MNGL (INDIA) LIMITED

(MNGL)

CITY GAS DISTRIBUTION PROJECT FOR GAs OF MNGL

BID DOCUMENT FOR

TENDER FOR PROCUREMENT OF STEEL LINE PIPES FOR PUNE GA OF MNGL.

UNDER OPEN DOMESTIC TENDER CUM REVERSE AUCTION BIDDING

(THROUGH E-TENDERING MODE)

BID DOC. NO.: MNGL/CP/2026-27/154 DATED 19.11.2026

VOLUME I OF II

SECTION – I

INVITATION FOR BIDS (IFB)

M/s. MNGL (INDIA) 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.

MNGL invites price bids through Online Reverse Auction System on E-Tender Platform from bidders.

1.0 TENDER INFORMATION

TENDER DOCUMENT NUMBER	MNGL/CP/2026-27/154 dated 19.11.2026
ITEM(S)	Tender for procurement of Steel Line Pipes for Pune GA of MNGL.
TYPE OF BID	Open Domestic Tender Cum Reverse Auction Bidding
TIME SCHEDULE	As per Section V of Vol. II of II
EARNEST MONEY/ BID SECURITY	Rs. 2,00,000/- in the form of Demand Draft / BG to be in favor of "MNGL (INDIA) LTD." payable at Pune. Account Details for SWIFT / SFMS Statement / Message: Name of the Beneficiary: M/s. MNGL (INDIA) LTD. Name of the Bank & Address: State Bank of India Branch: Industrial Finance Branch, "Tara Chambers", Pune-Mumbai Road, Wakadewadi, Pune-411 003 A/c No.: 35310073625 IFSC Code: SBIN0008966
BID SECURITY VALIDITY	6 (Six) months from the final bid due date
TENDER FEE (NON-REFUNDABLE)	Not applicable
BID VALIDITY	4 (Four) months from the final bid due date
PRE-BID MEETING DATE AND TIME	26.11.2026 @ 11:00 Hrs. VC Link: https://meet.google.com/gyn-hdxe-hdr
BID SUBMISSION DUE DATE AND TIME	10.12.2026 till 15:00 Hrs. IST
TECHNO-COMMERCIAL BID OPENING DATE AND TIME	11.12.2026 at 16:00 Hrs. IST
BID SUBMISSION AT	https://etenders.gov.in
PRICE BID OPENING DATE AND TIME	Date and time shall be notified later
REVERSE AUCTION DATE & 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 Department, M/s. MNGL (INDIA) LTD., Pride Purple Coronet, 2nd Floor, Baner Road, Baner, Pune – 411045
CONTACT DETAILS	Telephone: +91 (20) 25611000/1190/1153 Email: gasaid@mngl.in / akshay.girme@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 holidays, 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 must 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 must 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 letterhead 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 after 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 the mail.

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

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

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

(5) Recording of the pre-bid meeting by the bidders is strictly prohibited. After the pre-bid meeting, a corrigendum shall be issued by the purchaser regarding clarifications or queries raised during the 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 a 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 a single-bidder responsibility basis and in total compliance with the 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 reserves 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), 10% of Contract / Purchase Order Value
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 format
xiii) Bidder has 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 specifications/requirements.
xvi) Any other such provisions if specifically stipulated elsewhere in the Bid Document.
xvii) Price Reduction Schedule.

However, MNGL reserves 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, MNGL (INDIA) LTD., Pune

Ganesh Said
General Manager (C&P)

Encl. 1. Vol. I of II & II of II of Bid Document.

Note: Please confirm your intention to quote or not within 5 (Five) days. In case you do not intend to quote then please give your valuable feedback to us.

ANNEXURE-I to IFB

BIDDER'S ELIGIBILITY CRITERIA (BEC)

0.0 GENERAL INFORMATION:

The tender deals with the procurement of Steel Line Pipes for Pune GA of MNGL.

1.0 SCOPE AND QUANTITY OF SUPPLY:

A. The supply of Steel Line Pipes is described below:

Sr. No.	Item Description	Quantity	Unit	Geographical Area
1	10" Pipe Coated, ERW/SL, API 5L, GR. B, 6.4mm Thk.	17,000	Meter	Pune

B. Delivery Schedule:

The delivery schedule shall be as given below:

Sr. No.	Description	Delivery Schedule	Effective Date of Start	Delivery Basis
1	10" Pipe Coated, ERW/SL, API 5L, GR. B, 6.4mm Thk.	Consignment to reach Warehouse within 16 weeks from the date of Purchase Order.	Date of Issue of Purchase Order.	FOT Site (Warehouse)

2.0 BIDDER'S ELIGIBILITY CRITERIA (BEC):

2.1 TECHNICAL:

2.1.1 Qualification Criteria for Line Pipe:

A. The bidder should have manufactured and supplied in India from the proposed manufacturing plant at least 50% of the quoted quantity of Steel Pipe as per API 5L - GR. B, that are of same type, equal or higher in terms of size and rating and minimum thickness of 6.4 mm, in the preceding 05 (Five) years reckoned from the final bid due date for natural gas services.

B. Bidder is required to furnish documentary evidence like Purchase Order copies and inspection release note or completion certificate, in support of their claim of fulfilling the above required BEC Criteria.

C. The Steel Pipe manufacturing plant shall have API 5L certificate and valid license to use API 5L monogram.

Bidder is required to furnish the documentary evidence, like a copy of license to use API 5L monogram, in support of their claim of fulfilling the above required BEC Criteria.

D. Mill Qualification: The bidder shall furnish a certificate for proposed pipe mill along with their bid, manufacturing same or higher size diameter and material grade from reputed international inspection agency (like CEIL / LLOYDS / BV / DNV / TUV / ABS / MOODY / AIB-Vincotte), certifying that the mill has capability to produce line pipes complying with technical requirements specified in bid documents.

Bidder is required to furnish the documentary evidence in support of their claim of fulfilling the above required BEC Criteria.

2.1.2 Qualification Criteria for Coating Work:

A. The bidder's proposed coating plant shall have experience in application of three-layer side extruded PE (3LPE) Coating of Bare Line Pipes.

B. The proposed coating plant by the bidder for three-layer side extruded PE (3 LPE) coating on bare line pipes shall have coated at least 50% of the quoted quantity of bare pipe as per API 5L - GR. B that are of same type, equal or higher, using three-layer side extruded PE coating, during any of the last five years reckoned from the bid due date.

C. In case a bidder (Bare Pipe Manufacturer) doesn't have facility for 3 LPE coating at their works, they may get the same done from any of the coating vendors specified in the vendor list, provided they meet the qualification criteria specified for coating works. However, responsibility of dispatching the bare pipes to coating works and thereafter delivery from coating works to Owner site shall be the responsibility of the bidder (Bare Pipe Manufacturer).

D. In such case the documents of outsource coating plant confirming the above criteria are required to be submitted along with the Bid.

Bidders quoting for supply of Coated Line Pipes should have combined experience as per Clause Nos. 2.1.1 & 2.1.2.

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

2.2. FINANCIAL:

2.2.1 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 & 2025-26.

Item No.	Description	Annual Turnover Requirement
1.1	10" Pipe Coated, ERW/SL, API 5L, GR. B, 6.4mm Thk.	Rs. 400.00 Lakhs

2.2.2. Net Worth:

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

2.2.3 Working Capital:

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

Item No.	Description	Working Capital Requirement
1.1	10" Pipe Coated, ERW/SL, API 5L, GR. B, 6.4mm Thk.	Rs. 80.00 Lakhs

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

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

If the audited financial results of the immediately preceding financial year i.e. 2025-26 are 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 & 2024-25 shall be considered for calculation of Annual Turnover as specified at Cl. 2.2 of BEC-Financial Criteria.

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

4.0 EVALUATION AND AWARD OF CONTRACT:

Evaluation shall be done on an overall least cost basis to the Purchaser and order shall be placed on L-1 bidder(s) accordingly.

In case of tie for L-1 bidder, the order shall be placed on the bidder having the highest turnover during the preceding 03 (Three) Financial Years, i.e. 2023-2024, 2024-25 and 2025-26.

SECTION – II

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 a valid email IDs and mobile nos. 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 India on 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 in searching 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 several search

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 may download 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 consider corrigendum if any published before submitting their bids.

After selecting the tender document same shall be moved to the 'My favorite' 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 number of 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 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, thereafter, 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" in 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.

REVERSE AUCTION:

Tenderers shall submit a techno-commercial bid for the work subject to their meeting the criteria for evaluation specified in Clause No. 4 hereafter.

Bidders are advised to submit a techno-commercial bid 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.

Tenders shall be based strictly on the terms, conditions and specifications contained in the Tender document. Any deviations and exceptions taken to terms and conditions of the tender documents must be clearly listed out and submitted along with the Techno-Commercial part of the offer as per proforma in F-5.

The Tender will be a 2-level bidding. In level 1 Bidders must submit ""RFQ" comprising of technical evaluation document as mentioned in this tender. Based on that Bidders will be accessed and qualified for Level 2.

Level 2 will be "Reverse Auction", which shall be conducted by MNGL.

Process of E-bidding shall be as follows:

Bidders must fill rates for SOR activity-wise and submit their offer online. (Bidder can refer SOR activity list provided along with form and can keep rates offline too for putting rates in RFQ (online)).

After closing date of RFQ, MNGL will evaluate activity-wise rates and base rate will be finalized for Reverse Auction Eligible bidders (qualified at Level 1) will be informed via E-

Tendering platform.

MNGL will communicate dates of opening and closing for Reverse Auction to eligible bidders. Reverse auction date and time will be communicated to all eligible bidders by MNGL.

In reverse auction, bidder must compete only on single figure which can be less than base figure. This given figure will be for an overall evaluated price. On negative side there will a ceiling of 50% below which bidder cannot put their single figure. Bidder will be able to see their rank in live reverse auction; Rank 1 will be lowest bidder.

Bidders need to compete to get Rank 1. Prior to 5 min of closing time of Reverse Auction there will be extension of another 5 minutes if any Bidder changes their figures in auction. Auction shall continue/extend till there is no change in rates for 5 minutes.

L-1 vendor will be declared winner of reverse auction. However, MNGL reserves the right to negotiate, if required. L-2, L-3, L-4 & so on Bidders shall be contacted for Matching of L-1 rates. Contract will be awarded as per evaluation criteria mentioned above after due formalities at MNGL end. Vendor must be in position to execute task as per project time frame given in form or separately communicated to them.

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.

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**

A. GENERAL

1. Scope of Bid:

1.1 The Purchaser as defined in the General Conditions of Contract, hereinafter "the Purchaser" wishes to receive bids through e-tendering mode for the supply of goods as described in Section-IV, Special Condition of Contract.

1.2 The successful bidder will be expected to complete the Scope of supply within the period stated in IFB.

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 Bidder

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

2.2 This Invitation for Bids is open to any bidder and to pre-qualified bidders in case of limited tender.

2.3 Bidders should not be associated or have been associated in the past, directly or indirectly, with a firm or any of its affiliates which have been engaged by the Purchaser to provide consulting services for the preparation of the design, specifications and other documents to be used for the procurement of the goods to be purchased under this Invitation for Bids.

2.4 The bid should be from actual manufacturers.

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

2.6 While evaluating the bids, pursuant to Bid Evaluation Criteria as specified in the Global notice of lFB, bidders past performance shall also be assessed *for* ascertaining the responsiveness of the bid. In such a case the decision of Purchaser shall be final and binding on the bidder.

2.7 The bidder is not put on Black / Holiday list by MNGL / MoP&NG / Oil Public Sector Enterprise(s).

3. One Bid per Bidder

3.1 Each bidder shall submit only one bid. 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. If bid of companies which is managed & controlled by same group of individuals (common owners/ proprietor, common partner/ common directors), the participation in a particular tender by more than one such bidder will not be allowed, and bids will be disqualified.

3.2 Also, if this fact is known at a later stage during bid evaluation or even after finalization of contract, the award will be made null and void and appropriate action including forfeiting of security deposit in any form and putting the firms on holiday list will be taken.

3.3 Alternative bids are not acceptable.

4. Bidder Eligibility

4.1 Experience Criteria as per Invitation for Bid (IFB) (Section – I of this Bid Document).

4.2 Financial Criteria as per Invitation for Bid (IFB) (Section – I of this Bid Document).

5. Cost of Bidding

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

B. BIDDING DOCUMENT

6. Content of Bidding

6.1 The bidding documents are those stated below Documents and should be read in conjunction with any addenda issued in accordance with ITB Clause

a) Volume I of II - IFB, ITB, GCC, ATC
b) Volume II of II – SCC, MR & TS, SOR, etc.

6.2 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 to submit a bid not substantially responsive to the bidding documents in every respect will be at the Bidder's risk and may result in the rejection of its bid.

7. Clarification of Bidding Documents

7.1 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 cable (hereinafter, the term 'cable' is deemed to include electronic mail and facsimile) at the address indicated in the tender. The Owner / Consultant 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 before the pre-bid meeting date. Owner will not entertain any queries received after 1800 HRS post one (1) day of pre-bid meeting. Written copies of the Owner's/ Consultant's response (including an explanation of the query but without identifying the source of inquiry) will be hosted on CPPP's e-procurement website https://etenders.gov.in and MNGL website 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.

8. Amendment of Bidding Documents

8.1 At any time prior to the bid due date, the PURCHASER may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective bidder, modify the bidding documents, by issuing addenda.

8.2 Any addendum /corrigendum/ clarifications to bidders query thus issued shall be part of the bidding documents pursuant to ITB Clause- 7.0 and shall be hosted on the on website www.mngl.in and CPPP's e-tendering website before bid due date. All the prospective bidders who have attended the Pre-Bid meeting/ submitted bid document fee, shall be informed by email/ post about the addendum/ corrigendum/ clarifications to bidder's query for their reference. Bidders desirous to submit its bid must take into consideration of all the addendum(s)/ corrigendum (s)/ clarifications to bidder's query hosted on the above websites before submitting the bid.

8.3 The PURCHASER may, at its discretion, extend the bid due date to allow prospective bidders, a reasonable time to furnish their most competitive bid considering the amendments issue.

8.4 Bidders are advised to visit www.mngl.in and CPPP's e-tendering website from time to time to get updated information / documents.

C. PREPARATION OF BIDS

9. Language of Bid

9.1 The bid prepared by the bidder as well as all correspondence/drawings and documents relating to the bid exchanged by bidder and the PURCHASER shall be written in English language, provided that any printed literature furnished by the bidder may be written in another language so long as accompanied by an ENGLISH translation, in which case, for the purpose of interpretation of the bid, the ENGLISH translation shall govern.

9.2 In the event of submission of any document/certificate by the Bidder in a language other than English, the English translation of the same duly authenticated by Chamber of Commerce of Bidder's country shall be submitted by the Bidder. Metric measurement system shall be applied.

10 Documents Comprising the Bids:

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

10.1.1 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 favor 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.

10.1.2 Financial cover:

Price Bid SOR as per the prescribed format on the e-tender portal.

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

10.3 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.

10.4 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.

10.5 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.

10.6 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.

10.7 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.

11. Bid Form & Price Schedule

11.1 The bidders shall complete the Bid Form and appropriate, Price schedule furnished in Vol II of II of Bidding Document, indicating the required information for all the goods to be supplied, a brief description of the goods, their country of origin and quantity.

12.0 BID PRICES

12.1 The Bidder shall e-quote Bid Prices on appropriate format of "Schedule of Rates" (SOR) as enclosed part of bid documents as it proposes to supply under the contract.

12.2 Indian Bidders shall indicate the following separately (as per Price Schedule):

A) Ex-works Price including packing and forwarding charges (such price to include all costs as well as duties and taxes paid or payable on components and raw materials incorporated or to be incorporated in the goods).

B) Goods & Service Tax which will be payable on the finished goods if this contract is awarded.

C) The bidders shall indicate breakup of the quantum of imports involved for import of necessary raw materials and components giving CIF value of Import in applicable currency considered and included in bid price Essentiality certificate may be provided by the Purchaser for Project imports, wherever applicable.

D) The statutory variation in Goods & Service Tax (GST) on finished goods covered under Cl. 12.1 B within the contractual delivery period shall be to MNGL's account. However, any increase in the rate of these taxes and duties beyond the contractual completion period shall be to bidder's account and any decrease in rate shall be passed on to MNGL. Further,

any statutory variation in the rate of customs duty (except GST) within contractual delivery period, on-the actual CIF value of import content, but subject to maximum of such duty payable on quoted CIF value, under Cl. 12.1 (A) shall also be to MNGL's account. In case of delay in delivery, any increase in the rate of customs duty beyond the contractual completion period shall be to bidder's account and any decrease in rate shall be passed on to MNGL.

E) The total amount which can be claimed / set off by MNGL for CENVAT (for Goods & Service tax) separately.

12.3 Inland transportation, other local costs incidental to delivery of the goods to its destination (FOT-site) shall be quoted by the Bidder.

12.4 The bidder's break-up of price components in accordance with above sub-clauses will be solely for the purpose of facilitating the comparison of bids and will not in any way limit the PURCHASER's right to contract on different terms.

12.5 Fixed Price: Prices quoted by the bidder shall be firm and fixed during the bidder's performance of the contract and not subject to variation on any account except for variations permitted under 12.1 D for domestic bidders. A bid submitted with an adjustable price quotation will be treated as non-responsive and rejected.

12.6 The delivery terms shall be interpreted as per INCOTERMS 2010.

13 Bid Currencies

13.1 Bidders shall submit their bids in Indian Rupees only.

14 Documents Establishing Bidder's Eligibility and Qualification

14.1 Bid Evaluation Criteria

14.1.1 Pursuant to evaluation Criteria specified in Invitation for Bids (IFB) the bidder shall furnish all necessary supporting documentary evidence to establish the bidder's claim of meeting Bid evaluation criteria.

14.2 Bidders Eligibility Criteria

14.2.1 The bidder shall furnish, as part of his bid, documents establishing the bidder's eligibility to bid and its qualification to perform the contract if its bid is accepted.

14.2.2 The documentary evidence of the bidder's qualifications to perform the contract if his bid is accepted, shall establish to the PURCHASER'S satisfaction:

a) that, in the case of a Bidder offering to supply goods under the contract which the Bidder did not manufacture (or otherwise, produce, the Bidder has been duly authorized by the goods Manufacturer or producer to supply the goods in the Purchaser’s country).

b) that the Bidder has the financial, technical and production capacity necessary to perform the contract.

c) that, in case of a Bidder not doing business within the Purchaser's country, the Bidder is or will be (if awarded the contract) represented by an Agent in that country equipped and able to carry out the Supplier's maintenance, repair and spare parts stocking obligations prescribed in the Conditions of Contract and/or Technical Specifications.

14.2.3 The PURCHASER will determine to its satisfaction whether the bidder selected as having submitted the lowest evaluated, responsive bid is qualified to satisfactorily perform the contract. An affirmative determination will be pre-requisite for award of the Contract.

15 Documents Establishing Goods' Eligibility and Conformity to Bidding Documents

15.1 Pursuant to ITB Clause 10, the bidder shall furnish, as part of the bid, documents establishing the eligibility and conformity to the Bidding Documents of all goods and services which the bidder proposes to supply under the Contract.

15.2 The documentary evidence of the goods and services' conformity to the Bidding Documents may be in the form of literature, drawings or data and shall furnish:

a) detailed description of the essential technical and performance characteristics of the goods.

b) a clause-by-clause commentary on the PURCHASER'S Technical specifications demonstrating the goods and services' substantial responsiveness to the specifications.

15.3 For purpose of the commentary to be furnished under Clause-15.2 above, the bidder shall note that standards for workmanship, material and equipment and reference to brand names or catalogue numbers, designated by the PURCHASER in its Technical Specifications are intended to be descriptive only and not restrictive.

16 Period of Validity of Bids

16.1 The bid shall remain valid for acceptance for four (4) months from the bid due date.

16.2 In exceptional circumstances, prior to expiry of the original bid validity period, the PURCHASER may request that the bidder extend the period of bid validity for a specified additional period. The requests and the responses thereto shall be made in writing (by fax / post 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 ITB Clause 17.0 in all respects.

17 Bid Security

17.1 Pursuant to ITB Clause-10, the bidder shall furnish, as part of his bid, bid security in the amount specified in the Invitation for Bids.

17.2 The bid security is required to protect the PURCHASER against the risk of bidder's conduct which would warrant the security's forfeiture, pursuant to ITB Clause-17.7

17.3 The bid security in US Dollars for bidders quoting in foreign currency and Indian Rupees for bidders quoting in Indian Rupees shall be in the form of Demand Draft/ Banker's Cheque/NEFT/RTGS in favor of MNGL (INDIA) LTD., payable as per IFB (issued by Indian Nationalized /Scheduled bank or first-class international bank) or in the form of Bank Guarantee/ irrevocable Letter of Credit as per format enclosed in the Bidding Document.

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 Bank Guarantee or 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.

The Bid Security shall be valid for two (02) months beyond the validity of the Bid as specified in Clause 16.0 of ITB.

17.4 Any bid not secured in accordance with ITB Clause 17.1 and 17.3 may be rejected by the PURCHASER as non-responsive.

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

17.6 The successful bidder’s bid security will be discharged upon the bidder's accepting the order, pursuant to ITB Clause-41 and furnishing the Contract Performance Guarantee pursuant to ITB Clause-42.

17.7 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 Purchase Order in accordance with ITB Clause-41 or

ii) to furnish Performance Guarantee in accordance with ITB Clause-42.

iii) to accept correction of errors pursuant to ITB Clause 32.0

c) If the Bidder changes the proposed manufacturer after submission of his bid.

17.8 Bid Security should be in favor of MNGL (INDIA) LTD. and addressed to MNGL. Bid Security must indicate the Bid Document number and the item for which the bidder is quoting. This is essential to have proper correlation later. The Bid Security in the form of Bank Guarantee or letter of Credit shall be in the form provided in the Bidding Document.

17.9 The Indian / Domestic firms registered with NSIC / MSME, under its single point registration scheme are exempted from furnishing 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.

18. Pre-Bid meeting – As per IFB

18.1 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.

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

18.3 The 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 questions) to all purchasers of the bidding documents. Any modification of the bidding documents listed in ITB Sub-Clause 7.1 that may become necessary because of the pre-bid meeting shall be made by the Employer exclusively through the issue of an Addendum pursuant to Clause 8 and not through the minutes of the pre-bid meeting.

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

19 Format and Signing of Bid

19.1 The bid shall be typed or written in indelible ink. Each page of bid offer shall be stamped and signed by the Bidder or a person or persons duly authorized by competent authority in order to bind the bidder to the contract.

19.2 Any interlineations, erasures, or corrections shall be valid only if the person or persons signing the bid initial them. Overwriting will not be treated as correction and may lead to rejection of bid. A correction shall be considered if a part of text or figures or dates needing corrections are deleted and a separate text or figure or date, as the case may be, is written separately having proper link to the place of correction.

19.3 As bidding shall be done through e-tendering, digitally signed documents to be uploaded.

20 Zero Deviation

20.1 Bidders to note that, MNGL will appreciate submission of offer based on the terms and conditions in the enclosed General Conditions of Contract, Special Conditions of Contract (SCC), Instructions to Bidders (ITB), Scope of supply, technical specifications, etc., to avoid wastage of time and money in seeking clarifications on technical/ commercial aspects of the offer.

20.2 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), 10% of Contract / Purchase Order Value
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 has 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 specifications/requirements
xvi) Any other such provisions if specifically stipulated elsewhere in the Bid Document
xvii) Price Reduction Schedule

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

21 Mode of Payment

21.1 MNGL (INDIA) LTD. will issue A/C payee cheque for payment payable at par in case work is awarded to bidder.

22 Agent/ consultant/ Representative/ Retainer/ Associate [Applicable for lCB tenders only].

22.1 MNGL would prefer to deal directly with the manufacturers/ principals abroad but in case they decide to have their Agent/Consultant/Representative/Retainer/ Associate in India and pay commission for their services against a particular tender, it should be bare minimum, and the principal would have to certify that such a commission is commensurate with the services rendered to them by such

an Agent/ Consultant /Representative/ Retainer/ Associate in India. The principal will also have to broadly list out services to be rendered by the Agent/ Consultant/ Representative Retainer/ Associate in India.

22.2 In the event bidder is having as Agent/ Consultant/ Representative/ Retainer/ Associate/ servicing facilities in India (who is not an employee of the bidder) the bidder should indicate in their offer the name of such an Agent/ Consultant/ Representative/Retainer / Associate, they have for services in India. The bidder must also clearly indicate the commission payable to the Agent/Consultant/ Representative Retainer/Associate in rupees in terms of Agreement (enclosing copy of the same). The bidder, in his bid will indicate the nature and extent of service to be provided by such an Agent/Consultant Representative/Retainer/ Associate on behalf of the bidder and remuneration therefore provided in the price, as a separate item, quoted by the bidder to MNGL. Such remuneration/commission will be paid by MNGL in non-convertible Indian currency in India. Should it be established at any subsequent point of time that the above statement of the bidder is not correct or that any other amount of remuneration commission either in India or abroad is being paid to anyone (who is not an employee of the bidder), the bidder would be liable to be debarred from participating in the future tenders of MNGL.

The following particulars will also be furnished by the bidder:

(i) The precise relationship between the foreign manufacturer/principal and their Agent/Consultant Representative / Retainer/ Associate in India.

(ii) The mutual interest which the manufacturer/principal and the Agent/ Consultant/ Representative Retainer/Associate in India have in the business of each other.

(iii) Any payment which the Agent/ Consultant/ Representative/ Retainer/ Associate receives in India or abroad from the manufacturer/principal whether as a commission for the contract or as a general fee.

(iv) All services to be rendered by the Agent Consultant Representative / Retainer/Associate.

22.3 Overseas bidder should send their bids directly and not through Agent/ Consultant/ Representative / Retainer /Associate Agent Consultant Representative Retainer/ Associate of the overseas manufacturers/suppliers are, however, permitted to purchase bidding documents and attend bid opening provided such as Agent/ Consultant / Representative/ Retainer/ Associate has a power of attorney/ letter *of* authority setting out very clearly his role, which will be limited to such areas of activity as purchase of bidding documents, attending of bid opening and claiming of payment for their services, provided further that such a power of attorney/letter of authority is submitted to MNGL in advance for scrutiny and acceptance or otherwise.

D. SUBMISSION OF BIDS

23.0 PREPARATION OF BIDS

23.1 Scanned documents (duly signed by the authorized signatory) and/or pre-formatted excel files to be uploaded by the bidder on the portal which shall comprise of the documents mentioned in Clause No. 10 of ITB.

Note: All pages of the bid offer to be signed and stamped by an authorized representative (as described in bid document) of the bidder.

Bidder must ensure numbering of all pages submitted in bid document. Further total number of pages submitted in bid document must be mentioned in the covering letter of bid submitted.

23.2 The price bid shall contain Schedule of Rates dully filled in the prescribed format available on the e-portal.

24.0 DEADLINE FOR SUBMISSION OF BID

24.1 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.

24.2 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.

25.0 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.

26.0 MODIFICATION AND WITHDRAWAL OF BIDS

26.1 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.

26.2 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.

26.3 Upon selecting "withdraw" option on the e-tender portal and providing the reason for withdrawal, the portal will not allow the bidder to re-submit his bid. MNGL shall not be responsible if the bidder is not able to re-submit his bid after withdrawal.

E. OPENING AND EVALUATION OF BIDS

27. Bid Opening

27.1 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.

27.2 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.

27.3 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.

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

28 Process to be Confidential

28.1 Information relating to the examination, clarifications, evaluation and comparison of bids and recommendations for the order, shall not be disclosed to bidders or any other person officially concerned with such process.

29 Contacting the Purchaser

29.1 From the time of the bid opening to the time of the release of order, if any bidder wishes to contact the Purchaser for any matter relating to the bid, it should do so in writing.

29.2 Any effort by a bidder to influence the Purchaser in any manner in respect of bid evaluation or award will result in the rejection of that bid.

30 Preliminary Examination of Bids

30.1 Technical-Commercial Bid Evaluation

30.1.1 The PURCHASER will examine the bids to determine whether they are complete, whether any computational errors have been made, whether required securities have been furnished, whether the documents have been properly signed and whether the bids are generally in order.

30.1.2 Prior to the detailed evaluation, the PURCHASER will determine whether each bid is of acceptable quality, is generally complete and is responsive to the Bidding Documents. For purposes of this determination a responsive bid is one which conforms to all the terms, conditions and specification of the bidding document, without deviations, objections, conditionally or reservations.

30.1.3 No deviation whatsoever, is permitted in the Bidding Documents and the Priced bids of those bidders whose Un-Priced bids contain any exception to the conditions and stipulations of the Bidding Documents shall not be opened and returned un-opened to such bidder(s).

30.1.4 The Purchaser's determination of a bid's responsiveness is to be based on the contents of the bid itself without recourse to extrinsic evidence. If a bid is non-responsive, it will be rejected by the Purchaser and may not subsequently be made responsive by the bidder by correction of the nonconformity.

30.1.5 The Purchaser will carry out a detailed evaluation of the bids previously determined to be responsive to determine whether the technical aspects are in accordance with the requirements set forth in the Bidding Documents. To reach such a determination, the Purchaser will examine and compare the technical aspects of the bids based on the information supplied by the bidders, taking into account the following factors:

(a) Overall completeness and compliance with the Technical Specifications; quality function and operation of the process control concept included in the bid. The bid that does not meet minimum acceptable standard of completeness, consistency and detail will be rejected as non-responsive.

(b) Any other relevant factor, if any that the Purchaser deems necessary or prudent to be taken into consideration.

30.2 Requisite forms contain all necessary information including those required for meeting qualifying criteria stipulated in the Bidding Document.

31.0 OPENING OF PRICE BID

31.1 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.

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

32 Arithmetic Corrections

32.1 The bids will be checked for any arithmetical errors as follows:

32.1.1 In case of any discrepancy between prices in words and prices in figures, the prices in words shall be valid and binding. In case of any error in total indicated by the Bidder, the unit price alone shall be considered valid and binding on the Bidder.

32.1.2 If the bidder does not accept the correction of errors, his bid will be rejected, and the bid security will be forfeited.

33 Conversion to Single Currency [Applicable in ICB tenders only]

33.1 To facilitate evaluation and comparison, the PURCHASER will convert all bid prices expressed in the amounts in various currencies in which bid price is payable, to Indian Rupees at the Bills selling exchange rate declared by the State Bank of India on the working day prior to Priced bid (Part-II) opening.

34 Evaluation and Comparison of Bids

34.1 The PURCHASER will evaluate and compare the bids previously determined to be substantially responsive, pursuant to ITB Clause - 30.

34.2 Bid Evaluation and Comparison Criteria:
The evaluation of all the responsive bids for supplies to be arrived at the lowest evaluated offer as below:

(A) Domestic Bidders:
The evaluated price of domestic bidders shall include the following:

i) The prices quoted by Domestic Bidder for the scope of work defined in the tender documents will include customs duty plus Goods & Services Tax and any additional duty, if any, Goods & Services Tax as applicable which shall be indicated separately

ii) Price quoted by the domestic bidders shall include all costs towards Insurance, all type of handling, transportation, etc. as applicable and payable by the CONTRACTOR under the contract

iii) Goods & Service Tax on the finished goods.

34.3 OWNER'S price evaluation and price comparison of technically and commercially acceptable bids shall take following into account:

i) Total value on FOT site basis including liability towards customs duty, GST, all other taxes & duties, levies, transportation, all insurance, and all other costs as applicable up to Final Acceptance of work complete in all respects covered under Para A above.

ii) Cost of mandatory spares, if any.

iii) The total site price quoted shall be compared.

34.4 Bids not conforming to Bid Qualification criteria and technical & commercial requirements shall be rejected.

35 Domestic Preference

35.1 VOID

F. AWARD OF CONTRACT

36 Post Qualification

36.1 In the absence of prequalification, the PURCHASER will determine to its satisfaction whether the bidder selected as having submitted the lowest evaluated, responsive bid is qualified to satisfactorily perform the contract.

36.2 The determination will take into account the bidder's financial, technical and production capabilities. It will be based upon an examination of the documentary evidence of the bidder's qualifications submitted by the Bidder, pursuant to ITB Clause-10, as well as such other information as the PURCHASER deems necessary and appropriate.

36.3 An affirmative determination will be a prerequisite for award of the contract to the bidder. A negative determination will result in the rejection of the bidder's bid.

37 Award Criteria

37.1 Subject to ITB Clause 30, the Purchaser will award the contract to the successful Bidder whose bid has been determined to be substantially responsive and has been determined to be the lowest evaluated bid, provided further that the Bidder is determined to be qualified to perform the contract satisfactorily.

38 PURCHASER's Right to Vary Quantities at Time of Award

38.1 PURCHASER reserves the right at the time of award of ORDER to increase or decrease by upto 20% the quantity of GOODS specified in the Material Requisition, without any change in unit price or other terms and conditions. Variation beyond this limit will be subject to mutual agreement between the PURCHASER and the Seller.

39 PURCHASER's Right to Accept Any Bid and To Reject Any or All Bids

39.1 PURCHASER 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 the PURCHASER'S ACTION.

40 Notification of Award/ Fax of Intent / Purchase Order

40.1 Prior to the expiration of period of bid validity, the PURCHASER will notify the successful bidder in writing, by fax or email to be confirmed in writing that his bid has been accepted. The notification of award/ Fax of Intent / Purchase Order will constitute the formation of the Contract.

40.2 Delivery shall be counted from the date of Purchase Order.

40.3 Upon the successful bidder's furnishing of contract performance bank guarantee. Pursuant to ITB Clause-42, the PURCHASER will promptly notify each unsuccessful bidder and will discharge his bid security pursuant of ITB Clause 17.

41 Acceptance of Purchase Order

41.1 PURCHASER will issue the Purchase Order to the successful bidder, who, within 07 days of receipt of the same, shall sign all pages and return the acceptance copy to the PURCHASER.

42 Performance Guarantee

42.1 Unless mentioned in notification of award /Fax of Intent / Purchase Order within 15 days of the receipt of the Delivery Order from the PURCHASER, the successful bidder shall furnish the performance guarantee in accordance with Clause 12 of General Conditions of Contract in the form provided in the bidding documents. The Bank Guarantee/Letter of Credit towards performance guarantee shall be in the currency of the Contract.

42.2 The performance guarantee shall be for an amount equal to 10% of Contract / Purchase Order Value towards faithful performance of the contractual obligations and performance of equipment. This Bank Guarantee/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/letter of Credit shall be valid for a period as-stated in Clause-12 of General Conditions of Contract.

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

43 Income Tax Liability

43.1 The bidder will have to bear all income tax liability, both Corporate as well as for his personnel.

44 Corrupt or Fraudulent Practices:

44.1 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.

SECTION – III
GENERAL CONDITIONS OF CONTRACT
(GCC - GOODS)

1 Definitions

In this document, General Conditions of Contract (GCC-Supply), the following terms shall have the following respective meanings:

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

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

1.3 BIDDER: Designates the individual or legal entity which has made a proposal, a tender or a bid with the aim of concluding a Contract with the PURCHASER.

1.4 CONTRACT shall mean Purchase Order/Contract and all attached exhibits and documents referred to therein and all terms and conditions thereof together with any subsequent modifications thereto.

1.5 CONTRACT PRICE shall mean the price payable to the Seller under the Contract for the full and proper performance of his contractual obligations.

1.6 COMPLETION DATE shall mean the date on which the goods are successfully commissioned by the Seller and handed over to the PURCHASER.

1.7 COMMERCIAL OPERATION shall mean the condition of the operation in which the complete equipment covered under the Contract is officially declared by the PURCHASER to be available for continuous operation at different loads upto and including rated capacity.

1.8 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.

1.9 "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.

1.10 "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.

1.11 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.

1.12 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.

1.13 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.

1.14 "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.

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

1.16 DELIVERY terms shall be interpreted as per INCOTERMS 2010 in case of Contract with a foreign Bidder and as the date of FOT Site in the case of a contract with an Indian Bidder.

1.17 DRAWINGS shall mean and include Engineering drawings, sketches showing plans, sections and elevations in relation to the Contract together with modifications and/or revisions there.

1.18 ENGINEER or Engineer-in-Charge of the Project SITE shall mean the person designated from time to time by PURCHASER at SITE and shall include those who are expressly authorized by him to act for and on his behalf for operation of this CONTRACT.

1.19 FINAL ACCEPTANCE shall mean the PURCHASER’s written acceptance of the Works performed under the Contract after successful completion of performance and guarantee test.

1.20 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.

1.21 GOODS shall mean articles, materials, equipment, design and drawings, data and other property to be supplied by Seller to complete the contract.

1.22 INSPECTOR shall mean any person or outside Agency nominated by PURCHASER/CONSULTANT through CONSULTANT to inspect equipment, stagewise as well as final, before dispatch, at SELLER's works and on receipt at SITE as per terms of the CONTRACT.

1.23 INITIAL OPERATION shall mean the first integral operation of the complete equipment covered under the Contract with subsystems and supporting equipment in service or available for service.

1.24 "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

1.25 "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.

1.26 PURCHASER/EMPLOYER/OWNER/COMPANY/MNGL shall mean MAHARSHRATRA NATURAL GAS LIMITED (MNGL) having its registered office at Pune (Maharashtra) PURCHASER includes successors, assigns of MNGL.

1.27 "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.

1.28 PERFORMANCE AND GUARANTEE TESTS shall mean all operational checks and tests required to determine and demonstrate capacity, efficiency and operating characteristics as specified in the Contract documents.

1.29 PROJECT designates the aggregate of the Goods and/or Services to be provided by one or more Contractors.

Quantities – Bills of quantities
Bills of quantities

Designate the quantity calculations to be taken into account when these calculations are made from detailed or construction drawings, or from work actually performed, and presented according to a jointly agreed breakdown of the Goods and/or Services.

1.30 SELLER/SUPPLIER/CONTRACTOR shall mean the person, firm or company with whom PURCHASE ORDER/AWARD OF WORK/CONTRACT is placed/entered into by PURCHASER for supply of equipment, materials and services. The term Seller includes its successors and assigns.

1.31 SERVICE shall mean erection, installation, testing, commissioning, provision of technical assistance, training and other such obligations of the Seller covered under the Contract.

1.32 SITE designates the land and/or any other premises on, under, in or across which the Goods and/or Services must be supplied, erected, assembled, adjusted, arranged and/or commissioned.

1.33 SPECIFICATIONS shall mean and include schedules, details, description, statement of technical data, performance characteristics, standards (Indian as well as International) as applicable and specified in the Contract.

1.34 SUB-CONTRACT shall mean order placed by the Seller, for any portion of the contracted work, after necessary consent and approval of PURCHASER.

1.35 SUB-CONTRACTOR shall mean the person named in the CONTRACT for any part of the work or any person to whom any part of the CONTRACT has been sub-let by the SELLER with the consent in writing of the CONSULTANT/PURCHASER and will include the legal representatives, successors, and permitted assigns of such person.

1.36 START-UP shall mean the time period required to bring the equipments covered under the Contract from an inactive condition, when construction is essentially complete to the state of readiness for trial operation. The start-up period shall include preliminary inspection and check out of equipment and supporting subsystems, initial operation of the complete equipments covered under the Contract to obtain necessary pre-trial operation data, perform calibration and corrective action, shutdown inspection and adjustment prior to the trial operation period.

1.37 TESTS shall mean such process or processes to be carried out by the Seller as are prescribed in the Contract or considered necessary by PURCHASER or his representative in order to ascertain quality, workmanship, performance and efficiency of equipment or part thereof.

1.38 TESTS ON COMPLETION shall mean such tests as prescribed in the Contract to be performed by the Seller before the Works are taken over by the PURCHASER.

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

1.40 "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.

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

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

1.43 "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.

2 Seller to Inform

2.1 The Seller shall be deemed to have carefully examined all contract documents to his entire satisfaction. Any lack of information shall not in any way relieve the Seller of his responsibility to fulfill his obligation under the Contract.

3 Application

3.1 These General Conditions of Contract (GCC-Supply) shall apply to the extent that they are not superseded by provisions of other parts of the Contract.

4 Country of Origin

4.1 For purposes of this Clause "origin" means the place where the Goods were mined, grown or produced, or from which the services are supplied. Goods are produced when, through manufacturing, processing or substantial and major assembling of components, a commercially recognized new product results that is substantially different in basic characteristics or in purpose or utility from its components.

5 Scope of Contract

5.1 Scope of the CONTRACT shall be as defined in the PURCHASE ORDER/CONTRACT specifications, drawings and Annexure thereto.

5.2 Completeness of the EQUIPMENT shall be the responsibility of the SELLER. Any equipment, fittings and accessories which may not be specifically mentioned in the specifications or drawings, but which are usual or necessary for the satisfactory functioning of the equipment (successful operation and functioning of the EQUIPMENT being SELLER's responsibility) shall be provided by SELLER without any extra cost.

5.3 The SELLER shall follow the best modern practices in the manufacture of high-grade EQUIPMENT notwithstanding any omission in the specifications. The true intent and meaning of these documents is that SELLER shall in all respects, design, engineer, manufacture and supply the equipment in a thorough workmanlike manner and supply the same in prescribed time to the entire satisfaction of PURCHASER.

5.4 The SELLER shall furnish six (6) copies in English language of technical documents, final drawings, preservation instructions, operation and maintenance manuals, test certificates, spare parts catalogues for all equipments to the PURCHASER.

5.5 The documents once submitted by the SELLER shall be firm and final and not subject to subsequent changes. The SELLER shall be responsible for any loss to the PURCHASER/CONSULTANT consequent to furnishing of incorrect data/drawings.

5.6 All dimensions and weight should be in metric system.

5.7 All equipment to be supplied and work to be carried out under the CONTRACT shall conform to and comply with the provisions of relevant regulations / Acts (State Government or Central Government) as may be applicable to the type of equipment/work carried out and necessary certificates shall be furnished.

5.8 The Seller shall provide cross sectional drawings, wherever applicable, to identify the spare part numbers and their location. The size of bearings, their make and number shall be furnished.

5.9 Specifications, design and drawings issued to the SELLER alongwith RFQ and CONTRACT are not sold or given but loaned. These remain property of PURCHASER or its assigns and are subject to recall by PURCHASER. The SELLER and his employees shall not make use of the drawings, specifications and technical information for any purpose at any time except for manufacture against the CONTRACT and shall not disclose the same to any person, firm or corporate body, without written permission of PURCHASER. All such details shall be kept confidential.

5.10 SELLER shall pack, protect, mark and arrange for despatch of EQUIPMENT as per instructions given in the CONTRACT.

6 Standards

6.1 The GOODS supplied under the CONTRACT shall conform to the standards mentioned in the Technical Specifications, or such other standards which ensure equal or higher quality, and when no applicable standard is mentioned, to the authoritative standard appropriate to the GOODS' country of origin and such standards shall be the latest issued by the concerned institution.

7 Instructions, Direction & Correspondence

7.1 The materials described in the CONTRACT are to be supplied according to the standards, data sheets, tables, specifications and drawings attached thereto and/or enclosed with the CONTRACT, itself and according to all conditions, both general and specific enclosed with the contract, unless any or all of them have been modified or cancelled in writing as a whole or in part.

a. All instructions and orders to SELLER shall, excepting what is herein provided, be given by PURCHASER.

b. All the work shall be carried out under the direction of and to the satisfaction of PURCHASER.

c. All communications including technical/commercial clarifications and/or comments shall be addressed to PURCHASER and shall always bear reference to the CONTRACT.

d. Invoices for payment against CONTRACT shall be addressed to PURCHASER.

e. The CONTRACT number shall be shown on all invoices, communications, packing lists, containers and bills of lading, etc.

8 Contract Obligations

8.1 If after award of the contract, the Seller does not acknowledge the receipt of award or fails to furnish the performance guarantee within the prescribed time limit, the PURCHASER reserves the right to cancel the contract and apply all remedies available to him under the terms and conditions of this contract.

8.2 Once a contract is confirmed and signed, the terms and conditions contained therein shall take precedence over the Seller's bid and all previous correspondence.

9 Modification in Contract

9.1 All modifications leading to changes in the CONTRACT with respect to technical and/or commercial aspects including terms of delivery, shall be considered valid only when accepted in writing by PURCHASER by issuing amendment to the CONTRACT. Issuance of acceptance or otherwise in such cases shall not be any ground for extension of agreed delivery date and also shall not affect the performance of contract in any manner except to the extent mutually agreed through a modification of contract.

9.2 PURCHASER shall not be bound by any printed conditions or provisions in the SELLER's Bid Forms or acknowledgment of CONTRACT, invoices, packing list and

other documents which purport to impose any conditions at variance with or supplemental to CONTRACT.

10 Use of Contract Documents & Information

10.1 The Seller shall not, without the PURCHASER's prior written consent, disclose the CONTRACT or any provision thereof, or any specification, plan, drawing, pattern, sample or information furnished by or on behalf of the PURCHASER in connection therewith, to any person other than a person employed by the SELLER in the performance of the CONTRACT. Disclosure to any such employed person shall be made in confidence and shall extend only so far as may be necessary for purpose of such performance.

10.2 The SELLER shall not, without the PURCHASER's prior written consent, make use of any document or information enumerated in Article 10.1 except for purpose of performing the CONTRACT.

11 Patent Rights, Liability & Compliance of Regulations

11.1 SELLER hereby warrants that the use or sale of the materials delivered hereunder will not infringe claims of any patent covering such material and SELLER agrees to be responsible for and to defend at his sole expense all suits and proceedings against PURCHASER based on any such alleged patent infringement and to pay all costs, expenses and damages which PURCHASER may have to pay or incur by reason of any such suit or proceedings.

11.2 The SELLER shall indemnify the PURCHASER against all third-party claims of infringement of patent, trademark or industrial design rights arising from use of the GOODS or any part thereof in the PURCHASER's country.

11.3 SELLER shall also protect and fully indemnify the PURCHASER from any claims from SELLER'S workmen/employees or their heirs, dependants, representatives, etc. or from any other person/persons or bodies/companies etc. for any acts of commissions or omission while executing the CONTRACT.

11.4 SELLER shall be responsible for compliance with all requirements under the laws and shall protect and indemnify completely the PURCHASER from any claims/penalties arising out of any infringements.

12 Performance Guarantee

12.1 Within 15 days after the SELLER's receipt of Purchase Order, the SELLER shall furnish Performance Guarantee in the form of Bank Guarantee/Demand Draft / irrevocable Letter of Credit to the PURCHASER, in the form provided in the Bidding Documents, for an amount equivalent to 10% of Contract / Purchase Order Value.

12.2 The proceeds of Performance Guarantee shall be appropriated by the PURCHASER as compensation for any loss resulting from the SELLER's failure to complete his obligations under the CONTRACT without prejudice to any of the

rights or remedies the PURCHASER may be entitled to as per terms and conditions of CONTRACT. The proceeds of this Performance Guarantee shall also govern the successful performance of Goods and Services during the entire period of Contractual Warrantee/Guarantee.

12.3 The performance guarantee shall be denominated in the currency of the CONTRACT.

12.4 The Performance Guarantee shall be valid for the duration of 90 days beyond the expiry of Warrantee/Guarantee period. The Bank Guarantee will be discharged by PURCHASER not later than 6 months from the date of expiration of the Seller's entire obligations, including any warranty obligations, under the CONTRACT.

13 Inspection, Testing & Expediting

13.1 The PURCHASER or its representative shall have the right to inspect and/or to test the GOODS to confirm their conformity to the CONTRACT specifications. The special conditions of CONTRACT and/or the Technical Specifications shall specify what inspections and tests the PURCHASER requires and where they are to be conducted. The PURCHASER shall notify the SELLER in writing the identity of any representative(s) retained for these purposes.

13.2 The inspections and tests may be conducted on the premises of the SELLER or his sub-contractor(s), at point of DELIVERY and/or at the GOODS' final destination. When conducted on the premises of the SELLER or his sub-contractor (s), all reasonable facilities and assistance including access to the drawings and production data shall be furnished to the inspectors at no charge to the PURCHASER.

13.3 Should any inspected or tested GOODS fail to conform to the specifications, the PURCHASER may reject them, and the SELLER shall either replace the rejected GOODS or make all alterations necessary to meet Specifications' requirements, free of cost to the PURCHASER.

13.4 The PURCHASER's right to inspect, test and where necessary reject the GOODS after the GOODS' arrival in the PURCHASER's country shall in no way be limited or waived by reason of the GOODS having previously been inspected, tested and passed by the PURCHASER, or their representative prior to the GOODS shipment from the country of origin.

13.5 The INSPECTOR shall follow the progress of the manufacture of the GOODS under the CONTRACT to ensure that the requirements outlined in the CONTRACT are not being deviated with respect to schedule and quality.

13.6 SELLER shall allow the INSPECTOR to visit, during working hours, the workshops relevant for execution of the CONTRACT during the entire period of CONTRACT validity.

13.7 In order to enable PURCHASER's representatives to obtain entry visas in time, SELLER shall notify PURCHASER two months before assembly, testing and packing of main EQUIPMENT. If requested, SELLER shall assist PURCHASER's representatives in getting visas in the shortest possible time (applicable only in case of foreign order).

13.8 SELLER shall place at the disposal of the INSPECTOR, free of charge, all tools, instruments, and other apparatus necessary for the inspection and/or testing of the GOODS. The INSPECTOR is entitled to prohibit the use and dispatch of GOODS and/or materials which have failed to comply with the characteristics required for the GOODS during tests and inspections.

13.9 SELLER shall advise in writing of any delay in the inspection program at the earliest, describing in detail the reasons for delay and the proposed corrective action.

13.10 ALL TESTS and trials in general, including those to be carried out for materials not manufactured by SELLER shall be witnessed by the INSPECTOR. Therefore, SELLER shall confirm to PURCHASER by fax or e-mail about the exact date of inspection with at least 30 days notice. SELLER shall specify the GOODS and quantities ready for testing and indicate whether a preliminary or final test is to be carried out.

13.11 If on receipt of this notice, PURCHASER should waive the right to witness the test, timely information will be given accordingly.

13.12 Any and all expenses incurred in connection with tests, preparation of reports and analysis made by qualified laboratories, necessary technical documents, testing documents and drawings shall be at SELLER's cost. The technical documents shall include the reference and numbers of the standards used in the construction and, wherever deemed practical by the INSPECTOR, copy of such standards.

13.13 Nothing in Article-13 shall in any way release the SELLER from any warrantee or other obligations under this CONTRACT.

13.14 Arrangements for all inspections required by Indian Statutory Authorities and as specified in technical specifications shall be made by SELLER.

13.15 Inspection & Rejection of Materials by consignees
When materials are rejected by the consignee, the supplier shall be intimated with the details of such rejected materials, as well as the reasons for their rejection, also giving location where such materials are lying at the risk and cost of the contractor/supplier. The supplier will be called upon either to remove the materials or to give instructions as to their disposal within 14 days and in the case of dangerous, infected and perishable materials within 48 hours, failing which the consignee will either return the materials to the contractor freight to pay or otherwise dispose them off at the contractor's risk and cost. The PURCHASER

shall also be entitled to recover handling and storage charges for the period, during which the rejected materials are not removed @ 5% of the value of materials for each month or part of a month till the rejected materials are finally disposed off.

14 Time Schedule & Progress Reporting

14.1 Time Schedule Network/Bar Chart

14.1.1 Together with the Contract confirmation, SELLER shall submit to PURCHASER, his time schedule regarding the documentation, manufacture, testing, supply, erection and commissioning of the GOODS.

14.1.2 The time schedule will be in the form of a network or a bar chart clearly indicating all main or key events regarding documentation, supply of raw materials, manufacturing, testing, delivery, erection and commissioning.

14.1.3 The original issue and subsequent revisions of SELLER's time schedule shall be sent to PURCHASER.

14.1.4 The time schedule network/bar chart shall be updated at least every second month.

14.2 Progress Trend Chart/Monthly Report

14.2.1 SELLER shall report monthly to PURCHASER, on the progress of the execution of CONTRACT and achievement of targets set out in time bar chart.

14.2.2 The progress will be expressed in percentages as shown in the progress trend chart attached to the Time Schedule specification.

14.2.3 The first issue of the Progress Trend Chart will be forwarded together with the time bar chart along with CONTRACT confirmation.

14.3.1 PURCHASER's representatives shall have the right to inspect SELLER's premises with a view to evaluating the actual progress of work on the basis of SELLER's time schedule documentation.

14.3.2 Irrespective of such inspection, SELLER shall advise PURCHASER, at the earliest possible date of any anticipated delay in the progress.

14.4 Notwithstanding the above, in case progress on the execution of contract at various stages is not as per phased time schedule and is not satisfactory in the opinion of the PURCHASER which shall be conclusive, or SELLER shall neglect to execute the CONTRACT with due diligence and expedition or shall contravene the provisions of the CONTRACT, PURCHASER may give notice of the same in writing to the SELLER calling upon him to make good the failure, neglect or contravention complained of. Should SELLER fail to comply with such notice within the period considered reasonable by PURCHASER, the PURCHASER shall have the option and be at liberty to take the CONTRACT wholly or in part out of the SELLER's

hand and make alternative arrangements to obtain the requirements and completion of CONTRACT at the SELLER's risk and cost and recover from the SELLER, all extra cost incurred by the PURCHASER on this account. In such event PURCHASER shall not be responsible for any loss that the SELLER may incur, and SELLER shall not be entitled to any gain. PURCHASER shall, in addition, have the right to encash Performance Guarantee in full or part.

15 Delivery & Documents

15.1 Delivery of the GOODS shall be made by the SELLER in accordance with terms specified in the CONTRACT, and the goods shall remain at the risk of the SELLER until delivery has been completed.

15.2 Delivery shall be deemed to have been made:

a) In the case of FOB Contracts, when the Goods have been put on board the ship, at the specified port of loading and a clean Bill of Lading is obtained. The date of Bill of Lading shall be considered as the delivery date. However, for CFR & CIF Contracts delivery date will be receipt of goods at Indian Port.

b) In case of FOT despatch point contract (For Indian bidder), on evidence that the goods have been loaded on the carrier and a negotiable copy of the GOODS receipt obtained. The date of LR/GR shall be considered as the date of delivery.

c) In case of FOT site (for Indian bidders) on receipt of goods by PURCHASER at the designated site(s).

15.3 The delivery terms are binding and essential and consequently, no delay is allowed without the written approval of PURCHASER. Any request concerning delay will be void unless accepted by PURCHASER through a modification to the CONTRACT.

15.4 Delivery time shall include time for submission of drawings for approval, incorporation of comments, if any, and final approval of drawings by PURCHASER.

15.5 In the event of delay in delivery, Price Reduction Schedule as stipulated in Article – 26 shall apply.

15.6 The documentation, in English Language, shall be delivered in due time, in proper form and in the required number of copies as specified in the contract.

15.7 The additional copies of final drawings and instructions will be included in the package of goods, properly enveloped and protected.

15.8 The SELLER should comply with the Packing, Marking and Shipping Documentation Specifications enclosed.

16 Transit Risk Insurance

16.1 All goods supplied under the contract shall be fully insured in a freely convertible currency against loss or damage incidental to manufacture or acquisition, transportation, storage and delivery.

16.2 Where delivery is on FOB or CFR basis, marine insurance shall be the responsibility of the Purchaser against the advance information by the contractor with all the details.

Indigenous Bidders : Transit risk insurance till FOT Site shall be arranged and borne by Bidder.

The SELLER shall ensure that in effecting despatch of materials, the primary responsibility of the carriers for safe movement is always retained so that the PURCHASER's interests are fully safeguarded and are in no way jeopardized. The Seller shall furnish the cost of materials against each equipment.

16.2 PURCHASER's Insurance Agent:
[The name and address-as mentioned under SCC]

17 Transportation

17.1 Where the SELLER is required under the CONTRACT to deliver the GOODS FOB, transport of the GOODS until delivery, that is, upto and including the point of putting the GOODS on board the export conveyance at the specified port of loading, shall be arranged and paid for by the SELLER and the cost thereof shall be included in the Contract price.

Where the SELLER is required under the CONTRACT to deliver the GOODS CFR or CIF, transport of the Goods to the port of discharge or such other point in the country of destination as shall be specified in the CONTRACT shall be arranged and paid for by the SELLER and the cost thereof shall be included in the Contract price.

18 Incidental Services

18.1 The Seller may be required to provide any or all of the following services:

18.1.1 Performance or supervision of onsite assembly and/or start-up of the supplied Goods.

18.1.2 Furnishing tools required for assembly and/or maintenance of the supplied Goods.

18.1.3 Performance or supervision or maintenance and/or repair of the supplied Goods, for a period of time agreed by the parties, provided that this service shall not relieve the Seller of any warrantee/guarantee obligations under the Contract.

18.1.4 Training of the Purchaser's personnel at the Seller's plant and/or at Site, in assembly, start-up operation, maintenance and/or repair of the supplied Goods at no extra cost. However, Purchaser will bear boarding, lodging & personal expenses of Trainees.

18.2 Prices charged by the Seller for the preceding incidental services, shall not exceed the prevailing rates charged to other parties by the Seller for similar services.

18.3 When required, Seller shall depute necessary personnel for supervision and/or erection of the Equipment at site for duration to be specified by Purchaser on mutually agreed terms. Seller's personnel shall be available at Site within seven days for emergency action and twenty-one days for medium and long-term assistance, from the date of notice given by Purchaser.

18.4 The cost of incidental services shall not be included in the quoted prices. The cost of applicable incidental services should be shown separately in the price schedules.

19 Spare Parts, Maintenance Tools, Lubricants

19.1 Seller may be required to provide any or all the following materials and notification pertaining to spare parts manufactured or distributed by the Seller.

19.1.1 Such spare parts as the Purchaser may opt to purchase from the Seller, provided that his option shall not relieve the Seller of any warrantee obligations under the Contract, and

19.1.2 In the event of termination of production of the spare parts:

i) Advance notification to the Purchaser of the pending termination, in sufficient time to permit the Purchaser to procure needed requirements, and

ii) Following such termination, furnishing at no cost to the Purchaser, the blueprints, drawings, and specifications of the spare parts, if any when requested.

19.2 Seller shall supply item wise list with value of each item of spare parts and maintenance tools requirements, along with full details of manufacturers/vendors for such spares/maintenance tools for:

19.2.1 The construction, execution, and commissioning.

19.2.2 2 years' operation and maintenance.

19.3 Spare parts shall be new and of first-class quality as per engineering standards/ codes, free of any defects (even concealed), deficiency in design, materials and workmanship and also shall be completely interchangeable with the corresponding parts.

19.4 Type and sizes of bearings shall be clearly indicated.

19.5 Spare parts shall be packed for long storage under tropical climatic conditions in suitable cases, clearly marked as to intended purpose.

19.6 A list of special tools and gauges required for normal maintenance and special handling and lifting appliances, if any, for the Goods shall be submitted to Purchaser.

19.7 Bidders should note that if they do not comply with Clause 19.2 above, their quotation may be rejected.

19.8 Lubricants

19.8.1 Whenever lubricants are required, Seller shall indicate the quantity of lubricants required for the first filling, the frequency of changing, the quantity of lubricants required for the one year's continuous operation and the types of recommended lubricants indicating the commercial name (trademark), quality and grade.

19.8.2 If Seller is unable to recommend specific oil, basic recommended characteristics of the lubricants shall be given.

19.8.3 Seller shall indicate various equivalent lubricants available in India.

20 Guarantee

20.1 All Goods or Materials shall be supplied strictly in accordance with the specifications, drawings, data sheets, other attachments and conditions stated in the Contract.

No deviation from such specifications or alterations or of these conditions shall be made without PURCHASER'S agreement in writing which must be obtained before any work against the order is commenced. All materials supplied by the SELLER pursuant to the Contract (irrespective of whether engineering, design data or other information has been furnished, reviewed or approved by PURCHASER) are guaranteed to be of the best quality of their respective kinds (unless otherwise specifically authorised in writing by PURCHASER) and shall be free from faulty design, workmanship and materials, and to be of sufficient size and capacity and of proper materials so as to fulfill in all respects all operating conditions, if any, specified in the Contract.

If any trouble or defect, originating with the design, material, workmanship or operating characteristics of any materials, arises at any time prior to twelve (12) months from the date of the commercial operation of the Plant for which the materials supplied under the Contract form a part thereof, or twenty-four (24) months from the date of last shipment whichever period shall first expire, and the SELLER is notified thereof, SELLER shall, at his own expense and as promptly as possible, make such alterations, repairs and replacements as may necessary to permit the materials to function in accordance with the specifications and to fulfil the foregoing guarantees.

PURCHASER may, at his option, remove such defective materials, at SELLER'S expense in which event SELLER shall, without cost to PURCHASER and as promptly as possible, furnish and install proper materials. Repaired or replaced

materials shall be similarly guaranteed by the SELLER for a period of not less than twelve (12) months from the date of replacement/repair.

If the materials supplied do not meet the specifications and/or not in accordance with the drawings data sheets or the terms of the Contract and rectification is required at site, PURCHASER shall notify the SELLER giving full details of differences. The SELLER shall attend the site within seven (7) days of receipt of such notice to meet and agree with representatives of PURCHASER, the action required to correct the deficiency. Should the SELLER fail to attend meeting at Site within the time specified above, PURCHASER shall immediately rectify the work/materials and SELLER shall reimburse PURCHASER all costs and expenses incurred in connection with such trouble or defect.

20.2 PERFORMANCE GUARANTEE OF EQUIPMENT

20.2.1 SELLER shall guarantee that the performance of the EQUIPMENT supplied under the CONTRACT shall be strictly in conformity with the specifications and shall perform the duties specified under the CONTRACT.

20.2.2 If the SELLER fails to prove the guaranteed performance of the EQUIPMENT set forth in the specification, the SELLER shall investigate the causes and carry out necessary rectifications /modifications to achieve the guaranteed performance. In case the SELLER fails to do so within a reasonable period, the SELLER shall replace the EQUIPMENT and prove guaranteed performance of the new equipment without any extra cost to PURCHASER.

20.2.3 If the SELLER fails to prove the guarantee within a reasonable period, PURCHASER shall have the option to take over the EQUIPMENT and rectify, if possible, the EQUIPMENT to fulfil the guarantees and/or to make necessary additions to make up the deficiency at Seller's risk and cost. All expenditure incurred by the PURCHASER in this regard shall be to SELLER's account.

21 Terms of Payment

21.1 The method of payment to be made to the SELLER under this CONTRACT shall be specified in the Special Conditions of Contract.

21.2 The type(s) of payment to be made to the SELLER under this CONTRACT shall be specified in the Special Conditions of Contract.

21.3 The SELLER's request(s) for payment shall be made to the PURCHASER in writing accompanied by an invoice describing, as appropriate, the Goods delivered and services performed, and by shipping documents submitted, and upon fulfillment of other obligations stipulated in the Contract.

21.4 Payment will be made in the currency or currencies in which the Contract Price has been stated in the SELLER's bid, as well as in other currencies in which the SELLER had indicated in his bid that he intends to incur expenditure in the performance of the Contract and wishes to be paid. If the requirements are stated

as a percentage of the bid price along with exchange rates used in such calculations these exchange rates shall be maintained.

General Notes:

1. All foreign currency payments to foreign bidder shall be released through an irrevocable Letter of Credit, which shall be opened through Government of India Nationalized Bank and hence shall not be confirmed. In case any bidder insists on confirmation, charges towards confirmation shall be borne by him. L/C shall be established within 30 days after receipt of unconditional acceptance of Letter /Fax of Intent together with Performance Guarantee for 10% of Contract / Purchase Order Value.
2. For dispatches on FOT dispatch point (in India) basis, the payment shall be through PURCHASER's bank. Payment through Bank, wherever applicable, shall be released as per normal banking procedures.
3. Payment shall be released within 45 days after receipt of relevant documents complete in all respects.
4. All bank charges incurred in connection with payments shall be to the Seller's account in case of Indian bidders and to the respective accounts in case of foreign bidders.
5. Unless otherwise specifically stated in bid document, all payments shall be made in the currency quoted.
6. No interest charges for delay in payments, if any, shall be payable by PURCHASER.
7. In case of Indian bidder, variation, if any, on account of customs duty on their built-in import content, as per terms of bid document, shall be claimed separately by bidder after receipt of goods at site (s). However, any price benefits to the PURCHASER, on account of such variation as per terms specified in the bidding document, shall be passed on to the PURCHASER along with invoicing itself.
8. Agency commission, if any, to Indian agent for foreign bidders, indicated in prices, shall be paid to the agent in equivalent Indian Rupees on receipt and acceptance of material at site.

22 Prices

22.1 Prices charged by the SELLER for Goods delivered and services performed under the CONTRACT shall not, with the exception of any price adjustments authorized by the Contract vary from the prices quoted by the SELLER in his bid.

23 Subletting & Assignment

23.1 The contractor shall not without previous consent in writing of the PURCHASER authority, sublet, transfer, or assign the contract or any part thereof or interest therein or benefit or advantage thereof in any manner whatsoever. Provided, nevertheless, that any such consent shall not relieve the contractor from any obligation, duty or responsibility under the contract.

24 Time as Essence of Contract

24.1 The time and date of delivery/completion of the GOODS/SERVICES as stipulated in the Contract shall be deemed to be the essence of the Contract.

25 Delays in The Seller's Performance

25.1 If the specified delivery schedule is not adhered to or the progress of manufacture or supply of the items is not satisfactory or is not in accordance with the progress schedule the PURCHASER has the right to:

i) hire for period of delay from elsewhere goods which in PURCHASER's opinion will meet the same purpose as the goods which are delayed, and SELLER shall be liable without limitation for the hire charges; or

ii) cancel the CONTRACT in whole or in part without liability for cancellation charges. In that event, PURCHASER may procure from elsewhere goods which PURCHASER's opinion would meet the same purpose as the goods for which CONTRACT is cancelled and SELLER shall be liable without limitations for the difference between the cost of such substitution and the price set forth in the CONTRACT for the goods involved; or

iii) hire the substitute goods vide (I) above and if the ordered goods continue to remain undelivered thereafter, cancel the order in part or in full vide (ii) above.

25.2 Any inexcusable delay by the SELLER or his sub-contractor shall render the SELLER liable, without prejudice to any other terms of the Contract, to any or all of the following sanctions:
forfeiture of Contract performance guarantee, imposition of price reduction for delay in delivery and termination of the contract for default.

26 Price Reduction Schedule for Delayed Delivery

26.1 Subject to Article -29, if the SELLER fails to deliver any or all of the GOODS or performance of the services within the time period (s) specified in the CONTRACT, the PURCHASER shall, without prejudice to his other remedies under the CONTRACT, deduct from the CONTRACT PRICE, a sum calculated on the basis of the CONTRACT PRICE, including subsequent modifications.

26.1.1 Deductions shall apply as per following formula:
In case of delay in delivery of equipment/materials or delay in completion, total contract price shall be reduced by ½% (half per cent) of the total contract price per complete week of delay or part thereof, subject to a maximum of 10% (Ten Per cent) of the total contract price.

26.2 In case of delay in delivery on the part of Seller, the invoice/document value shall be reduced proportionately for the delay and payment shall be released accordingly.

26.3 In the event the invoice value is not reduced proportionately for the delay, the PURCHASER may deduct the amount so payable by SELLER, from any amount falling due to the SELLER or by recovery against the Performance Guarantee.

Both seller and PURCHASER agree that the above percentages of price reduction are genuine pre estimates of the loss/damage which the PURCHASER would have suffered on account of delay/breach on the part of the SELLER and the said amount will be payable on demand without there being any proof of the actual loss/or damage caused by such breach/delay. A decision of the PURCHASER in the matter of applicability of price reduction shall be final and binding.

Price reduction schedule on failure of pipe under field hydrotest and/ or during guarantee/ warranty period shall be as follows (for pipe supplier):

Pursuant to General Conditions of Contract as per Volume-I and clause 14 (new) of the Technical Specification (No. MNGL/LINEPIPE/TS/00), owner shall be reimbursed by the successful bidders for any pipe supplied against this order that fails under field hydrostatic test and/ or during guarantee/ warranty period, if such failure is caused by a defect in pipes which is outside the acceptance limits of the specifications. The reimbursement cost will be the landed cost of the defective pipes including all cost incurred up to delivery thereof at site and shall also include but not limited to cost of all duties, freight, insurance, labor, material, charges for cutting, removing, re-coating, replacement and relaying of defective pipeline including cost of incidental activities as well as losses suffered by MNGL. The recovery cost shall be calculated at actual but will be subject to the minimum values given below. Recovery shall be applied on the actual or minimum pre-determined rate, whichever is higher. The minimum pre-determined rate shall not need any justification. The minimum pre-determined reimbursement cost of each pipe shall be as under: -

i) Rs. 20,00,000/- (Rs. Twenty Lacs only) for bidder quoting in Indian Rupees.

The above cost shall be for each pipe, payable by the vendor to the Owner on demand without necessity of any proof of replacement/ reimbursement cost. Further, in case, the amount payable by the vendor to MNGL become more than what can be adjusted through price reduction, MNGL may recover at its discretion through deduction from any payment due or becomes due to the contractor or by encashing the Bank Guarantee(s) furnished by contractor, the unrecovered part of such payment will be paid by the contractor to MNGL within 15 days of date of notification by MNGL to him.

In the event of conflict between the stipulations of this article and anything contained in the Technical Specification (Material Requisition), the stipulations of this article shall govern.

Necessary tests to establish cause of failure of pipes shall be carried out at Welding Research Institute, Trichi, India and shall be binding on both MNGL and the pipe supplier.

27 Rejections, Removal of Rejected Equipment & Replacement

27.1 Preliminary inspection at SELLER's works by INSPECTOR shall not prejudice PURCHASER's claim for rejection of the EQUIPMENT on final inspection at SITE or claims under warranty provisions.

27.2 If the EQUIPMENTS are not of specification or fail to perform specified duties or are otherwise not satisfactory the PURCHASER shall be entitled to reject the EQUIPMENT/MATERIAL or part thereof and ask free replacement within reasonable time, failing which to obtain his requirements from elsewhere at SELLER's cost and risk.

27.3 Nothing in this clause shall be deemed to deprive the PURCHASER AND/OR AFFECT ANY rights under the Contract which it may otherwise have in respect of such defects or deficiencies or in any way relieve the SELLER of his obligations under the Contract.

27.4 EQUIPMENT rejected by the PURCHASER shall be removed by the Seller at his cost within 14 days of notice after repaying the amounts received against the SUPPLY. The PURCHASER shall in no way be responsible for any deterioration or damage to the EQUIPMENT under any circumstances whatsoever.

27.5 In case of rejection of EQUIPMENT, PURCHASER shall have the right to recover the amounts, if any, from any of CONTRACTOR'S invoices pending with PURCHASER or by alternative method(s).

28 Termination of Contract

28.1 Termination for Default

28.1.1 The PURCHASER may, without prejudice to any other remedy for breach of CONTRACT, by written notice of default sent to the SELLER, terminate the CONTRACT in whole or in part:

A) If the SELLER fails to deliver any or all of the GOODS within the time period(s) specified in the CONTRACT; or

B) If the SELLER fails to perform any other obligation(s) under the CONTRACT, and

C) If the SELLER, in either of the above circumstances, does not cure his failure within a period of 30 days (or such longer period as the PURCHASER may authorize in writing) after receipt of the default notice from the PURCHASER.

28.1.2 In the event the PURCHASER terminates the CONTRACT in whole or in part, pursuant to Article 28.1.1, the PURCHASER may procure, upon such terms and in such manner as it deems appropriate, goods similar to those undelivered and the SELLER shall be liable to the PURCHASER for any excess costs for such similar GOODS. However, the SELLER shall continue performance of the CONTRACT to the extent not terminated.

28.1.3 In case of termination of CONTRACT herein set forth (under clause 28) except under conditions of Force Majeure and termination after expiry of contract, the VENDOR shall be put under holiday [i.e. neither any enquiry will be issued to the party by MAHARSHRATRA 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 VENDOR (as a bidder) has not been finalized] for three years from the date of termination by MAHARSHRATRA NATURAL GAS LIMITED to such VENDOR.

28.2 Termination for Insolvency

The PURCHASER, may at any time, terminate the CONTRACT by giving written notice to the SELLER, without compensation to the SELLER, if the SELLER becomes bankrupt or otherwise insolvent, provided that such termination will not prejudice or affect any right of action or remedy which has accrued or will accrue thereafter to the PURCHASER.

28.3 Termination for Convenience

28.3.1 The PURCHASER may, by written notice sent to the SELLER, terminate the CONTRACT, in whole or part, at any time for his convenience. The notice of termination shall specify that termination is for the PURCHASER's convenience, the extent to which performance of work under the CONTRACT is terminated and the date upon which such termination becomes effective.

28.3.2 The GOODS that are complete and ready for shipment within 30 days after the SELLER's receipt of notice of termination shall be purchased by the PURCHASER at the CONTRACT terms and prices. For the remaining GOODS, the PURCHASER may opt for:

a) to have any portion completed and delivered at the CONTRACT terms and prices, and /or

b) to cancel the remainder and pay to the SELLER an agreed amount for partially completed GOODS and for materials and parts previously procured by the SELLER.

29 Force Majeure

29.1 Shall mean and be limited to the following:

a) War/hostilities

b) Riot or Civil commotion

c) Earthquake, flood, tempest, lightening or other natural physical disaster.

d) Restrictions imposed by the Government or other Statutory bodies which prevents or delays the execution of the Contract by the SELLER.

The SELLER shall advise PURCHASER/CONSULTANT by a registered letter duly certified by the local Chamber of Commerce or statutory authorities, the beginning and end of the above causes of delay within seven (7) days of the occurrence and cessation of such Force Majeure Conditions. In the event of delay lasting over one month, if arising out of causes of Force Majeure, PURCHASER reserves the right

to cancel the Contract and the provisions governing termination stated under Article 28.0 shall apply.

For delays arising out of Force Majeure, the SELLER shall not claim extension in completion date for a period exceeding the period of delay attributable to the causes of Force Majeure and neither PURCHASER/CONSULTANT nor SELLER shall be liable to pay extra costs provided it is mutually established that Force Majeure Conditions did actually exist.

SELLER shall categorically specify the extent of Force Majeure Conditions prevalent in their works at the time of submitting their bid and whether the same have been taken into consideration or not in their quotations. In the event of any force majeure cause, the SELLER or the PURCHASER shall not be liable for delays in performing their obligations under this order and the delivery dates will be extended to the SELLER without being subject to price reduction for delayed deliveries, as stated elsewhere.

30 Resolution of Disputes/Arbitration

30.1 The PURCHASER and the SELLER shall make every effort to resolve amicably by direct informal negotiations any disagreement or dispute arising between them under or in connection with the contract.

30.2 If, after thirty days from the commencement of such informal negotiations, the PURCHASER and the SELLER have been unable to resolve amicably a Contract dispute, either party may require that the dispute be referred for resolution to the formal mechanism as specified hereunder.

30.3 The Contract shall be, in all respects be construed and operated as an Indian Contract and in accordance with Indian Laws as in force for the time being and is subject to and referred to the Court of Law situated at Pune.

30.4 Arbitration

All disputes, controversies, or claims between the parties (except in matters where the decision of the Engineer-in-Charge is deemed to be final and binding) which cannot be mutually resolved within a reasonable time shall be referred to Arbitration by a sole arbitrator.

The PURCHASER (MNGL) shall suggest a panel of three independent and distinguished persons to the Seller to select anyone among them to act as the sole Arbitrator.

In the event of failure of the Seller to select the Sole Arbitrator within 30 days from the receipt of the communication suggesting the panel of arbitrators, the right of selection of Sole Arbitrator by the other party shall stand forfeited and the PURCHASER shall have discretion to proceed with the appointment of the Sole Arbitrator. The decision of the PURCHASER on the appointment of Sole Arbitrator shall be final and binding on the parties.

The award of the 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. All matters relating to this contract are subject to the exclusive jurisdiction of the courts situated at Pune. Subject to the above, the provisions of (Indian) Arbitration & Conciliation Act, 1996 and the rules framed thereunder shall be applicable. All matters relating to this contract are subject to the exclusive jurisdiction of the Courts situated at Pune, Maharashtra, India.

31 Governing Language

31.1 The Contract shall be written in English language as specified by the PURCHASER in the Instruction to Bidders. All literature, correspondence and other documents pertaining to the Contract which are exchanged by the parties shall be written in English language. Printed literature in other language shall only be considered, if it is accompanied by an English translation. For the purposes of interpretation, English translation shall govern and be binding on all parties.

32 Notices

32.1 Any notice given by one party to the other pursuant to the Contract shall be sent in writing or by telegram or fax, telex/cable confirmed in writing.

32.2 A notice shall be effective when delivered or on the notice's effective date, whichever is later.

33 Taxes & Duties

33.1 A foreign Seller shall be entirely responsible for all taxes, stamp duties, license fees, and other such levies imposed outside the PURCHASER's country.

33.2 A domestic Seller shall be entirely responsible for all taxes, duties, license fees etc. incurred until the delivery of the contracted goods to the PURCHASER. However, Sales Tax and Excise duty on finished products shall be reimbursed by PURCHASER.

33.3 Customs duty payable in India for imported goods ordered by PURCHASER on foreign Seller shall be borne and paid by PURCHASER.

33.4 Any income tax payable in respect of supervisory services rendered by foreign Seller under the Contract shall be as per the Indian Income Tax Act and shall be borne by SELLER.

34 Books & Records

34.1 SELLER shall maintain adequate books and records in connection with Contract and shall make them available for inspection and audit by PURCHASER/CONSULTANT or their authorized agents or representatives during the terms of Contract until expiry of the performance guarantee. Fixed price (lumpsum or unit price) Contract will not be subject to audit as to cost except for

cost reimbursable items, such as escalation and termination claims, transportation and comparable requirements.

35 Permits & Certificates

35.1 SELLER shall procure, at his expense, all necessary permits, certificates and licenses required by virtue of all applicable laws, regulations, ordinances and other rules in effect at the place where any of the work is to be performed, and SELLER further agrees to hold PURCHASER and/or CONSULTANT harmless from liability or penalty which might be imposed by reason of any asserted or established violation of such laws, regulations, ordinances or other rules. PURCHASER will provide necessary permits for SELLER's personnel to undertake any work in India in connection with Contract.

36 General

36.1 In the event that terms and conditions stipulated in the General Conditions of Contract should deviate from terms and conditions stipulated in the Contract, the latter shall prevail.

36.2 Losses due to non-compliance of Instructions Losses or damages occurring to the PURCHASER owing to the SELLER's failure to adhere to any of the instructions given by the PURCHASER in connection with the contract execution shall be recoverable from the SELLER.

36.3 Recovery of sums due
All costs, damages or expenses which the PURCHASER may have paid, for which under the CONTRACT SELLER is liable, may be recovered by the PURCHASER (he is hereby irrevocably authorized to do so) from any money due to or becoming due to the SELLER under this Contract or other Contracts and/or may be recovered by action at law or otherwise. If the same due to the SELLER be not sufficient to recover the recoverable amount, the SELLER shall pay to the PURCHASER, on demand, the balance amount.

36.4 Payments, etc. not to affect rights of the PURCHASER No sum paid on account by the PURCHASER nor any extension of the date for completion granted by the PURCHASER shall affect or prejudice the rights of the PURCHASER against the SELLER or relieve the SELLER of his obligation for the due fulfillment of the CONTRACT.

36.5 Cut-off Dates
No claims or correspondence on this Contract shall be entertained by the PURCHASER after 90 days after expiry of the performance guarantee (from the date of final extension, if any)

36.6 Paragraph heading
The paragraph heading in these conditions shall not affect the construction thereof.

37 Import License

37.1 No import license is required for the imports covered under this document.

38 FALL CLAUSES

38.1 The price charged for the materials supplied under the order by the supplier shall in no event exceed the lowest price at which the supplier or his agent/principal/dealer sells the materials of identical description to any persons/organizations including the Purchaser or any department of the Central Govt. or any Deptt. Of a State Govt. or any Statutory Undertaking of the Central or State Govt. as the case may be, during the currency of the order.

38.2 If at any time during the said period, the supplier, or his agent/principal/dealer, as the case may be, reduces the sale price, sells or offers to sell such materials to any persons/organizations including the Purchaser or any Deptt. Of Central Govt. or State Govt. as the case may be, at a price lower than the price chargeable under the order, he shall forthwith notify such reduction or sale or offer of sale to the Purchase Authority who has issued this order and the price payable under the order for the materials supplied after the date of coming into force of such reduction or sale or offer of sale shall stand correspondingly reduced.

The above stipulation will, however, not apply to:

a) Exports by the Contractor/Supplier or
b) Sale of goods as original equipment at prices lower than the prices charged for normal replacement
c) sale of goods such as drugs which have expiry dates.

38.3 The supplier shall furnish the following certificate to the concerned Paying Authority along with each bill for payment for supplies made against this order:

> "I/We certify that there has been no reduction in sale price of the items/goods/materials of description identical to those supplied to the MNGL under the order herein and such items/ goods/materials have not been offered/sold by me/us to any person/organizations including the Purchaser or any Deptt. Of Central Govt. or any Deptt. Of State Govt. or any Statutory Undertaking of the Central or State Govt. upto the date of bill/during the currency of the order whichever is later, at a price lower than the price charged to the MNGL under the order.

Such a certificate shall be obtained, except for quantity of items/goods/materials categories under sub-clause (a), (b) & (c) of sub-para 38.2 above, of which details shall be furnished by the supplier.

39 Publicity & Advertising

39.1 Seller shall not without the written permission of PURCHASER make a reference to PURCHASER or any Company affiliated with PURCHASER or to the destination or the description of goods or services supplied under the contract in any publication, publicity, or advertising media.

40 Repeat Order:

Not applicable.

41 Limitation of Liability:

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

SECTION - IIIA
FORMS AND FORMATS

FORM F-1
BIDDER'S GENERAL INFORMATION
(Information must be provided on bidder's letterhead)

To,
M/s. MNGL (INDIA) LTD.,
Pride Purple Coronet, 2nd Floor,
Baner Road, Baner, Pune – 411045

1-1 Bidder Name: _____

1-2 Number of Years in Operation: _____

1-3 Address of Registered Office: _____

City_____ District _____

State _____PIN _____

1-4 Operation Address
(If different from above): _____

City_____District _____

State _____PIN _____

1-5 Telephone Number: _____
(Area Code) (Telephone Number)

1-6 Mobile Number, if any _____

1-7 E-mail address: _____

1-8 Website: _____

1-9 Fax Number: _____
(Area Code) (Telephone Number)

1-10 ISO Certification, if any {If yes, please furnish details} _____

1-11 Whether Supplier / Manufacturer
/ Dealer / Trader / Service Provider _____

1-12 Types of material/service provided _____

1-13 Bank's Name: _____

1-14 Bank's Branch: _____

1-15 Branch Code: _____

1-16 Bank account Number: _____

1-17 Account type: _____

1-18 IFSC Code: _____

1-19 MICR Code: _____

1-20 Type of Firm: Proprietary/ Partnership/ PVT/Public Ltd.: _____

1-21 If others, please specify _____

1-22 Details of Directors/ Proprietors/ Partners _____

(Kindly attach separate sheets giving details for names of directors/proprietors and their stakes) along with the supporting documents.

1-23 PAN No.: _____

1-24 EPF No.: _____

1-25 MSME category, if applicable (i) Type of Enterprises: _____

(ii) Social Category of Enterprises: _____

(iii) Gender (Male/Female/Transgender/NA: _____

1-26 GST Registration No.
(If registered) _____

1-27 If unregistered (Reason)

a) Turnover threshold
b) Providing exemption goods/services
c) Others (specify)

(SIGNATURE OF BIDDER WITH SEAL)

Notes:

1 The above-required information is required on the bidder's letterhead.

2 Bidders must submit supporting documents for the above details, including the following:

a. PAN card copy

b. GST certificate copy (of the same state as the office address mentioned above)

c. Cancelled cheque of the bank account mentioned above

(SIGNATURE OF BIDDER WITH SEAL)

FORM F-2
BID BOND PROFORMA

Bank Guarantee No.:
Date:

To,
M/s. MNGL (INDIA) LTD.,
2nd Floor, Pride Purple Coronet,
Baner Road, Baner, Pune – 411045

Dear Sir,

Having examined the Conditions of Contract and Specifications including Addenda Nos. (Insert Numbers) the receipt of which is hereby duly acknowledged, we the undersigned, offer to supply and deliver (Description of Goods and Services) in conformity with the said Drawings, Conditions of Contract and specifications for the same for (as quoted in price bid) or such other sums as may be ascertained in accordance with the Schedule of Prices.

We undertake, if our bid is accepted, complete delivery of ..... as agreed and specified in the IFB document. If our bid is accepted, we will obtain the guarantee of a Bank in a sum not exceeding (10)% of the Contract / Delivery Order price for the due performance of the Contract.

We agree to abide by this bid for a period of 4 (Four) months from the date fixed for bid opening under Instructions to Bidders and it shall remain binding upon us and may be accepted at any time before the expiration of that period.

We have enclosed Bid Security in the form of Demand Draft/ Bank Guarantee in line with Cl. 17 of ITB for_____(amount in figure & words) valid for 6 (Six) months' period as per the requirement of bid document.

Until a formal contract is prepared and executed, this bid, together with your written acceptance thereof in your notification of award (Fax of Intent / Purchase Order) shall constitute a binding Contract between us. We understand that you are not bound to accept the lowest or any bid you may receive.

Dated this Day of 2026

SEAL AND SIGNATURE

In the capacity of Duly authorized to sign bid for and on behalf of

(SIGNATURE OF WITNESS)
WITNESS NAME:
ADDRESS:

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. MNGL (INDIA) LTD.,
2nd Floor, Pride Purple Coronet,
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 MNGL (INDIA) LTD. 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 _____2026__at_____.
WITNESS:

(SIGNATURE)
(NAME)

(OFFICIAL ADDRESS)

(SIGNATURE)
(NAME)
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 along with SWIFT Statement / SFMS Message 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.

FORM F-3A
ANNUAL TURNOVER

The bidder must fill in this form

Annual Turnover data for the last 3 years:

Year	Last three financial year	Amount (in 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 as per audited results.

SEAL AND SIGNATURE OF THE BIDDER

FORM F-3B
FINANCIAL STATUS

The bidder must fill in this form

FINANCIAL DATA FOR LAST AUDITED FINANCIAL YEAR

Description	Amount (in INR)
1. Current assets	
2. Current Liabilities (including secured and unsecured short-term loans & working capital loans)	
3. Working Capital (Current Assets-Current Liabilities)	
4. Net Worth Owners' funds (Paid-up share capital and Free Reserves & Surplus) (NW)	

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

- All such documents reflect the financial situation of the bidder
- 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 periods shall be requested or accepted)

SEAL AND SIGNATURE OF BIDDER

FORM F-4
CHECKLIST FOR AGREED TERMS AND CONDITIONS

Sr. No.	DESCRIPTION	BIDDER'S CONFIRMATION
1.	Price & Delivery Basis	FOT- MNGL Store basis at various Locations
2.	Firm & Fixed Prices (As per Tender document)	Accepted
3.	Supply as per scope defined in the Tender documents	Included
4.	All Taxes, duties, levies, etc. included in price	Included
5.	Packing & Forwarding is Included in unit price	Included
6.	Delivery period (As per Tender document)	Accepted
7.	Guarantee/ Warranty Clause	Accepted
8.	Price Reduction Schedule as per Tender document	Accepted
9.	Term of Payments (As per Tender document)	Accepted
10.	Contract-Cum-Equipment Performance Bank Guarantee to be submitted as per tender document	Accepted
11.	Firm Price - during the entire duration of contact (As per Tender document)	Accepted
12.	Validity of bid & bid security	Accepted
13.	Bid Security (EMD) & Details of EMD	Submitted
14.	Price Quoted as per SOR.	Yes
15.	Deviation / exception Form 5	Yes
16.	Defect Liability Period/ Warranty	Accepted
17.	Goods & Service Tax	Included
18.	General & Special Conditions of Contract & Technical terms and conditions of the Tender	Accepted

Name of the Bidder : M/s.

Signature :

Name :

Designation :

Date : Seal:

FORM F-5
DEVIATION FORM
(On Bidder's letter head)

To,
M/s. MNGL (INDIA) LTD.,
Pride Purple Coronet, 2nd Floor,
Baner Road, Baner, Pune – 411045

Notes:

1) BIDDER may give a consolidated list of deviations/clarifications/comments for all sections of the bid documents which, for an appropriate offer, are considered unavoidable by him.

2) Deviations / clarifications mentioned elsewhere in the offer shall not be binding on the MNGL and any such deviations if indicated elsewhere other than this form will render the offer non-responsive and shall be liable to be rejected.

3) BIDDER shall state the reason for the deviations in the remark column.

4) Only the deviations listed herein, in conjunction with the original Tender shall constitute the contract document for the award of the job to the BIDDER.

5) Any clarification raised by the Purchaser/ Consultant should be resolved within 10 days failing which the bid is liable for rejection.

Sec No./ Clause. No.	Page No.	Requirements as per tender	Deviation by Bidder	Clarification/ Comments by Bidder	Remarks
1)					
2)					
3)					
4)					
5)					
6)					

The bidder confirms that all clauses of the tender document, which are not listed above are fully complied by the bidder.

(Signature of the bidder)

FORM F-6
DECLARATION ON TENDER DOCUMENT DOWNLOADED
(on Bidder's letterhead)

No. Date:

To,
M/s. MNGL (INDIA) LTD.,
Pride Purple Coronet, 2nd Floor,
Baner Road, Baner, Pune – 411045

Subject:

Sir,

We hereby confirm that we have read each page of the subject tender document along with Corrigendum & Reply to bidder's queries thoroughly and understood the complete Scope of Work and other terms & conditions. We hereby also confirm that tender terms & conditions are acceptable to us and any deviation other than those mentioned in Deviation Form F-5 is not to be taken into account.

Yours faithfully,

Signature
Name & Designation
For and on behalf of

FORM F-7
PROFORMA FOR LETTER OF AUTHORITY

No. Date:

To,
M/s. MNGL (INDIA) LTD.,
Pride Purple Coronet, 2nd Floor,
Baner Road, Baner, Pune – 411045

Subject:

Sir,

We _____ hereby authorise following representative (s) to attend the Un-Priced Bid opening and Priced Bid opening against above Bidding Document:

1. Name & Designation _____ Signature _____

2. Name & Designation _____ Signature _____

We confirm that we shall be bound by all and whatsoever our representative(s) shall commit.

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.

FORM F-8
DECLARATION
(on Bidder's letterhead)

To,
M/s. MNGL (INDIA) LTD.,
Pride Purple Coronet, 2nd Floor,
Baner Road, Baner, Pune – 411045

Subject:

We confirm that we are not under any liquidation, court receivership or similar proceedings.

We also confirm that we have not been put on Black / Holiday list by MNGL / MoP&NG / Oil Public Sector Enterprise(s) for any forgery, Corrupt or Fraudulent Practice or unethical behaviour.

SEAL AND SIGNATURE OF BIDDER

FORM F-9
DETAILS OF LITIGATION
(on Bidder's letterhead)

Bidder shall furnish details of litigation cases of the bidder during the last 5 years, if any, in this Form.

FORM F-10
COVERING LETTER
(ON LETTERHEAD)

Date:

To,

Subject: Certificate regarding.....

Dear Sir,

We..... (Name of the Statutory Auditor/Chartered Accountant) are the Statutory Auditor/Chartered Accountant of M/s..... (Name of the bidder).

We hereby confirm that we have issued following certificate:

1.

2.

3.

Thanking You,

Place:

Date:

(Signature)

Name of Authorised Signatory
Membership No.

Encl.: As above

Note: Submission of this form is Mandatory for all the bidders.

FORM F-11
FORMAT FOR STATUTORY AUDITOR'S / CHARTERED ACCOUNTANT

CERTIFICATE FOR FINANCIAL CAPABILITY OF THE BIDDER

(For supply of Goods/Works/Services)

We have verified the Annual Accounts and other relevant records of M/s..... (Name of the bidder) and certify the following:

A. ANNUAL TURNOVER OF LAST 3 YEARS:

Year	Amount (Currency)
Year 1:	
Year 2:	
Year 3:	

B. FINANCIAL DATA FOR LAST AUDITED FINANCIAL YEAR:

Description	**Year**
	Amount (Currency)
1. Currency Assets	
2. Current liabilities	
3. Working capital (Current assets-current liabilities)	
4. Net worth (Paid up share capital and free reserves & surplus)	

Name of Audit Firm:
Chartered Accountant
Date:

[Signature of Authorized signatory]
Name:
Designation:
Seal:
Membership no.
UDIN No.

Instructions:

1. The financial year would be the same as one normally followed by the bidder for its Annual Report.
2. The bidder shall provide the audited annual financial statements as required for this Tender Document. Failure to do so would result in the personnel being considered as non-responsive.
3. For the purpose of this Tender Document, (i) Annual Turnover shall be "Sale value/Operating Income" (ii) Working capital shall be "Current Assets Less Current Liabilities" and (iii) Net Worth shall be "Paid up share capital and Free reserves & Surplus"

FORM F-12
FORMAT FOR CERTIFICATE FROM STATUTORY AUDITOR FOR DETAILS OF SIMILAR GOODS/ WORK/ SERVICES SUPPLIED/ DONE DURING PAST 10 YEARS

Sr. No.	Description of the goods/works/services	LOA/PO /WO no. & date	Full proposal, address & phone nos. of client Name, designation & address of engineer/officer-in-charge (for cases other than purchase)	Value of Contract /Order (Specify Currency amount)	Date of Commencement of work/services or supply of goods	Scheduled completion time(months) delivery schedule	Date of actual completion /supply	Reasons for delay in execution, if any	Project cost
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)

Place:
Date:

[Sign of the authorised signatory of the bidder]

Name:
Designation:

Instructions:

1. Copies of letter of awards/order/work orders and completion certificate (in case of works/services) or IRN/Proof of delivery (in case of supplies, if applicable) to be enclosed.

2. The supply/work/services completed earlier than 5 years need not be indicated here.

3. The list of supply/ work/ services not of similar nature need not be indicated here. Failing to comply aforementioned instructions may lead to rejection of bid.

4. Bidders are expected to provide details in respect of each order in this Annex. The orders cited must comply with the bid evaluation criteria specified in Tender Document. Details provided in this section are intended to serve as a backup for information provided in Offer/Quotation. The bidder should also refer to the instructions below.

5. A separate sheet should be filled for each LOA/work order/ purchase order.

6. Certificate from the bidder's statutory auditors must be furnished in the format below for LOA/Work Order/Purchase Order mentioned above (separately for each order)

7. It may be noted that in the absence above certificates, the details would be considered inadequate and could lead to the bid being considered ineligible for further evaluation.

Certificate from the Statutory Auditor regarding Supply of Goods/Works/Services

Based on its books of accounts and other published information authenticated by it, {this is to certify that LOA/PO/WO no. ..... dated.....was awarded to ..... (name of the bidder) by.....(name of the client) to execute.....((name of the supply/work/service). The Supply/ works/services commenced on ..... (date) was/is likely to be completed on.....(date, if any). It is certified that the total value of contract/order executed by..... (name of bidder) was..... (specify currency & amount) and executed value was.....(specify currency & amount).

Name of Audit Firm:

[Signature of authorized signatory]

Chartered Accountant:

Date:

Name:
Designation:
Seal:
Membership No.:

FORM F-13
FORMAT FOR SUPPLY RECORDS FOR MEETING BEC

Sr. No.	Purchase Order no.	Purchaser Name	Ordered Quantity	Supplied Quantity	IRN no./ DCN/ Taxable Invoice no.	Sr. No. of pages
(1)	(2)	(3)	(4)	(5)	(6)	(7)

Bidder shall submit this form along with the relevant documents with proper numbering.

For tenders having various items/ parts, the bidder is to submit a separate format for each item/ part quoted.

FORM F-14
FORMAT FOR BIDDER'S PRE-BID QUERIES

To,
M/s. MNGL (INDIA) LTD.,
Pride Purple Coronet, 2nd Floor,
Baner Road, Baner, Pune – 411045

Subject:

Sr. No.	Section / Tender page no.	Clause no.	Subject	Bidder's Query

Note: The Pre-Bid Queries may be sent by e-mail, before the pre-bid meeting due date, to MNGL. An editable copy of queries may be enclosed while sending signed pre-bid queries.

SEAL AND SIGNATURE OF BIDDER

FORM F-15
TECHNO-COMMERCIAL PROPOSAL

(To be filled serial-wise on the e-tendering portal bid floor in the provided format)

Wherever remarks are required, bidders are advised to ensure that sufficient information has been provided and remarks such as "attached", "enclosed", "submitted" or other such terms alone should be avoided.

Sr. No.	Requirement	Response
	General Information	
1	Complete Bidder Organization Name	
2	Date of Registration	
3	Company Address(es) in India	
4	No. of years in business	
5	Type of Firm (Proprietary / Partnership / Private Ltd. / Public Ltd.)	
6	Details of Directors / Proprietors / Partners	
7	Phone no. of contact person	
8	Email ID of contact person	
9	GST registration number	
	Technical BEC	
1	As defined in tender document	Agree
	Details in support of Technical BEC	
1	Any one past reference client (Company Name)	
2	Reference client's PO / work order / Agreement no. and date of award	
3	Reference client's Completion certificate with clear mention of PO / work order / Agreement no., awarded value/ qty. & executed value/ qty.	
	Financial BEC	
1	Bidder's turnover for immediately preceding financial year FY _____(as per tender requirement).	
2	Bidder's turnover for second to last preceding financial year FY _____(as per tender requirement).	
3	Bidder's turnover for third to last preceding financial year FY _____(as per tender requirement).	
4	Bidder's net worth for preceding financial year FY _____ (as per tender requirement). Should be positive.	
5	Bidder's working capital for preceding financial year FY _____(as per tender requirement).	
	Commercial Terms and Conditions	
1	Bidder accepts to keep the bid valid for a period of 4 months from the date of opening of techno-commercial bid	Agree
2	Bidder to submit the original copy of EMD / Bid Security (if applicable) required against tender document within the stipulated time.	Agree
3	EMD / Bid Security DD/BG no. / MSME/NSIC certificate no. and date	

4	Bidder accepts to quote the prices as per SOR enclosed with this tender document	Agree
5	Prices quoted by the bidder shall remain firm, fixed and valid for entire contractual period	Agree
6	Prices quoted by the bidder shall be inclusive of all taxes, duties, levies, fees, insurance, etc.	Agree
7	Bidder understands and accepts the complete scope of work as defined in the tender document	Agree
8	Bidder accepts the contractual validity period as per tender	Agree
9	Bidder accepts the terms of payment as per tender	Agree
10	Bidder accepts to submit the Performance Bank Guarantee(s) as per tender provisions	Agree
11	Bidder accepts the Price Reduction Schedule and other penalties as mentioned in the tender document	Agree
12	Bidder accepts the General / Special / Technical Terms & Conditions of the tender	Agree
13	Bidder accepts all statutory compliances against tender	Agree
14	Bidder has read and accepts the tender document in toto	Agree
15	Any deviation from the tender document sought by the bidder is listed separately in Form-5 only	Agree
16	All the bidders must ensure adequacy and sufficiency of their document while submitting bid in all respects. Bid shall include all documents confirming to the tender terms and conditions, BEC and the tender specifications in toto failing which their bids are liable to be rejected.	Agree

FORM F-16
DOCUMENTS TO BE UPLOADED ON E-TENDER PORTAL

Sr. No.	Document Header Name	Document Description
1	Covering Letter/Forwarding Letter	Covering Letter/ Forwarding Letter
2	Bid Signatory PoA / Board Resolution	Power of attorney of the signatory to the bid offer on non-judicial stamp paper / Board resolution of company for authorized signatory.
3	Form-1	Bidder's General Details/ information as per appended format
4	Form-2	Bid Security (EMD) as per format Form F-2
5	Form-3A & 3B	Certificate for financial capability of the bidder as per appended format. In case bidder's working capital is lower than that required as per Tender BEC, letter from bidder's bank showing availability of credit to cover inadequacy of working capital to be attached with this Form-14
6	Form-4	Agreed Terms & Conditions
7	Form-5	Deviation/ Exceptions as per appended format.
8	Form-6	Declaration as per appended format.
9	Form-7	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 as per appended format.
10	Form -8	Declaration for bidder not under Liquidation, etc. **(**on Bidder's letter head)
11	Form-9	Information regarding any current litigation in which the bidder is involved in Form F-9.
12	Form-10,11 & 12 Certificates	Certificates as per appended Form- F- 10, 11 & 12
13	Form 13	Supply Records
14	Form 15	Techno-Commercial Proposal as per form 15
15	Copy of GST	Copy of GST (Goods & Services Tax), ESI, PF, PAN registration Certificates
16	Other Documents for Technical BEC Eligibility	Any other documents to show compliance of Technical BEC
17	Corrigenda and Other Docs	Copy of all addenda/corrigenda, if any, along with required documents as stated therein, duly signed and stamped. (In case no addendum/corrigendum has been issued against this tender document, then the bidder may upload a letter stating that "No addendum/corrigendum has been issued against this tender document").

Notes:

1. Bidder may attach any other docs, not in the above list but relevant to this tender, at the specified link on the e-tendering portal.

2. Bidder must upload the file as asked above on e-tender portal in .pdf format by keeping the file name as provide in the column "*Document Header Name*" above only.

3. All pages of the bid offer must be signed and stamped by an authorised representative (as described in bid document) of the bidder**.**

4. Bidder must ensure numbering of all pages submitted in bid document. Further total number of pages submitted in bid document must be mentioned in the covering letter of bid submitted.

Bidder must upload the unpriced SOR marked "Quoted/ Unquoted" for each item as per excel (named "*Unpriced SOR*") provided on the e-tender portal along with applicable GST rate (in percentage only) and HSN code. If there is any discrepancy observed between the HSN code/ GST rate in unpriced SOR and priced bid, then the GST rate as per unpriced SOR or as agreed during technical- commercial queries shall be considered for evaluation. MNGL also may take necessary clarifications from bidders quoting HSN code or GST rate inconsistent with other bidders or previous contract.

FORM F-17
CONTRACT PERFORMANCE BANK GUARANTEE
(To be stamped in accordance with the Stamp Act)

To,
M/s. MNGL (INDIA) LTD.,
Pride Purple Coronet, 2nd Floor,
Baner Road, Baner, Pune – 411045

Dear Sir,

M/s_____ have been awarded the work of _____ for MNGL (INDIA) LTD., PUNE vide Purchase Order No. _____dated _____.

The Contract 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 a guarantee executed by a nationalized bank, undertaking full responsibility to indemnify MNGL (INDIA) LTD., in case of default.

The said _____ has approached us and at their request and in consideration of the premises we are 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 MNGL (INDIA) LTD. 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 the 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.

INSTRUCTIONS FOR FURNISHING PERFORMANCE GUARANTEE

1. The Bank Guarantee by successful bidder(s) will be given on non-judicial stamp paper as per stamp duty applicable. The non-judicial stamp paper should be in name of the issuing bank. In case of foreign bank, the said bank guarantee to be issued by its correspondent bank in India on requisite non-judicial stamp paper and place of bid *to* be considered as Pune.

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

3. A letter along with SWIFT Statement from the issuing bank along with its SWIFT Statement of the requisite Bank Guarantee confirming that said bank guarantee and all future communication relating to the Bank Guarantee shall be forwarded to Employer

FORM F-18
FORMAT FOR CERTIFICATE FROM BANK
IF BIDDER'S WORKING CAPITAL IS INADEQUATE/NEGATIVE
(To be provided on Bank's letterhead)

Date:

To,
M/s. MNGL (INDIA) LTD.,
Pride Purple Coronet, 2nd Floor,
Baner Road, Baner, Pune – 411045

Dear Sir,

This is to certify that M/s ..... (Name of the bidder with address) (Hereinafter referred to as Customer) is an existing customer of our Bank.

The Customer has informed that they wish to bid for MNGL's Tender no. ..... Dated ..... for ..... (Name of the supply/work/services/consultancy) and as per the terms of the said Tender they must furnish a certificate from their Bank confirming the availability of line of credit.

Accordingly M/s ..... (Name of the Bank with address) confirms availability of line of credit to M/s ..... (Name of the bidder) for at least an amount of Rs. _____

It is also confirmed that the net worth of the Bank is more than Rs.100 Crores (or Equivalent USD) and the undersigned is authorized to issue this certificate.

Yours truly.

For ..... (Name & address of Bank)

(Authorized signatory)

Name of the signatory:

Designation:

Stamp:

FORM F-19
E-Banking Mandate Form
(To be issued on vendor's letter head)

1. Vendor/customer Name:

2. Vendor/customer Code:

3. Vendor /customer Address:

4. Vendor/customer e-mail id:

5. Particulars of bank account
   a) Name of Bank
   b) Name of branch
   c) Branch code:
   d) Address:
   e) Telephone number:
   f) Type of account (current/saving etc.)
   g) Account Number:
   h) RTGS IFSC code of the bank branch
   i) NEFT IFSC code of the bank branch
   j) 9-digit MICR code

I/We hereby authorise MNGL to release any amount due to me/us in the bank account as mentioned above. I/We hereby declare that the particulars given above are correct and complete. If the transaction is delayed or lost because of incomplete or incorrect information, we would not hold the MNGL responsible.

(Signature of vendor/customer)

BANK CERTIFICATE

We certify that ---------- has an Account no. ---------- with us and we confirm that the details given above are correct as per our records.

Bank stamp

Date: (Signature of authorized officer of bank)

FORM F-20
[APPLICABLE FOR DOMESTIC TENDERS]
PACKING, MARKING AND SHIPPING INSTRUCTIONS

The Packing, Marking, Shipping and Documentation for Goods shall be as follows:

a) The SUPPLIER shall provide such Packing of GOODS as is required to prevent their damage or deterioration during transit to their final destination as indicated in the CONTRACT. The Packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit and open storage. Packing case size and weights shall take into consideration, where appropriate, the remoteness of the GOODS final destination and the absence of heavy handling facilities at all points in transit.

b) The packing, markings and documentation within and outside the packages, shall comply strictly with such special requirements as shall be expressly provided for in the documents.

c) SUPPLIER shall comply with all applicable prescriptions in the specifications. Lack of relevant information and/or documents shall not absolve the SUPPLIER of his responsibilities.

d) Supplier shall ensure that consignments destined for different project sites as detailed in Purchase Order are packed separately and marked clearly.

1.0 **SPECIFICATIONS FOR GOODS BEING PROCURED INDIGENOUSLY**

1.1 **Packing**

1.1.1 The packing specifications incorporated herein are supplementary to the internal and external packing methods and standards as per current general rules of IRCA Goods Tariff Part I. All packaging shall be done in such a manner as to reduce volume as much as possible. Fragile articles should be packed with special packing materials depending on the type of materials.

1.1.2 Items shipped in bundles must be securely tied with steel wire or strapping. Steel reinforcing rods, bars, pipes, structural members etc. shall be bundled in uniform lengths and the weight shall be within the breaking strength of the securing wire or strapping.

1.1.3 All delicate surface on equipment's/materials should be carefully protected and painted with protective paint/compound and wrapped to prevent rusting and damage.

1.1.4 All mechanical and electrical equipment and other heavy articles shall be securely fastened to the case bottom and shall be blocked and braced to avoid any displacement/shifting during transit.

1.1.5 Attachments and spare parts of equipment and all small pieces shall be packed separately in wooden cases with adequate protection inside the case and wherever possible should be sent along with the main equipment. Each item shall be suitably tagged with identification of main equipment, item denomination and reference number of respective assembly drawing. Each item of steel structure and furnaces shall be identified with two erection markings with minimum lettering height of 15 mm. Such markings will be followed by the connection number in indelible ink/ paint. A copy of the packing list shall accompany the material in each package.

1.1.6 All protrusions shall be suitably protected by providing a cover comprising of a tightly bolted wooden disc on the flanges.

1.1.7 Wherever required, equipment/materials/instruments shall be enveloped in polythene bags containing silica gel or similar dehydrating compound.

1.1.8 All pipes and tubes of stainless steel, copper, etc., shall be packed in wooden case or crates irrespective of their size.

1.1.9 Pipes with threaded or flanged ends shall be protected with suitable caps/covers, before packing.

1.1.10 Detailed packing list in waterproof envelope shall be inserted in the package together with equipment/material. One copy of the detailed packing list, shall be fastened outside of the package in waterproof envelope and covered by metal cover.

1.1.11 The supplier shall be held liable for all damages or breakages to the goods due to the defective or insufficient packing as well as for corrosion due to insufficient protection.

1.1.12 Packaged equipment or material showing damage, defects or shortages resulting from improper packaging material or packing procedures or having concealed damage or shortages, at the time of unpacking, shall be to the supplier's account.

1.2 **Marking**

1.2.1 Each package shall be marked on three sides with proper paints/indelible waterproof ink as follows:

(OWNER)
PROJECT
(DESTINATION)

Purchase order No. _____
Net Wt._____ Kgs.
Gross Wt. _____ Kgs.
Dimensions _____X_____X _____CMS.

Package No. (S. No. of total Packages) _____
Supplier's name_____

1.2.2 Additional marking such as 'HANDLE WITH CARE' 'THIS SIDE UP' 'FRAGILE' or any other additional indications for protection and safe handling shall be added depending on the type of material.

1.2.3 Specific marking with white paint for 'SLINGING' and 'CENTRE OF GRAVITY' should be provided for all heavy lifts weighing 5 Tones and above.

1.2.4 In case of bundles/bags or other packages, wherever marking cannot be stenciled, the same shall be embossed on metal or similar tag and wired securely at two convenient points.

1.3 **Dispatch**

(a) Dispatch of materials shall be made in accordance with the relevant terms of the CONTRACT FORM. Any change in mode of transport shall be resorted to only after prior approval in writing. SUPPLIER shall ensure dispatch of GOODS immediately after they are inspected and released and shall intimate status of dispatch by fax to
- GM (C&P), MNGL, Pune
- Respective consignee fax nos. at site (to be indicated in Purchase Order).

(b) Dispatch by Road
(i) The SUPPLIER shall be responsible for dispatch of materials through a reliable Bank approved transport company unless, the Transport Company is named by PURCHASER.
(ii) The SUPPLIER shall ensure with Transport Company the delivery of materials within a reasonable transit period. SUPPLIER shall also obtain from transporter particulars of Lorry Number, transporter's Challan Number, destination of Lorry (if transshipment is involved), Transporter's Agent at destination, if any, etc. and intimate same following: -
- GM (C&P), MNGL, Pune
- Respective consignee fax nos. at site (to be indicated in Purchase Order).

(c) Shipment by Air
Whenever SUPPLIER is instructed by the PURCHASER or its representative to airfreight any material, the SUPPLIER shall take prompt action for the same. Immediately after air shipment is affected, the SUPPLIER shall intimate by Fax the details of Airway Bill number and date, Flight number, number of packages etc. to the OWNER'S and PURCHASER'S authorities at destination Airport City. Details of MNGL's agents shall be intimated later.

(d) Advance Information

Immediately after a shipment is made SUPPLIER shall send advance information such as the particulars of materials, value, Purchase Order Number, date of dispatch, Railway receipt Wagon Number/ GOODS Consignment note number, Truck number, name of transport company and their destination Office/ Associate's address etc., by way of Fax to following:

- GM (C&P), MNGL, Pune
- Respective consignee fax nos. at site (to be indicated in Purchase Order).

(e) Transmission of Dispatch Documents

SUPPLIER shall, within 48 hours of the dispatch of the GOODS depending upon the payment terms of the CONTRACT FORM either negotiate through PURCHASER'S Bankers or forward direct to PURCHASER at respective consignee address by Registered Post the following Documents in Original.

(i) Two copies of the SUPPLIER invoice showing descriptions of the GOODS, Quantity, unit price and total amount.

(ii) Delivery Note/Railway Receipt/Truck Receipt.

(iii) Manufacturer's/Supplier's Guarantee Certificate

(iv) Inspection Certificate issued by the PURCHASER/CONSULTANT and/or its representative and the SUPPLIER'S factory inspection report. Copies of the above documents shall be sent to the following addresses:

A M/s. MNGL (INDIA) LTD.,
Pride Purple Coronet, 2nd Floor,
Baner Road, Baner, Pune – 411045
Ph. No. – 020 25611000
Email – gasaid@mngl.in

B Office In-charge
MNGL (INDIA) LTD.,
Respective MNGL Site(s) address. (The Bidder shall request for add. 15 days in advance before dispatch)

(f) The SUPPLIER shall be responsible for any delay in clearance of the Consignment at destination and consequent wharfage/demurrage, if any, due to delay in transmittal of the Lorry/Railway receipt Consignment Note, etc.

FORM F-21A
[PROCESS COMPLIANCE FORM]

(Bidders are required to print this on their company's letterhead and sign, stamp before emailing)

To,
M/s. MNGL (INDIA) LTD.,
Pride Purple Coronet, 2nd Floor,
Baner Road, Baner, Pune – 411045

Subject: Acceptance of the process-related terms & conditions to be conducted on <Date of Auction>.

Tender Name & Reference No.:

Dear Sir / Ma'am,

1. I/ We have downloaded/obtained the tender document(s) and gone through the tender and business rules governing the Reverse Auction for the above-mentioned 'Tender/Work'.

2. I / We hereby certify that I / we have read the entire terms and conditions of the tender documents and will undergo etenders.gov.in website to understand Reverse Auction process and functionality of the same.

3. I / We hereby confirm that MNGL shall not be liable or responsible in any manner whatsoever for Bidder's failure to access & bid on the etenders.gov.in portal due to loss of internet connectivity, electricity failure, virus attack, problems related to PC / laptop or any other unforeseen circumstances etc. before or during the auction event.

4. I / We hereby also confirm that we have a valid digital certificate issued by a valid Certifying Authority and self-attested copy enclosed.

5. I / We do hereby confirm that I / We will fax / e-mail the price confirmation & price break-up of our quoted price as per FORMAT B – Price Confirmation after closing of reverse auction event.

6. I / We hereby confirm that I / We will honor the Bids placed by us during auction process.

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

FORM F-21B
[PRICE CONFIRM]

(Bidders are required to print this on their company's letterhead and sign, stamp before emailing)

To,
M/s. MNGL (INDIA) LTD.,
Pride Purple Coronet, 2nd Floor,
Baner Road, Baner, Pune – 411045

Subject: Final price quoted in the Reverse Auction and price break-up of the subject tender.

Tender Work & Reference No.:

Dear Sir / Ma'am,

I/ We confirm that we have quoted the Final Price as below:

_____ (In words & Figures) (Price quoted on landed cost to MNGL).

As per our final lump-sum price during reverse auction conducted on _____<Date of Auction> (Price Breakup attached as per MNGL evaluation sheet (excel format).

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

FORMAT FOR TENDER ACCEPTANCE LETTER

(To be given on Company Letterhead)

Date:

To,
M/s. MNGL (INDIA) LTD.,
Pride Purple Coronet, 2nd Floor,
Baner Road, 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 have also been taken into consideration while submitting this acceptance letter.

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

5. I / We do hereby declare that our Firm has 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)

SECTION – IV
BRIEF SUMMARY OF AGREED TERMS AND CONDITIONS

BRIEF SUMMARY OF AGREED TERMS AND CONDITIONS

Following shall be duly filled in and should be returned by the bidder along with each copy of Unpriced Part of Bid / Offer:

Sl. No.	Description	Bidder's Confirmation
1	**Bidder's details:** a) Name b) Full address c) Tel. No. d) Fax No. e) E-mail f) State / UT where Registered Office of Company is located g) State / UT where Manufacturing Facilities of the Company is located h) Name and Designation of the person signing the Bid	
2	**In case the bidder is not manufacturer:** a) Name b) Full address c) Tel. No. d) Fax No. e) E-mail f) Name and Designation of the contact person	
3	**The following are to be enclosed along with the bid:** a) Power of Authority of the person signing the bid	
	b) Letter of Authority of the person attending the bid opening.	
	c) In case bidder is not manufacturer:	
	Letter of authority from the manufacturer that they will meet the commitment of the bidder and supply the material in time, as required.	
4	Indicate Country of origin of offered GOODS	
5	Indicate dispatch point (Place of dispatch)	
6	**Bid Security Details:** a) Name and Address of Issuing Bank: b) Security No. & Date: c) Value (Rs. _____) d) Validity (Valid Minimum for 6 (Six) months from the final date of submission of offer e) Details of Issuing Bank i) Name: ii) Full Address: iii) Tel. No.: iv) Fax. No.: v) E-mail: vi) Name & Designation of the contact person	
7	**Validity of Bid:** Valid minimum for Four (4) months from the final	

	date of submission of offer.	
8	a) Please confirm that the scope of work is complete as per tender requirement.	
	b) If reply to (a) is 'No', have all 'Exception & Deviation' been furnished in the format attached with bid document.	
	c) Confirm there are no 'Exception & Deviation' other than those indicated as (b) above and if indicated in offer elsewhere the same shall be considered 'NULL & VOID'.	
9	**Delivery Period / Completion Period:** Confirm your acceptance of delivery period completion period as per requirement Specified in bid Document in 'Time Schedule' on FOT Project Site Basis to be reckoned from date of Purchase Order (PO).	
10	**Currency of Offer:** a) Please indicate the currency in which the offer is submitted. (for foreign bidder US Dollar for foreign component and/or Indian Rupee). b) For Domestic bidder in Indian Rupees c) Please confirm that currency once quoted shall not be permitted to be changed.	
11	**Correspondence Language:** a) Confirm that all correspondences will be in English language only.	
12	**Price:** a) Ensure and confirm that unit prices Quoted in 'Price Schedule', (i.e. Schedule of Rates) on FOT Site Basis.	
	b) Confirm that price quoted is as per 'Price Format' given in tender document without any change.	
	c) Confirm that quoted prices will remain firm and fixed till complete execution of the order. Purchase Order (PO), placed within offer validity, shall be considered as 'Notification of Award of Contract'.	
	d) Confirm that the tender document is carefully studied & understood and has been taken into full consideration in the quoted prices.	
	e) Confirm that Blank SOR submitted with unpriced part of the bid contains the followings	
	i) Each 'Cell' of the schedule has been marked "Quoted" or "Not Quoted" and none of the 'Cell' has been left blank.	
	ii) All information on the top of the SOR or at the 'Note' of the SOR has been provided in totality.	
13	**Spares (Article – 19 of GCC):** Confirm that 2 years Spares if required in Bid Document, has been quoted on FOT Site and or FOB port of exit Basis and Freight charges have also been indicated separately.	
14	**Freight Charges:** **For Indian bidder** -Ensure & confirm that firm freight charges up to	

	Project Site has been quoted separately for each item in SOR.	
15	**Transit Insurance and all other insurances:** a) Transit Insurance and all other insurance shall not be arranged by the Purchaser. Confirm that Insurance charges have been included in Quoted Price.	
16	**Goods & Service Tax (GST) for Indian bidders:** Indicate rate of taxes & duties applicable, as quoted in price schedule a) Goods & Service Tax	
	b) Confirm that GST indicated above is what has been indicated in blanked SOR and also in Priced SOR submitted.	
	c) In case of Discrepancy, rate indicated here shall be considered for bid evaluation. However, order will be placed on the lower one. Differences will be borne and paid for by bidder.	
17	**Taxes & Duties for Indian bidders:** All taxes, duties, levies, License fee, etc. incurred until delivery of the contracted goods, shall be borne and paid by the bidder. However, Goods & Service Tax on finished products shall be reimbursed by the Owner (limited to provisions in the quoted price as per bid document). The statutory variation in taxes & duties (payable on finished product) if any, within the contractual delivery period shall be to the Owner account. Further, variation in basic charge on Goods & Service Tax within contractual delivery schedule, shall be borne and paid by the Owner. (However, limited to provision in bid documents).	
18	**Goods & Service Tax for Indian bidders:** a) Indicate present rate of terminal Goods & Service Tax (GST) applicable on the supplies and as quoted in price schedule. In case, Bid Document calls for Spares, (Mandatory/2 years) where, generally more than one rate of GST is applicable then such rates as considered in offer are to be indicated in the itemized Spare parts list.	
	b) If there is any variation in Goods & Service Tax at the time of supplies for any reason, other than statutory, including due to turnover, confirm the same will be borne by bidder.	
	c) It is noted and confirmed that statutory variation in GST within contractual delivery shall be to Owner's account.	
	d) If GST is presently not applicable, confirm whether the same will be borne by bidder in case it becomes leviable later.	
	e) In case (b) or (d) is not acceptable, indicate maximum rate of GST chargeable (same shall be considered by Owner for price evaluation & comparison).	
19	**Price Reduction Schedule:** a) Confirm acceptance of Price Reduction Schedule (PRS) as per	

	clause 26 of GCC and modified as per SCC i) For delay in completion/ delivery beyond contractually agreed delivery schedule as specified in the Bid Document. ii) for deficiency in performance & services as per provisions of Bid Document. The invoice shall be submitted for the amount duly reduced to the extent of PRS. Otherwise, purchaser/owner reserves the right to deduct the same.	
	b) Confirm in case of delay in delivery beyond CDD, any new or additional or increase in taxes and duties imposed after contractual delivery, the same shall be to Bidder's account.	
20	**Terms of Payment as specified in Special Conditions of Contracts:** a) Confirm acceptance of terms of payment. b) It is noted and confirmed that deviations to 'Terms & Conditions of Payment' may lead to rejection of offer, as Owner considers fit. c) All the Deviation have been indicated in 'Exception & Deviation' format (including annexure, if any) and have not been repeated in the bid/offer and if repeated, the same shall be considered " Null & Void"	
21	**Guarantee/Warranty:** Confirm that the GOODS shall be guaranteed against defective materials/workmanship, etc., for a period of 24 months from the last Shipment or 12 months from the commissioning date, whichever is earlier, as per the Guarantee/warranty conditions of Bid Document.	
22	**Contract-cum-Performance BG:** Confirm that Contract-cum-Equipment-Performance Bank Guarantee (CPBG) for 10% of Contract / Purchase Order Value shall be furnished as per provision of bid document, valid for 3 months beyond the expiry of Guarantee/Warranty or Defect Liability period, as applicable as per terms of Bid Document.	
23	**Inspection (Article – 13 of GCC):** a) Confirm acceptance of inspection requirements as per Bid Document. b) As inspection & certification of all goods may also be conducted by OWNER. Confirm there shall be no extra charges, since all personal & incidental expenses of Owner's Inspectors shall be borne by the Owner.	
24	**Part order:** Confirm acceptance of the PART ORDER. In case of part ordering, any value of part ordering charges if quoted as a lump sum and/or applicable to more than one item, shall be prorated on value basis.	
25	**Quantity Variation:** PURCHASER reserves the right at the time of award of ORDER to increase or decrease by up to 20% the quantity of GOODS specified in the Material Requisition, without any change in unit price or other terms and conditions. Variation beyond this limit will	

	be subject to mutual agreement between the PURCHASER and the Seller.	
26	**Agent Commission:** a) Confirm Agent Commission has been indicated in the price bid. b) The Agent Commission has been included in FOB/CFR/CIF prices indicated in the price bid.	
27	**Advance Payment:** Please note that No Advance payment shall be made by Purchaser / Owner.	
28	**MISCELLANEOUS:** a) Confirm that all Bank charges associated with Bidder's Bank shall be borne by Bidder. b) Confirm that all documents, as per Article -10 of ITB 'Documents comprising after by Bidder', have been enclosed. c) Confirm that owner reserves the right to make any change in the terms & conditions of the Bid Document and to reject any or all bids including those received late or incomplete.	
29	**Declaration by Bidder:** a) Confirm acceptance in toto of the Terms & Conditions contained in the bid document. Deviation, if any, has been listed in 'Exception & Deviation' format. b) Confirmed that all the terms & conditions have been indicated in this format (including annexure, if any) and have not been repeated in the bid elsewhere. It is noted and confirmed that Terms & Conditions indicated elsewhere including any Printed Terms & Conditions, shall not be considered by Owner. c) Confirm that any of the Directors of bidder is not a relative of any Director of Owner or the Bidder is a firm in which any Director of Owner or his relative is a partner or the Bidder is a private company in which any Director of Owner is a member or Director. d) Confirm that you have not been put on Black / Holiday list by MNGL / MoP&NG / Oil Public Sector Enterprise(s). If you have been banned/delisted, then this fact must be clearly stated. e) Confirm that bidder has not been under litigation including arbitration for 20 years i) If the answer is No, then confirm that complete details of litigation and/or arbitration have been furnished in the offer.	

Bidder Signature:
Name:
Designation & Stamp:

VOLUME II OF II

C O N T E N T

Sl. No.	Description
SECTION - V	SPECIAL CONDITIONS OF CONTRACT (SCC)
SECTION - VI	MATERIAL REQUISITION & TECHNICAL SPECIFICATION
SECTION - VII	SCHEDULE OF RATES/ PRICE SCHEDULE

SECTION - V
SPECIAL CONDITIONS OF CONTRACT (SCC)

The following articles should supplement the Instructions to Bidders and General Conditions of Contract (GCC). In case of any conflict between General Conditions of Contract and Special Conditions of Contract, the latter shall prevail to the extent applicable.

1. DEFINITIONS & INTERPRETATION:

In addition to meaning ascribed to certain initial capitalized terms in Section III "GCC – Goods", following initial capitalized terms shall have the meaning as ascribed to such term hereunder. In case any term defined hereunder is also defined in Section – III (GCC – Goods), the meaning ascribed to such term hereunder shall prevail:

1.1 Definitions

1.1.1 Bid Document shall mean documents issued to the Bidder pursuant to document listed in ITB.

1.1.2 Effective date shall mean the date on which Seller's obligations will commence and that will be the date of Purchase Order (PO).

1.2 Interpretations

1.2.1 Where any portion of the GCC – Goods 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 – Goods and SCC provisions shall prevail to the extent of such repugnancy, or variations exist.

1.2.2 In contract documents unless otherwise stated specifically, the singular shall include the plural and vice versa wherever the context so requires.

1.2.3 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.

1.2.4 All headings, subtitles and marginal notes to the clauses of the GCC – Goods, SCC or to the Specifications or to any other part of the 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 of construction thereof.

1.2.5 The terms fully capitalized and / or initial capitalized shall be interchangeable and shall have the meaning as assigned to fully capitalized term or initial capitalized term.

1.2.6 Except the obligation of payment to Seller, Purchaser may discharge all other Purchaser's obligations. In Bid Document, at all such places where obligations are confined to Purchaser alone such provision to read as Purchaser's obligation to the extent the context so mean / require.

2.0 SELLER'S SCOPE & DELIVERY SCHEDULE:

The brief scope of work includes manufacture & inspection of bare line pipe, transportation of bare line pipe from pipe mill to coating plant if applicable, Coating and its inspection, transportation of coated line pipe from Works to Designated Warehouse in Nashik / Sindhudurg / Nizamabad including unloading and stacking along with supply of wooden sleepers and other necessary materials required for pipe stacking, etc.

The delivery schedule shall be as given below:

Sr. No.	Description	Delivery Schedule	Effective Date of Start	Delivery Basis
1	10" Pipe Coated, ERW/SL, API 5L, GR. B, 6.4mm Thk.	Consignment to reach Warehouse within 16 weeks from the date of Purchase Order.	Date of Issue of Purchase Order.	FOT Site (Warehouse)

Date of Delivery:

The date of receipt of material at MNGL Stores / Site shall be taken as the date of delivery.

Site / Warehouse means Purchaser's storage facility within Nashik / Sindhudurg / Nizamabad, preferably in the vicinity or at a nearby location of the project site.

3.0 PAYMENT TERMS:

3.1 Supply:

100% (Hundred Percent) payment along with taxes and duties will be paid progressively within 45 days on handing over of bare / coated pipes to Purchaser's storage facility at Project site and submission of Cenvatable invoice in triplicate along with all the following documents which are to be properly placed in a separate file:

i. Original LR or GR
ii. Inspection Release note by Purchaser / Purchaser's appointed Third-Party Inspection Agency
iii. Insurance cover note covering transit insurance
iv. Packing List (including details of pipe, heat no., length, trailer no., LR)
v. In case of delay in supply, the invoice value shall be reduced to take care of stipulation of PRS clause of contract.
vi. A certificate from manufacturer that all the items / equipment under supply including its component or raw material used with manufacturing are new and conform to the tender requirement. In case manufacturer is not the supplier, this certificate will duly be endorsed by the supplier owning overall responsibility.
vii. Performance Bank Guarantee of 10% of Contract / Purchase Order Value (If already submitted, a copy of the same).
viii. Dispatch clearance issued by Purchaser / Consultant

3.2 The Invoice shall be made after adjusting the following:

PRS pursuant to SCC Clause No.17.0, if applicable.

3.3 Mode of Payment:
Payment will be released through Account Payee Cheque or through E-payment as detailed in ITB clause 19.

3.4 Deduction at Source:

3.4.1 Purchaser will release the payment to the Seller after effecting deductions as per applicable law in force.

3.4.2 Purchaser will release payments to the Contractor after offsetting all dues to the Purchaser payable by the Contractor under the Contract.

Paying Authority:
Chief Financial Officer,
M/s. MNGL (INDIA) LTD.,
Pride Purple Coronet, 3rd Floor,
Baner Road, Baner, Pune - 411045

4.0 PACKING AND FORWARDING:

The seller, wherever applicable shall after proper painting, pack and crate all goods for sea/air/rail/road transportation in a manner suitable to tropical humid climatic region in accordance with the internationally accepted practices and in such a manner so as to protect it from damage and deterioration, in transit by sea or air or road or rail and during storage at the storehouse till the time of issuance to erection contractor. The Seller shall be held responsible for all damages due to improper packing. The seller shall ensure sizing or packing of all consignments in such a way that availability of the carrier and/or rail/road route is properly taken into consideration.

5.0 DISPATCH CLEARANCE:

Seller shall obtain dispatch clearance from the Purchaser prior to each dispatch, which will be issued on receipt of copy of the Inspection Release Note.

6.0 INDEPENDENT SELLER:

It is expressly understood and agreed that Seller is an independent party and that neither the Seller / its personnel are servants, agents or employees of the Purchaser nor the seller has any kind of interest in other sellers.

7.0 LIEN:

Seller shall ensure that the Scope of Supply supplied under the Agreement shall be free from any third party. In the event of such claims by any party, Seller shall at his own cost defend, indemnify and hold harmless Purchaser or its authorized representative from such disputes of title / liens, costs, consequences etc.

8.0 TRANSIT & STORAGE RISK INSURANCE:

In partial modification to GCC – Goods Clause 16.0, All transit risk insurance from dispatch point to bidder's storage facility as Project site shall be arranged and borne by Supplier.

Bidder shall also obtain suitable storage risk insurance for storage of all pipes throughout storage and preservation of pipes at bidder's storage facility (Project site).

9.0 FALL CLAUSE:

Clause 38 of GCC – Goods stands deleted.

10.0 RECOVERY OF GOODS AND SERVICE TAX:

In case the statutory variation entitles the Purchaser to recover the amount (irrespective of Contractual Delivery), such amount will be recovered from any bill of the Seller, immediately on enforcement of such variation, under intimation to the Seller.

11.0 REJECTION:

Any materials/goods covered under scope of supply, which during the process of inspection by appointed third party, at any stage of manufacture/fabrication and subsequent stages, prior to dispatch, is found not conforming to the requirements/specifications of the Purchase Requisition / Order, shall be liable for immediate rejection.

Seller shall be responsible and liable for the immediate replacement of such material with acceptable material at no extra cost or impact on the delivery schedule to Purchaser.

12.0 LIMITATION OF LIABILITY:

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

13.0 GOVERNING LAW:

Laws of India will govern the Agreement and Pune Courts will have exclusive jurisdiction on all matters related to the Agreement.

14.0 PURCHASER'S RIGHTS AND REMEDIES:

Without prejudice to Purchaser's rights and remedies under Agreement, if SELLER fails to commence delivery as per agreed schedule and / or in reasonable opinion of the PURCHASER, SELLER is not in a position to make-up the delay to meet the intended purpose, the PURCHASER may terminate the AGREEMENT in full or part at SELLER's default and may get supplies from other sources at SELLER's risk and cost.

15.0 GUARANTEE / WARRANTY:

In partial modification to GCC – Goods Clause 20.0, Guarantee / Warranty shall be 24 (Twenty-Four) months starting from the date of delivery of last line pipe at Bidder's storage facility.

16.0 PRICE REDUCTION SCHEDULE (PRS):

16.1 In partial modification to provisions of GCC – Goods Clause 26.0 and pursuant to Clause 3.0 of SCC, in case of delay in delivery of any item of line pipes as given in delivery period specified in Clause 3.0 of SCC, the contract price shall be reduced by ½% (Half Percent) of the total price of undelivered quantity of line pipes for which delivery is delayed, per week or part thereof of delay subject to a maximum of 10% (Ten Percent) of total contract price.

Price reduction schedule on failure of pipe under field hydrotest and/ or during guarantee/ warranty period shall be as follows (for pipe supplier):

16.2 Pursuant to General Conditions of Contract as per Volume-I and clause 14 (new) of the Technical Specification (No. MNGL/LINEPIPE/TS/00), owner shall be reimbursed by the successful bidders for any pipe supplied against this order that fails under field hydrostatic test and/ or during guarantee/ warranty period, if such failure is caused by a defect in pipes which is outside the acceptance limits of the specifications. The reimbursement cost will be the landed cost of the defective pipes including all cost incurred upto delivery thereof at site and shall also include but not limited to cost of all duties, freight, insurance, labour, material, charges for cutting, removing, re-coating, replacement and relaying of defective pipeline including cost of incidental activities as well as losses suffered by MNGL. The recovery cost shall be calculated at actual but will be subject to the minimum values given below. Recovery shall be applied on the actual or minimum pre-determined rate, whichever is higher. The minimum pre- determined rate shall not need any justifications. The minimum pre-determined reimbursement cost of each pipe shall be as below:

Rs. 20,00,000/- (Rs. Twenty Lacs only) for bidder quoting in Indian Rupees.

The above cost shall be for each pipe, payable by the vendor to the Owner on demand without necessity of any proof of replacement/ reimbursement cost. Further, in case, the amount payable by the vendor to MNGL become more than what can be adjusted through price reduction, MNGL may recover at its discretion through deduction from any payment due or becomes due to the contractor or by encashing the Bank Guarantee(s) furnished by contractor, the unrecovered part of such payment will be paid by the contractor to MNGL within 15 days of date of notification by MNGL to him.

In the event of conflict between the stipulations of this article and anything contained in the Technical Specification (Material Requisition), the stipulations of this article shall govern.

Necessary tests to establish cause of failure of pipes shall be carried out at Welding Research Institute, Trichi, India and shall be binding on both MNGL and the pipe supplier.

17.0 QUALITY ASSURANCE / QUALITY CONTROL:

The Seller shall prepare a detailed Quality Assurance Plan for the execution of the Contract for various facilities, which will be mutually discussed and agreed to.

The Seller shall establish document and maintain an effective quality assurance system outlined in recognized codes.

The Purchaser, while agreeing to a Quality Assurance Plan shall mark the stages where they would like to witness the tests, review any or all stages of work at shop as deemed necessary for quality assurance.

18.0 GENERAL INFORMATION RELATING TO CONSIGNEE ADDRESS, BANKER'S NAME, INSURANCE AGENT ETC.:

Location & Address of project Consignee:
M/s. MNGL (INDIA) LTD.,
Pride Purple Coronet, 2nd Floor,
Baner Road, Baner, Pune – 411045

Address of Store at Pune:
M/s. MNGL (INDIA) LTD.,
Gate No. 1377A Village Wadki,
Tal Haveli, Dist. Pune - 412308

Name & Address of the Bankers:
State Bank of India,
Industrial Finance Branch,
Tara Chambers, Pune Mumbai Road,
Wakdewadi, Shivajinagar, Pune-411003

Paying Authority:
Chief Financial Officer,
M/s. MNGL (INDIA) LTD.,
Pride Purple Coronet, 2nd Floor,
Baner Road, Baner,
Pune – 411045

Whether Certificate for availing concessional project rate of customs duty will be given: No

Name of Address of insurance agency:

To be informed at the time of placement of PO.

Mode of Payment: A/C Payee Cheque

Preferred mode of dispatch: Imports: Sea
Domestic: By Road

Inspection agency for indigenous and imported items: MNGL / Third party inspection agency appointed by MNGL.

19.0 MISCELLANEOUS:

In case of an irreconcilable conflict between Indian or other applicable standards, General Conditions of Contract, Special Conditions of Contract, Specification, Drawings or Schedule of Rates, the following shall prevail to the extent of such irreconcilable conflict in order of precedence:

- Letter of Award/ Purchase Order
- Letter of Acceptance/ FOI along with Statement of Agreed Variations.
- Schedule of Rates as enclosures to Letter of Award/ Purchase Order
- Special Conditions of Contract
- Drawings
- Technical/ Material Specifications
- Instructions to Bidder
- General Conditions of Contract (Goods) for supplying part of the contract.
- Applicable standards as specified.
- Applicable standards are not specified.

It will be the Manufacturer's responsibility to bring to the notice of Purchaser any irreconcilable conflict in the contract documents before starting the work(s) or making the supply with reference to which the conflict exists.

In the absence of any Specifications covering any material, design of work(s) the same shall be performed/ supplies/ executed in accordance with Standard Engineering Practice as per the instructions/ directions of the Purchaser, which will be binding on the Manufacturer.

Subsequent Price Change on Account of Technical/ Commercial Clarification and/ or Validity Extension Once quoted, the bidder shall not make any subsequent price changes, whether resulting or arising out of any technical/ commercial clarifications sought regarding the bid even if any deviation or exclusion may be specially stated in the bid. Such price changes shall render the bid liable for rejection.

"Deemed Export"
Deemed export benefits are not available and Indian bidder should furnish Prices without considering these benefits.

"Details from Plate and Pipe Manufacturer"
The pipe manufacturer shall provide documentary evidence regarding sourcing of plates for manufacturing pipes from at least two plate mills.

Based on detailed schedule for supply of line pipe, a letter of comfort (LoC) shall be provided from the plate and pipe manufacturer mills by the bidders so that the commitment of plate and pipe manufacturing mill is known for technical qualification of the bidder for supply of line pipe.

Procurement of Steel Plates/ Coils:

Following steel plates/coil manufacturers are acceptable for the procurement of steel plates/ coils to be used in the manufacture of line pipes.

- Thyssen Krupp, Germany
- Mannesmann Salzgitter Roehrenwerke, Germany
- Dillinger Huette, Germany
- Europipe, Germany
- Ilva (Riva Group), Italy
- Azovstal, Ukraine
- Posco, South Korea
- Voest Alpine, Austria
- Nippon Steel, Japan
- AHMSA (Altos Hornos de Mexico), Mexico
- Essar Steel, India
- Ispat Industries Ltd., India
- SAIL, Bokaro, India
- JSW Steel Ltd., India
- Lloyd Steel, India
- Tata Steel Limited, Kalinganagar (WT up to 16.0 mm)
- Tata Steel Limited, Jamshedpur (up to API 5L X-60 & WT up to 9.35 mm)

In case bidder proposes steel plate/ coil manufacturer(s) not covered in the above list, then the proposed steel plates/ coils manufacturer must meet the following criteria:

- Steel plate/ coil manufacturer(s) must have manufactured and supplied in a single order, the steel plates/coil of not less than 2500 MT meant for the production of line pipes conforming to API 5L (PSL-2) of the same or higher grade as required under present bid in last five years from the date of Bid submission.

- The steel plate/ coil manufacturer has manufactured plates/ coils conforming to API 5L (PSL-2) Grade B or higher of same or higher wall thickness as required for line pipes under present bid.

- The steel plate/ coil manufacturer must have manufactured plates/ coils conforming to API 5L (PSL-2) which are equal or higher in terms of plate/ coil width (corresponding to pipe size) as required for line pipes under present bid.

- A letter of commitment from proposed steel plate/ coil manufacturer for supply of steel plates/ coils required for the manufacture of line pipes under present bid.

- Confirmation regarding compliance with applicable requirements for steel plates/ coils specified in Technical Specifications/ Material Requisition of this Bid Document.

- Bidder must submit documentary evidence along with the bid, to substantiate the qualification criteria indicated above. In the absence of such documentary evidence, Owner reserves the right to reject the bid without making any reference to the bidder.

  The qualification of steel plate/ coil manufacturer(s) shall be assessed prior to price bid opening.

  Bidder's offer shall be unconditional, irrespective of the finally qualified steel plate/ coil manufacturer(s).

PE Coating

Test Certificates:
Bidder shall be required to submit recent test certificates for the material being used in works from the recognized laboratories. These certificates should indicate all properties of the materials as required in relevant IS Standards or international Standards.

Bidder shall also submit the test certificates with every batch material supplied which will be approved by Purchaser. In case any test is to be carried out the same shall be got done in the approved laboratory at the cost of Bidder.

Following coaters are acceptable for outsourcing the coating work:

- M/s. Maharashtra Seamless Ltd., Nagothane
- M/s. Welspun Corp Ltd., Gujarat
- M/s. PSL
- M/s. Jindal (India) Ltd., Howrah
- M/s. Mann Industries Ltd.
- M/s. Ratnamani Metals & Tubes Ltd., Gujarat
- M/s. Jindal SAW Ltd.

In case bidder proposes coating contractor not covered in the above list, shall have to qualify the criteria as mentioned in Bidders Eligibility Criteria (Annexure – I to IFB).

Make of Materials:

The raw materials required to be procured by the Bidder for completing supply under this contract shall be procured only from Owner approved vendors. Where the makes of materials are not indicated in the Bidding document, Bidder shall obtain prior approval of Owner/ Purchaser of such items of vendors/sub-vendors before placing order and for this shall furnish complete detail/ information to Owner well in advance. However, seeking such approval shall not be the basis for extension of delivery/ completion schedule.

SECTION – VI

MATERIAL REQUISITION & TECHNICAL SPECIFICATION

(MR No.: MNGL/LINEPIPE/MR/2025)

Project : CNG & City Gas Distribution Project of MNGL
Tender No. : MNGL/CP/2026-27/154
Items : Steel Line Pipes

Sl. No.	Description							Quantity (m)	Designated "Place of Delivery of Coated Pipe"	Manufacturing Process (Seamless/ ERW)
	Line Pipes as per API 5L, May 2019 (46th edition), PSL-2 and Technical Specification No. MNGL/LINEPIPE/TS/00 and PE Coating as per Technical Input, Technical Specification No. MNGL/PLCOATING/TS/00:									
	Pipe Size (OD) Inch	W.T. (mm)	Ends	Std./Code	Grade	Finish	Minimum Coating Thickness (mm)			
1	10" - 273.1 mm	6.4	PE	API 5L	B	Coated	2	17,000	Pune GA	

LEGEND

WT = Wall Thickness
PE = Plain End (Ends shall be beveled as per API 5L)

Note: The transportation, unloading & stacking of Bare / PE Coated Pipes at designated Warehouse is included in Bidder's scope.

TECHNICAL SPECIFICATION FOR LINEPIPE (ONSHORE)

(TECH. SPECIFICATION NO.: MNGL/LINE-PIPE/TS/00)

C O N T E N T S

SR. No.	Description
1.0	SCOPE
2.0	REFERENCES
5.0	PROCESS OF MANUFACTURE AND MATERIAL
6.0	MATERIAL REQUIREMENTS
7.0	DIMENSIONS, WEIGHTS, LENGTHS, DEFECTS, AND END FINISHES
9.0	INSPECTION AND TESTING
10.0	MARKING
11.0	COATING AND PROTECTION
12.0	DOCUMENTS
13.0	PIPE LOADING
14.0	(New) INSPECTIONS OF FIELD TEST AND WARRANTY APPENDIX-B: REPAIR OF DEFECTS BY WELDING (NORMATIVE) APPENDIX-C: REPAIR WELDING PROCEDURE (NORMATIVE) APPENDIX-F: SUPPLEMENTARY REQUIREMENT
SR-5 :	FRACTURE TOUGHNESS TESTING (CHARPY V-NOTCH)
SR-6 :	DROP WEIGHT TEAR TESTING (DWTT) ON WELDED PIPE
SR-17 :	NON DESTRUCTIVE INSPECTION OF WELDS IN ELECTRIC WELDED PIPES AND LASER WELDED PIPES
SR-19 :	ADDITIONAL FRACTURE TOUGHNESS REQUIREMENTS (TRANSVERSE CHARPY V-NOTCH) FOR PSL 2 PIPE
	APPENDIX-H: PURCHASER INSPECTION (NORMATIVE) ANNEXURE-I (NEW) : MANUFACTURING PROCEDURE SPECIFICATION ANNEXURE-II (NEW) :FIRST DAY PRODUCTION TESTS ANNEXURE-III (NEW) : INFORMATION TO BE FURNISHED AT THE

TIME OF BIDDING

FIGURE	:	6.2.6.1
FIGURE	:	6.2.6.2(a)
FIGURE	:	6.2.6.2(b)
FIGURE	:	6.2.7
FIGURE	:	7.8.3

1.0 SCOPE

1.1 Purpose and Coverage

This specification establishes the minimum requirements for the manufacture of Seamless, Electric Welded and Submerged Arc Welded Steel line pipes in accordance with the requirements of API (American Petroleum Institute) Specification 5L, Forty Third Edition, March, 2004 and makes restrictive amendments/ supplements to aforesaid API Spec. 5L. Unless modified (amended and/ or supplemented) and referred by this Specification, the requirements of API Spec. 5L shall be valid. 46th Edition of API 5L will be followed. However stringent conditions of API 43rd Edition, / Technical Specification shall govern.

The sections, paragraphs and appendices contained herein have the same numbering as that of API Spec. 5L, in order to facilitate reference. Additional requirements, which are not specified in API Spec. 5L, have also been numbered and marked as "(New)".

The coverage by this specification is limited to line pipe to be used in onshore pipelines transporting non-sour hydrocarbons in liquid or gaseous phase.

The Manufacturer shall have a valid license to use API Monogram for Manufacturing of line pipe in accordance with the requirements of API Spec. 5L, Forty Third Edition, March 2004. 46th edition of API 5L may be followed however stringent conditions of API 43rd Edition /Technical specification shall govern.

1.2 Product Specification Level (PSL)

Line pipes supplied to this specification shall conform to Product Specification Level PSL-2.

1.3 Grades

This specification is applicable to PSL-2 Line Pipes of grade B to X-80.

2.0 REFERENCES

The latest edition of following additional references is included in this Specification:

ASTM

ASTM E 92 : Test Method for Vickers Hardness of Metallic Materials.

ASTM E 112 : Standard Test Methods for Determining Average Grain Size.

BS 5996 : Specification for the Acceptance Level for Internal Imperfection in Steel Plate, Strip and Wide Flats based on Ultrasonic Testing or ISO 10893 for different NDT methods as per API 5L 46th Edition. However, stringent norms of earlier edition shall be adhered to.

3.0 PROCESS OF MANUFACTURE AND MATERIAL

Process of Manufacture

Line pipe furnished to this Specification shall be from steel produced in basic oxygen or electric arc furnace. The steel used for Manufacture of pipes shall be fully killed and fine grained with a grain size of ASTM 7 or finer as per ASTM E 112. Grain size in case of X-80 shall be ASTM 10 or finer. Steel shall be made by continuous casting only.

Seamless Process

Cold sizing and straightening of pipe is permissible provided the total strain does not exceed 3.0%.

Welding Processes

Continuous Welding - Not acceptable.

Submerged Arc Welding (SAW) - All welds shall be done by automatic welding.

Gas Metal Arc Welding (GMAW)

This process is only acceptable for tack welding of pipes which will subsequently be welded by the SAW process.

Types of Pipes

Continuous Welded Pipe - Not acceptable.

Electric Welded Pipe

Only EW pipe manufactured from hot rolled coil is acceptable.

A normalizing heat treatment of the weld and heat affected zone shall always be carried out, irrespective of grade and chemical composition. Full body normalizing is also acceptable.

PSL 2 Electric Welded Pipe

Electric welding shall be performed with a minimum welder frequency of 200 kHz. The welding system shall have an integrated control in which following data, as a minimum, shall be monitored.

- Time
- Welding Speed
- Current and Voltage
- Heat Treatment Temperature

The weld seam and the entire heat-affected zone (HAZ) shall receive a normalizing heat treatment to control the structure so that no untampered martensite remain in the weld seam and the HAZ and the mechanical property of heat-treated zone is approximately same as that of the parent metal.

Longitudinal Seam Submerged Arc Welded Pipe

The full length of the weld seam shall be made by automatic submerged arc welding, using run-on and run-off tabs. The welding procedure shall be approved by the Purchaser. Welding shall be checked at regular intervals to ensure that current, voltage and travel speed remain within the ranges of the welding procedure.

Gas Metal Arc Welded Pipe - Not acceptable.

Combination GMAW and SAW pipe.

GMAW is only acceptable for making a continuous tack weld in SAW pipe. This pipe is further considered as SAW pipe.

Double Seam SAW pipe - Not acceptable.

Double Seam GMAW Pipe - Not acceptable.

Double Seam Combination GMAW and SAW pipe - Not acceptable.

Helical Seam Submerged Arc Welded Pipe (HSAW)

HSAW is only acceptable if it meets all the requirements for SAW welding and inspection indicated in this specification.

Each edge of the strip shall be ultrasonically examined for laminations over a width of 25mm along its longitudinal edges prior to welding.

Welds shall be inspected on their full length by ultrasonic method as per section 9.8.5.1. The transition between parent metal and weld deposit shall not display undercutting.

Types of Seam Welds

Skelp End Weld - Not acceptable.
Jointer Weld - Not acceptable.

Cold Expansion

EW and HSAW pipes shall not be cold expanded.

LSAW Pipes shall be mechanically cold expanded for full length. The expansion measured on the circumference shall range between 0.8 to 1.5% of the value measured before the expansion. The expansion shall be measured and recorded for one out of every 50 pipes.

Heat Treatment

Seamless pipe shall be furnished in the hot formed, normalized and tempered or quenched and tempered condition. For hot formed pipe, the finishing temperature shall be greater than 780°C. Pipe finished at a lower temperature than 780°C shall be subjected to a further normalizing heat treatment with a minimum holding time of 30 minutes.

For Welded Pipes, the pipes shall be produced from plates/skelp which shall be quenched and tempered or controlled rolled or combined controlled rolled and accelerated cooled to impart uniformly fine ferritic grain structure to the finished steel with delivery condition of thermo-mechanically rolled as per table no 1 of API 5L 46th edition. Other types of heat treatment shall be agreed upon between purchaser and Manufacturer.

For X-80 grade pipes, skelp/plates shall be produced by thermo- mechanical rolling process and subsequent accelerated cooling. The micro-structure of the plates / skelp shall be ferritic- bainitic. The ASTM grain size shall be 10 and above. The heat-treating process shall be performed in accordance with a documented procedure. The Manufacturer shall also establish and follow procedures for maintaining heat and/or lot identity.

Skelp end welds in Helical seam pipe.

Junctions of skelp end weld and helical seam welds in finished pipe are not permitted.

4.0 MATERIAL REQUIREMENTS

Chemical Properties

Chemical Composition

The chemical composition of each heat of steel on product analysis shall be in accordance with Table-2B and notes given below. Table-2B of API Spec. 5L is cancelled.

For each order the Manufacturer shall propose a chemical composition for the pipe to be supplied. This composition shall be contained in the manufacturing procedure specification and as determined by product analysis, shall comply with the maximum allowable limits specified in Table-2B. The limitations on heat and

product analysis are those agreed following acceptance of the manufacturing procedure specification (Annexure-I).

Table-2B: PSL 2 - Chemical requirements for Heat and Product Analysis

Element	Maximum Permitted Alloy Content, Wt. %	
	SMLS / EW / SAW (for Grade B to Grade X-70)	EW / SAW (for Grade X-80)
C	0.16 Max.	0.16
Mn	1.5 (For Gr. B to X-52) 1.6 (For Gr. X-56 to X-70)	1.9
Si	0.15 min. - 0.45 max.	0.41
P	0.02	0.02
S	0.01	0.01
V	0.05	0.05
Nb	0.05	0.05
Ti	0.04	0.02
Cr	0.20	0.05
Mo	0.10	0.10
Ni	0.20	0.2
Cu	0.35	0.2
Al	0.07	0.04
N	0.012	50 PPM
B	0.0005	0.00
Ca	0.006	0.004

Note: g(New)

1. V+Nb+Ti shall not exceed 0.15%.
2. V+Nb+Ti shall not exceed 0.1% (applicable for Grade X80).
3. Cu+Ni shall not exceed 0.4%.
4. The AL/N ratio shall not be less than 2:1
5. The T/N ratio shall not be less than 3:5

(applicable for X-80 grade)

NOTE: h (New)

If alloying elements other than those specified in Table 2B above are added to thesteel, the limits of the additional components shall be agreed with the Purchaser.

Note: i (new)

The minimum for Si is not applicable to Al-killed steel.

Elements Analyzed

For heat analysis and product analysis, all the elements listed in Table-2B of this specification shall be analyzed and reported, even if those are not purposely added but are present as residuals only.

Carbon equivalent (PSL 2 Only)

Calculations of Carbon Equivalent

Boron content shall be considered in CE (Pcm) formula even if it is less than 0.001%.

Maximum Carbon Equivalent

For pipes of all grades, size and wall thickness, carbon equivalent shall comply the following limits:

CE (Pcm) ≤ 0.20
CE (IIW) ≤ 0.40
CE (IIW) ≤ 0.44 (applicable for X-80 grade)

Mechanical Properties

Tensile Properties

The finished pipe (after all heat treatment an expansion or sizing operations) shall conform to the requirements of Table 3B of API Spec.5L and as modified herein. The actual yield strength shall be as close as possible to the specified minimum yield strength (SMYS), but in no case shall it exceed the limits specified hereunder:

API Spec. 5L Grade Permissible in excess of SMYS, psi (MPa)

Up to and including X-46	19,000 (131)
X-52 to X65	22,000 (152)
X-70	20,000 (138)
X-80	

The ratio of body yield strength and body ultimate tensile strength of each test pipe on which body yield strength and body ultimate tensile strength are determined, shall not exceed 0.90, when tested using flattened tensile specimen. The ratio between yield strength and ultimate tensile strength for weld metal of finished expanded pipe shall not exceed 0.90, when tested using cylindrical all weld specimens.

The ultimate tensile strength of the weld shall be equal to or better than the specified minimum ultimate tensile strength of the base metal.

The minimum elongation of base metal shall be determined in accordance with the formula given in foot note (a) of Table-3B and shall comply with the minimum values of API Spec. 5L Appendix D. However, elongation in no case shall be less than 20%. API Spec. 5L Appendix D stands modified accordingly.

Fracture Toughness Tests

Charpy Impact Tests for PSL 2

For pipes of all grades and wall thicknesses, the Charpy V-notch impact test in accordance with SR5 (Appendix-F) shall be performed.

Additionally, for pipes of all sizes and specified wall thicknesses, additional fracture (New) toughness requirements as per Supplementary Requirements SR 19 of API Spec. 5L, 46th edition and as modified in this specification shall be applicable for body, weld and heat-affected zone.

Supplementary Fracture Toughness Tests

For EW Pipes

For pipe sizes 16 and larger, Drop Weight Tear Test in accordance with Supplementary Requirements SR 6 of API Spec. 5L and as modified herein shall also be performed.

For SAW Pipes

Wherever line pipes are specified for hydrocarbon service in gaseous phase and High Vapor Pressure (HVP) service in Purchase Order, Drop Weight Tear Test in accordance with Supplementary Requirements SR 6 of API Spec. 5L and as modified in this specification shall be also performed for all pipe size, grade and wall thickness.

Metallographic Examination

For EW Pipes (New)

A test specimen for Metallographic & hardness examination shall be taken transverse to the weld, from one finished pipe from each lot of 50 pipes per heat or at least once per working shift (12 hours maximum) whichever is occurring more frequently and whenever changes in grade, diameter or wall thickness are made or when significant excursions from operating heat treatment conditions are encountered. The specimen shall be suitably ground, polished and etched to reveal the microstructure. The specimen shall be visually examined using

adequate magnification to provide evidence that heat treatment of weld zone is adequate and there is no untampered martensite left. In case defects are observed, it will become a cause of revaluation of welding parameters and heat treatment as deemed necessary by Purchaser's Representative.

For SAW Pipes

A test specimen for Metallographic & hardness examination shall be taken transverse to the longitudinal weld, from one finished pipe from each lot of 50 pipes per heat or at least once per operating shift (12 hours maximum) whichever is occurring more frequently and whenever changes in grade, diameter or wall thickness are made or whenever significant excursions from operating heat treatment conditions are encountered. The specimen extraction shall be as per Fig. 6.2.6.1 of this specification.

The specimen shall be suitably ground and polished to reveal the macro-structure. The specimen shall be visually examined using a minimum 10X magnification to provide evidence that proper fusion has been obtained for the full thickness, and there is proper interpretation of passes, their alignment and texture of weld zone. In case defects are observed, it will become a cause of revaluation of welding parameters and heat treatment as deemed necessary by Purchaser's Representative.

For EW Pipes (New)

Vickers hardness tests shall be carried out on each specimen taken for metallographic examination in accordance with ASTM E-92, at locations indicated in figure 6.2.6.2 (a) of the specification. The resulting Vickers hardness value at any point shall not exceed 248 HV10. The maximum difference in hardness between the base material and any reading taken on the weld or heat affected zone shall be less than 80 HV10. Modalities of retest shall be in accordance with para 9.12.2 of API Spec. 5L. Indentation in the HAZ shall start as close to the fusion line as possible.

For SAW Pipes

Vickers hardness tests shall be carried out on each specimen taken for metallographic examination in accordance with ASTM E-92, at locations indicated in figure 6.2.6.2(b) of this specification. Indentation in the Heat Affected Zone shall start as close to the fusion line as possible. The resulting Vickers hardness value at any point shall not exceed 248 NHV10. Modalities of retest shall be in accordance with para 9.12.2 of API Spec. 5L.

Reverse Bend Test (For EW Pipes only) (New)

Reverse bend test shall be executed with the same number of tests (New) and retests specified for flattening tests in para 9.3.2 of API Spec. 5L.

Ring Specimen, 100mm to 115mm wide, taken from the pipe, shall be reverse bend tested according to the procedure given below and Fig. 6.2.7.

Selection of Mandrel (New)

The reverse bend test shall be carried out with a mandrel, whose radius (R), or width (A) shall be calculated for any combination of diameter, wall thickness and grade with the following formula.

$$A = 2R = \frac{1.4\,(D-t)\,t}{e\,(D-2t) - 1.4t} - t$$

Where,

D - Outside diameter of pipe, mm
t - Wall thickness of pipe, mm
1.4 - Peaking factor
e - Strain

Minimum values of `e' shall be as follows:

Grades of Steel	Min `e' value
Gr.B	0.1425
X-42	0.1375
X-46	0.1325
X-52	0.1250
X-60	0.1125
X-65	0.1100
X-70	0.1025
X-80	0.0900

Procedure (New)

The Mandrel shall be plunged into the specimen, with the weld in contact with the mandrel, to such a depth that the angle of engagement between mandrel and specimen reaches 60° (see Fig. 6.2.7). If the combination of diameter and wall thickness of pipe and radius of mandrel is such that the angle of engagement does not reach 60° the mandrel shall be plunged into the specimen until opposite walls of the specimen meet.

Acceptance Criteria (New)

A specimen which fractures completely prior to the specified engagement of mandrel and specimen, or which reveals cracks or ruptures in the weld or heat affected zone longer than 4mm, shall be rejected. Cracks less than 6mm long at

the edges of the specimen shall not be cause for rejection. Dye penetrate testing may be used to positively confirm cracks or openings.

DIMENSIONS, WEIGHTS, LENGTHS, DEFECTS, AND END FINISHES

Measuring equipment for inspection and testing shall be selected such that it has a resolution and accuracy at least five times (5X) finer than the tolerance of the parameter being measured. Similarly, standards against which a piece of equipment is calibrated shall be at least five times as accurate as the equipment being calibrated. Only measuring equipment which can be demonstrated to have been previously calibrated satisfactorily and still be within its documented calibration period (interval) shall be used for inspection and testing.

Note: These requirements apply to all inspections and tests performed to verify compliance with this specification (not only dimensions and weights)

Diameter Pipe Body

The outside diameter of pipe body (for welded pipes), as determined by tapingthe circumference, shall not deviate by more than the value given from that given in Table E-6B and E-6C Appendix E. API Spec. 5L Table-7 stands modified accordingly.

Pipe Size	**Value**
≥ 4½ and < 20	± 0.75% of specified OD or ± 3mm whichever is smaller
≥ 20 and ≤ 36	+ 3mm, -0.25% of specified OD
> 36	±3mm

Pipes Ends

Diameter tolerances for the pipe ends indicated in API Spec. 5L Table-8 shall be applicable on inside diameter for sizes ≥ 14” and on outside diameter for pipe sizes ≤ 12”.

The specified inside diameter, based on circumferential measurement, over a length of 100mm from the end shall comply with the tolerances specified in API Spec. 5L. Specified inside diameter is defined as ID=(OD-2WT) where ID, OD & WT are the specified inside diameter, specified outside diameter and specified wall thickness respectively.

Out of Roundness

Out of Roundness i.e., the difference between the maximum and minimum diameter (inside for pipe size ≥ 14 and outside for pipe size ≤ 12) at pipe shall comply with the following limits. Out of roundness tolerance indicated at API Spec. 5L Table 8 stands deleted.

For pipe size ≤ 10¾ - 3mm (Note “a” of API Spec. 5L Table 8 applicable)
For pipe size ≥ 12¾ - 5mm (Note “a” of API Spec. 5L Table 8 applicable)

Each pipe shall be measured for conformance to above requirements. All dimensions and tolerances shall be recorded at least 3 times per operating shift (12 Hr maximum).

Wall Thickness

In addition to API requirements, the wall thickness of each pipe shall be checked along the circumference at both ends and at the mid location of pipe body at 12 o’clock, 3 o'clock, 6 o'clock and 9 o'clock positions. The wall thickness tolerances shall comply the requirements of this specification.

The tolerances on specified wall thickness shall be (+)15 percent and (-)0.0 percent. However, in case of EW Pipes specified wall thickness tolerance up to (+)15 percent for a distance of 25 mm on either side of longitudinal weld seam is also acceptable. However, for seamless pipes only, wall thickness tolerance up to (+)20% (-)0 percent is acceptable. API Spec. 5L Table 9 stands cancelled. Wall thickness measurements shall be recorded at least 3 times per operating shift (12 hours maximum).

Length

All pipes shall be supplied with length between 11.5m and 12.5m. However, for test sampling pipe having length between 10.0 m and 11.5 m can also be accepted. The minimum average length of the entire order shall be 12.0m. API Spec. 5L Table-11 shall not be applicable.

Each pipe shall be measured for conformance to above requirements and all measurements shall be recorded. The total supply in each size, thickness and grade of pipe as given in the Material Requisition, shall, however, be acceptable with quantity variation of plus (+) one pipe length and minus (-) zero pipe length.

Straightness

The deviation from a straight line for all diameters shall not exceed 12mm. Each pipe shall be checked for conformance to the requirements. Straightness shall be measured and recorded at least 3 times per operating shift (12 hours maximum).

Jointers

Jointers on pipes are not permitted.

Workmanship and defects

Dents

Allowable dent size shall be as per API Spec. 5L. Disposition of dents shall be carried out in accordance with API Spec. 5L para 9.9(c) or (d). Dents on weld and heat affected zone (HAZ) are not acceptable. (Allowable dent size and Disposition of dents shall be carried out in accordance with API Spec. 5L 46th Edition CL 9.10.5.2. However, stringent norms of earlier edition shall be adhered.)

Offset of Plate Edges

All pipes shall be checked for offset of skelp plate edges and offset shall be measured and recorded three times per operating shift (12 hour maximum).

Out-of-Line weld bead for pipe with filler metal welds

A misalignment of weld seam exceeding 3.5mm shall be rejected. The misalignment shall be measured on radiographic film and calculated using the formula (a + b) / 2 where `a' and `b' are the relative offsets of the outside edges of the seam (refer Figure of this specification). All pipes shall be checked for out-of-line weld bead and shall be measured and recorded at least 3 times per operating shift (12 hours maximum).

Height of Outside and Inside Weld Beads – Submerged Arc Welds

The maximum height of outside and inside weld bead shall not be more than 3.18mm (1/8 in.) for all specified wall thickness. All pipes shall be checked for weld bead height using a template having a cut out for weld bead and shall be measured and recorded at least 3 times per operating shift (12 hours maximum).

Height of Flash of Electric Welded Pipe

The inside flash of EW pipe shall not extend above the prolongation of the original inside surface by more than 0.5mm + 5% of nominal wall thickness.

Trim of Inside Flash of Electric-welded pipe

In any case, the groove shall not cause the remaining thickness to be less than that allowed by Section 7.3.

Hard Spots

Any hard spot having a minimum dimension greater than 2 inch (50.8 mm) in any direction and a hardness greater than 248 HV10 shall be rejected. The section of pipe containing the hard spot shall be removed as a cylinder.

Cracks, Sweats and Leaks

Sections of the pipe containing cracks, sweats and leaks shall be cut off as per the requirements of API Spec. 5L para 9.9(c) or (d).

Laminations

Any lamination or inclusion extending into the face or bevel of the pipe or present within 25 mm from pipe ends is considered defect and pipe containing such defects shall be cut back until such defects are eliminated. The acceptance limit and disposition of lamination type defects on the skelp/ pipe body shall be as per Para 9.8.5.4 of this specification.

Arc Burns

Arc burns produced during the manufacturing of pipes are injurious defects and shall be disposed of in accordance with the requirements of API Spec. 5L para 9.9(c) or (d). As a reference method for confirming the existence of an arc burn, the area shall be buffed with wire brush or sanding disc and etched with 5 percent nital solution. However, arc burns can also be considered for acceptance, in case the same is recrystallized by seam heat treatment. In such case, the Manufacturer shall demonstrate the recrystallisation to Purchaser by taking a sample as per para 6.2.6.1.

Undercuts

b. Undercutting not classified as minor shall be considered a defect. Disposition shall be as follows:

1. Undercut defects not exceeding 1/32 in (0.79mm) in depth and not exceeding 12½% of the specified wall thickness shall be removed by grinding in accordance with API Spec. 5L para 9.9 (a) and as modified in this specification. Disposition of undercuts greater in depth than 1/32 in. (0.79 mm) or 12½% of the specified wall thickness shall be in accordance with API Spec. 5L para 9.9 (c) or (d).

Other Defects

Any imperfection (measured from the surface) with a depth greater than 5 percent of the specified thickness of the pipe is considered a defect and shall be repaired in accordance with para 9.9 and as modified herein.

Peaking (New)

In respect of SAW Pipes, deviation from the circular arc at the weld seam at pipe ends shall not exceed 1.6mm. Each pipe shall be checked for conformance to above requirement. Peaking shall be measured and recorded at least 3 times per operating shift (12 hours maximum). Pipes not complying to these requirements shall be disposed off as per API Spec. 5L para 9.9 (c) or (d).

Pipe Ends

General

Pipes shall be furnished with plain ends.

Plain Ends

Unless specified otherwise, the pipe ends shall be beveled as per API Spec. 5L. In removing the inside burrs at the pipe ends, care shall be taken not to remove excess metal and not to form an inside cavity or bevel. Removal of excess metal beyond the minimum wall thickness as indicated in para 7.3 of this specification, shall be a cause for rebevelling. In case root face of bevel is less than that specified, the pipe ends shall be rebevelled and rectification by filing or grinding shall not be done.

Bevel Protectors (New)

Both pipe ends of all pipes shall be provided with metallic or high impact plastic bevel protectors as per Manufacturer's standard. Bevel protectors shall be of a design such that they can be re-used by coating contractor for providing on coated pipes subsequent to coating of line pipes. (Metallic bevel end protector for 10.75” OD & Plastic end caps for 6.625” OD)

INSPECTION AND TESTING

Heat Analyses

Where the steel mill is not a part of an integrated pipe mill, heat analysis shall be reported by the Manufacturer prior to start of production.

Product Analyses

Sampling Frequency

Two pipes per inspection lot shall be analyzed. Inspection lot shall be 100 pipes per heat. Pipes selected shall be such that one at the beginning of the heat and one at the end of the heat is also represented.

Sampling Method

Welded Pipe - Product analysis shall be carried out from finished pipes. Product analysis from skelp is also acceptable provided that the traceability is guaranteed.

Testing of Mechanical Properties

Tensile Tests - Tensile properties shall be determined from specimen removed from pipe which has been subjected to all mechanical and heat treatment operations.

Tensile Testing Frequency

Tensile test shall be performed on samples taken from two pipes per inspection lot. An inspection lot shall be 100 pipes per heat. API Spec. Table 13 stands modified accordingly.

Transverse Tensile Tests

The transverse tensile tests shall be carried out on flattened rectangular specimen.

Weld Tensile Tests

For EW Pipes

Inside and outside flash of weld in excess of pipe wall thickness shall be removed from the specimen either by grinding or machining. Specimen shall be tested for ultimate tensile strength only. The testing frequency shall be one test per inspection lot. Inspection lot shall be 100 pipes per heat.

For SAW Pipes

Inside and outside weld reinforcement in excess of pipe wall thickness shall be removed from the specimen either by grinding or machining. Specimen shall be tested to determine ultimate tensile strength only.

A cylindrical all-weld tensile test shall be carried out at the time of first day of production as specified in Annexure-I of this specification to determine the yield strength, UTS & elongation.

The cylindrical all-weld specimens shall have gauge length,
L=5d, where
L = gauge length (mm)
D = diameter of the test specimen (mm)

The results of the test shall meet the minimum requirements of the plate/ skelp witregard to yield, tensile and elongation parameters.

The testing frequency shall be one test per inspection lot. An inspection lot shall be 100 pipes per heat.

Fracture Toughness Tests

Charpy Test Specimens

In addition to the specimen taken from the body of the pipe, three transverse specimens with weld in middle and three specimens with heat-affected zone (HAZ) in the middle shall also be taken.

Charpy Testing Frequency

The minimum test frequency shall be one test (a set of three specimens each for body, Weld and HAZ) per heat per lot of 100 pipes per combination of pipe size and specified wall thickness.

Hydrostatic Tests

Hydrostatic Test Requirement

Test pressure shall be held for a minimum period of 15 seconds for all sizes and grades of pipes.

Verification of Hydrostatic Test

The pressure gauge used for hydrostatic testing shall have a minimum range of 1.5 times and maximum range of 4 times the test pressure. The pressure gauge shall be calibrated with a “Dead Weight” tester and the record shall be maintained. Calibration records shall be furnished to purchaser’s Representative on request.

Test Pressure

The test pressure for all sizes and grades of pipe shall be such that hoop stress (fiber stress) generated is at least 95% of SMYS, computed based on the formula mentioned in API Spec 5L para 9.4.3 (Note 2).

Dimensional Testing

The measuring equipment requiring calibration or verification under the provisions of API 5L shall be calibrated with manual instruments at least once per operating shift (12 hours maximum). Such calibration records shall be furnished to Purchaser’s Representative on request.

Visual Inspection

All pipes shall be visually examined both. Externally and internally (to the extent feasible) and shall be free of defects in finished condition.

Non-Destructive Inspection

The Purchaser reserves the right to depute its Representative(s) to perform inspection and witness tests in all phases of manufacturing and testing starting from steelmaking to finished line pipe ready for shipment. Manufacturer shall comply with the provisions regarding inspection notice, plant access, compliance and rejection mentioned in Appendix H of API Spec 5L. The Manufacturer shall give the Purchaser reasonable notice of the starting date of normal production and the work schedule.

Any action or omission on part of Purchaser's Representative shall not relieve the Manufacturer of his responsibility and obligation to supply material in strict accordance with this specification.

Qualification of Personnel

All personnel performing NDT activities shall be qualified in the technique applied, in accordance with latest edition of ISO 9712 or ASNT No. ASNT-TC-1A or equivalent. All NDT shall be performed in accordance with written procedures. These procedures have prior approval of the Purchaser.

Inspector Qualification

Acceptable qualification for NDT inspectors shall be as specified below:

For UT:

For UT, at least one level III qualified inspector shall be available to the mill for overall supervision. A level II inspector is required for shift supervision, manual weld inspection and calibration of all systems (both manual and automated).

For all other NDT methods:

Evaluation of indications:	Level I, II, III inspector
Supervision:	Level II or Level III inspector (in case evaluation is by Level I inspector)

Methods of Inspection

Refer a) Nondestructive inspection of welds in welded pipe shall be done after cold expansion, heat treatment, hydrostatic testing, and straightening operation of pipe.

Following will also be noted.

i) All personnel performing NDT activities shall be qualified in the technique applied, in accordance with ISO 9712 or equivalent.
ii) For UT at least one level-III qualified inspector shall be available to the mill (on call) for overall supervision. A level II inspector is required for shift supervision, manual weld inspection and calibration of all systems (both manual and automatic).
iii) A level I inspector is acceptable for all other NDT methods. A level II inspector is acceptable for supervision of all other NDT methods.
iv) All NDT shall be performed in accordance with written procedures. These procedures shall have the prior approval of Purchaser.
v) NDT for acceptance of the pipe (final inspection) shall take place after all heat treating and expansion operations and, for EW pipe, after hydrostatic testing of the pipe. It may, however, take place before cropping, beveling and end sizing.

Pipe End Weld Inspection

Submerged arc welds shall be inspected over their entire length, for both longitudinal and transverse defects, using ultrasonic examination in accordance with (Sections 9.8.5.1 through 9.9). In addition, each end of the weld seam in SAW and SPW pipe shall be examined radiographically for a distance of at least 200 mm. If skelp end welds are permitted for spiral-welded pipes (Section 5.1.4.5), these shall be inspected by the same methods as used for the spiral weld. EW pipe welds shall be examined for longitudinal defects over their entire length by ultrasonic methods in accordance with Sections 9.8.5.1 to 9.9.

Skelp Inspection (New)

Each plate or strip rolled shall be ultrasonically tested for laminations using an oscillating scanning pattern. The scanning coverage using this technique shall be a minimum of 12.5%. Alternatively, the scanning shall be executed along straight, evenly distributed parallel lines with a scanning coverage of at least 25%. Coil for EW pipe may be tested after welding of the longitudinal seam by rotary ultrasonic testing of the pipe body. The coverage in this case should be 100%. In addition, the longitudinal edges of a plate or coiled strip shall be 100% ultrasonically tested, over a width of at least 25mm from the trimmed plate/coil edge. This may be performed either before or after pipe forming. For EW pipe subjected to 100% rotary ultrasonic testing of the pipe body, strip edge testing is not required.

Seamless Pipe (New)

Ultrasonic lamination testing of each seamless pipe body shall be performed using a helical pattern with at least 25% scanning coverage of the pipe surface. Ultrasonic thickness testing of the pipe body and ends of seamless pipe shall be performed by scanning along a helical or straight pattern in such a way that at

least 10% of the pipe surface is covered. The body and ends of all seamless pipe shall be 100% ultrasonically tested for inside and outside surface defects as well as transverse, longitudinal and inclined embedded defects. EMT may be applied for nominal wall thickness less than 6 mm.

Radiological Inspection - Weld Seams of SAW Pipes

Radiological Inspection Equipment

The radiographic examination shall be executed with X-ray equipment using fine-grain type film (e.g., Gevaert type D7 or equivalent) and lead intensifying screens.

For acceptance of the radiographic films, the technique used shall result in a sensitivity better than 2% of the thickness of the weld metal and in a relative film density of 2.0 to 3.5 in the weld metal.

The Manufacturer shall record on a review form accompanying the radiograph or within the mill computer system. The interpretation of each radiograph and disposition of the pipe is inspected.

Ultrasonic and Electromagnetic Inspection

Equipment

The automatic ultrasonic equipment shall be incorporated:

A device which monitors the effectiveness of coupling. In the case where a zero degrees compression wave probe is used to monitor coupling, or where a through transmission technique is used for seamless or HEW pipe, loss of coupling exists when the sensitivity (echo height) decreases by more than 10 dB relative to the static calibration.

In the case where a thorough transmission technique through the weld seam is used for SAW line pipe, loss of coupling exists when the signal drops below the electronic noise level plus 10 dB at the position of the through transmission signal. A clear acoustic warning system and an automatic paint spray system (or equivalent) shall be activated when loss of coupling occurs.

An automatic paint-spraying device, or equivalent system, which is activated when the received ultrasonic echo exceeds the preset acceptance limit. This alarm shall operate without any interference of the ultrasonic operator and shall be applied within 25mm advancement past the detected defect. The reset time of the alarm system, after detection of a defect, to be again available for detection, shall be shorter than the time needed for 25mm advancement in the scanning direction.

1. An automatic weld tracking system for correct positioning of the crystals/probes with respect to the weld center of all welded pipe. Entrance angles of shear wave probes shall be as follows:

Seamless pipe:	45 (40 - 48) degrees
EW pipe:	45-70 degrees
SAW and SPW pipe:	45 (40 – 48) degrees (on weld bead) longitudinal defect detection
SAW and SPW pipe:	50 - 70 degrees (X or K transverse defect detection transmission)

Lamination testing may be performed in pulse echo or transmission mode: wall thickness only in pulse echo mode. The probe(s) used for wall thickness/lamination check should satisfy the following requirements:

Twin crystal probes:	The focal length should be 50% of the wall thickness.
Single crystal probes:	The near surface resolution should be in be better pulse echo mode 25% of the wall thickness, measured at the primary reference sensitivity level.

The transducer arrangement shall be such that the sound intensity in both the longitudinal and circumferential directions does not decrease by more than 3 dB at any point in the pipe wall, referred to the maximum sound intensity adjusted in the static calibration.

The equipment shall be checked with an applicable reference standard (test piece) as described in (Section 5) at least every four hours and at the beginning and end of a batch to demonstrate the effectiveness of the inspection procedures and show that the equipment is functioning correctly. In case discrepancies of more than 3 dB occur, then all pipes inspected since the previous check shall be reinspected. Proper functioning of the UT equipment and the linearity of the electronic instrumentation shall be checked at least once every six months or if a change is made to the equipment.

From each pipe under test, an automatic “on-line” record shall be made without operator intervention. For every pipe, a summary record shall be made showing pipe identification number, time and examination results, including reexaminations.

If parts of the ultimate pipe ends are not covered by an automatic UT system (untested area), manual ultrasonic shall be carried out using approved procedures for manual ultrasonic examination based on the requirements given above.

The complete circumference of seamless pipe ends or rotary tested HEW pipe ends, shall be tested manually over the length of the untested area plus 25 mm overlap of the automatically tested area.

Electromagnetic Equipment (New)

If permitted by the Purchaser, EMT methods such as eddy current testing or magnetic flux leakage testing may be applied for surface defect detection in seamless pipe.

EMT shall be performed in accordance with ASTM F 309 or ASTM E 570. Testing shall be performed by automatic equipment over the entire surface of the pipe. If parts of the ultimate pipe ends are not covered by an automatic EMT system (untested area), then manual ultrasonic shall be carried out using approved procedures for manual ultrasonic examination based on the requirements given above. The complete circumference of the pipe ends shall be tested by manual UT, over the length of the untested area plus 25mm overlap of the automatically tested area.

Ultrasonic and Electromagnetic Inspection Reference Standards Following will also be noted.

The reference (calibration) standard shall have the same specified diameter and thickness as the product being inspected and shall be of sufficient length to permit calibration of ultrasonic inspection equipment at the speed to be used in production. The reference standard shall also be of the same material type and have the same surface finish and heat treatment as the product to be inspected. It shall be free from discontinuities or other conditions producing indications that may interfere with detection of the reference reflectors. The reference standard shall contain notches (N5 or N10) or radially drilled holes (3.2mm).

The Manufacturer may use a type of reference reflector not specified above provided he can demonstrate to Purchaser that the examination is at least as sensitive as prescribed in this specification. In such cases, the Manufacturer shall obtain approval from Purchaser.

The Primary reference sensitivity level shall be adjusted on the following reference reflectors:

Surface Defect Detection	Notch N5		
Defect Detection Body and Pipe End	Notch N5		
Defect Detection Welds		RDH 3.2 mm	Notch N10
Defect Detection Plate and Axial Defect		Notch N5	

For all reference reflectors except for RDH 3.2mm, the acceptance limit signal shall be equal to the primary reference sensitivity level, i.e., equal to the height of the signal produced by the reference reflector. For the RDH 3.2mm reference

reflector, the acceptance limit signal shall be 10 dB below the primary reference sensitivity level.

All sensitivity adjustments shall be carried out dynamically.

Flat bottomed holes for lamination detection shall be drilled to the midwall position.

Acceptance Limits

Plate / Skelp Edges (New)

Acceptance limit for material edge examination shall be as per criteria laid down for Acceptance Level E2 of BS 5996: 1993, which is reproduced hereunder for ready reference.

i) No individual imperfection of length less than 20 mm shall be considered for population density assessment.
ii) Maximum length of imperfection in any direction shall not exceed 30 mm.
iii) Maximum area of individual imperfection shall not exceed 500 mm2.
iv) Maximum population density (number of imperfections smaller than the maximum permissible imperfection size and longer than 20 mm per 1 m length) shall not exceed 4.

Disposition of any defect shall be as per API Spec. 5L para 9.9 (c) or (d).

Remaining Plate / Skelp (New)

Acceptance limit for material edge examination shall be as per criteria laid down for Acceptance Level E2 of BS 5996: 1993, which is reproduced hereunder for ready reference.

i) No individual imperfection that does not exceed all the following dimensions shall be considered for population density assessment: Area: 300 mm2, length: 35 mm, Width: 8 mm.
(The length is the dimension at right angles to the scan track and the width is the dimensions parallel to the scan track).

ii) Maximum area of any individual discontinuity shall not exceed 1000 mm2.

iii) Maximum population density of imperfections smaller than the maximum permissible imperfection size and larger than the minimum imperfection size per 1 m x 1 m square shall not exceed In addition the following criteria shall also be met

iv) Any imperfection exceeding 100 mm in length shall not be acceptable and any planar imperfection not parallel to the plate surface is not acceptable. Disposition of any defect shall be as per API Spec. 5L para 9.9 (c) or (d).

Magnetic Particle Inspection

Equipment

Following is also to be noted.

MT shall be performed in accordance with the requirements of ASTM E 709. Prior to the inspection, the surface to be examined and all adjacent areas within 25mm shall be dry and free of all dirt, grease, lint, scale, welding flux and spatter, oil or other extraneous matter that could interfere with the examination.

Residual Magnetism Measurement Requirements

The average of the four readings shall not exceed 20 gauss and no one reading shall exceed 25 gauss when measured with Hall-effect gauss meter. All residual magnetism measurements shall be recorded.

Disposition of Pipe Containing Defects

Disposition of all defects shall be as per API 5L para 9.9 (c) and (d). Following also to be noted.

In all cases where grinding repairs are made as a result of imperfections being disclosed by NDT, the part of the pipe containing such repairs shall be subjected to additional NDT using the same technique, and MT, after the grinding operation.

Test Methods

Charpy Test

Individual test value for any specimen shall not be less than 80% of the required minimum average absorbed energy value as per this specification.

Retests

Recheck Analyses

Modalities of recheck analysis shall be as per API Spec. 5L as applicable to the lot being tested (refer para 9.2.2.1). However, during individual testing, each pipe shall be fully analyzed to meet the requirement of Tables 2B of this specification. (Modalities of recheck analysis shall be as per API Spec 5L 46th edition Clause 10.2.12. However, stringent norms of earlier edition shall be adhered.)

Charpy Retests

If a set of Charpy test fails to meet the acceptance criteria, the manufacturer may elect to replace a lot of material involved or alternatively to test two more lengths from that lot. If both the new tests meet the acceptance criteria, then all pipe in that lot except for the original selected length, shall be considered to meet the requirement.

Reprocessing - This paragraph is cancelled.

MARKING

General

Marking specified in API Paragraphs and otherwise specified in the Purchase Order shall be in English language and international system (SI) of units. Marking shall also include API Monogram, Purchase Order number, item number, heat number and weight.

Location of Markings

Marking shall be paint stenciled on length of the pipe at right angles to the pipeaxis. Stencil marking shall be placed on the inside surface length except that on pipe size smaller than 16, marking may either be placed on inside or outside.

Sequence of Markings

Specified Dimension - Actual pipe weight in kg shall also be marked.

Grades and Class

A color code band shall be marked on inside surface of finished pipe for identification of pipes of same diameter but different wall thickness, as indicated in the Purchase Order. The color code band shall be 50mm wide and shall be marked at a distance of 150 mm from the pipe ends.

Length - Actual length shall be marked in meters.

Die Stamping

Additionally, the pipe number shall be placed by cold rolling or low stress dot marking on the outside surface of the pipe at an approximate distance of 50 mm from both ends. In case of non-availability of either cold rolling or low stress dot marking facility in pipe mill, an alternative marking scheme of a permanent nature may be proposed by Manufacturer at bidding stage.

COATING AND PROTECTION

Coatings

Unless otherwise specified in the Purchase Order, the pipes shall be delivered bare, free of any trace of oil, stain, grease, and paint. Varnish coating shall be applied on the marking area. Bevels shall be free of any coating.

DOCUMENTS

PSL 2 Certification requirements

The Manufacturer shall furnish to Purchaser a certificate of compliance including the requirements of (Appendix F, SR15).

The certificate shall comply with ISO 10474 type 3.1.c. For tests witnessed by the Purchaser, type 3.1.c. certificates shall be issued or comply with EN 10204 as per Note 2 of Cl No. 10.1.1.1 of API 5L 46th latest Edition.

Retention of Records

In addition to the records indicated in APL Spec 5L Table 27, the Manufacturer shall retain the records of all additional tests mentioned in this specification including the hard copy records of ultrasonic testing carried out on pipe/skelp as well as pipe ends.

Production Report (New)

The Manufacturer shall provide six copies of production report in English language indicating at least the following for each pipe. International system of units(SI) shall be adopted.

- Pipe number
- Heat number from which pipe is produced
- Pipe length and weight
- Pipe grade

The Manufacturer shall provide six copies of acceptance certificates which shall include the results of all tests required as per this specification and performed on delivered material giving details of, but not limited to, the following.

- All test certification as per SR 15.1 of Appendix-F.
- Certified reports of dimensional. Workmanship and defect inspection.
- Data on test failures, rejected heats/lots etc.

- Information on production and shipping.
- All other reports and results required as per this specification.

The certificates shall be valid only when signed by the Purchaser's Representative. Only those pipes which have been certified by the Purchase's Representative shall be dispatched from the pipe mill.
In the event of small quantities of pipes supplied, this specification, the production report may consist of only test certificates required as per SR 15 of API Spec 5L and other test report/results required as per this specification.

Line Pipe Traceability Data (New)

The manufacturer shall establish and follow procedures for maintaining heat and lot identification of all pipes as per the supplementary requirement SR 15.2 of API Spec. 5L.

PIPE LOADING

Manufacturers shall prepare and submit the loading diagram which detail how the pipe is arranged, protected and secured on trucks, barges or ocean-going vessels. All relevant loading calculations shall be submitted to the Purchaser as a Part of the Manufacturing Procedure Specification (Refer Annexure I of this specification).

INSPECTION OF FIELD TEST AND WARRANTY (New)

Purchaser shall be reimbursed by Manufacturer for any pipe furnished on this order that fails under field hydrostatic test if such failure is caused by a material/manufacturing defect in the pipe. The reimbursement cost shall include pipe, labour and equipment rental for finding, excavating, cutting out and installation of replaced pipe in position. The field hydrostatic test pressure will not exceed that value which will cause a calculated hoop stress equivalent to 95 percent of specified minimum yield strength.

In case Manufacturer so desires, he will be advised at least two weeks in advance so that his representative may witness the hydrostatic test in field. However, the testing and leak finding (if any) and repair operation shall not be postponed because of absence of the Manufacturer's Representative.

APPENDIX-B

REPAIR OF DEFECTS BY WELDING (NORMATIVE)

Weld Seam of Welded Pipe - Delete existing clause and replace with the following:

- Repair of the weld seam or heat-treated region of EW pipe is not acceptable.
- Repair of the weld seam of SAW pipe is not acceptable within 300mm of the bevel.
- The nature of any weld defect indicated by non-destructive inspection shall be ascertained before any repair is performed. Where necessary, complementary ultrasonic and radiographic inspections shall be carried out to characterise the defect. Repair welding to rectify pipe welds containing cracks is not permitted.
- Repairs to the weld seam shall be limited to three per pipe. The length of repair weld shall not exceed 5% of the total weld length on each pipe.
- Weld repairs shall not be carried out after cold expansion or hydrostatic testing of a pipe.
- Repair welding shall be executed only after specific approval by the Purchaser Representative for each repair.
- No repair of a repaired weld is permitted.
- The repair weld shall be performed with a minimum of two passes.

Repaired welds shall be inspected both by X-ray and UT.

Procedure for Repair by Welding of Seamless Pipe & Parent Metal Of Welded Pipe

Delete existing section and replace with the following:

Repair welding on seamless pipe and on parent metal of welded pipe is not acceptable.

Procedure for Repair of Submerged Arc and Gas Metal Arc Welds

The defective part of the weld shall be clearly marked on the pipe so that the defect can be easily located and repaired.

Following requirements shall also be complied with for repair welding.

No repair of weld seam is permissible after cold expansion.

Clauses mentioned in Weld Seam of Welded Pipe are applicable.

Repair welding shall be executed using qualified procedures and in accordance with (New) the requirements of Appendix C. The repaired area shall be non-destructively tested by RT, manual UT and MT.

The Manufacturer shall also maintain a record of repairs carried out. The records (New) shall include number, pipe identification number, welding procedure applicable and NDT details.

Procedure for Repair of Electric and Laser Welds Repair welding of EW welds is not acceptable.

APPENDIX-C

REPAIR WELDING PROCEDURE (NORMATIVE)

Repair Welding Procedure Qualification

Mechanical Testing

Transverse Guided-Bend Test

The radius of male member of the jig used for guided bend tests shall be RA=2.25t, where "t" is specified wall thickness of pipe.

For all pipes where fracture toughness test is specified, Charpy V- (New) Notch impact test as specified shall be included in the Repair Welding Procedure Qualification.

Hardness test as specified in **Metallographic Examination** shall be included in (New) the procedure qualification. The location of the hardness measurements is to be indicated considering the new HAZ of the repaired area.

APPENDIX-F SUPPLEMENTARY REQUIREMENT SR5

SR.5.1 Delete this section and replace with the following.

The fracture toughness of the pipes shall be determined by Charpy V-notch impact testing in accordance with ASTM A370. The impact test temperature shall be lower than or equal to that specified in the table below:

Nominal Wall Thickness, wt (mm)	Test Temperature (°C) (maximum 0°C)
wt<16.0	T
16.0<wt<25	T-10
25<wt<32	T-20
t>32	T-30

T is the minimum design temperature, which shall be specified in the purchase order. If no minimum design temperature is indicated, it shall be taken as 0°C.

SR5.4 - Delete existing section and replace with the following.

Impact testing shall be carried out using l0 x 10, l0 x 7.5 or l0 x 5mm cross-section specimens. The largest possible specimen shall be used. Where the nominal pipe dimensions are insufficient to extract a 10 x 5mm specimen, impact testing is not required.

For pipes of DN 250 (10 inch) or less, impact test specimens shall be taken parallel to the axis of the pipe (i.e., longitudinal specimens shall be taken).

For pipes greater than DN 250 (10 inch), impact test specimens shall be taken transverse to the axis of the pipe, except where the wall thickness prevents extraction of a l0 x 5mm specimen, in which case longitudinal specimens shall be taken.

For weld centerline and HAZ impact tests, only transverse specimens shall be used.

SR5.5 - This para stands deleted.

SR5A.2 - Unless specified otherwise in the Purchase Order, the specimen shall be tested at +32°F (0°C). The average shear value of the fracture appearance of the three specimens shall not be less than 75% and all heat average for each order, per diameter, size and grade shall not be less than 80%.

Note: The acceptance criteria of shear area as referred in API Spec. 5L Para SR 5A.3 SR 5A.4 and SR 5A.5 stand modified based on the above-mentioned requirements. Wherever 'heat' indicated in API Spec. 5L SR 5A.3, SR 5A.4, SR 5A.5 and SR 5A.6 shall be replaced by 'lot'. Lot shall be as per SR 5A.1 as above.

SR5B.2 One set of three specimens shall be taken from the mid-thickness location in the pipe wall at the following positions:

Seamless pipe -	Pipe body	
SAW Pipe	-	Pipe body at 90 degrees to the weld Weld centerline Fusion line Fusion line + 2mm Fusion line + 5mm
EW	-	Pipe body at 90 degrees to the weld Weld centerline

SR5B.3 - Delete existing section and replace with the following.

The minimum absorbed energy requirements for full-size (10 x 10) specimens taken transverse to the pipe axis are given in the table below.

Grade	Minimum Average Value (J)	Minimum Individual Value (J)
B	27	22
X42	27	22
X46	32	24
X52	36	27
X56	39	29
X60	41	31
X65	45	34
X70	48	36
X80	96	80

For other specimen sizes and orientations, the values above shall be multiplied by the following factors:

Size	Orientation	Factor
10x 10	Longitudinal	1.5
10x 7.5	Transverse	0.75
10x 7.5	Longitudinal	1.125
10x5	Transverse	0.5
10x 5	Longitudinal	0.75

The shear area at the fracture surface of the test specimens shall be recorded. Each sample shall exhibit not less than 85% fibrous shear.

APPENDIX-F SUPPLEMENTARY REQUIREMENTS (NORMATIVE)

SR 6 DROP WEIGHT TEAR TESTING (DWTT) ON WELDED PIPE

SR 6.1 When required as per para 6.2.5.3 of this specification, fracture toughness for all pipe size, grades and specified wall thicknesses shall be determined using Drop Weight Tear Test (DWTT) by the Manufacturer in accordance with the requirements of SR 6.2 through SR. 6.8 of API Spec 5L and as modified in this specification.

SR 6.2 Two transverse specimens shall be taken from one length of pipe per inspection lot. Inspection lot shall be 100 pipes per heat. Unless specified otherwise, the test shall be conducted at ±32°F (0°C).

SR 6.4 At least 80 percent of the heats shall exhibit a fracture appearance shear area of 75 percent or more for the specified test temperature. For X-80 grade Shear area should be 85 percent or more.

Note: Acceptance criteria for retesting indicated in API Spec. 5L para SR6.5 stands modified based on the above-mentioned requirements. Wherever `heat' indicated in API Spec. SR6.5 shall be replaced by `LOT'. Lot shall be as per SR6.2 as above.

APPENDIX-F SUPPLEMENTARY REQUIREMENTS (NORMATIVE)

SR 17 NON-DESTRUCTIVE INSPECTION OF WELDS IN ELECTRIC WELDED PIPES

SR 17.1 Supplementary Non-Destructive Inspection

The weld in electric-welded pipe shall be inspected full length for surface and subsurface defects and laminations by ultrasonic methods using automatic ultrasonic equipment.

SR 17.2 Equipment and Reference Standards

The equipment for ultrasonic inspection shall meet the requirements of 9.8.5.1 and 9.8.5.2 of this specification. The detailed procedure shall be approved by Purchaser's Representative.

SR 17.3 Acceptance Limits

If during production repeated ultrasonic indications occur requiring re-inspection by other methods and it appears that the nature of defects causing ultrasonic indications cannot be definitely established, the Manufacturer shall prove by other inspection methods (such as making cross-sections as per para 6.2.6.1 of this

specification) that these defects are not injurious defects as stipulated in this specification.

SR 17.4 Disposition

Disposition of defects shall be in accordance with API Spec. 5L para 9.9 (c) or (d).

APPENDIX-F SUPPLEMENTARY REQUIREMENTS (NORMATIVE)

SR 19 ADDITIONAL FRACTURE TOUGHNESS REQUIREMENTS.

(TRANSVERSE CHARPY V-NOTCH) FOR PSL 2 PIPE

SR 19.1 Except as allowed by SR 19.2 of API Spec. 5L, fracture toughness testing shall be performed in accordance with the requirements of para 9.3.5.1 and 9.3.5.2 of API Spec. 5L and as modified in this specification, with a test temperature of 32°F (0°C) or at a lower temperature as specified in the Purchase Order. The required minimum average absorbed energy value (based on a set of three specimens) for transverse full size body specimen shall be the greater of SR 19.1 (a) and SR 19.1 of API Spec 5L. In case longitudinal specimen is applicable as per Table 14 of API Spec. 5L, the minimum average absorbed energy value shall be 1.5 times that applicable for transverse specimen. The required minimum average full size absorbed energy value for weld and HAZ specimen shall also be the greater of SR 19.1 (a) and SR 19.1 (b) of API Spec. 5L. In addition, the lowest individual absorbed energy specimens shall not be less than 80% of the value specified.

APPENDIX-H

PURCHASER INSPECTION (NORMATIVE)

Rejection

If Purchaser Representative rejects pipes repeatedly for any recurring cause, this shall be adequate reason to refuse final inspection of subsequent pipes until the cause has been investigated and corrective action taken.

Purchaser shall specify if, and to what extent, he will monitor the (New) Manufacturer's production, quality control and inspection.

Sufficient fluorescent lighting both overhead and at pipe ends should be provided at the inspection area. Facilities shall be provided for rolling each pipe joint for inspection. The Manufacturer shall make ultrasonic or other suitable equipment available for use by the Purchaser to check the remaining wall thickness where any defects have been found out of the pipe.

APPENDIX-I

MARKING INSTRUCTIONS FOR API LICENSEES (NORMATIVE)

General

Marking shall also include Purchase Order numbers, item number, pipe number, heat number and weight.

Location of Markings

Paint used for stencil marking shall withstand a temperature up to 250°C expected to be experienced during further external anti-corrosion coating operations of line pipe by coating applicator.

Sequence of Marking

Specified Dimensions:

Actual pipe weight in kg shall also be marked.

Grades and Class:

A color code band shall be marked on inside surface of finished pipe for identification of pipes of same diameter but different wall thickness, as indicated in the Purchase Order. The color code band shall be 50 mm wide and shall be marked at a distance of 150 mm from the pipe ends.

I.5 Length:

Actual length shall be marked in meters.

I.7 Die Stamping

Additionally, the pipe number shall be placed by cold rolling or low stress dot marking on the outside surface of the pipe at an approximate distance of 50 mm from both ends. In case of non-availability of either cold rolling or low stress dot marking facility in pipe mill, an alternative marking scheme of a permanent nature may be proposed by the Manufacturer.

ANNEXURE-I (NEW) MANUFACTURING PROCEDURE SPECIFICATION

A Manufacturing Procedure Specification (MPS) outlining the successive steps and associated inspection procedures from steelmaking to finished line pipe shall be prepared and submitted to Purchaser for approval at least two weeks prior to start of production. Manufacture of pipes shall start only after the approval of Manufacturing Procedure. The approved Manufacturing Procedure shall be strictly followed in all phases of the production of pipes.

The Manufacturing procedure shall as a minimum include the following information.

Steel/ skelp maker and plant at which steel is produced.

Steel making process with details of secondary refining & degassing processes and continuous casting processes, nominal weight of each heat.

Target chemistry, chemical range of intentionally added elements, limits on heat and product analysis to be placed on steel maker.

Skelp rolling procedure indicating number of passes, their temperature and thickness reduction in each pass required by Controlled Rolling Procedure and the finishing temperature.

Heat treatment procedure document established as per para 5.4.

Ultrasonic testing of skelp and pipes using automatic and manual equipment including details of equipment, techniques, scanning pattern, probe frequency, scanning sensitivity, reference standard for calibration, dynamic calibration procedure, method of marking defects and indicating loss of coupling, inspection, and recording.

Pipe making procedure including skelp edge preparation, forming and any other special process proposed.

Production welding procedure giving details of welding speed, current and voltage, welding temperature, heat treatment temperature etc.

Ultrasonic testing of weld seam of pipe using automatic equipment including details of equipment, scanning pattern, probe frequency, scanning sensitivity, calibration pipe, extent of weld length at pipe ends not covered by all probes, method of marking defect and indicating loss of coupling, inspection, and records.

For seamless pipes, the pipe forming procedure, pipe heat treatment procedure, hydrostatic test procedure & NDT procedure details.

Dimensional tolerances, frequency of checking, measurement and record in a tabular form, including details of instruments and equipment proposed.

Details of techniques proposed for measurement of end squareness and peaking at the welds.

Hydrostatic testing, including details of testing equipment, procedure, and the relevant test pressure calculations.

Marking details.

Handling, storage and shipment procedure.

Production Report Formats.

Complete details of computerized pipe tracking system.

Note: In the event of small quantities of pipe ordered against this specification, the requirements of submission of manufacturing procedure details can be moderated subject to agreement between Purchaser and Manufacturer.

ANNEXURE-II (NEW) FIRST DAY PRODUCTION TESTS

Two lengths, each from two different heats (i.e., a total of four pipe lengths) from first day's mill production shall be selected at random for testing to verify that the Manufacturing procedure results in the quality of pipes which are in complete compliance with this specification. The pipes thus tested shall be considered to be the test pipes required per heat or per lot as per relevant clauses of this specification.

These first day's production tests shall be repeated upon any change in the manufacturing procedure as deemed necessary by Purchaser's Representative. The first day production tests shall be carried out on pipes for each wall thickness, each diameter, and each grade of steel.

The Manufacturer shall submit to Purchaser a report giving the results of all tests mentioned below. The report shall be agreed and signed by Purchaser's Representative, prior to start of regular production.

Note: In the event of small quantities of pipes ordered against this specification, like those for bends and other similar applications, as specifically called out in the purchase order, the first day production test shall not be carried out. Pipes in such case shall be accepted based on regular production tests.

The various tests to be conducted on each pipe shall be as follows. The test method and acceptance values shall be as per this specification unless specified differently in this Annexure.

Visual Examination

All pipes shall be examined visually for dimensional tolerance and apparent surface defects.

Ultrasonic Examination

The weld seam of all pipes shall be examined by automatic ultrasonic equipment.

Radiographic Examination

The weld seams of all SAW Pipes shall be radiographically examined throughout their full length in accordance with sections 9.8.4 to 9.8.4.9.

Mechanical Properties

The mechanical properties of all pipes shall be tested and shall meet the requirements of the relevant sections of this specification. The purchaser will select the places in pipe from where the test specimens shall be removed.

The following tests shall be conducted:

Two flattening test specimens shall be removed: one specimen shall be tested with weld at 0° and the other at 90°. In case it is not possible to take a transverse specimen for smaller diameter pipes, a longitudinal specimen may be taken.

Two transverse base material specimens and two transverse weld test specimens for tensile test shall be tested. In case it is not feasible to obtain transverse specimens, longitudinal specimens may be taken.

Six weld cross section specimens three (3) from each end of the pipe shall be taken, polished and etched to show the metallurgical structure. Two of these specimens shall be tested for hardness at room temperature after light etching. Manufacturer shall propose alternative scheme of location of six specimens that ensures similar coverage for checking the weld quality. For SAW pipes, this examination shall provide evidence that proper fusion has been obtained throughout the full thickness of the joint, the extent of interpenetration and the alignment of internal and external weld passes. For EW pipe, this examination shall provide proof that heat treatment of the weld zone has been adequate. For Seamless Pipes, three specimens from one pipe shall be extracted from locations 120° apart from a position chosen by the Purchaser, polished and etched for examination and checked for microstructure. A hardness survey shall be made on one of the above specimens selected by the Purchaser. Three traverses shall be made, one 2 mm from the outer edge, the second across the center and the third 2 mm from the inner edge. A minimum of 12 readings shall be taken at 5 mm intervals.

Three fracture toughness test specimens shall be taken from pipe transverse to pipe axis out of base metal at 90° from weld and tested at specified temperature. Both shear and absorbed energy values shall be determined.

Three weld specimens shall be removed perpendicular to and across weld with V-notch in the middle of the weld and shall be tested at the same specified temperature. The specimen shall be according to Para SR 5.4 of this specification.

Two reverse bend test specimens shall be removed and tested.

At points selected by Purchaser, 12 DWTT specimen shall be removed from base metal in a transverse direction. The sets of 3 base metal specimen shall be tested at - 40, -10, 0, +20°C for shear area. The value at the specified test temperature mentioned in SR 6 of this specification shall be used to evaluate the test.

In addition, all the tests and inspections required to be conducted on each pipe as per this specification shall be conducted on all the pipes selected for testing during first day production test.

In case of any test failure, no re-testing shall be allowed and the entire first day production shall be rejected.

ANNEXURE-III (NEW)

INFORMATION TO BE FURNISHED AT THE TIME OF BIDDING

The following information as applicable, shall be furnished at Bid stage with respect to line pipe to be supplied.

Name(s) of proposed Manufacturer(s)

Authorization letter(s) from Manufacturer(s), where applicable.

Authorization letter(s) from Manufacturer(s) of skelp/ plates, in case skelp manufacturing facility is not an integral part of the Supplier's pipe mill.

Record of similar supplies made earlier by the Manufacturer for both skelp and pipes, giving complete details of diameter, thickness, length, grade of plate/ pipe, service, year, name of project, name of client, and contact person. Details of similar supplies made over the last five years shall be furnished.

Descriptive technical catalogue(s) of the proposed Manufacturer(s) clearly indicating the mill capacity, existing range of production, facilities at pipe mill, etc.

Pipe manufacturing facilities/ equipment details viz.

Welding system having integrated control as per Cl. 5.1

Heat treatment facilities as per Cl. 5.1

Automatic ultrasonic testing for skelp, pipe body and weld as per Cl. 9.8.5.

Copy of valid certificate of Authority to use API monogram as per clause 1.2 of this specification. A clause-wise list of technical deviations, if considered unavoidable, from the requirements of this specification shall be furnished in the proforma enclosed with the Enquiry. Deviations indicated anywhere else in the offer shall not be considered valid. In case of no deviations, Bidder shall write "NO DEVIATIONS" in the said proforma.

SPECIFICATION FOR 3-LAYER POLYETHYLENE COATING OF LINE PIPES

SPECIFICATION NO.: MNGL/ PL COATING/TS/00

C O N T E N T S

1.0 SCOPE
2.0 REFERENCE DOCUMENTS
3.0 PLANT SCALE AND INSTALLATION
4.0 MATERIALS
5.0 FUNCTIONAL REQUIREMENTS AND PROPERTIES OF COATING
6.0 MEASUREMENT AND LOGGING
7.0 COATING PROCEDURE AND QUALIFICATION
8.0 PIPE SURFACE PREPARATION
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10.0 INSPECTION AND TESTING
11.0 HANDLING, TRANSPORTATION AND STORAGE
12.0 REPAIR OF COATING
13.0 MARKING
14.0 QUALITY ASSURANCE

ANNEXURE-I: COMBINATION OF COATING MATERIALS

1.0 SCOPE

This specification covers the minimum requirements for supply/ arrangement of all materials, plant, equipment, plant sites, consumables, utilities and application including all labour, supervision, inspection and tests etc. for application of external anti-corrosion coating of pipes by using 3 Layer Side Extruded Polyethylene Coating conforming to DIN-30670, 2012, `Polyethylene Coating of Steel Pipes and Fittings' and the requirements of this specification.

2.0 REFERENCE DOCUMENTS

Reference has also been made to the latest edition of the following standards, codes and specifications. The edition enforces at the time of floating the enquiry shall be termed as latest edition.

- ASTM D-149 : Standard Test Methods of Dielectric Breakdown voltage and Dielectric strength of solid electrical insulating materials at commercial frequencies.
- ASTM D-257 : Standard Test Methods for D-C Resistance or conductance of insulating materials.
- ASTM D-543 : Standard Method of Test for Resistance of Plastics to Chemical Reagents.
- ASTM D-570 : Standard Method of Test for Water Absorption of Plastics.
- ASTM D-638 : Standard Test Method for Tensile Properties of Plastics.
- ASTM D-792 : Standard Test Method of Specific Gravity and Density of Plastics by Displacement.
- ASTM D-1238 : Test Method for Low Rate of Thermoplastics by Extrusion.
- ASTM D-1525 : Test Method for Vicat Softening Temperature of Plastics
- ASTM D-1603 : Test Method for Carbon Black in Olefin
- ASTM D-1693 : Plastics Test Method for Environmental Stress Cracking of Ethylene Plastics
- ASTM D-2240 : Test Method for Rubber Property – Durometer Hardness.
- ASTM D-3895 : Test Method for Oxidative – Induction Time of Polyolefins by Differential Scanning Calorimetry
- ASTM G-42 : Tentative Methods for Cathodic disbanding of Pipeline Coatings Subjected to Elevated or Cyclic Temperatures.
- API RP 5L1 : Recommended Practice for Railroad Transportation of Line pipe.
- API RP 5LW : Transportation of Line Pipe on barges and marine vessels.
- DIN EN 10204 : Metallic Products – Types of Inspection Documents.
- DIN 53735 : Testing of Plastics: Determination of Melt Index of Thermoplastics.

- ISO 8502-3 : Preparation of Steel Substrates before Application of Paints and Related Products – Part-3 – Assessment of Dust on Steel Surfaces Prepared for Painting (Pressure Sensitive Tape Method)
- ISO 9002 : Quality Systems: Specification of Production and Installation.
- ISO 11124 : Preparation of Steel Substrates Before Application of Paints and Related Products.
- SIS 055900 : Preparation of Steel Substrates before Application of Paints and Related Products – Visual Assessment of Surface Cleanliness.
- APL 5L : Specification for Line Pipe
- ASME B 31.8 : Gas Transmission and Distribution Piping Systems
- ASME B 31.4 : Liquid Transportation systems for Hydrocarbons, Liquid petroleum Gas Anhydrous ammonia, and Alcohols
- CSA Z245.20-98 : External Fusion Bond Epoxy Coating for Steel Pipe

The CONTRACTOR shall be familiar with the requirements of these documents and shall make them readily available at the coating plant to all person concerned with carrying out the works specified in this specification.

PLANT SCALE AND INSTALLATION

CONTRACTOR shall size coating plant(s) after evaluating the scale of work and the time schedule required for the works. Coating plant(s), both new or existing shall be installed into a yard whose geometry and dimensions are such as to allow the execution of a continuous work schedule. For this purpose, the CONTRACTOR shall ensure nonstop work execution owing to prohibitive adverse weather conditions and install requisite equipment and plant in roofed and adequately weather-protected areas.

Plant equipment, machinery and other facilities shall be in first-class operating condition to at least meet the job requirements of quality and production. Worn-out and improvised plants are not acceptable.

The CONTRACTOR shall, at his own responsibility and cost, provide and prepare all necessary area for the storage of bare and coated pipe and all other materials, for coating yard, stock-piling and other temporary installation. For each area, CONTRACTOR shall provide necessary agreements as required with the landowner(s) / relevant Authorities, and, on work completion, to clean, restore and pay servitude and claims for damages, as applicable.

CONTRACTOR shall at its own responsibility and cost, provide for water and power supply and other utilities and consumables and obtain authorization regarding access roads and other permits required for the execution of works conforming to all the requirements of the governing authorities.

CONTRACTOR shall at its own expense provide a fully equipped laboratory and test facilities with adequate inventory to carry out tests required for the procedure qualification and during regular production. Outside testing for qualification and regular production is not acceptable to COMPANY.

The CONTRACTOR shall be fully responsible for adherence to all statutory regulations applicable for handling and disposal of the hazardous chemicals during the coating work.

The CONTRACTOR shall be responsible for obtaining all statutory approvals/ clearances from relevant Authorities including Pollution Control Board, as applicable for the coating plant(s).

MATERIALS

The three-layer coating system shall comprise of a powder epoxy primer, polymeric adhesive and a polyethylene topcoat. Coating materials shall be suitable for the service conditions and the pipe sizes involved. The coating materials i.e. epoxy powder, adhesive and polyethylene compound shall have proven compatibility. The coating system and materials shall be pre-qualified and approval COMPANY in accordance with provision Annexure-I of this specification. CONTRACTOR shall obtain prior approval from COMPANY for the coating system and coating of all materials.

The coating materials Manufacturer shall carry out tests for all properties specified in para 5.3.1 and 5.3.2 for each batch of epoxy, adhesive and polyethylene compound. In addition, the Manufacturer shall also furnish Infra- red Scan for each batch of epoxy powder. The coating materials manufacturer shall issue test certificates as per DIN EN 10204, 3.1B for each batch of materials supplied to CONTRACTOR and the same shall be submitted to COMPANY for approval prior to their use.

In addition to Manufacturer's certificate, the CONTRACTOR shall draw samples from each batch of epoxy, adhesive and polyethylene in the presence of COMPANY Representative and test for the following properties at the coating yard at least one week prior to its use, to establish compliance with the Manufacturer's certificates.

Epoxy Powder

- Gel Time
- Cure Time
- Moisture Content
- Thermal Characteristics (Tg1, Tg2, ΔH)

Adhesive

- Specific Gravity
- Melt Flow Rate
- Vicat Softening Point

Polyethylene

- Melt Flow Rate
- Specific Gravity
- Vicat Softening Point
- Moisture Content
- Oxidative Induction Time

In case of failure of any of the above tests in a batch, that batch of material shall be tested for all other tests required as per para 5.3.1 and 5.3.2 including the tests which failed. If all tests pass, the batch shall be accepted for coating. If any of the tests fail, entire batch of material shall be rejected and shall not be used for the coating.

All materials to be used shall be supplied in sealed, damage free containers and shall be suitably marked and identifiable with the following minimum information:

- Name of the manufacturer
- Type of material
- Batch Number
- Place and Date of Manufacture
- Shelf Life/ Expiry Date (if applicable)
- Quantity

All materials noted to be without above identification shall be deemed suspect and shall be rejected by COMPANY. Such materials shall not be used for coating and shall be removed from site and replaced by CONTRACTOR at its expense.

CONTRACTOR shall ensure that all coating materials are properly stored in accordance with the Manufacturer's recommendation at all times, to prevent damage and deterioration in quality prior to use.

CONTRACTOR shall be required to use all materials on a date received rotation basis, i.e. first in-first used basis.

FUNCTIONAL REQUIREMENTS AND PROPERTIES OF COATING

The coating must be able to withstand a maximum service operating temperature of +65°C and shall conform to `S' Type of coating as per DIN 30670. In addition, in open storage the coating must be able to withstand a temperature of at least +80°C, without impairing its serviceability and properties specified.

The top coat polyethylene used shall be black readymade compound, fully stabilized against influence of ultraviolet radiation (sunlight), oxygen in air and heat (due to environmental temperature as specified above). No appreciable changes shall occur during exposure to such environments up to at least a period of 6000 hours. The CONTRACTOR shall submit certificate from Manufacturer in this regard.

Properties

Properties of coating system and coating material shall comply the requirements indicated in subsequent paragraph. In case the coating/ material properties are tested as per test methods/ standards other than specified herein below, the same may be accepted provided the test procedures and test conditions are same or more stringent than the specified.

Properties of Epoxy Powder and Adhesive

CONTRACTOR shall choose such a brand of epoxy powder and adhesive that will achieve the functional requirements and properties of coating system as specified in para 5.1 and 5.3.3 of this specification respectively. Epoxy powder properties shall be as per CSA Z245.20.98 or CAN/CSA Z245.20 Series-18. The colour of epoxy powder shall be either green or dark red or any other colour approved by COMPANY except grey colour. Copolymer grafted adhesive shall have the following properties.

Sl. No.	Properties	Unit	Requirement	Test Method
a	Melt Flow Rate (190°C / 2.16 kg)	g/10 minutes	1.0	ASTM D1238
b	Vicat Softening Point	°C	100 min	ASTM D1525
c	Specific Gravity	-	0.926 min.	ASTM D792

Properties of Polyethylene Compound

Sl. No.	Properties	Unit	Requirement	Test Method
a	Tensile Strength @+25°C	N/mm2	17 min.	ASTM D 638
b	Melt Flow Rate (190°C / 2.16 kg)	g/10 minute	0.25 min.	ASTM D 1238 or DIN 53735
c	Specific Gravity @+25°C	-	0.926 min. (MDPE) 0.941 min. (HDPE)	ASTM D 792
d	Hardness @+25°C	Shore D	50 min.	ASTM D 2240
e	Water Absorption, 24 hours, @+25°C	%	0.05 max	ASTM D 570
f	Volume Resistivity @+25°C	Ohm-cm	10^15min	ASTM D 257

g	Dielectric withstand,1000 Volt/sec rise @+25°C	Volts/ mm	30,000 min	ASTM D 149
h	Vicat Softening Point	°C	110 min.	ASTM D 1525
i.	Elongation	%	600 min.	ASTM D 638
j.	Oxidative Induction Time in Oxygen at 220°C, Aluminium pan, no screen	Min	10	ASTM D3895
k	Environmental Stress Crack Resistance (ESCR) (for F50) - Medium Density, Condition “C” - High Density, Condition “B”	Hours	300 300	ASTM D1693
l.	Carbon Black Content	%	2 min.	ASTM D1603

Properties of Coating System

Sl. No.	Properties	Unit	Requirement	Test Method
a.	Bond Strength (using Type 2 Test Assembly i.e.	Kg/cm	8.0 min 5.0 min.	DIN 30670
	Dynamometer) - @ 20±5°C - @ 60±5°C			
b.	Impact Strength (min. of 30 impacts on body along the length. No breakdown allowed when tested at 25 kV)	Joules per mm of coating thicknes s	7 min	DIN 30670
c.	Indentation Hardness - @ 23±2°C - @ 70±2°C	Mm	0.2 max 0.3 max	DIN 30670
d.	Elongation at Failure	%	300 min.	DIN 30670
e.	Coating Resistively (*)	Ohm-m2	10^8 min.	DIN 30670
f.	Heat Ageing (*)	-	Melt flow rate shallnot deviate by more than 35% of	DIN 30670

			original value	
g.	Light Ageing (*)	-	Melt flow rate shallnot deviate by more than 35% of original value	DIN 30670
h	Cathodic Disbondment - @+65°C after 30 days - @+65°C after 48 hrs	mm radius of disbond ment (**)	15 max. 7 max.	ASTM G42
i.	Degree of Cure of Epoxy - Percentage Cure, ΔH - ΔTg	% °C	95 +3/ -2	CSA Z245.20-98(*)

(*) Test carried out in an independent laboratory of national/ international recognition on PE topcoat is also acceptable.

(**) Disbandment shall be equivalent circle radius of total unsealed area as per ASTM G42.

(***) Temperature to which the test specimens are to be heated during cyclic heating shall however be as per the recommendations of epoxy powder manufacturer.

MEASUREMENT AND LOGGING

CONTRACTOR shall maintain records in computer using MS ACCESS database Software containing all the relevant data of individual pipe and pipe coating including pipe number, heat number, diameter, length, wall thickness, defects, coating number, batches of materials, sampling, testing, damages, repairs, rejects and any other information that COMPANY considers to be relevant and required for all incoming bare pipes and COMPANY approved outgoing coated pipes as applicable. CONTRACTOR's documentation shall be designed to ensure full tractability of pipe and coating materials through all stages of coating and testing. CONTRACTOR shall submit this information in the form of a report at the agreed intervals. The above data shall be provided in MS ACCESS format in Compact Disc (CD), CONTRACTOR shall provide one Computer Terminal to COMPANY Representative for monitoring / tracking of the above. The CONTRACTOR shall also submit the material balance details to COMPANY for information at the end of each shift.

COATING PROCEDURE AND QUALIFICATION

Upon the award of the CONTRACT, the CONTRACTOR shall submit within two (2) weeks, for COMPANY approval, a detailed report in the form of bound manual outlining, but not limited to the following:

Details of plant(s), locations, layout, capacity and production rate(s).

Details of the equipment available to carry out the coating works including surface preparation, epoxy powder application and its recycling system, adhesive & polyethylene extrusion, moisture control facilities available for coating materials.

Details of process control and inspection equipment required for the coating process such as temperature control, thickness control, holiday testers, etc.

Details of chemical pre-treatment facilities including process control and inspection equipment for phosphoric acid wash, de-ionized-ionized water wash and chromate wash.

Facilities in the yard for unloading, handling, transport, production, storage, stockpiling, loading of bare and coated pipes and warehouses for storage of other coating materials.

Plant Organization Chart and availability of manpower including coating specialist.

Details of utilities/facilities such as water, power, fuel, access roads and communication etc. After approval has been given by COMPANY, no change in plant set-up shall be made. However, unavoidable changes shall be executed only after obtaining written approval from COMPANY.

At least two (2) weeks prior to the commencement of production coating, a detailed procedure of CONTRACTOR's methods, material proposed, etc., shall be formulated by CONTRACTOR and submitted for COMPANY's approval in the form of a bound manual. The procedure shall include, but not limited to the following information and proposals:

- Pipe inspection at the time of bare pipe receipt.
- Steel surface preparation, including preheating, removal of steel defects, method of pipe cleaning, dust removal, abrasive blast cleaning and surface profile, methods of measurements and consumables.
- Complete details of chemical pre-treatment viz phosphoric acid wash, deionized water wash, and chromate wash including product data sheets, health and safety sheets and manufacturer’s recommended application procedure.
- Pipe heating, temperatures and control prior to epoxy application.

- Complete details of raw materials including current data sheets showing values for all the properties specified together with quality control and application procedure recommendation from manufacturer(s).
- Application of FBE powder, adhesive and polyethylene, including characteristics, temperature, line speed, application window, curing time, etc.
- Quenching and cooling, including time and temperature.
- Quality assurance system, Inspection and test plan and reporting formats, including instrument and equipment types, makes and uses etc.
- Detailed method of repair of coating defects duly classified depending upon nature and magnitude of defects and repairs thereof including coating stripping technique.
- Details of instrument and equipment calibration methods including relevant standards and examples of calibration certificates.
- Complete details and inventory of laboratory and equipment for procedure qualification and regular production.
- Pipe handling and stock piling procedures.
- Sample of recording and reporting formats, including laboratory reports, certificates and requirement as per clause 6.0 of this specification.
- Complete details of test certificates for raw materials including test methods and standards used.
- Test certificates from PE compound manufacturer for tests for thermal aging coating resistivity and aging under exposure to light. These test certificates shall not be older than three years.
- Health, safety and environment plans.
- Storage details of coating materials and chemicals.
- Continuous temperature monitoring at various stages of coating. Procedure Qualification Tests (PQT) shall be carried out only after obtaining written approval of the above procedure from COMPANY.
- No change in the procedure shall be made after.

However, unavoidable changes shall be executed only after obtaining written approval from the COMPANY.

Prior to start of production, the CONTRACTOR shall, at his expense, carry out a coating PQT for each pipe diameter on max. wall thickness, for each type of pipe, for each coating material combination, and for each plant, to prove that his plant, materials, and coating procedures result in a quality of end product conforming to the properties stated in clause 5.3, relevant standards, specifications and material manufacturer's recommendations. CONTRACTOR shall give seven (7) working days' notice to witness all procedures and tests.

A batch representing a normal production run, typically 15 pipes, shall be coated in accordance with the approval coating procedure and the coating operations witnessed by COMPANY Representative. Out of these pipes, at least one pipe shall be coated partly with epoxy and partly with both epoxy and adhesive layers.

At least 5 (five) test pipes shall be selected by Company Representative for coating procedure approval tests and shall be subjected to procedure qualification testing as described hereinafter. All tests shall be witnessed by COMPANY's representative. Out of 5(five) test pipes 1(one) pipe shall be coated partly with epoxy and partly with both epoxy and adhesive layers. Remaining 4(four) test pipes shall be coated with all three layers.

During PQT, the CONTRACTOR shall qualify various procedures forming a part of coating operations as detailed subsequently.

Qualification of Procedures

Epoxy Powder Application & Recycling

During pre-qualification, air pressure in the epoxy spray guns, satisfactory functioning of monitoring system, line speed vs coating thickness, etc. shall be established. Dew point of air used to supply the fluidized bed, epoxy spray system and epoxy recycling system shall be recorded during the PQT.

Also, the CONTRACTOR shall remove samples of reclaimed powder from the reclamation system. These of reclaimed powder shall be subject to a detailed visual examination, thermal analysis and moisture content tests. The properties of the reclaimed powder shall be within the range specified by the Manufacturer of epoxy powder. In case the properties of the reclaimed powder are out of the range specified by the Manufacturer, the CONTRACTOR shall not use the reclaimed powder during regular production.

Pipe Pre-Heating

The CONTRACTOR shall establish the temperature variation due to in-coming pipe temperature, line speed variation, wall thickness variation, emissivity, interruptions. And document the same during the PQT stage. During PQT, proper functioning of pipe temperature monitoring and recording system including alarm/ hooter shall be demonstrated to the COMPANY Representative.

Surface Preparation

The procedure to clean and prepare the pipe surface shall be in accordance with the requirements of this specification. The ratio to shots to grits shall be established during procedure qualification testing, such that the resultant surface profile is not dished and rounded. The qualification shall be performed through a visual inspection, measurement of roughness and check of the presence of dust in the abrasive blast cleaned pipe surface.

Chemical Pre-Treatment

Phosphoric Acid Wash followed by De-ionized Water Wash The procedure to apply the chemical pre-treatment viz. Phosphoric acid wash followed by de-ionized water wash shall be in accordance with the recommendation of the manufacturer and shall result in intended cleaning requirements of this specification. Working solution preparation, maintaining concentration, application procedure including method of spreading, spreading rate, drying times, etc. depending upon the cleanliness/ temperature of the incoming pipe and the line speed shall be established. Temperature of the chemical, pipe pre-heat temperature vs line speed vs dwell time, rinsing procedure, testing & control, rectification measures, drying procedure etc. shall be clearly established during PQT. Also, the quality of the deionized water shall be established during PQT.

Chromate Treatment

The procedure to apply the chromate treatment shall be in accordance with the recommendation of the manufacturer. Working solution preparation, maintaining concentration, application procedure including method of spreading, spreading rate, drying times, etc. depending upon the temperature of the incoming pipe and the line speed shall be established. Temperature of the chemical, pipe pre-heat temperature vs line speed, pipe heating after chromating and time limit within which the pipe to be heated, testing & control, rectificatory measures, shall be clearly established during PQT.

Coating Application

The COMPANY Representative will check the correctness of each coating application operation, values of the main parameters of each operation, pre-heating pipe surface temperature prior to epoxy powder application temperature, line speed, fusion bonded epoxy curing time, temperature and flow rate of co-polymer adhesive and polyethylene etc. and the same shall be recorded. These values shall be complied with during regular production.

Qualification of Applied Coating

Tests on pipe coated partly with epoxy and partly with epoxy & adhesive Layers.

Degree of Cure

Epoxy film samples (min 4 Nos.) shall be scrapped from the coated pipe using hammer and cold chisel and the samples shall be taken for cure test using Differential Scanning Calorimatry (DSC) procedure. Care shall be taken to remove the samples of full film thickness avoiding inclusion of steel debris.

Glass transition temperature differential (ΔTg) and % cure (ΔH) shall comply the specified requirements.

Epoxy Layer Thickness

Epoxy layer thickness shall be checked at every one meter spacing at 3, 6, 9 and 12 o'clock positions. The thickness shall comply the specified thickness requirements.

Adhesive Layer Thickness

Adhesive layer thickness shall be checked at every one meter spacing at 3, 6, 9 and 12 o'clock positions. The thickness shall comply the specified thickness requirements.

Holiday Inspection

Entire pipe shall be subject to holiday inspection and the test voltage shall be set to exceed 5 v/micron of epoxy thickness specified for the portion coated only with epoxy layer.

Adhesion Test

Adhesion Test (24 hrs or 48 hrs) shall be carried out on the epoxy coated pipe. Test method, no. of test specimen and acceptance criteria shall comply CSA Z.245,20-98, Table 4.
Adhesion of FBE shall also be separately determined at ambient temperature at two locations by the "St Andrews Cross" method and the test shall comply with the specified requirements.

2.5° Flexibility Test

2.5° Flexibility test shall be carried out on the epoxy-coated pipe at test temperature of 0°C. Test method, no. of test specimen and acceptance criteria shall comply CSA Z.245,20-98, Table-4.

Cross-section & Interface Porosity Test

Cross section porosity and interface porosity tests shall be carried out on the epoxy coated pipe. Test method, no. of test specimen and acceptance criteria shall comply CSA Z.245,20-98, Table-4.

Tests on pipes coated only with all three layers

Bond Strength

Three test pipes shall be selected for bond strength tests. On each of the selected pipes, three bond strength test shall be performed for each specified temperature i.e. one at each end and one in the middle of the pipe and specified requirements

shall be complied with, i.e. bond strength as well as mode of separation. Length of peel shall be minimum 65mm. None of these samples shall fail.

Impact Strength

Three test pipes shall be selected for impact strength test and the test shall meet the requirements.

Indentation Hardness

Two samples for both temperatures from all pipes shall be taken. If any one of these samples fails to satisfy the requirements, then the test shall be repeated on four more samples. In this case, none of the samples must fail.

Elongation at Failure.

Six samples each from two coated pipes i.e. 18 samples in all shall be tested and the test shall comply the specified requirement. Only one sample per pipe may fail.

Cathodic Disbandment Test

Two CD test shall be carried out for the total lot of test pipes having all three layers. One test shall be carried out for 30 days duration and another test for 45 hours duration The tests shall comply the specified requirement. Whenever Procedure Qualification is necessitated for different pipe size with same coating material combination, 48 hours' test only be conducted. 30 days CD test is not mandatory in this case.

Holiday Inspection

All the pipes shall be subject to holiday inspection. The test voltage shall be as specified in para 10.4(b)

Coating Thickness Measurement

All pipes shall be subject to coating thickness measurement. Acceptance criteria shall be as per para-10.3

Air Entrapment

One sample each from pipe body and on weld (if applicable) shall be taken from all four coated pipes and the specified requirements shall be complied with.

Degree of Cure

Epoxy film samples (minimum 4 no., equally spaced) shall be scrapped from one coated pipe and the samples shall be taken for cure test using Differential Scanning Calorimetry (DSC) procedure. Care shall be taken to remove the samples of full film thickness avoiding inclusion of steel debris. Glass transition temperature differential (ΔTg) and % cure (ΔH) shall comply with the specified requirements.

Inspection of all test pipes

All pipes shall be subject to the following inspections:

surface cleanliness, surface roughness measurements and dust control immediately after second abrasive blast cleaning and salt test immediately after the De-ionized water wash.

pH of pipe surface before and after phosphoric acid wash. visual inspection of chromate coating. visual inspection of finished coating, cut back dimension, internal/ external cleanliness, end sealing and bevel inspection. Acceptance criteria for all inspection and testing shall be as specified in this specification.

After completion of the qualification tests and inspection as per para 7.4 and 7.5 above, the CONTRACTOR shall prepare and issue to COMPANY for approval a detailed report of the above tests and inspection including test reports/ certificates of all materials and coatings tested. Only upon written approval from COMPANY, CONTRACTOR shall commence production coating.

On successful completion of PQT, coating of all five (5) test pipes shall be removed and completely recycled as per the approved coating procedure specification, at CONTRACTOR's expense. Remaining pipes will be accepted by COMPANY provided they meet the requirements of this specification and need not be stripped and recycled.

The CONTRACTOR shall re-establish the requirements of qualification and in a manner as stated before or to the extent considered necessary by COMPANY, in the event of, but not limited to, the following:

Every time there is a change in the previously qualified procedure.

Every time there is a change in the manufacturer and change in formulation of any of the raw materials and change in location of raw material manufacture.

Every time the coating yard is shifted from one location to the other or every time the critical coating equipments (induction heater, epoxy spray system, extruder, etc.) are shifted. Any change in line speed during coating application.

Any time when in COMPANY's opinion the properties are deemed to be suspect during regular production tests.

COMPANY reserves the right to conduct any or all the test required for qualification through an independent laboratory or agency at the cost of CONTRACTOR when in COMPANY's opinion, the results are deemed suspect. COMPANY's decision shall be final.

PIPE SURFACE PREPARATION

Unless specified otherwise, the pipes shall be supplied free from mill applied oils but may be subject to contamination occurring during transit.

Prior to cleaning operation, CONTRACTOR shall visually examine the pipes and shall ensure that all defects, flats and other damages have been repaired or removed. The CONTRACTOR shall also remove marking stickers, if any, present within the pipe. Record shall be kept of such marking on the stickers of ensure traceability of pipe after coating.

Any oil, grease, salt or other contaminants detrimental to the formation of a good coating bond or coating quality shall be removed prior to coating application. Contaminants may be removed by the use of non-oily solvents. Gasoline or kerosene shall not be used for this purpose. Visible oil and grease spots shall be removed by solvent wiping. Solvents cleaning shall be in accordance with SSPC-SP1. Steel surface shall be allowed to dry before abrasive cleaning.

All pipes shall be preheated to a temperature 65°C to 85°C prior to abrasive blast cleaning. The external surface of the pipe shall be cleaned using 2 no. dry abrasive blasting cleaning units to achieve the specified surface cleanliness and profile. After first abrasive blast cleaning, chemical pre-treatment with phosphoric acid solution as per para 8.6 shall be carried out prior to second abrasive blast cleaning. However, at the option of CONTRACTOR, chemical pre-treatment with phosphoric acid solution as per para 8.6 may be carried out after the second abrasive blaster. The abrasive blast cleaning units shall have an effective dust collection system to ensure total removal of dust generated during blast cleaning from the pipe surface. The equipment used for abrasive blast cleaning shall meet the specified requirements and shall be free from oil, water soluble salts and other forms of contamination to ensure that the cleaning process is not impaired. Traps, separators and filters shall be checked for condensed water and oil at the start of each shift and emptied and cleaned regularly. During abrasive blast cleaning the metallic abrasive shall be continuously sieved to remove "fines" and "contaminates" and the quality checked at every four hours. Abrasive used for blast cleaning shall comply ISO-11124.

Suitable plugs shall be provided at both pipe ends to prevent entry of any shot/grit into pipe during blast cleaning operations. These plugs shall be removed after

blast cleaning. Alternatively, the CONTRACTOR may link pipes suitably together to prevent the entry of any short/grit into the pipe.

Chemical Pre-treatment with Phosphoric Acid Solution

All pipes shall provide chemical pre-treatment with phosphoric acid solution. 10% solution of phosphoric acid, Oakite 31 / 33 or equivalent, shall be used to remove all soluble salts and other soluble contaminations. The CONTRACTOR shall provide data sheets and supporting documentation for the phosphoric acid to be used. The documentation shall verify that the phosphoric acid is suitable for the treatment of line prior to the application of the specific fusion bonded epoxy powder being applied and the final coating will meet fully the requirements of this specification.

The pipe temperature immediately prior to the phosphoric acid treatment shall be in the range of 45 to 75 °C. Phosphoric acid treatment shall be followed immediately by washing with de-ionized water. Deionized water used shall conform to the following requirements:

Sl. No.	Properties	Unit	Requirement
a	Turbidity	NTU	1 max.
b	Conductivity	µmho/cm	5 max.
c	Hardness	-	Nil
d	Total Alkalinity as CaCO3	mg/l	2 to 3
e	Chloride as Cl	mg/l	1 max.
f	Sulphate as SO4	mg/l	1 max.
g	PH	-	6.5 to 7.5

Tests to determine the above properties shall be carried out in accordance with “Standard Methods for the Examination of Water and Wastewater” published jointly by American Public Health Association, American Water Works Association and Water Pollution Control Federation.

Quality of the deionized water shall be monitored at the start of each shift and at every four-hour interval. Non-compliance of deionised water wrt the above requirements shall cause for stoppage of the operations.

The pH of the pipe surface shall be determined both before and after the de-ionised water rinse initially on each pipe and in case of consistent results, the frequency may be relaxed to once per hour at the discretion of COMPANY Representative. The measured pH shall be as follows:

Before de-ionised water wash: 1 to 2
After de-ionised water wash : 6 to 7

After the de-ionised water wash, the pipe shall be dried with dry air and preheated to a temperature of 65°C to 85°C.

The salt tests shall be carried out after de-ionised water rinse. One test shall be carried out at one end of each pipe. The acceptance criteria shall be 2µg/cm2.An approved salt meter (SCM 400 or equivalent) shall be used to carry out salt tests and shall be calibrated in accordance with the equipment manufacturer's recommendation.

Abrasive cleaning carried out shall be such that the resultant surface profile is not dished and rounded when viewed with 30X magnification. The standard of finish for cleaned pipe shall conform to near white metal finish to Sa 2½ of Swedish Standard SIS 055900 latest edition. Surface of pipe after abrasive blast cleaning shall have an anchor pattern of 50 to 70 microns (Rz). This shall be measured for each pipe by a suitable instrument such as surface profile depth gauge. In addition, the pipe surface after blast cleaning shall be checked for the degree of cleanliness (Sa 2½), degree of dust and shape of profile. Degree of dust shall comply the requirements of ISO:8502 –3. Acceptance limit shall be either quality rating 2 or Class 2.

All pipes shall be visually examined for presence of any shot/ grit/ loose material left inside the pipe during blast cleaning. Suitable mechanical means (stiff brush) shall be employed to remove the same before the pipes are processed further. In addition, inside surface of the pipe shall also be visually inspected for presence of any foreign material or shots and grit (free or embedded/ sticking to pipe inside surface). The pipe inside surface shall be examined using sharp floodlight focused at the middle of the pipe at one end while inspection is carried out visually from other end. Any foreign material or shots/ grit present in the pipe shall be completely removed by mechanical/ brush, high pressure air jets, by tilting of pipe etc.

At no time shall the blast cleaning be performed when the relative humidity exceeds 85%. The CONTRACTOR shall measure the ambient conditions at regular intervals during blast cleaning and coating operations and keep records of prevailing temperature, humidity and dew point.

The blast cleaned surface shall not be contaminated with dirt, dust, metal particles, oil, water or any other foreign material, nor shall be surface or its anchor pattern be scarred or burnished. All blast cleaned pipe surface shall be kept in dust free enclosure prior to coating. After blast cleaning, all surfaces shall be thoroughly inspected under adequate lighting to determine anchor pattern, quality of blasting and identify any surface defects prior to coating application. All surface defects such as slivers, scab, burns, laminations, welds spatters, gouges, scores, indentations, slugs or any other defects considered injurious to the coating integrity made visible during blast cleaning shall be reported to the COMPANY Representative and on permission from COMPANY Representative, such defects shall be removed by filing or grinding. After any grinding or mechanical repairs, the remaining wall thickness shall be checked and compared with specified thickness. Ay pipes having thickness less than95% of specified thickness shall be kept aside and disposed off as per the instructions of COMPANY

Representative. The method employed to remove surface defects shall not burnish or destroy then anchor pattern or contaminate the surface. Pneumatic tools shall not be used unless they are fitted with effective air/ oil and water traps. Where burnishing results in destruction of anchor pattern, the anchor patter shall be restored by suitable means. Pipes which have damages repaired by grinding and have ground areas more than 50mm in diameter shall be re-blasted.

Any dust or loose residues that have been accumulated during blasting and/ or during filing/ grinding operations shall be removed by vacuum cleaning. If contamination of surface occurs, the quality of blast cleaning method and process shall be examined. If the surface roughness is outside the specified limit, the blast cleaning material shall be checked and replaced.

Upon Completion of the blasting operations, the quality control supervisor shall accept the pipe for further processing or return for re-blasting after removal of defects/ imperfections. In case imperfections are considered detrimental to the coating quality, the same shall be reported to COMPANY's Representative for final decision on rejection or re-blasting/ removal of defects. Re-blasting/ removal of defects or returning pipe to the yard shall be at the CONTRACTOR's cost. COMPANY's Representative, in addition, reserves the right to initiate any of the above actions during periodic inspections for oil, dust, salt, imperfections, surface defects, lack of white metal finish etc.

In order to ensure that pipe with defects is not processed further, provisions shall be available to lift the pipes from inspection stand.

Chemical Pre-treatment with Chromate Solution

Following completion of abrasive blast cleaning, all pipe surface shall be chemically Pre-treated with a 10% strength chromate solution.

The CONTRACTOR shall provide data sheets and supporting documentation for the chemical to be used. The documentation shall verify that the chemical is suitable for the treatment of line pipe prior to the application of the specific fusion bonded epoxy powder being applied and the final coating will meet fully the requirements of this specification.

The chemical pre-treatment shall be applied fully in accordance with the chemical suppliers' instructions and in a manner that ensures 100% uniform coverage of the pipe surface without introducing surface contamination.

The CONTRACTOR shall check that the concentration for the chemical pre-treatment solution remains within the range recommended by the chemical manufacturer for the pipe coating process. The concentration shall be checked at the make up of each fresh solution and once per hour, using a method approved by the chemical manufacturer. The CONTRACTOR shall also ensure that the

chemical pre- treatment solution remains free from contamination at all times. Recycling of chemical pretreatment solution is not permitted.

The CONTRACTOR shall ensure that the temperature of the substrate is maintained between 40°C and 80°C and the chromate solution temperature does not exceed 60° or as recommended by the manufacturer.

The chromate coating shall be smooth, even, free from runs, drips or excessive application and lightly adherent with no flaking of the coating. The chromate coated steel must be thoroughly dried immediately after application and shall be achieved by boiling off any residual solution on the surface.

The total allowable elapsed time between completion of the blasting operations and commencement of the pre-coating and heating operations shall be such that no detectable oxidation of the surface occurs. Relative humidity readings shall be recorded every half on hour during the blasting operations in the immediate vicinity of the operations. The maximum elapsed time shall not exceed the duration given below:

Relative Humidity %	Maximum elapsed time
> 80	2 hours
70 to 80	3 hours
< 70	4 hours

Any pipe not processed within the above time-humidity requirement shall be completely re-blasted. Any pipe showing flash rusting shall be re-blasted even if the above conditions have not been exceeded.

Pipe handling between abrasive blasting and pipe coating shall not damage the surface profile achieved during blasting. Any pipe affected by the damage to the surface exceeding 200mm2 in area/ or having contamination of steel surface shall be rejected and sent for re-blasting.

COATING APPLICATION

The external surface of the cleaned pipe conforming to clause 8.0 of this specification shall be immediately coated with 3-layer extruded polyethylene coating in accordance with the procedures approved by COMPANY, relevant standards and this specification. In general, the procedure shall be as follows:

Pipe Heating

Immediately prior to heating of pipe, all dust and grit shall be removed from both inside and outside of the pipe by a combination of air blast, brushing and vacuum cleaning. Suitable arrangements shall be made to protect the bevel ends from getting damaged during the coating operation.

An induction heater or gas furnace shall be used for heating the pipe. The method shall be capable of maintaining uniform temperature along the total length of the pipe and shall be such that it shall not contaminate the surface to be coated. In case of induction heating, an appropriate frequency shall be used to ensure deep heating and intense skin heating is avoided. Gas fired heating system shall be well adjusted so that no combustion products are deposited on the steel surface. This shall be demonstrated on bare pipes prior to start of PQT. Oxidation of the cleaned pipe surfaces prior to coating (in the form of bluing or other apparent oxide formation) is not acceptable.

External surface of the pipe shall be heated to about 190°C or within a temperature range (min. to max.) as recommended by the powder manufacturer. Required pipe temperature shall be maintained as it enters the coating chamber.

Temperature of the pipe surface shall be continuously monitored & recorded by using suitable instruments such as infrared sensors, contact thermometers, thermocouples etc. The recording method shall allow to correlate each line pipe. The monitoring instrument shall be able to raise an alarm/ activate audio system (hooter) in the event of tripping of induction heater/ gas fired heater or in the event of pipe temperature being outside the range recommended by the manufacturer. Any deviation from the application temperature range recommended by manufacturer shall be rectified. If immediate rectification isnot feasible, the production shall be stopped until cause of deviation has been removed. Any pipe coated during the duration of temperature deviation shall be identified by marking and rejected. Such rejected pipes shall be stripped and recoated.

Temperature measuring & monitoring equipment shall be calibrated twice every shift and/ or as per COMPANY representative's instruction.

Contractor shall ensure that pipe surface emissivity variations are minimized during pipe heating. To avoid significant variance, more than once blasted joints should be coated at the same time and not mixed with joints blasted only once.

Pipe Coating

i. Subsequent to pipe heating, coating consisting of following layers shall be applied onto the pipe.

   Electrostatic application of epoxy powder of minimum dry film thickness 0.150 mm, unless otherwise specified. The maximum thickness shall not exceed the epoxy thickness specified by epoxy powder manufacturer.

ii. Grafted co-polymer adhesive applied by extrusion, minimum thickness 0.200 mm.

iii. Polyethylene coating by extrusion.

The coated pipe shall be subsequently quenched and cooled in water for a period which shall sufficiently lower the temperature of pipe coating to permit handling and inspection.

Minimum total thickness of finished coating shall be as under:

Pipe Size (Specified Outside Diameter)	**Minimum Coating Thickness (mm) (*)**	
	Normal Type (n)	**Reinforced Type (v)**
Up to 10¾" (273.1 mm)	2.0	2.7
Over 10¾" (273.1 mm) to below 20" (508.0 mm)	2.2	2.9
From 20" (508.0mm) to below 32" (813.0 mm)	2.5	3.2
From 32" (813.0 mm) and above	3.0	3.7

(*) In case HDPE material is used as topcoat, 10% reduction in minimum coating thickness specified is permissible.

Required coating thickness shall be Normal Type (n), unless otherwise specified.

Coating materials shall be inspected in accordance with the manufacturer's recommendation prior to coating application and it shall be ensured that the materials are moisture free. In case the relative humidity exceeds 80%, the adhesive and polyethylene material shall be dried using hot air as per the directions of COMPANY representative.

Prior to starting the application of fusion bonded epoxy powder, the recovery system shall be thoroughly cleaned to remove any unused powder remaining from a previous line pipe coating application. The use of recycled powder shall be permitted subjected to:

satisfactory qualification of the reclaimed system during PQT stage:
the proportion of the reclaimed powder in the working mix does not exceed 20% at any one time. The quality of the recycled powder being routinely checked during production, at a minimum frequency of once per shift and consistently meets the requirements stated in para of Properties of Epoxy Powder and Adhesive.

Dry air, free of oil and moisture shall be used in the coating chamber and spraying system and for this purpose filters, dehumidifier/ heater as required alongwith control & monitoring system shall be provided for this purpose. Dew point of air

used to supply the fluidized bed, epoxy spray system and epoxy recycling system shall be at least (-) 40°C and this shall be monitored during the regular production.

Air pressure in the epoxy spray guns shall be controlled, continuously monitored and recorded by using suitable instruments. The air pressure shall be controlled within the limits established during coating procedure qualification. The monitoring system shall be able capable of raising an alarm/ activate audio system (hooter) in the event of change in air pressure beyond the set limits. Any deviation from the pre-set limits shall be rectified. If immediate rectification is not feasible, the production shall be stopped until cause of deviation has been removed. Any pipe coated during the duration of air pressure deviation shall be identified by suitable marking and rejected. Such rejected pipes should be striped and recoated.

Extruded adhesive layer shall be applied before gel time of the epoxy coating has elapsed. The application of the adhesive layer shall not be permitted after epoxy is fully cured. The CONTRACTOR shall establish, to the satisfaction of the COMPANY representative, that the adhesive is applied within the gel time window of epoxy and at the temperature recommended by the adhesive manufacturer. The CONTRACTOR shall state the minimum and maximum time interval between epoxy and adhesive application at the proposed pre-heat temperature and line speed.

Extruded polyethylene layer shall be applied over the adhesive layer within the time limit established during PQT stage and within the time/ temperature range recommended by the manufacturer. The extrusion temperatures of the adhesive and polyethylene shall be continuously recorded. The monitoring instruments should be independent of the temperature control equipment. The instruments shall be calibrated prior to start of each shift.

CONTRACTOR shall ensure that there is no entrapment of air or void formation along the seam weld (where applicable) during application of coating. Air entrapment below the coating and also along the coating overlap shall be prevented by forcing the coating on to the pipe using high pressure roller of suitable design during coating application. In case it is not adequately achieved, CONTRACTOR shall supplement by other method to avoid air entrapment. The methods used shall be witnessed and approved by COMPANY.

Resultant coating shall have a uniform gloss and appearance and shall be free from air bubbles, wrinkles, holidays, irregularities, discontinuities, separation between layers of polyethylene & adhesive, etc.

Coating and/ or adhesive shall terminate 150mm (+)20/(-)0 mm from pipe ends. The adhesive shall seal the end of applied coating. CONTRACTOR shall adopt mechanical brushing for termination of the coating at pipe ends. Edge of the coating shall be shaped to form a bevel angle of 30° to 45°.

Failure to comply with any of the above applicable requirements and of the approved procedure shall be cause for the rejection of the coating and such coating shall be removed in a manner approved by COMPANY at CONTRACTOR's expense.

INSPECTION AND TESTING

General

CONTRACTOR shall establish and maintain such quality assurance system as are necessary to ensure that goods or services supplied comply in all respects with the requirements of this specification. The minimum inspection and testing to be performed shall be as indicated subsequently herein.

Visual Inspection

Immediately following the coated, each coated pipe shall be visually checked for imperfections and irregularities of the coating. The coating shall be of natural colour and gloss, smooth and uniform and shall be blemish free with no dust or other particulate inclusion. The coating shall not slow and defects such as blisters, pinholes, scratches, wrinkles, engravings, cuts swelling, disbanded zones, air inclusions, tears, voids or any other irregularities. Special attention shall be paid to the areas adjacent to the longitudinal weld (if applicable), adjacent to the cut back at each of pipe and within the body of the pipe. In addition, inside surface of the pipe shall also be visually inspected for presence of any foreign material or shots and grit (free or embedded/ sticking to pipe inside surface). The pipe inside surface shall be examined using sharp floodlight focused at the middle of the pipe at line end while inspection is carried out visually form other end.

Coating Thickness

The coating thickness shall be determined by taking at least 10 measurements at locations uniformly distributed over the length and periphery of each pipe. In case of weld pipes, five of the above readings shall be made at the apex of the weld seam, uniformly distributed over the length of the coated pipe. All the readings must meet the minimum requirements. However, localized coating thickness of less than the permissible minimum thickness can be tolerated on the condition that it does not attain a total extent of more than 5cm2 per meter length of coated pipe, and the actual coating thickness does not drop more than 10% below the permissible minimum coating thickness at these locations. The frequency of thickness measurement as stated above shall be initially on every pipe, which shall be further reduced depending upon consistency of results, at the sole discretion of COMPANY's representative. Results of all measurements shall be recorded.

Thickness of epoxy and adhesive shall be measured at the beginning of each shift and whenever the plant re-starts after any stoppage for compliance. Coating of

epoxy and adhesive on portion of pipe required for this purpose, stripping, and recoating of such partly coated pipe shall be at CONTRACTOR's expense.

Coated pipes not meeting the above requirements shall be rejected. The CONTRACTOR shall remove the entire coating and the pipe shall be recycled to the cleaning and coating operations as per the approved procedure and shall be to CONTRACTOR's expenses.

Holiday Detection

Each coated pipe length shall be checked over 100% of coated surface by means of a "holiday detector" of a type approved by COMPANY for detecting holidays in the finished coating.

The holiday detector shall be a low pulse DC full circle electronic detector with audible alarm and precise voltage control with DIN VDE 0433 Part 2 or Annex. E of DIN 30670:2012. The set voltage for inspection shall be 25 kV. Travel speed shall not exceed 300 mm/s.

CONTRACTOR shall calibrate the holiday detector at least once every 4 hours of production. CONTRACTOR shall have necessary instruments or devices for calibrating the holiday detector.

Any pipe coating shall be rejected if more than 1(one) holiday & area more than 100 cm2 in size are detected in its length attributable to coating process.

Holidays which are lesser in number and size than those mentioned in (d) above, shall be repaired in accordance with a approved procedure and shall be to CONTRACTOR's expense.

Bond Strength Test

CONTRACTOR shall conduct bond strength test for composite coating as per clause 5.3.3 (a) of this specification. A minimum of 65mm length shall be peeled. First 20mm and last 20mm shall not be counted for assessment of bond strength.

The frequency of test for cut back portions shall be one pipe in every Fifteen (15) pipes coated and for middle of pipe shall be one pipe in every Sixty (60) pipes coated or one pipe per shift whichever is higher. On each selected pipe, bond strength shall be performed for each specified temperature. Test shall be performed at each cut back portion and one in the middle of pipe. The system shall disbond/ separate cohesively either in adhesive layer or in polyethylene layer. Majority of the peeled off area on the pipe shall show presence of adhesive. Disbandment/ separation at epoxy to steel interface or epoxy/ adhesive interface or adhesive/ polyethylene interface shall not be permitted. The failure mode shall be recorded for each test.
In case the above tests do not comply with the above requirement,

CONTRACTOR shall test all the preceding and succeeding coated pipes. If both pipes pass the test, then the remainder of the pipe joints in that shift shall be deemed satisfactory. If either pipe fails to meet the specified requirements, all pipes coated during the shift shall be tested until the coating is provided acceptable. Rejected coated pipes shall be stripped and re-coated in accordance with approved procedure, at CONTRACTOR's expense.

The frequency of bond strength test as per para 10.5(b) for cut back portion may be reduced depending upon the consistency of result to one pipe in every twenty-five (25) instead of every fifteen pipes, at the sole discretion of the COMPANY Representative.

Impact Strength

Impact resistance test shall be conducted as per clause 5.3.3 (b) of this specification. Initially the frequency of test shall be 2(two) coated pipes per shift, which may be further reduced and/ or waived depending upon consistently acceptable results at the sole discretion of COMPANY's representative.

Minimum thirty (30) impacts located equidistant along the length of coated pipe shall be performed.

Immediately after testing, the test area shall be subjected to holiday detection at the same voltage as used prior to impact strength test. The pipe shall be rejected if any holiday is noted in the test area.

In case of test failure, retesting and disposal of coated pipe shall be as per 10.5(c) above.

Indentation Hardness

Indentation hardness test shall be as per clause 5.3.3 (c) of this specification.

The frequency of test shall be initially 2(two) coated pipes per shift which shall be further reduced to one test each on 2 coated pipes per week at random after 1 week of consistently acceptable results. Two samples for each temperature shall be taken from the cut back portion of coated pipe and one in middle of the pipe for this test.

In case of test failure, retesting and disposal of coated pipe shall be as per 10.5(c) above.

Air Entrapment Test

Strips from bond strength tests or coated pipe may be used to help determine the porosity of the finished coating. Strip shall be also cut from longitudinal weld (if applicable) at cut back portion and examined for the presence of voids.

Bond strength strip shall be viewed from the side and at the failure interface.

At the pipe bond strength test location, utility knife shall be used to cut the edge of the coating to a 45° angle and view with a microscope. Similar examination shall be done in the coating cut back area.

One sample each either on the bond strength strip or coated pipe and strip cut from the longitudinal weld (if applicable) shall be examined for air entrapment per shift. Strips shall be viewed from the side.

All examination shall be done using a 30X magnification hand-held microscope. The polyethylene and adhesive layers shall have no more than 10% of the observed area taken up with air entrapment (porosity or bubbles). Air entrapment shall not occupy more than 10% of the thickness in each case. Bubbles shall not link together to provide a moisture path to the epoxy layer.

In case of test failure, retesting and disposal of coated pipe shall be as per 10.5(c) above.

Degree of Cure

Epoxy film samples shall be removed from cut back portion of the coated pipe using hammer and cold chisel and the samples shall be taken for cure testusing DSC procedure. Care shall be taken to remove the samples of full film thickness avoiding inclusion of steel debris. Glass transition temperature differential (ΔTg) and % cure (ΔH) shall comply the specified requirements.

Frequency of this test shall be once per shift. Pipe shall be selected randomly by COMPANY Representative during the middle of a shift. Suitable provisions/ arrangements as per the instructions of COMPANY Representative shall be made by the CONTRACTOR for this purpose.

In case of test failure, production carried out during the entire shift shall be rejected, unless the CONTRACTOR proposes a method to establish the compliance with the degree of cure requirements of all pipes coated during that shift.

Epoxy Layer Adhesive Test

Adhesion of epoxy layer shall be determined at ambient temperature by the "St Andrews Cross" method i.e. by cutting two straight lines through the epoxy layer with a sharp knife. The incisions shall intersect at an angle of 30°/ 150°. The epoxy coating shall resist disbandment from the steel when attempts are made to flick/ lift the coating from the 30° angle with a sharp knife.

Frequency of this test shall be once per shift. The test shall be carried out at the cut back portion of the pipe from which the Degree of Cure test has been carried out as per para 10.9 above.

In case of test failure, retesting and disposal of coated pipe shall be as per 10.9(c) above.

Cathodic Disbandment Test

48 hours CD test shall be conducted as per clause 5.3.3. (h) of this specification.

The frequency of this test shall be once in every two weeks or one test representing each batch of epoxy powder used, whichever is more frequent.

In case the test fails to conform to the specified requirement, at the option of the CONTRACTOR, all pipes coated after the previous acceptable test and prior to next acceptable test shall be rejected or the test shall be repeated or the shall be repeated using two additional samples taken from the same end of the affected pipe. When both retests conform to the specified requirement, the lot of pipes shall be accepted. When one or both the retests fail to conform to the specified requirement, all coated pipes after previous acceptable test and prior to next acceptable shall be rejected. All rejected pipes shall be stripped, re-cleaned and re-coated. COMPANY may consider a further retest program to determine whether any of the affected pipe meet the criteria for acceptance upon written request by the CONTRACTOR.

Damages occurring to pipe coating during above tests shall be repaired in accordance with approved coating repair procedure.

Repairs occurring on account of the production test are however excluded from above mentioned limitations at para 10.4 (d) above.

COMPANY reserves the right to perform inspection and witness tests on all activities concerning the pipe coating operations starting from bare pipe to finished coated pipe ready for dispatch and also testing of raw materials. CONTRACTOR shall give reasonable notice of time and shall provide without charge reasonable access and facilities required for inspection to the COMPANY's Representative. Inspection and tests performed or witnessed by COMPANY's

Representative shall in no way relieve the CONTRACTORs obligation to perform the required inspection and tests.

In case rate of defective or rejected pipes and/ or samples tests are 10% or more for a single shift (typically 8 hours), CONTRACTOR shall be required to stop production and carry out a full and detailed investigation and shall submit findings to COMPANY for approval. CONTRACTOR shall recommence the production only after getting the written permission from COMPANY.

Under no circumstances any action or omission of the COMPANY's representative shall relieve the CONTRACTOR of his responsibility for material and quality of coating produced. No pipes shall be transported from the coating plants unless authorized by COMPANY in writing.

HANDLING, TRANSPORTATION AND STORAGE

The CONTRACTOR shall be fully responsible for the pipe and for the pipe identification marking from the time of "taking over" of bare pipe from COMPANY until such time that the coated line pipes are `handed over' and/ or installed in the permanent installation as the case may be according to the provisions of the Contract. At the time of "taking over" of bare pipes CONTRACTOR shall inspect and record all the relevant details referred above including pipe defects in the presence of COMPANY. All pipes shall be checked for bevel damages, weld seam height, dents, gouges, corrosion and other damages. COMPANY Representative shall decide whether pipe defects/ damages are suitable for repair. Damage to the pipes which occur after the CONTRACTOR has taken delivery such as dents, flats, or damage to the weld ends shall be cut off or removed and pipes rebevelled and repaired again as necessary. The cost of this work, as well as that of the pipe lost in cutting and repair shall be to the CONTRACTOR's account. All such works shall be carried out after written approval of the COMPANY. Any reduction in length shall be indicated in the CONTRACTOR's pipe tracking system.

The CONTRACTOR shall unload, load, stockpile and transport the bare pipes within the coating plant(s) using suitable means and in a manner to avoid damage to pipes. The CONTRACTOR shall stockpile the bare pipes at the storage area of the coating plant. The CONTRACTOR shall prepare and furnish to COMPANY a procedure/ calculation generally in compliance with API RP- 5L1 for pipe stacking, which shall be approved by COMPANY prior to commencement.

The CONTRACTOR shall load, unload, transport and stockpile the coated pipes within the coating plant using approved suitable means and, in a manner, to avoid damage to the pipe and coating. The procedure shall be approved by COMPANY prior to commencement of work.

Coated pipes may be handled by means of slings and belts of proper width (minimum 60mm) made of non-abrasive/ non-metallic materials. In this case,

pipes to be stacked shall be separated row by row to avoid damages by rubbing the coated surface in the process of taking off the slings. Use of round sectional slings are prohibited. Forklifts may be used provided that the arms of the forklift are covered with suitable pads preferably rubber.

Bare/ coated pipes at all times shall be stacked completely clear from the ground so that the bottom row of pipes remain free from any surface water. The pipes shall be stacked at a slope, so that driving rain does not collect inside the pipe. Bare/ coated pipes may be stacked by placing them on ridges of sand free from stones and covered with a plastic film or on wooden supports provided with suitable cover. This cover can, for example, consist of dry, germ free straw with a plastic film, otherwise foam rubber may be used. The supports shall be spaced in such a manner as to avoid permanent bending of the pipes. Stacks shall consist of limited number of layers such that the pressure exercised by the pipe's own weight does not cause damages to the coating. CONTRACTOR shall submit calculations for COMPANY approval in this regard. Each pipe section shall be separated by means of spacers suitably spaced for this purpose. Stacks shall be suitably secured against falling down and shall consist of pipe sections having the same diameter and wall thickness. The weld seam of pipes shall be positioned always in a manner so as not to touch the adjacent pipes. The ends of the pipes during handling and stacking shall always be protected with bevel protectors.

The lorries used for transportation shall be equipped with adequate pipe supports having as many round hollow beds as there as pipes to be placed on the bottom of the lorry bed. Total width of the supports shall be at least 5% of the pipe length and min. 3 Nos. support shall be provided. These supports shall be lined with a rubber protection and shall be spaced in a manner as to support equal load from the pipes. The rubber protection must be free from all nails and staples where pipes are in contact. The second layer and all following layers shall be separated from the other with adequate number of separating layers of protective material such as straw in plastic covers or mineral wool strips or equivalent, to avoid direct touch between the coated pipes.

All stanchions of lorries used for transportation shall be covered by non- abrasive material like rubber belts or equivalent. Care shall be exercised to properly cover the top of the stanchions and other positions such as reinforcement of the truck body, rivets, etc. to prevent damage to the coated surface. Slings or non-metallic straps shall be used for securing loads during transportation. They shall be suitable padded at the contact points with the pipe.

Materials other than pipes and which are susceptible of deteriorating or suffering from damages especially due to humidity, exposure to high thermal excursions or other adverse weather conditions, shall be suitably stored and protected. Deteriorated materials shall not be used and shall be replaced at CONTRACTOR's expenses. These materials, shall always be handled during loading, unloading and storage in a manner so as to prevent any damage, alteration and dispersion. When supplied in containers and envelopes, they shall not be dropped or thrown,

or removed by means of hooks, both during the handling operations till their complete use. During unloading transport and utilization, any contact with water earth, crushed stone and any other foreign material shall be carefully avoided.

CONTRACTOR shall strictly follow Manufacturer's instructions regarding storage temperature and methods for volatile materials which are susceptible to change in properties and characteristics due to unsuitable storage. If necessary, the CONTRACTOR shall provide for a proper conditioning.

In case of any marine transportation of bare/ coated line pipes involved, the same shall be carried out in compliance with API RP 5LW. CONTRACTOR shall furnish all details pertaining to marine transportation including necessary drawings of cargo barges, storing/ stacking, sea fastening of pipes on the barges/ marine vessels to the COMPANY for approval prior to undertaking such transportation works. In addition, CONTRACTOR shall also carry out requisite analyses considering the proposed transportation scheme and establish the same is safe and stable. On-deck overseas shipment shall not be allowed.

REPAIR OF COATING

CONTRACTOR shall submit to COMPANY, its methods and materials proposed to be used for executing a coating repair and shall receive approval from COMPANY prior to use. In open storage the repair coating materials must be able to withstand a temperature of at least +80°C, without impairing its serviceability and properties. CONTRACTOR shall furnish manufacturer's test certificates for the repair materials clearly establishing the compliance of the repair materials with the applicable coating requirements indicated in this specification. All pipe leaving coating plant, shall have sound external coating with no holiday porosity on 100% of the surface. Defects, repairs and acceptability criteria shall be as follows:

Pipes showing porosities or very small damage not picked up during holiday test and having a surface less than 0.5 cm2 or linear damage (cut) of less than 3 cm shall be repaired by stick welding using material of same quality.

Damages caused to coating by handling such as scratches, cuts, dents, gouges, not picked up during holiday test, having a total reduced thickness on damaged portion not less than 2.0mm and an area not exceeding 20 cm2 shall be rebuild by heat shrink patch only and without exposing to bare metal.

Defects or size exceeding above mentioned area or holidays of width less than 300 mm shall be repaired with heat shrinks repair patch by exposing the bare metal surface.
Defects exceeding the above and in number not exceeding 2 per pipe and linear length not exceeding 500mm shall be repaired using heat shrinkable sleeves of HTLP80 or equivalent.

Pipes with bigger damage shall be stripped and recoated.

In case of coating defect close to coating cut back, CONTRACTOR shall remove the coating throughout the entire circumference of the pipe down to the steel surface and increase the coating cut back length. Now if the coating cut back exceeds 170 mm of linear length of pipe then the coating shall be repaired using heat shrinkable sleeves thereby making up the coating cut back length of 150 mm. Notwithstanding the above, under no circumstances, if the defects eexceed70mm from the original coating cut back length, the entire coating shall be removed, and the pipe shall be recycled through the entire coating procedure. Irrespective of type of repair, the maximum No(s) of repair of coating shall be as follows:

Holiday repair of size ≤ 100 cm2 attributable to process of coating application shall be maximum of one per pipe.

In addition to the above, defects to be repaired by heat shrink patch/ sleeve shall be maximum 2(two) per pipe. Defects exceeding the above limits shall cause pipe coating rejection, stripping, and recoating. The above is exclusive of the repairs warranted due to testing as per this specification.

All repairs carried out to coating for whatever reason shall be to the account of CONTRACTOR.

Cosmetic damages occurring only in the Polyethylene layer only need not be repaired by exposing up to steel surface, as deemed fit by the COMPANY representative. In any case the CONTRACTOR shall establish his material, methods and procedure of repair that results in acceptable quality of product by testing and shall receive approval from COMPANY prior to use. Testing of repairs shall be in the same form as testing coating. All repairs shall result in a coating thickness no less than the parent coating thickness. CONTRACTOR shall test repairs to coating as and when required by COMPANY.

MARKING

CONTRACTOR shall place marking on the outside surface of the coating at one end of the coated pipe, and marking shall indicate, but not be limited to the following information: (If all pipes are of same thickness, then no color band is required)

- Pipe number, Heat number
- Diameter & Wall Thickness
- Coated Pipe Number
- Color band
- Any other information considered relevant by COMPANY.
- Pipe Manufacturer Name
- Inspection Mark/ Punch

CONTRACTOR shall obtain prior approval on making procedure to be adopted from the COMPANY.

QUALITY ASSURANCE

The CONTRACTOR shall have established within the organization and shall operate for the contract, a documented Quality System that ensures that the requirements of this specification are met in all aspects. The Quality System shall be based upon ISO 9001/2 or equivalent.

The CONTRACTOR shall have established a Quality Assurance Group within its organization that shall be responsible for reviewing the Quality System and ensuring that it is implemented.

The CONTRACTOR shall submit the procedures that comprise the Quality System to the COMPANY for agreement.

The CONTRACTOR's Quality System shall pay particular attention to the control of Suppliers and sub-contractors and shall ensure that the requirements of this specification are satisfied by the Suppliers and Sub-contractors operating Quality system in their organization.

The CONTRACTOR shall, prior to the commencement of work, prepare and issue a Quality plan for all the activities required to satisfy the requirements of this specification. The plan shall include any sub-contracted work, for which the subcontractors Quality plans shall be submitted. The plan shall be sufficiently detailed to indicate sequentially for each discipline the requisite quality control,

inspection, testing and certification activities with reference to the relevant procedures and the acceptance standards.

The CONTRACTOR's Quality system and associated procedures may, with due notice, be subject to formal audits. The application of quality control by the CONTRACTOR will be monitored by the COMPANY Representatives who will witness and accept the inspection testing and associated work required by this specification.

ANNEXURE-I

LIST OF ACCEPTABLE COMBINATIONS OF COATING MATERIALS

The following combinations of coating materials are considered acceptable. In the event of award of contract, CONTRACTOR shall furnish the combination(s) proposed and reconfirmation of compatibility & properties of the proposed combination (s) from the raw materials Manufacturers & system properties.

Epoxy Powder (Manufacturer)	Adhesive (Manufacturer)	PE Compound (Manufacturer)
CORRO-COAT EP-F 2001 (JOTUN)	FUSABOND 158D (DUPONT)	SCLAIR 35 BP HDPE (NOVACOR)
PE 50-8190/8191 (BASF) or CORRO-COAT EP-F 2001 (JOTUN)	LUCALEN G3510H (BASF)	LUPOLEN 3652 D SW 00413 (BASF)
PE 50-6109 (BASF) or CORRO-COAT EP-F 2001/2002HW (JOTUN) or SCOTCHKOTE 226N (3M)	ME 0420 (BOREALIS)	HE 3450 (BOREALIS)
CORRO-COAT EP-F 2001 (JOTUN)	LE – 149 V (S K CORPORATION)	ET 509 B (S K CORPORATION
SCOTCHKOTE 226N (3M)	ME 0420 (BOREALIS)	PB 48A004 (GAIL)

Although the above combinations would be acceptable to COMPANY, the responsibility of suitability for application, performance, properties and compliance to the coating system requirements shall unconditionally lie with the CONTRACTOR.

TECHNICAL INPUT FOR 3-LAYER SIDE-EXTRUDED POLYETHYLENE COATING OF PIPES

(MR. NO.: MNGL/LINEPIPE/MR/2025)

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7.0 LIST OF SPECIFICATIONS

1.0 PROJECT DESCRIPTION

M/s. MNGL intend to lay steel pipeline of 10" NB & 6" NB in Pune & Nashik GA to supply Natural Gas to various consumers. For the above pipeline system, it is proposed to procure carbon steel line pipe externally coated with three-layer polyethylene as per following details / option for Distribution of Natural Gas to Automobile, Commercial and Industrial Consumers in that area.

2.0 SCOPE OF WORK

The Bidder's scope of work for the PE work shall consist of but not limited to the following:

Cleaning and surface preparation of pipes, application of epoxy powder, adhesive and polyethylene compound for 3-layer side extruded polyethylene coating on bare line pipes, carrying out inspection and testing, repairing of coating defects and retesting as per Specification attached with this tender.

The minimum thickness of finished 3-Layer side extruded "HIGH DENSITY POLYETHYLENE" coating for 10" dia. line pipes shall be 2.0 mm.

Inspection and repair of damaged pipes, bevelled end defects and damaged coating (including supply of repair coating materials) noticed at the time of handing over of bare/ coated line pipes to Owner in the presence of Owner's Representative.

3.0 SCOPE OF SUPPLY

Bidder shall be responsible for the procurement and supply, in sequence and at the appropriate time, of all materials and consumables required for completion of the works as defined in this document. All materials supplied by the Contractor shall be strictly in accordance with the requirements of relevant applicable Owner's specification enclosed with the tender and shall be procured from Owner's approved Vendors/ Manufacturers. Material to be supplied by the Contractor shall include but not limited to the following tests:

- All materials and equipment required for repair, rebeveling and cutting out of defects of bare pipes.
- All consumables, equipment required for surface cleaning/ preparation etc.
- All materials, equipment, consumables as required for external 3-layer side extruded polyethylene coating of Pipes.
- All materials and equipment required for conducting all types of inspection and
- All materials and equipment required for repairing of defects of coated pipes and thereafter retesting.
- All equipment, tools, tackles, devices required for loading, handling, coated pipes.
- Any other items not mentioned above but are required for timely completion of work in all respects.

4.0 OTHER REQUIREMENTS

The coating plant, equipment, machinery and other facilities shall be in good operating condition to meet the job requirement of quality and production. Worn out or improvised plant is not acceptable. The coating plant for the work shall be of size and capacity that shall be suitable for the scale of the work production rate & time schedule.

All handling, loading, unloading, stacking/ storing shall be done in such a manner so as to minimize mechanical damages and corrosion and as per the procedure approved by the Owner.

- All handling shall be done with slings or padded hooks.
- Trailers shall be cleaned of debris or any other substance that might damage the pipe.
- Suitable timber and other dunnage shall be used to protect the pipes against the damage during transit.
- Loading shall be done in accordance with API RP 5L1 and procedure approved by the Owner.

5.0 DOCUMENTATION

At the time of bidding, following documents shall be furnished as a minimum, along with the bid.

Reference list of the previous 3-layer side extruded polyethylene coating projects carried out in the last five years giving following minimum information:

Name of project including year, client, location, pipe size, length, material, scope of work performed, client's contact person, contract value, coating material and coating yard.

Layout of existing/ proposed coating yard, its location description of facilities at plant, proposed modifications, if any, and details of major equipment viz. make, model, number, capacity, etc.

Concurrent commitments at the proposed coating yard.

In case of bidders who have not supplied coated pipes to GAIL in last five years, such bidder shall furnish the following:

Details of proposed raw materials, i.e. epoxy, adhesive and polyethylene compound; manufacturer's details of coating materials giving following minimum information:

Name of the proposed manufacturers, authorization letter from manufacturers, descriptive technical catalogues of all materials and list of similar previous supplies including year, name of the project, client and contact person.

Compatibility certificate for the proposed combination of epoxy, adhesive and polyethylene compound from their respective manufacturers.

In case of bidders who have supplied coated steel pipes to GAIL in the last five years, they may not be required to furnish the details of raw material combination along with the bid. However, they shall confirm adherence to coating specifications/ combination as per the bid document during bidding stage itself and shall furnish above documents for approval prior to start of coating work, in case of order awarded to them.

A detailed activity-wise time schedule for the entire works, clearly indicating all critical activities, viz. procurement of coating materials, consumables, setting up of plant and making it ready for production, application of coating on bare pipes and making coated pipes ready for delivery, schedule of pipe transportation, handling, clearance etc., as applicable.

Manpower and biodata of key personnel to be deployed along with their related experience in such field.

6.0 Manufacturer Data on coating system, material and Test Frequency

Table – 1

Manufacturer Data on Coating System and Materials

Coating System data	Epoxy	Adhesive	Polyethylene Compound
Coating System Designation	Manufacturer's Name	Manufacturer's Name	Manufacturer's Name
Coating Material combination (s)	Product Trade Name	Product Trade Name	Product Trade Name
Technical Data Sheet covering all properties as per specifications	Technical Data sheet covering all properties as per specification	Technical Data sheet covering all properties as per specification	Technical Data sheet covering all properties as per specification
Laboratory Test Reports in support of technical data	Laboratory Test Reports in support of technical data	Laboratory Test Reports in support of technical data	Laboratory Test Reports in support of technical data

Test Frequency

Table – 2

S.No	Properties	Frequency (1)	Applicable Requirement
1	Bond Strength	5 Pipes	Para 10.5
2	Impact Strength	3 Pipes	Para 10.6
3	Indentation hardness	5 Pipes	Para 10.7
4	Elongation at Failure	3 Pipes	Para 5.3.3(d) & 7.5.2(d)
5	Cathodic Disbondment	2 Pipes	Para 5.3.3(h) & 7.5.2(e)(2)
6	Degree of Cure	2 Pipes	Para 5.3.3(i) & Para 10.9(a)
7	Coating Resistivety	2 Pipes	Para 5.3.3 (e)(3)
8	Heat Ageing	2 Pipes	Para 5.3.3 (f)(3)
9	Light Ageing	2 Pipes	Para 5.3.3 (g)(3)

Test frequency shall be as indicated in this table and the frequency indicated in the applicable paragraphs of the specific are not applicable.

Two tests each on the selected pipes i.e., 30 days and 48 hours of test shall be carried out on each test pipe.

Previously carried out tests in an independent laboratory of national/international.

7.0 LIST OF SPECIFICATIONS

Following specifications are enclosed herewith:

Sl.No.	Title	No.
1.	Technical Specification for 3-layer Polyethylene Coating	MNGL/ PL COATING/TS/00
2.	Quality Assurance Plan	MR No. MNGL/LINEPIPE/MR/2025

QUALITY ASSURANCE PLAN (Guidelines)

(MR No.: MNGL/LINEPIPE/MR/2025)

I N D E X

Sl. No. Subject

1.0 INTRODUCTION

2.0 SCOPE OF WORK BY TENDERER

3.0 GUIDELINES TO TENDERERS FOR PREPARATION OF QUALITY PLAN

4.0 FORMATS FOR QUALITY PLAN

5.0 FORMAT FOR INSPECTION AND TEST PLAN (ITP)

1.0 INTRODUCTION

This specification establishes the Quality Assurance (QA) requirements to be met by the item rate manufacturer of line & coater of line pipe during execution of work.

Requirements stipulated in this specification conform to ISO:9002 & IS:14002.

2.0 SCOPE

Prior to award of Contract

Following documents shall be submitted along with the tender:

- Quality Assurance Manual of their organization covering:
- Policy statement QA indicating approach for achieving quality assurance.
- Organization structure for QA/QC program.
- Responsibility and authority of personnel for QA/QC program.
- Communication system.
- List of written down job procedure they have for major activities for the work put to tender.
- Incoming material control, storage, and transportation procedure.
- Procedure to deal with nonconformance in case these crop up during job execution.

After award of Contract (Prior to start of job)

a) Quality Plan

The sample formats for preparation of the quality plan is enclosed. Contractor shall list all the major activities in their area/ scope and prepare the quality plan accordingly.

Inspection and Test Plan (ITP) for detailed activity of the job. Sample format of ITP is enclosed. Contractor shall develop ITPs for job activities in his scope in line with sample ITP format.

The Contractor shall obtain approval of his detailed quality assurance program and quality plans for all the works under his scope. This quality program is tailored system which Contractor shall be using for the job giving details of JOB PROCEDURES and construction technologies for all major activities.

During Job Execution

Implement the agreed Quality Assurance Program and submit the reports as per the program.

GUIDELINES TO BIDDERS FOR PREPARATION FOR QUALITY PLAN

QUALITY PLAN

One of the special features of this specification is "Quality Plan". The format is designed to include important information such as:

- List of all major activities, i.e., Work Breakdown Structure (WBS).
- Job Procedure Number for each activity covering manufacturing technology to be adopted.
- Responsibility.
- Controls for Quality at the contractor's end.
- Inspection and test requirements for client's witness.
- Record generation.

While finalizing the "QUALITY PLAN" for the particular job following is the sequence of actions.

Break-down of work into activities

Break-down the entire project work under the scope into smallest identifiable activity, in sequence. The column "Activity Description" is provided for the purpose.

Decide Work Method

Well laid down, step-by-step procedure totally covering the activity are to be specified under the column "Procedure No". Applicable Standards can also be specified under this column. Code of conformance as per tender specification can be specified under the column provided.

Assign Responsibilities

Under the "Performer" column, the job performer level is identified as per experience level and designation.

Decide Internal Controls

The type of internal controls that shall exercise to produce Quality shall be identified under columns:

- Checker
- Reviewer/ Approver.

Decide the number of Inspection & Test Plans (ITPs) and Record Requirements.

Under this column, the number of Inspection & Test Plans that shall be developed by the Contractor shall be indicated.

Company Name:
Client:
Project:

General		Contractor's Performing Functions/Responsibilities			Owner Inspection /Record Functions	Remarks
Activity Description	Procedure Number	Performer	Checkers	Reviewer/ Approver		

INSPECTION AND TEST PLAN

Sl. No.	Activity	Examination by Contractor	Inspection by MNGL/TPIA	Records to be submitted by Contractor

SECTION – VII

UNPRICE SCHEDULE OF RATES (U-SOR)

Schedule of Rates (SOR) / Item-wise BOQ is enclosed separately on e-tendering portal. The following is to be submitted along with Technical Bid duly filled in quoted / not quoted:

Sl. No.	Item Description	Quantity	Unit	Destination	Quoted / Not Quoted
1	Manufacture & Supply of 3LPE Coated Line Pipes: Line Pipes as per API 5L, May 2019 (46th edition), PSL-2 and Technical Specification No. MNGL/LINEPIPE/TS/00 and PE Coating as per Technical Input, Technical Specification No. MNGL/PLCOATING/TS/00. Supplier's Scope of work shall be inclusive of loading/ unloading, handling and transportation of coated/ uncoated pipes to designated place of delivery (Warehouse at Pune GA), handling, supply of wooden sleepers and other necessary materials required for pipe stacking, etc. as per the requirements of scope of work, stacking of coated pipes at "Designated Place of Delivery" in presence of company representatives including supply of all coating materials, consumables, etc. as per Technical Input/ Specification attached with this document. Supplier's Scope of work shall also be inclusive of rectification/ repair of all defects (occurring on account of any damage during transportation or otherwise), noted and recorded at the time of Receiving of Coated/ Uncoated Pipes at the dump yard in the presence of Owner's representative, including performing all works as per specification and instructions of Owner's Representative.				
1.1	10" Pipe Coated, ERW/SL, API 5L, GR. B, 6.4mm Thk.	17,000	Meter	Pune GA	

Notes:

1. Evaluation shall be done on an overall least cost basis to the Purchaser and order shall be placed on L-1 bidder(s) accordingly.
2. Bidder shall indicate the following rates considered in the prices indicated in the Price Schedule.
3. Bidder shall note that any error in estimating these taxes & duties will be to Bidder's Account.

a. Goods & Service Tax @----------
Please indicate the break-up of the above GST as below:
i) CGST @_____

ii) SGST @_____

iii) IGST @_____

iv) UGST @_____

Seal & Signature of Bidder