shall be carried out. The completed welds shall be suitably protected in case of bad weather conditions.

Welding:
Root pass and final pass shall be made with 2.5mm dia electrode. Position and roll welding may be permitted. Welding shall be continuous and uninterrupted during a pass. On completion of each run, craters, welding irregularities, slag etc. shall be removed by grinding and chiseling. While welding is in progress care shall be taken to avoid any kind of the movement of the components, shocks, vibration and stresses to prevent occurrence of weld cracks.

Fillet welds shall be made by SMAW process. Welding to be carried out in line with the approved PQR/WPS. PQR/WPS to be approved by MNGL/MNGL's

representatives. Welding to be done by the qualified welders who have undergone welder test. All welders shall possess welder identification cards duly approved by MNGL representative.

Joint Design:



Note: Cx (min) = 1.25 t But not less than 3.2mm.
t = Design pressure thickness

40.12 **PAINTING OF GI PIPES (if supplied without painting) & Fittings**

The entire length of the pipeline along with fittings and clamps are to be painted after proper surface preparation and painting as follows.

- One coat of Primer application (Appropriate Zinc based primer)
- Two coats of synthetic enamel paint – canary yellow of minimum of 30 microns per coat of reputed make like Asian, Berger, Nerolac.

All painting materials including primers and thinners brought to site by contractor for application shall be procured directly from manufacturers/ dealers as per specifications and shall be accompanied by manufacturer's test certificates. Paint formulations without certificates are not acceptable.

Engineer-in-Charge at his discretion may call for tests for paint formulations. Contractor shall arrange to have such tests performed including batch wise test of wet paints for physical & chemical analysis. All costs there shall be borne by the contractor.

The painting work shall be subject to inspection and certification by Engineer-in-Charge at all times.

After installation of the entire piping system, final touching shall be done to the satisfaction of EIC.

41.0 ABOVE GROUND SERVICES PIPE: METER-COPPER/MLC INSTALLATION

The Copper service pipe dismantling work (if any, as per site condition and directed & satisfactory of EIC), installation work includes all work necessary to connect from the downstream of Meter up to the isolation valve prior to the customers appliance, including the installation of valves including application of lacquer paint etc. The contractor shall be required to provide all equipment, tools and material necessary to execute the work in an efficient and effective manner. Amongst other things he will be required to provide ladders, scaffolding pipe, drills for concrete and other masonry, drills for timber and laminated surfaces inside customer's property, bending tools, clamps, sleeves to facilitate the pipe passing through floors and walls, etc. Meter, Copper pipes, valves and regulator shall be provided by MNGL.

During installation the COPPER pipe is to be cut to proper length with a tube cutter, the burrs removed with a file, cleaning of outside surface of pipe & inside surface of fitting, applying flux to the tube and fitting around the outer / inner ends, inserting the tube in to the fitting, applying heat to the assembled joints using conventional Blow torch to melt Solder wire and lacquering.

Installation of copper/MLC pipeline will be limited to kitchen premises.

Lacquer is to be applied to the copper tubes by mixing lacquer with thinner in approved proportions and applied by dipping method or with brush. It should be applied only once at a time and drying time of minimum one hr. is to be given.

Contractor has to supply different types / sizes of approved locking clamps for fixing COPPER/MLC pipes suiting to the site conditions at maximum 0.5 m distance.

Contractor has to take prior approval of EIC for quality of the clamps, solder, flux, lacquer, thinner etc. The approval shall be taken for every fresh lot of clamps from EIC before installation at site.

Supply of clamps for all sizes of the COPPER/MLC pipes is in contractor's scope. Contractor has to take prior approval for design of clamps, painting etc.

Contractor has to ensure the following activity, if customer is not willing for conversion:
- Disconnection of inlet copper/MCL pipe.
- Isolation valve (MCV-II) shall be closed and properly plugged.
- Installation of Brass end plug rather than appliance valve.

Contractor has to ensure the installation of PVC sleeve for any crossing by copper/MLC pipe and GI like wall crossing etc. Supply of PVC pipe is in the scope of contractor.

41.1 TESTING OF COPPER/MLC INSTALLATION

The Cu/MLC installation from downstream of meter to appliance valve or already installed cu/MLC pipe shall be tested at a pressure of 32.0 mbar (g) for a hold period of 15 min and all the joints shall be checked with soap solution.

The meter shall be removed while carrying out the testing and joints of the meter shall be tested on line with soap solution after completion of the work. Proper test ends shall be made along with mercury manometer or any other gauge approved by EIC. Valves supplied by MNGL, shall not be used for testing purpose.

The calibrated pressure gauges/ mercury manometer of suitable range shall be supplied by the contractor for testing.

The details of testing shall be properly recorded in the measurement cards / inspection report.

41.2 INSPECTION

Any defect noticed during the various stages of inspection shall be rectified by the contractor to the entire satisfaction of Engineer-in-Charge before proceeding further. Irrespective of the inspection, repair and approval at intermediate stages of work, contractor shall be responsible for making good any defects found during final inspection/ guarantee period/ defect liability period as defined in general condition of contract.

41.3 PURGING & COMMISSIONING

Payment for the tapping of live mains and GI piping prior to the actual purge is included in normal laying & testing. The connection may involve the fitting of a

temporary bypass, disconnection etc. Purging shall be carried in accordance with the principles defined in the American Gas Association Publication "Purging Principles and Practice".

In addition the contractor shall submit and have approved Purging Plan before commencing any purging work. The plan shall include, but not be limited to the provision of the following materials and equipment : personal safety equipment, fire extinguisher, Purging adapter, Purge stack with flame trap and gas sampling point, Gas sampling equipment (may be gas leak detector), squeeze-off tool, Polyethylene connecting pipe work etc.

The plan shall also include the purging process along with detail on the sequence of events. The process is to also specially / mentions the need to lay a wet cloth over the GI pipe and in contact with the ground, to disperse static electricity during the purging work.

A purging stack with flame trap shall be used when purging services. Care shall be taken to ensure that the purge outlet is so located that vent gas cannot drift into buildings.

The purging work should be performed as follows:

- Ensure the method of purging is such that no pockets of air are left in any part of the customer's piping.
- Ensure that all appliance connections are gas tight, all appliance gas valves are turned off and there are no open ends.
- Where possible, select an appliance with an open burner at which to commence the purge i.e., a hotplate burner.
- Ensure the area is well ventilated, and free from ignition sources.
- Ensure branches that do not have an appliance connected are fitted with a plug or cap.
- Turn on one burner control valve until the presence of gas is detected. A change in the audible tone and smell is a good indication that gas is at the burner. Let the gas flow for a few seconds longer, then turn off and allow sufficient time for any accumulated gas to disperse.
- Turn on one gas control valve again and keep a continuous flame at the burner until the gas is a light and the flame is stable.
- Continue to purge until gas is available at other appliances.

42.0 INSTALLATION OF METERS & REGULATOR

The work in this section includes:

42.1 Removal & installation (if any), Installation of domestic and non-domestic / small commercial meters with associated inlet and outlet connections, on the wall with approved meter brackets and angles.

42.2 Supply of approved meter brackets and angle brackets, properly painted with one coat of Zinc primer and two coats of synthetic enamel paint of approved make. A sketch of the brackets is enclosed herewith. It is required that one sample of each type of bracket is got approved beforehand.

42.3 Firmly securing the meters on the wall with good quality supply of proper rowel plugs, screws etc. In case the rowel plugs are not holding than wooden blocks or other fixing arrangements like cement etc. to be used for proper grouting.

42.4 The above activities along with restoration of the area to original shall be carried out to the complete satisfaction of consumer and EIC.

42.5 **It is contractor's responsibility to ensure the submission of MJC/JME to MNGL AIC/EIC at least once in a week or as directed/communicated by EIC, if fails a deduction of Rs 100 per MJC is applicable for delay in submission of MJC/JMR.**

43.0 RESTORATION

Contractor has to restore the area where ever he has carried out drilling, clamping etc. to its original condition to the satisfaction of the consumer and to ensure no passage to the premises and seepage. If the work was carried out in Govt. Flats (PWD, Banks, CPWD, Defence etc), contractor has to restore the area according to CPWD specifications. For government flats the contractor has to obtain a clearance certificate form the concerned authorities maintaining the flats, after completion of the work.

Where slabs and brick work are to be reinstated, the level of the compacted subbase is to be adjusted according to the slab / block thickness. The slabs or brick work should be laid on moist bedding material, which should be graded sand, mortar or mortar mix. The slabs or brick work should be tapped into position.

The restored slabs or brick work should match the surrounding surface levels. Joint widths should match the existing conditions, and be filled with a dry or wet mix of mortar.

Wherever any items of the consumer is damaged / broken during working, the same will be made good or replaced to the total satisfaction of the consumer.

The contractor will be responsible for the maintenance of all restoration carried out, for the duration of the contract guarantee period.

The contractor is to ensure the restoration work is properly supervised, and that the material used is suitable for the purpose and proper. Where the required standards are not achieved the contractor will be required to replace the defective reinstatement work.

Note that Payment for GI piping will only be authorized on satisfactory restoration, and where the sites has been cleared of all surplus materials etc.,

44.0 CONVERSION OF DOMESTIC APPLIANCES

The work in this section includes,

- The changing of nozzles and associated controls in accordance with manufactures instructions for both domestic and imported burners/ ovens/grills/hotplate.
- The changing of old appliance connection hoses and nozzles and re-greasing taps as necessary.
- The contractor has to supply all types of nozzles / jets required for all types of appliances including imported burners, Grills, Ovens.
- Cleaning and performing minor maintenance of appliances.
- Testing for gas escapes and the soundness and performance of the appliance.
- Instructing the customer in the safe use of natural gas and for fixing of safety and conversion labels.
- Contractor must attend the complaints regarding appliances till the total area is handed over to MNGL's operation and maintenance.
- All consumables (Nozzles, greases etc.) are in contractor's scope.
- Changing or repairing of any items damaged during conversion.
- Supply and installation of steel braided hose (Suraksha or equivalent as per ISI standard), wherever required as per the EIC instructions.

It may be noted that the rates will apply to all appliance found in both domestic and commercial premises. The contractor will be required under the Rates to provide both Pin gauges and standard sized nozzles.

Contractor shall ensure the priority of installation of MCV-Meter-Cu/MLC-conversion in gasified area/society, customer complaints etc. Contractor has to take immediate action on such cases as & when came in to notice. If it is found that contractor is not willing to approach such cases after the written communication from AIC/EIC. MNGL can take suitable action against such contractor or no front will be released till the completion of such cases as communicated.

It is contractor's responsibility to ensure the submission of JMR to MNGL AIC/EIC at least once in a week or as directed/communicated by EIC, if fails a deduction of Rs 100 per JMR is applicable for delay in submission.

Contractor shall submit scan copy of all the JMR documents with BP numbers to AIC/EIC as per instructions of AIC/EIC.

45.0 TECHNICAL SPECIFICATION FOR COPPER FITTINGS (ENDFEED) FOR NATURAL GAS USE UP TO 100 mbar

1.0 SCOPE

This specification covers the requirements for Copper Capillary fittings (End feed). Unless modified by this specification requirement of BS 864 of the new European EN 1254 Part-I & part-II shall be valid. Copper Pipe will be supplied by MNGL and contractor is required to supply the Copper fittings.

2.0 MATERIAL

i) The material used for the manufacturer of Copper Capillary Fittings shall confirm to BS EN 1057: 1996. Half Hard.

ii) Material used for the solder should conform to BS 219 & BS EN 29453 or equivalent and should be lead free.

3.0 DIMENSIONAL TOLERANCES

Dimensions tolerances of various types of copper capillary fittings (End feed) shall be as per BS 864 Part-2 (latest) & EN 1254 (Open tolerances on dimensions shall be +/- 0.1 mm).

The tolerances as specified in EN 1254 in nominal diameter are as follows (Ref Table 2).

Nominal Diameter	Tolerance on the mean diameter with respect to the nominal diameter		Resulting Difference	Diametrical
D	Outside Dia of male end (mm)	Inside Dia of Socket (mm)	Max. (mm)	Min. (mm)
12 mm	+ .0.04 – .0.05	+ 0.15 – 0.06	0.20	0.02

The minimum wall thickness of a fitting shall be in accordance as given below (Ref. Table 5 of EN 1254).

Nominal Dia mm D	Minimum wall thickness (mm) Wrought Coppers
12	0.6

4.0 CARBON IN BORE

The internal surface of copper capillary fittings for soldering or brazing shall not contain any detrimental film nor present a carbon level high enough to allow the

formation of such a film during installation. The maximum total carbon level on internal surfaces shall not exceed 1.0 mg/dm2 when tested in accordance with the specification.

5.0 CHEMICAL PROPERTIES

Each heat no. of the copper fitting will be tested for chemical properties to conform to non-arsenical copper DHP grade C 106 as per BS EN 1057 & BS 2871 to have the following chemical composition :

Copper Percentage	:	Min 99.9%
Phosphorus Percentage	:	0.015 to 0.040%

6.0 FREEDOM FROM DEFECTS

The fittings shall be free from internal fins, blow holes, skin defects etc. or other irregularities which might restrict the free flow of fluid, and shall be designed that resistance to the flow of fluid through the fittings is minimized.

7.0 PRESSURE TEST

All fittings shall be leak tested at the option of MNGL at a pressure of 1 bar (g) for a period of 2 minutes and no leakage is permitted during this period Manufacturer's Test Certificate is necessary with supply.

8.0 MARKING

Each tube shall be embossed with manufacturers name or trade mark BS 864 or EN 1254. Each packing containing fittings shall carry the following stamped or written in indelible ink.

a) Manufacturers name or trade mark
b) Designation of tubes
c) BS Symbol mentioning as 864 or EN 1254 to be used.

9.0 INSPECTION / DOCUMENTS

i) Inspect shall be carried out as per MNGL Technical Specification and Inspection Plan / QAP.
ii) MNGL representative or third party inspection agency appointed by MNGL shall carry out stage wise inspection during manufacturing / final inspection.
iii) Vendor shall furnish all the material test certificates, proof of approval / licence from specified authority as per specified standard, if relevant, internal test / inspection reports as per MNGL Technical Specification and specified code for 100% material, at the time of final inspection of each supply lot of material.
iv) Even after third party inspection, MNGL reserves the right to Select a sample of tube randomly from each manufacturing batch and have these independently tested. Should the results of these tests fall outside the limits specified in MNGL Technical specification, then MNGL reserves the rights to reject all production supplied from the batch.

46.0 TECHNICAL SPECIFICATION FOR FLUX

I) Flux should be Non-Acidic, Lead Free as per ANSI / NSF 6 or equivalent to be approved by MNGL.
II) The Flux should be supplied in paste form packed in small tin container of 500 gms. & should have compatibility to use with solder wire (Lead free & as per BS 219 or equivalent).
III) Certificate of confirmation with the specified standard & relevant material test certificate should be furnished by vendor.
IV) Vendor should supply branded material.

47.0 TECHNICAL SPECIFICATION FOR SOLDER WIRE

I) Solder wire φ 3.25 mm, Lead free, should be as per BS 219 or Equivalent to be approved by MNGL.
II) Solder wire should be supplied in 500 gms. coil.
III) Certificate of confirmation with the specified standard & relevant material test certificate should be furnished by the vendor.
IV) Vendor should supply branded material.

48.0 TECHNICAL SPECIFICATION FOR GI FITTINGS (POWDER COATED)

Service : Natural Gas
Standard/ Code : Malleable Cast Iron Pipe Fittings as per IS:1879-1987 (re-affirmed 1996)
Working Pressure : 4 bar (g)
Test Pressure : 6 bar (g)
Working Temperature : 0°C to 50°C
Material Description : Malleable Cast Iron as per IS:2108-1977 or equivalent

Min. Tensile Strength : 30 kgf/sq.mm
Min. Elongation : 6%
End Threads : NPT ANSI B.1.20.1
Alignment of Threads : Variations not more than 0.5%
Protective Coating : Galvanised uniformly to protect from corrosion both inside and outside except on Threaded portion as per standards/ codes for hot dipping IS:4759-1985 and for mass of Zinc coating IS:6745-1972 / EQ.
Minc. Zinc Coating : 610 gms/ sq.m
Reinforcement : Additional material at outside diameter of an internally threaded

fitting

Inspection : 100% Pressure Testing shall be carried out at factory

49.0 **SPECIAL NOTES PERTAINING TO SCHEDULE OF RATES (SOR)**

i) SOR has three parts first: MDPE PIPELINE, second: GI-Cu installation and third: rectification work.

ii) The quantities mentioned in the SOR are indicative and shall not be binding on MNGL. The quantities may be increased, decreased or deleted at the time of actual execution and as per discretion of Owner/ Engineer-in-charge. The unit rate shall be operated to work out for the payment to Contractor.

iii) The payment will be made as per actual certified measurement at site.

iii) The scope as mentioned in the SOR is of indicative nature only and shall include all activities as detailed in the relevant clauses of the respective Particular Job Specifications, Technical Specifications, Data Sheets & drawings, etc and include all works/jobs which needs to be done as per instructions of EIC/AIC as per site conditions/requirements.

iv)

50.0 PENALTY

The below penalty is additional to the Price reduction schedule define in GCC clause No: 27.

1	Safety	If MNGL will provide the PPEs and Barricades etc from third party, the cost of the same will be recovered from upcoming RA bill with addition of 25% administration charges. Or A penalty of Rs 10,000.00 shall be applicable for each written communication (e-mail, letter, audit report etc.) of non- compliance of safety.
2	Minimum construction equipment	Contractor shall ensure the availability of minimum construction equipment as mentioned in Special conditions of contract- Technical- Point no. 19.0, For non-compliance a penalty of Rs 5,000 shall be applicable against each written communication (e-mail, letter, audit report etc.) by MNGL.
3	Minimum requirement of skilled manpower	Contractor shall ensure the mobilization of minimum manpower as mentioned in Special conditions of contract- Technical- Point no. 20.0, for non-compliance a penalty of Rs 5,000 per

		person shall be applicable against written communication (e-mail, letter, audit report etc.) by MNGL.
4	DPR, MIS, Data for review meetings & any report required by MNGL.	Contractor has to prepare and update the progress data like Society status, Customer complaint status etc. and kept it in hard or soft. MNGL can ask for such reports or data at any time or it may require in review meeting. Contractor shall ensure the timely submission or availability of such required data in review meeting or time as communicated. if fails penalty of Rs 5000 shall be applicable for non-submission of data.
5	Laying & Backfilling	**Damage during Execution:** In case of damage to any buildings/structures/ utilities/cables/vehicles the contractor shall be responsible for repairs/ replacement immediately at his own cost, which shall be carried out to satisfaction of concerned authorities / resident / MNGL. If contractor fails to attain it on immediate basis or showing his unwillingness, MNGL may complete the job from another agency at risk & cost of executing agency / contractor with additional 50% administrative charges etc. **Debris etc. removal:** Debris and other surplus material shall be removed immediately after the back filling. If contractor fails to attain it on immediate basis or showing his unwillingness, MNGL may complete the job from another agency at risk & cost of executing agency / contractor with additional 50% administrative charges etc.
6	Restoration of Trench	During the execution of underground pipeline contractor has ensure the convenience of the customers/peoples etc. To reduce the inconvenience, contractor shall have to complete the restoration work of the society, Building, Loop etc as soon as possible. if contractor is not willing to perform the job or there will be any delay from the given date as communicated, a penalty of Rs 10,000 per written communication for noncompliance will be applicable.
7	As-built submission	The As-built is an essential document for MNGL, thus contractor shall ensure the submission of Approved as-built drawing within 15 days from

		date of commissioning. If fails a penalty of Rs 10,000 per MP line starch/ society /As-built will be applicable.
8	Data uploading in SAP	**Inspection report (Material Consumption):** Contractor shall ensure the timely certification of all measurement book/inspection reports form CSA/TPIA, GET, AIC & EIC at least once in a week or as directed/communicated by GET/AIC/EIC, if fails a deduction of Rs 100 per inspection report will be applicable for delay in updation. **MJC/JMR submission to AIC/EIC:** It is contractor's responsibility to submit the MJC/JMR papers to his GET/AIC/EIC for the further updating in the MNGL system (SAP) at least once in a week or as directed/communicated by AIC/EIC, if fails a deduction of Rs 100 per MJC/JMR is applicable for delay in submission.

PART – F

SCHEDULE OF RATES (SOR) (Unpriced)

Schedule of Rates(SOR) is enclosed on e-tendering portal.

Following to be submitted along with Technical Bid duly filled in quoted / not quoted:
Tender for Item Rate Contract for a period of 1-year for laying of underground PE pipeline & aboveground GI / MLC pipe for CGD Network of MNGL for Pune GA.

Evaluation Formula: Evaluation shall be done as per Clause No. 3.0 of Annexure – I to IFB.

Note: The quantities given above against individual items are indicative and shall not be considered to be binding. The quantities may increase or decrease at site at the time of actual execution and as per the discretion of Owner/ Engineer-in-charge. The unit rate shall be operated to work out the final payment due to Contractor.

General Note:

1. **2. Prices quoted shall be inclusive of all taxes/duties and nothing extra shall be payable by the owner except for statutory variation in Goods & service tax rate during the contractual period.**

Seal & Signature of Bidder