



UTTAR PRADESH METRO RAIL CORPORATION LIMITED

**TENDER DOCUMENT
FOR
DESIGN, MANUFACTURING, SUPPLY, INSTALLATION, TESTING
& COMMISSIONING OF FULLY AUTOMATIC
SYNCHRONIZED PIT JACKS AND FULLY AUTOMATIC
SYNCHRONIZED MOBILE JACKS FOR KANPUR AND AGRA
METRO DEPOTS**

TENDER “KNAG-03”

APRIL 2020

**UTTAR PRADESH METRO RAIL CORPORATION LIMITED
(MASS RAPID TRANSPORT SYSTEM)
Administrative Building, Vipin Khand, Gomti Nagar
Lucknow-226 010 (Uttar Pradesh)**

Website: www.upmetrorail.com

CONTENTS

S. No.	Item Description
1	NOTICE INVITING TENDER (NIT)
	PART-I
1	INITIAL FILTER CRITERIA
2	INSTRUCTIONS TO TENDERERS (ITT)
3	GENERAL CONDITIONS TO CONTRACT (GCC)
4	SPECIAL CONDITIONS OF CONTRACT (SCC)
	PART-II
1	GENERAL SPECIFICATIONS
2	PARTICULAR (TECHNICAL) SPECIFICATIONS
3	FORMAT FOR TENDERER'S OFFER
	<ul style="list-style-type: none">• FORM OF TENDER• SCHEDULES & APPENDICES• BILL OF QUANTITY• FINANCIAL PROPOSAL BY TENDERER
4	SITE DRAWINGS

NOTICE INVITING TENDER (NIT)

UTTAR PRADESH METRO RAIL CORPORATION LTD.
Administrative Building, Vipin Khand, Gomti Nagar
Lucknow-226010

NOTICE INVITING TENDER

Invitation to Global Tender KNAG-03: Design, Manufacturing, Supply, Installation, Testing & Commissioning of Fully Automatic Synchronized Pit Jacks & Fully Automatic Synchronized Mobile Jacks for Kanpur and Agra Metro Depots of Uttar Pradesh Metro Rail Corporation Limited.

1. General:

Uttar Pradesh Metro Rail Corporation (UPMRC) Ltd. invites global tender from eligible applicants from all countries and all areas, for the scope “**Design, Manufacturing, Supply, Installation, Testing & Commissioning of Fully Automatic Synchronized Pit Jacks & Fully Automatic Synchronized Mobile Jacks for Kanpur and Agra Metro Depots**”.

2. Key Details:

Description of Work	KNAG-03: Design, Manufacturing, Supply, Installation, Testing & Commissioning of Fully Automatic Synchronized Pit Jacks & Fully Automatic Synchronized Mobile Jacks for Kanpur and Agra Metro Depots
Quantity	02 Sets of Pit Jack and 04 Sets of Mobile Jack
Cost of Tender Document	21,000/- (inclusive of all Taxes) (In the form of Demand Draft in favour of “U.P. Metro Rail Corporation Ltd” issued by schedule commercial bank based in India, payable at Lucknow.)
Earnest Money/ Tender Guarantee	INR 14,16,812/-
Tender documents on sale from	05.05.2020
Last date & time of submission of bids	08.06.2020 up to 1500hrs
Date & Time of opening of bids	08.06.2020 up to 1530hrs

3. Eligibility Criteria for the above equipments can be referred from the Tender Document-KNAG-03.

4. Sale of Tender Document:

4.1 Non-transferable Bid Document containing description of the items required as also the other terms & conditions are available on payment of non-refundable fee of INR 21,000(Rupees Twenty One Thousand Only) (Inclusive of all taxes) in the form of a crossed Demand Draft / Banker's Cheque drawn on a scheduled

commercial Bank based in India, in favour of 'U.P Metro Rail Corporation Limited', payable at Lucknow, from the office of:

Chief Electrical Engineer (Rolling Stock)
U.P Metro Rail Corporation Limited
Administrative Building, Vipin Khand,
Gomti Nagar, Lucknow (UP)-226010, India

- 4.2 The sale of document will be closed at 17.00 hrs. on previous day to the day of submission of Bids.
- 4.3 Non-transferable Bid Document can also be obtained by post on written request by the bidder on his letterhead duly paying the cost of Bid Document as mentioned above. Tender document can also be downloaded from UPMRC's website www.upmetrorail.com, in which case the cost of the tender document, in the form as mentioned above, may be submitted in a separate envelope along with the bid.
- 4.4 Addendum/corrigendum, if any, will not be published in the newspaper and the same will be uploaded on UPMRC's website mentioned above.
5. Tenders shall be submitted to the office of Dy. COS/UPMRC at the address given above not later than mentioned date and time.
6. Please note carefully the requirements for submitting tenders, and the date and time for submittal. Late and delayed tenders will not be accepted.
7. Offers shall be valid for a period of 180 days from the last date of submission of Tenders, and shall be accompanied by Earnest Money/Tender Guarantee as described in Paragraph 6 of the "Instruction to Tenderer".

**Chief Electrical Engineer (Rolling Stock)
On behalf of U.P. Metro Rail Corporation Limited
Administrative Building, Vipin Khand,
Gomti Nagar, Lucknow (UP)-226010, India**

PART- I

INITIAL FILTER CRITERIA

INITIAL FILTER CRITERIA

(A) FILTER OF APPLICANTS – CHECKLIST

Name of Applicant:

S.No.	Criteria	Yes	No
1	Has the Applicant abandoned any work in the last ten(10) years?		
2	Has the Applicant involved in two or more litigations in the concluded/ongoing contracts in the last ten (10) years?		
3	Has the Applicant suffered bankruptcy / insolvency in the last ten(10) years?		
4	Has the Applicant been debarred by Government of India/any state government in India/Central or State government undertaking as on the due date of submittal?(Bidder to furnish a specific under taking to effect)		
5	Has any misleading information been given in this application?		
6	Has the applicant certified that no agent / middleman has been or will be engaged or any agency commission been or will be paid?		
7	Is the Net Worth of the applicant (to be obtained from Balance Sheets Appendix FT-7) in the immediate previous financial year as considered in the bidder's country of origin "POSITIVE"?		
8	Has the Applicant submitted the Statement for Covenant of Integrity as per Appendix FT-11(a) and Declaration/Undertaking in line with Code of Integrity, rule 175 (1)(i)(h) of the General Financial Rules, Government of India as per Appendix FT-11(b)?		

Note:

- 1) "Ten (10) years"/"Last ten(10) years' means the period of last ten(10) years ending on **31st March 2020**.
- 2) A "YES" answer to any question 1, 2, 3, 4, 5, will disqualify the Applicant.
- 3) A "NO" answer to question 6 ,7 & 8 will disqualify the Applicant.
- 4) In the case of a Joint Venture/Consortium/, each Individual member must qualify individually in the 'Filter of Applicants– Check List' except item -7.
- 5) In the case of a Joint Venture/Consortium, each member shall submit the balance sheet and Appendix-FT-7 duly filled. Evaluation for the item. No. 7 above will be done in totality (aggregate of the evaluation of each member) and not as individual member.
- 6) DEBARRED means that the applicant(applies to each member of JV/Consortium) has been black listed or debarred by Government of India/any state government in India/Central or State government undertaking from participating in the tenders for a notified period of time. Copy of the notification of such debarment shall be submitted in the bid. (See the format below):

By virtue of my signature below, I confirm and verify to my best knowledge and belief that the company represented by me for submitting bid against this tender is not DEBARRED as on the date of submission of bid. I also confirm that at any stage of tender evolution if it is found that the above information given by me is incorrect then our offer shall be rejected without further correspondence.

SIGNATURE OF TENDERER

(To be signed by applicant and each member of the group)

Date.....

(B) ELIGIBILITY QUALIFICATION CRITERIA:

- a. The bidder or consortium/JV lead partner must be a proven manufacturer of Fully Automatic Synchronized Pit Jacks & Fully Automatic Synchronized Mobile Jacks who must meet the following conditions on date of opening of tender:

Col 1	Conditions	Quantity
i	The Fully Automatic Synchronized Pit Jacks (say 'X') & Fully Automatic Synchronized Mobile Jacks (say 'Y'), which the bidder or lead partner must have supplied & commissioned in last five years ending on 31st March 2020.	X=5 & Y=12
i(a)	Out of 5 nos. of Fully Automatic Synchronized Pit Jacks & 12 nos. Fully Automatic Synchronized Mobile Jacks which the bidder or lead partner must have supplied & commissioned minimum numbers of Fully Automatic Synchronized Pit Jacks & Fully Automatic Synchronized Mobile Jacks that should be in operation outside the country of origin or in India in last five years ending on 31st March 2020 . The tenderer shall submit the complete information as per the enclosed Appendix FT-8.	X=2 & Y=7
ii	Out of the supplied Fully Automatic Synchronized Pit Jacks & Fully Automatic Synchronized Mobile Jacks by the bidder or lead partner in the last five years i.e., ending on 31st March 2020 , minimum number of Fully Automatic Synchronized Pit Jacks & Fully Automatic Synchronized Mobile Jacks that should be in operation with satisfactory performance for a minimum period of 2 years after commissioning as on the date of opening of tender and supported by a recent performance certificate from clients. The tenderer shall attach the certificate from the clients for satisfactory operation of the machine. The certificate should not be older than 6 months on the date of opening of tender.	X=2 & Y=5
ii(a)	Out of these 02 nos. of Fully Automatic Synchronized Pit Jacks & 05 nos. Fully Automatic Synchronized Mobile Jacks that should be in operation with satisfactory performance for a minimum period of 2 years after commissioning minimum numbers of Fully Automatic Synchronized Pit Jacks & Fully Automatic Synchronized Mobile Jacks that should be in operation outside the country of origin or in India as on the date of opening of tender and supported by a recent performance certificates from clients, not older than 6 months on the date of opening of tender.	X=01 & Y=02

The manufacturing unit, where the Fully Automatic Synchronized Pit Jacks & Fully Automatic Synchronized Mobile Jacks are proposed to be manufactured & supplied against this tender, should have experience of manufacturing of at least **05 nos.** Fully Automatic Synchronized Pit Jacks & **15 nos.** Fully Automatic Synchronized Mobile Jacks in last five years i.e. ending on **31st March 2020**, out of which at least **01 nos.** Fully Automatic Synchronized Pit Jacks & **05 nos.** Fully Automatic Synchronized Mobile Jacks should have been working satisfactorily after commissioning for a minimum period of two years as on the date of opening of bids. The bidder shall give complete details to establish the credentials of the proposed manufacturing unit as mentioned herein.

- b. If a joint venture or consortium submits the bid, then lead partner should meet the criteria at a [i, i(a), ii & ii(a)] as above.
- c. The bidder if located outside India shall have an Indian associate for defects liability period and post defects liability period obligations, who should have at least 2 years experience of manufacturing the machines for railways/metros applications or of giving after-sales service for machines used in railways/metros or shall be RDSO/Railways approved vendors. In support of the above, relevant certificates from the respective clients should be submitted.
- d. The lead partner shall be fully responsible for supply, installation, testing & commissioning of the machine and training of engineers and also for coordinating maintenance and after sales service during DLP.
- e. A firm can be a partner only in one joint venture or consortium. Bids submitted by joint ventures or consortium, including the same firm, as partners in more than one bid will be rejected.

The firm shall furnish a performance statement as per enclosed Appendices FT-8 and FT-17 attached giving the information on Fully Automatic Synchronized Pit Jacks & Fully Automatic Synchronized Mobile Jacks supplied by him during the last 5 years.

The technical offer of only those bidders who qualify the eligibility criteria as above shall be evaluated.

In the absence of above informations as per of initial filter Criteria, the offer is liable to be treated as unresponsive and liable to be rejected.

SIGNATURE OF TENDERER

**INSTRUCTIONS TO TENDERERS
(ITT)**

CONTENTS		
Clause	Description	Page
1.	GENERAL INSTRUCTIONS	2
2.	INITIAL FILTER & MINIMUM ELEGIBILITY CRITERIA	3
3.	COMPLIANCE WITH PARTICULAR SPECIFICATION	3
4.	INDIAN ASSOCIATE & HIS SERVICES/ FACILITIES IN INDIA (APPLICABLE FOR FOREIGN FIRMS/ TENDERERS ONLY)	3
5.	QUALIFYING REQUIREMENTS OF TENDERERS	4
6.	EARNEST MONEY/TENDER GUARANTEE	5
7.	QUALIFICATION OF THE TENDERER	6
8.	FORM OF TENDER	8
9.	SUBMISSION OF OFFERS	8
10.	LOCAL CONDITIONS	11
11.	PRICE BASIS AND INDEMNITY	11
12.	CURRENCY OF PAYMENT	12
13.	INSURANCE	12
14.	CLARIFICATION OF TENDERS	13
15.	OPENING OF TENDERS	13
16.	EVALUATION OF THE OFFERS	16
17.	HIGHER PRICE FOR EARLIER DELIVERY	18
18.	ACCEPTANCE OF TENDER	18
19.	EFFECT AND VALIDITY OF OFFER	19
20.	GENERAL	19
21.	LAST DATE OF RECEIPT OF TENDERS	19
22.	CHECK LIST	19

INSTRUCTIONS TO TENDERERS

1. GENERAL INSTRUCTIONS

1.1 Dy.COS/UPMRC, invites tenders from established and reliable manufacturers for the supply as set forth in the "Schedule of requirements."

1.2 The Tenderer shall bear all costs associated with the preparation and submission of its tender. All offers in the prescribed format at Annexure-1(a) & 1(b) should be submitted by the prescribed date and time fixed for the receipt of offers as set forth in the tender papers. Offers received after the stipulated time and date, are liable to be rejected.

1.3 All information in the offer must be in English. Information in any other language must be accompanied by its authenticated translation in English. Failure to comply with this may render the offer liable to be rejected. In the event of any discrepancy between an offer in a language other than English and its English translation, the English translation will prevail.

1.4 This tender document comprises the following sections:

Part - 1

- a. Notice of Invitation to Tender
- b. Initial filter criteria.
- c. Instructions to Tenderers
- d. General Conditions of Contract
- e. Special Conditions of Contracts

Part – 2

- a. Schedule of Requirements (General Specifications and Particular Specifications)
- b. Form of Tender
- c. Schedules & Appendices

In case of any conflict between the above documents the order of precedence will be as under:

- a. Schedule of Requirements
- b. Special Conditions of Contract
- c. Instruction to Tenderers
- d. General Conditions of Contract
- e. Tenderer's offer

1.5 Clarification of Tendering Documents:-

A prospective Tenderer requiring any clarification of the tendering documents may notify the Employer in writing or by cable (hereinafter, the term cable is deemed to include e-mail, Electronic Data Interchange (EDI) or telefax. Similarly, if a Tenderer feels that any important provision in the documents will be unacceptable; such an issue should be raised at this stage. The Employer will respond in writing to any request for clarification or modification of the tendering documents that it receives no later than twenty-one (21) days prior to the deadline for submission of tenders prescribed by the Employer. Written copies of the Employer's response on tenderer's query (including an explanation of the query but not identification of its source) will be sent to all prospective tenderers

that have received the tendering documents. Foreign tenderers are encouraged to associate any Indian firm/s as a partner in a Joint Venture or consortium.

1.6 Amendment of Tendering Documents

At any time prior to the deadline for submission of tenders, the Employer may, for any reason, whether at its own initiative, or in response to a clarification requested by a prospective Tenderer, amend the tendering documents.

The amendment will be notified in writing or by cable to all prospective tenderers that have purchased the tendering documents and will be binding on them. Tenderers are required to immediately acknowledge the receipt of any such amendment, and it will be assumed that the information contained therein will have been taken into account by the Tenderer in its tender and also submit Appendix –FT-5.

2. INITIAL FILTER & MINIMUM ELEGIBILITY CRITERIA

Bidder should comply the Initial Filter and Minimum Eligibility criteria as given in Part-I of this bidding document. Bid which does not fulfil the Initial Filter Criteria & Minimum Eligibility Criteria will not be further evaluated technically.

3. COMPLIANCE WITH TENDER DOCUMENT

3.1 The equipments offered should be in accordance with the stipulated specifications in “Schedule of Requirements”.

3.2 The tenderer shall indicate his compliance or otherwise against each clause and sub-clause of the Schedule of requirements, ITT, GCC, SCC. The tenderer shall, for this purpose, enclose a separate statement of deviations (Appendix-FT-10) indicating compliance or otherwise of each clause and sub-clause of specifications, which should invariably, be filled in (if there are no deviations, a nil statement should be submitted) and submitted along with the offer. Whenever the tenderer deviates from the provisions of a clause/sub-clause, he shall furnish his detailed justification for the same in the ‘Remarks’ column. Tenderer wishing to offer technical alternatives to the requirements of the tendering documents must first price the Employer’s design of the facilities as described in the tender document, and shall further provide all information necessary for a complete evaluation of the alternatives by the employer, including drawings, design calculations, Schedule of requirements, break-up of prices, proposed installation methodology and other relevant details. Only the technical alternatives, if any, of the lowest evaluated tenderer to the basic technical requirements may be considered by the employer.

4. INDIAN ASSOCIATE & HIS SERVICES/ FACILITIES IN INDIA (APPLICABLE FOR FOREIGN FIRMS/ TENDERERS ONLY)

4.1 The foreign tenderer shall include in his offer the name of the person of the firm who will be acting as his representative / associate company in India in respect of his offer. He shall also indicate the after sales service facilities which he or his representative/ associate company have in India.

4.2 Tenderers of foreign firms should furnish following particulars. Offers which do not comply are liable to be ignored.

- (i) The name and address of the local representative/associate company.

- (ii) The precise relationship between the foreign manufacturer/principals and their Indian representative/ Associates.
 - (iii) The mutual interest which the manufacturer/principal and the Indian representative /associates have in the business of each other.
 - (iv) Foreign Tenderer has to submit a certificate that bidder is not having any Commission Agent in India and no agency commission will be paid otherwise it shall be sufficient ground for rejecting of his offer. Indian Associate/representative should also mention Income tax permanent account number.
 - (v) All services (including after sales) to be rendered by the agents/associates whether the general nature or relation to the particular contract and the facilities/infrastructure available with them for the same.
 - (vi) Past performance.
- 4.3 Foreign Tenderer may note that an Indian Associate can represent only one firm in a tender and any Foreign Tenderer cannot submit more than one offer against a tender through different sole selling Indian Associates or one offer directly and other offers through sole selling Indian Associates. In other words, in a tender, either the Indian Associates on behalf of the Principal/OEM or Principal/OEM itself can bid but both cannot bid simultaneously for the same item/product in the same tender. In such a situation all the offers will be rejected. Also a “100% Indian Subsidiary” of the foreign firm can-not bid through another agent. The relation between the Principal/OEM & Agent or Indian Subsidiary (100% or otherwise) should be contractually established and clear.
- 4.4 The Indian Associate is official representative of manufacturer/principal/tenderer. Accordingly, manufacturer/principal/tenderer shall be fully responsible for the conduct of their appointed Indian Associates. This may please be noted.
- 4.5 Foreign Tenderers may authorize their Indian Associates to represent them, to bid, negotiate and conclude the contract on their behalf. They must submit valid authorization as per Appendix-FT-4. The order/contract shall be directly placed in the name of foreign tenderers only and they shall be fully responsible for successful execution of contract in all respect.

The Performance Guarantee bond shall be furnished by the successful tenderers necessarily as per clause 7.0 of General Conditions of Contract, Bid Document Part-I.

5. QUALIFYING REQUIREMENTS OF TENDERERS

- 5.1 The tenderer shall provide satisfactory evidence acceptable to the purchaser to show that:
- a. He is a manufacturer, who regularly manufactures the items offered and has adequate technical knowledge and practical experience;
 - b. He has financial strength and resources to meet the obligations under the contract for which he is required to submit duly audited Annual financial statements (Balance sheet, profit & loss account etc.) for the last 3 years or a report from a recognized bank or a financial institution on financial position.
 - c. He has adequate plant and manufacturing capacity to manufacture and supply the items offered within the delivery schedule offered by him;

- d. He has established quality control system and organization to ensure adequate control at all stages of the manufacturing process.
 - e. He satisfies the provisions mentioned in "Special conditions of Contract (Reference Clause)" contained in "Special Conditions of Contract".
- 5.2 For purposes of clause-5.1, the tenderers should additionally submit:
- a. A performance statement as in Appendix-FT-8, giving a list of major supplies of same/similar equipments effected in last 5 years or for such period as specified elsewhere in Tender Document & special conditions of tender of the items offered by him, giving details of the User's name and address, order no. and date and the quantity supplied and whether the supply was made within the delivery schedule. Such period shall be reckoned from the date of opening of tender.
 - b. A statement indicating details of equipment deployed and quality control measures adopted by the manufacturer as in Appendix-FT-6.
- 5.3 In addition to the above, further information regarding his capacity, capability, if required by the Purchaser, shall be promptly furnished by the tenderer and he would offer all facilities to representative of Purchaser for assessing capacity, capability by actual visit to his works/office.
- 5.4 The evidence/documents submitted for meeting the qualifying requirements, if found false/fake/forged/manipulated at any stage during evaluation of offers and or even during the currency of Contract, the purchaser reserves the right to summarily reject the offer or terminate the Contract at his risk and cost and take action as per applicable law including banning of business dealings etc.

6. EARNEST MONEY/TENDER GUARANTEE

- 6.1 Earnest Money/Tender Guarantee for an amount as stipulated in the "Notice of Invitation of Tender" or an equivalent amount in the currency of the country of the tenderer shall accompany each tender. The Earnest Money/Tender Guarantee shall be any one of the following alternative forms subject to the approval of the Purchaser:
- a. A crossed Bank Draft/pay order/banker cheque in favour of the U.P. Metro Rail Corporation Ltd, INDIA from a Nationalized Indian Bank/Scheduled commercial bank (in the case of indigenous offers) or from a reputable commercial Bank of the tenderer's country having their branch in India (in the case of foreign offers). For the bank drafts in currencies as mentioned in NIT (Notice for Invitation of Tenderer) other than Indian Rupees, the validity of the same should be at least 195 days from the date of opening of tender.
 - b. An irrecoverable Bank Guarantee of any Indian Nationalized Bank/Scheduled commercial bank (in case of indigenous offer) or from any scheduled foreign bank in India (in case of foreign offer), in favour of the U.P Metro Rail Corporation Ltd. in the format attached (Appendix-FT-2). It shall be valid for minimum period of 195 days from the date of tender opening of tender.
 - c. Fixed Deposit Receipt of a Schedule Commercial bank/ post Office based in India duly pledged in favour of U.P Metro Rail Corporation Limited.
- 6.2 The Earnest Money/Tender Guarantee shall remain deposited with the Purchaser for the period of 195 days from the date of opening of tenders. If

the validity of the offer is extended, the Earnest Money/ Bank Guarantee duly extended shall also be furnished, failing which the offer after the expiry of the aforesaid period shall not be considered by the Purchaser.

- 6.3 No interest will be payable by the Purchaser on the Earnest Money/Tender Guarantee.
- 6.4 The Tender Guarantee shall be forfeited:
- a. if the Tenderer withdraws his Tender during the period of Tender validity; or
 - b. if the Tenderer does not accept the correction of his Tender price, pursuant to Sub-paragraph 15.2 below; or
 - c. if the Tenderer fails to withdraw conditions, qualifications, deviations etc. proposed by him at the price of withdrawal given in his tender; or
 - d. if the successful Tenderer refuses or neglects to execute the Contract or fails to furnish the required Performance Guarantee within the time specified by the Employer.
- 6.5 The Earnest Money of the successful tenderer will be returned after the Contract Performance Guarantee as required (clause-7.1 of the General conditions of contract) is furnished.
- 6.6 The Earnest Money of all unsuccessful tenderers Shall be discharged/ returned promptly after issue of purchase order.

In case of two-packet tender submission, the tender security will be released in two stages. Tender Security of tenderers who fail in technical evaluation shall be returned after opening of financial package. Tender Security of unsuccessful tenderers in financial evaluation shall be returned after issue of purchase order. Tender security of successful tenderer shall be returned after receipt of PBG, if applicable. Otherwise, the tender security of the successful bidder shall be returned after acceptance of PO.

- 6.7 Any tender not accompanied by Earnest Money in one of the approved forms given in clause 6.1 shall be summarily rejected.

7. QUALIFICATION OF THE TENDERER

- 7.1 The Tenderer to qualify for award of Contract shall submit a written power of attorney authorising the signatories of the tender to commit each member of the partnership, consortium or joint venture. In case of Foreign Partners, Power of Attorney(s) and Board Resolution confirming authority on the persons issuing the Power of Attorney for such actions, shall be submitted duly notarized by the notary public of country of origin and should be stamped by Embassy/High Commission. Tenderers from Member Countries of Hague convention may submit all these documents with "Apostille" stamp instead of Embassy.
- 7.2 Where the Tenderer comprises a consortium or joint venture, the Tenderer shall submit the following additional information to meet the criteria for eligibility:
- a. A Memorandum of Understanding/Consortium Agreement, comprising of all the members, shall be provided duly notarized by the notary public of country of origin and should be stamped by Embassy/High Commission.

Tenderers from Member Countries of Hague convention may submit all these documents with “Apostille” stamp instead of Embassy.

- b. Nomination of one of the members of the consortium or joint venture to be in-charge (Leader); and this authorisation shall be covered in the Power of Attorney signed by the legally authorised signatories of all members of consortium or joint venture;
 - c. Details of the intended percentage participation given by each member shall be provided and reconfirmed and expanded with complete details of the proposed division of responsibilities and corporate relationships among the individual members.
 - d. The partner in charge(Leader) shall be authorized to incur liabilities, receive payments (if provided for in MoU/Consortium Agreement) and receive instructions for and on behalf of any or all partners of the joint venture/consortium;
 - e. All partners of the joint venture/consortium shall be jointly and severally responsible for the execution of the Contract in accordance with the Contract terms.
- 7.3 The Tenderer shall submit with his Tender full details of his ownership and control or, if the Tenderer is a partnership, joint venture or consortium, full details of ownership and control of each member thereof.
- 7.4 Indian Tenderers, or Indian members of a partnership, joint venture or consortium shall submit, a certified copy of the last 3 years (including the latest Financial Year) income tax return, duly acknowledged by Income Tax department in the Technical Package,
- 7.5 Each Tenderer (each member in the case of a partnership, joint venture or consortium) or any associate is required to confirm and declare with his Tender that no agent, middleman or any intermediary has been, or will be, engaged to provide any services, or any other item or work related to the award and performance of this Contract. They will have to further confirm and declare in the submittal that no agency commission or any payment which may be construed as an agency commission has been, or will be, paid and that the tender price will not include any such amount. If the Employer subsequently finds to the contrary, the Employer reserves the right to declare the Tenderer as non-compliant, and declare any Contract if already awarded to the Tenderer to be null and void. Specific declaration to this effect exactly as per Appendix-FT-3 shall be submitted with the Technical Package.
- 7.6 Canvassing or offer of an advantage or any other inducement by any person with a view to influencing acceptance of a Tender will be an offence under laws of India. Such action will result in the rejection of the Tender, in addition to other punitive measures.
- 7.7 The Applicant (including all members of a joint venture) shall not be one of the following:
- (i) A firm or an organization which has been engaged by the Employer to provide consulting services for the preparation related to procurement for or implementation of this project;

- (ii) Any association/affiliates (inclusive of parent firm) of a firm or an organization mentioned in subparagraph (i) above.
- (iii) A firm or an organization who lends or temporarily seconds its personnel to firms or organizations which are engaged in consulting services for the preparation related to procurement for or implementation of the project, if the personnel would be involved in any capacity on the same project.

8. FORM OF TENDER

The Form of Tender shall be completed and signed by a duly authorised and empowered representative of the Tenderer. If the Tenderer comprises a consortium or a joint venture, the Form of Tender shall be signed by a duly authorised representative of each member or participant thereof. Signatures on the Form of Tender shall be witnessed and dated. Copies of relevant powers of attorney as indicated in the 'Note' to 'Form of Tender' shall be attached.

9. SUBMISSION OF OFFERS

9.1 All offers shall be either typed or written neatly in indelible ink.

This is a two packets global tender. Tenderer has to submit their offer in two different packets. One packet will be for technical bid and another packet will be for financial bid”.

i. Technical bid will be opened on due date (as per Notice for Invitation of Tender). This packet must contain:-

- a) Tender guarantee (EMD) in original,
- b) Technical bid
- c) Documents related to qualifying requirement of the tenderer.
- d) Letter of Application
- e) Letter of participation from each member of the group
- f) Form of Tender (with Power of Attorneys but without Appendices).
- g) Contract conditions.
- h) The Structure of the Tenderer including details of ownership and control of the Tenderer (See paragraph 7.3 of ITT) Appendix-FT-1.
- i) Certificate confirming receipt of all Tender Addenda as per proforma as given in Appendix-FT-5.
- j) List of Technical and Commercial Deviations (if any) as per format given in Appendix-FT-10 along with the Undertaking that all the deviations have been listed and priced in the financial offer and Deviations not priced will be treated as Null and Void.
- k) Cost of tender document in the currency as indicated in NIT and undertaking for downloading declaration (Appendix-FT-18) if the tender document is downloaded from UPMRC's website.
- l) Copy of all documents of Financial Package with Prices left blank. If any change is found in the unpriced document submitted along with the technical bid and in the priced financial offer then offer is liable to be rejected.
- m) One set of complete Tender documents (including all Addenda), signed and stamped on right hand bottom corner of each page.
- n) Any further documents which are requested in writing by Employer before submission of the Tender by way of evaluation documents but which are not to form part of the Contract.

ii. Financial bid will be in the separate sealed envelope, which will contain

- a) Price bid as per format of the Tenderers financial offers as given in tender document as Annexure- 1(a)/1(b) for UPMRCs requirement.
- b) Priced Technical and Commercial Deviations (if any) as per format given in Appendix-FT-10 as given in part-II of this tender document along with the undertaking that all the Deviations have been listed and priced in the financial proposal and deviations not priced will be treated as Null and void.
- c) Financial bid will be opened in the presence of bidder only when tenderer's bid qualifies technically and in case tenderer's bid disqualifies technically, tenderers financial bid will be returned in sealed intact condition.

Tenderer has to submit their offer in two copies (one in original copy and another in duplicate copy).

- 9.2 Any individuals signing the tender or other documents connected therein should specify whether he is signing:
 - (i) as sole proprietor of the concern or as attorney of the sole proprietor;
 - (ii) as a partner or partners of the firm;
 - (iii) as a Director, Manager or Secretary in the case of a limited company duly authorized by a resolution passed by the board of directors or in pursuance of the authority conferred by Memorandum of Association.
- 9.3 The original power of attorney or other documents empowering the individual or individuals to sign should be furnished to the Purchaser for verification, if required.
- 9.4 All prices and other information like discounts etc. having a bearing on the price shall be written both in figures and words in the prescribed offer form.
- 9.5 The Tenderer shall seal the Original and Copy of the two parts of his Tender into separate envelopes, duly marking the envelopes as "ORIGINAL TENDER" and "COPY" and clearly state the contents of each with either 'Part A) Technical and Commercial' or 'Part B) Financial' as appropriate. The envelopes shall then be sealed in an outer envelope.
 - 9.5.1 The inner and outer envelopes shall
 - (a) be addressed to the Dy. COS /UPMRC at the address given in the Invitation of Tender, and
 - (b) bear the Contract name indicated in the Invitation of Tender and the statement "**DO NOT OPEN BEFORE [date and time],**" to be completed with the time and date specified in the Invitation of Tender.
 - 9.5.2 The inner envelopes shall also indicate the name and address of the Tenderer so that the Tender can be returned unopened in case it is declared "late."
 - 9.5.3 If the outer envelope is not sealed and marked as required by ITT Sub-Clause 9.5.1 above, the Employer will assume no responsibility for the tenders misplacement or premature opening. If the outer envelope discloses the Tenderer's identity, the UPMRC will not guarantee the anonymity of the Tender submission, but this disclosure will not constitute grounds for Tender rejection.

- 9.6 Offers shall be as per the Schedule of requirements, Instruction to Tenderers and “General Conditions of Contract”, Special condition of contracts given in the Tender documents. However the tenderer shall indicate his acceptance or otherwise against each clause and sub clause of the Schedule of requirements, Instruction to Tenderers and “General Conditions of Contract”, Special condition of contracts. For this purpose, the tender shall enclose a separate statement (Appendix-FT-10) indicating only the deviations from any clause or sub clause of the Schedule of requirements, Instruction to Tenderers and “General Conditions of Contract”, Special condition of contracts, which he proposes with full justification for such deviations. All deviations from the tender documents, remarks, comments etc. shall be included in the Statement of Deviations (Appendix-FT-10). The price of unqualified and unconditional withdrawal of all the conditions, qualifications, deviations etc. as mentioned in (Appendix-FT-10) shall be quoted by the tenderer in the format given in Appendix-FT-10. All implicit and explicit deviations, remarks and comments mentioned elsewhere in the tenderer’s proposal shall be treated as NULL and VOID and considered withdrawn unconditionally. Any clause included in the Statement of Deviations (Appendix-FT-10) but not priced in the Appendix-FT-10, shall be treated as NULL and VOID and will be considered unconditionally withdrawn.
- The Tenderer shall provide a valid and fully compliant proposal for the equipment as detailed in the Employer’s Requirements. The Tenderer shall submit a detailed clause by clause commentary on all the clauses of the Employer’s Requirements.
 - Tenderers shall note that their comments to the clause by clause commentary wherever given shall only be in the following form:
 - Complied : “Complied” shall be indicated by the tenderer where the tenderer is able to comply fully with the clause.
 - Noted : Where a clause merely provides information, and no other comment is necessary, “Noted” will suffice.
 - Not Complied: Where the tenderer is not able to comply fully with the clause or has any observation or proposes an alternative design, “Not Complied” shall be indicated and comments if any of the tenderer shall be indicated in detail. All Clauses with status as “Not Complied” shall be included in the statement of Deviations Appendix-FT-10 and shall be priced in Appendix-FT-10.

Tenderer shall also note that:

- Any comment by the tenderer in the Clause By Clause Commentary, other than either of “Complied”, “Noted” or “Not Complied” shall be treated as “Not Complied”. Unless tenderer prices against such clauses in the Appendix-FT-10, the comment against any clause shall be deemed to have been unconditionally withdrawn with no financial implications and shall be considered as NULL and VOID.
- Any “Not Complied” comment by the tenderer in the Clause By Clause Commentary which has not been included in the Statement of Deviations Appendix-FT-10 shall be treated as “Complied”.
- Any “Not Complied” comment by the tenderer in the Clause By Clause Commentary which has also been included in the Statement of Deviations Appendix-FT-10 but has not been priced in Appendix-FT-10 shall be treated as null and void and deemed to have been unconditionally withdrawn.

- In case price for unqualified withdrawal of any remark, comment, condition, qualification or deviation etc. indicated in Appendix-FT-10(b) is not quoted of financial offer, it shall be considered that the remark, comment, condition, qualification or deviation is unconditionally withdrawn without any financial implication. However, Employer at its sole discretion and option may assess the financial implication of the said remark, comment, condition, qualification or deviation etc. based on best engineering principles and concepts, which shall be binding on the tenderer, and the same may be considered by Employer for financial evaluation.
- A tender without a Clause by Clause Commentary, as stated above, is liable to be rejected.

The Purchaser, however reserves the right to accept or reject these deviations and his decision thereon shall be final.

- 9.7 Offers are required from the actual manufacturers of the stores or their authorized agents, who should submit a letter of authority from their Principals as in Appendix-FT-4.
- 9.8 Each page of the offer must be numbered consecutively, should bear the tender number and should be signed by the tenderer at the bottom. A reference to the total number of pages comprising the offer must be made at the top right hand corner of the first page.
- 9.9 The tenderer should avoid ambiguity in his offer e.g. if his offer to his standard sizes, lengths dimensions, he should specifically state them in details without any ambiguity. Brief descriptions such as 'standard lengths' etc. should be avoided in the offer.
- a. Tenderer shall give a break-up of the prices in the manner and details called in for statement of prices as given in financial offer.

10. LOCAL CONDITIONS

Local Conditions: It will be imperative on each tenderer to fully acquaint himself of all the local conditions and factors which would have any effect on the performance of the contract and cost of the stores. In his own interest, the foreign tenderer should familiarise himself with the Income Tax Act 1961, the Companies Act 1956, the Customs Act 1962 and related Laws in force in India. The Purchaser shall not entertain any request for clarifications from the tenderer regarding such local conditions. No request for the change of price, or time schedule of delivery of stores shall be entertained after the offer is accepted by the purchaser.

11. PRICE BASIS AND INDEMNITY

- 11.1 The equipments shall be installed at various depots as specified in Particular Specification of this tender document. Therefore, Foreign tenderers shall quote their prices on the basis of FOR accordingly.
- 11.2 Under the FOR price, the FOB price and the sea freight charges etc shall be indicated separately.
- 11.3 The terms FOR shall be as defined in the current edition of International Rules for the interpretation of the trade terms published by International Chamber of Commerce, Paris and commonly referred to as INCOTERMS.

- 11.4 Price should not include any type of agency commission payable to India Associate/ Representative. If it is established that any account of agency commission is being paid to any Associate/ Representative in India, it will be sufficient ground for rejection of offers.
- 11.5 In case of invitation of bids on FOR destination basis, the tenderers are required to quote their price indicating the break-up of following items of cost:

A. Foreign Tenderers

- 1) F.O.B. Cost
- 2) Insurance Charges
- 3) Freight Charges applicable from Port of Dispatch to the Indian Port of discharge
- 4) Charges for clearance at the Indian Port including Custom Duty which will be paid in Indian Rupees and claimed from Purchasers at actual
- 5) Charges for despatch in Rupees for shipment of the machine from the Indian Port to the site and the supplier shall be entirely responsible for the receipt of the machine at the destination in good condition.
- 6) If required, charges in Rupees for installation and commissioning of the machine at site.

B. Indian Tenderers

Indian Tenderers are required to quote on "Free delivery at consignee's site" basis. They shall also quote, if required, charges for installation & commissioning of the machine at consignee's site indicating taxes, if any.

12. CURRENCY OF PAYMENT

- 12.1 The Prices shall be quoted by the Tenderer separately in the following currencies:
- (a) For inputs to the Works, which are expected to be supplied from within India, in Indian Rupees.
 - (b) For those inputs to the Works, which are expected to be supplied from outside India, in freely tradable foreign currencies.
 - (c) Maximum Number of currencies of payment shall not be more than three.

The contract price will be paid in the contracted currency or currencies

- 12.2 The prices quoted shall be firm and not subject to any variation.

13. INSURANCE

- 13.1 All risk cover marine insurance shall be arranged by the supplier in case of import of equipment/stores on FOR basis.
- 13.2 In the case of indigenous offers, the supplier will be responsible till the entire stores contracted for arrive in good condition in destination. Where the tenderer intends to insure the goods, he may arrange for it himself and pay insurance charges. The consignee shall advise the contractor within 45 (forty five) days of the arrival of goods and it shall be

responsibility of the contractor to lodge the necessary claim on the carrier and or insurer and pursue the same. The tenderer shall, however at his own cost replace/ rectify the goods lost/ damage to the entire satisfaction of the consignee within 30 days from the date of receipt of intimation from the consignee, without waiting for the settlement of the claim.

14. CLARIFICATION OF TENDERS

To assist in the examination, evaluation and comparison of tenders, the Employer may, at his discretion, ask any tenderer for clarification of his tender. The request for clarification and the response shall be in writing or by facsimile, but no change in the price or substance of the tender shall be sought, offered or permitted except as required to confirm the correction of arithmetic errors discovered by the Employer in the evaluation of the tenders in accordance with paragraph 15.2.

15. OPENING OF TENDERS

15.1 Opening and Evaluation of Technical Tenders

- i. UPMRC will open the Tenders, including "Withdrawals" and "Modifications" in the presence of Tenderers' designated representatives who choose to attend, at the time, date, and location as stipulated. All Tenderers or their Representatives must bring with them an authority letter on the letterhead of the Tenderer or their Indian Agent (as the case may be) duly signed by Competent Authority to attend the Tender opening. Failing to which they will not be allowed to attend the opening of the Tenders at UPMRC, Lucknow.
- ii. Envelopes marked "WITHDRAWAL" shall be opened first and the name of the Tenderer shall be read out. Tenders for which an acceptable notice of Withdrawal has been submitted shall not be opened.
- iii. Subsequently, all envelopes marked "MODIFICATION" shall be opened and the submissions therein read out in appropriate detail. No Tender shall be rejected at Tender opening except for late Tenders.
- iv. UPMRC shall read out and prepare a record of the tender opening that shall include as a minimum: Tenderers' names, , Tender Modifications and.or Withdrawals, the presence (or absence) of Tender Security, and any such other details as the UPMRC may consider appropriate, will be announced by the UPMRC at the opening.
- v. Tenders not opened and read out at Tender opening shall not be considered further for evaluation, irrespective of the circumstances.
- vi. First Technical Tenders will be opened and examined as per qualifying Criteria of the tender document as mentioned in paragraph 5 and as per Schedule of requirements of the Tender Documents and Financial Tenders will only be opened of those Tenderers, who will qualify in the Technical Tenders in case of two packet system (technical bid & financial bid).
- vii. UPMRC will examine the Tenders to determine whether they are complete, whether the required technical submissions have been included, whether required Securities have been furnished, whether the documents have been properly signed, and whether the tenders are generally in order.

- viii. Prior to the detailed evaluation, the UPMRC will determine whether each Tender is of acceptable quality, is complete and is substantially responsive to the Tender Documents. For purposes of this determination, a substantially responsive Tender is one that conforms to all the terms, conditions and specifications of the Tender Documents without material deviations, objections, qualifications or reservations. A material deviation, objection, qualification or reservation is one (i) that affects in any substantial way the scope, quality or performance of the Contract; (ii) that limits in any substantial way, inconsistent with the Tender Documents, the UPMRC's rights or the successful Tenderers obligations under the contract; or (iii) whose rectification would unfairly affect the competitive position of other Tenderers who are presenting substantially responsive Tenders.
- ix. If a Tender is not substantially responsive, it will be rejected and may not subsequently be made responsive by the Tenderer by correction of the nonconformity. The determination of a Tender's responsiveness is to be based on the contents of the tender itself without recourse to extrinsic evidence.
- x. The UPMRC will carry out a detailed evaluation of the tenders previously determined to be substantially responsive in order to determine whether the technical and commercial aspects including qualifying criteria are in accordance with the requirements set forth in the Tender Documents. In order to reach such a determination, the Employer will examine commercial aspects including qualifying criteria and compare the technical aspects of the Tenders on the basis of the information supplied by the Tenderers, taking into account but not limited to the following factors:
 - a) overall completeness and compliance with the Instruction to Tenderers, Conditions of contract, Schedule of requirements and Drawings;
 - b) deviations from the Schedule of requirements and commercial conditions as identified in **Appendix-FT-10** and those deviations not so identified; suitability of the Facilities offered in relation to the environmental and climatic conditions prevailing at the site; and quality, function and operation of any process control concept included in the Tender. The bid that does not meet minimum acceptable standards of completeness, consistency and detail will be rejected for non-responsiveness.
 - c) achievement of specified performance criteria by the facilities
 - d) type, quantity and long-term availability of mandatory and recommended spare parts and maintenance services.
 - e) compliance with the time schedule provided in the Tender;
 - f) any other relevant factors, if any, listed in the Tender document, or that the UPMRC deems necessary or prudent to take into consideration.

15.2 Opening and Preliminary Examination of Financial Tenders

- i. In case of tenders have been invited in two packet system (technical bid & financial bid) the date, time and place of opening of Financial Tenders will be advised to the Tenderers whose Technical and Commercial offers have been found acceptable, so that they can be present at the time of opening of the Financial tenders. The tenderer is to note that the Financial Tender of the Tender submissions for which the Technical and Commercial offer has satisfied as per requirement of the Tender only, will be opened.
 - ii. UPMRC shall read out and prepare a record of the Tender opening that shall include, as a minimum: the name of the Tenderer and whether there is a Withdrawal, Substitution, or Modification; the Tender Price; including any discounts. The Tenderer's representatives who are present shall be requested to sign the record. The omission of a Tenderer's signature on the record shall not invalidate the contents and effect of the record
 - iii. The UPMRC will examine the Tenders to determine whether they are complete, whether any computational errors have been made, whether required sureties have been furnished, whether the Documents have been properly signed, and whether the tenders are generally in order.
 - a. Arithmetical errors will be rectified on the following basis. If there is a discrepancy between the unit price and the total price, which is obtained by multiplying the unit price and quantity, or between subtotals and the total price, the unit or subtotal price shall prevail, and the total price shall be corrected. If there is a discrepancy between words and figures, the amount in words will prevail. If the Tenderer does not accept the correction of errors, its Tender will be rejected and EMD/Tender Security will be forfeited.
 - b. The UPMRC may waive any minor informality, nonconformity or irregularity in a Tender that does not constitute a material deviation, whether or not identified by the Tenderer in Appendix-FT-10 to its tender, and that does not prejudice or affect the evaluation of any Tenderer as a result of the technical and commercial evaluation.
- 15.3 **Tenders** shall be deemed to be under consideration immediately after they are opened and until such time the official intimation of Award of Contract is made by the UPMRC to the Tenderer. While the Tenders are under such consideration, Tenderers and or their Representatives or other interested parties are advised to refrain from contacting the UPMRC by any means. If necessary, the UPMRC will obtain clarifications on the offers by requesting for such information from any or all the Tenderers, in writing by mail/fax/letter, as may be considered necessary. Tenderers will not be permitted to change the substance of their Tenders after they have been opened.
- 15.4 **During** Tender evaluation, the UPMRC/Employer may, at its discretion, ask the Tenderer for a clarification of its Tender. The request for clarification and the response shall be in writing, and no change in the price or substance of the Tender shall be sought, offered or permitted.
- 15.5 The Tenders received will be evaluated by the UPMRC to ascertain the substantially responsive, qualification and lowest Tender in the interest of the Employer, as specified in the specification and Tender Documents.

16. EVALUATION OF THE OFFERS

- 16.1 In case of tenders have been invited in two packet systems (technical bids & financial bids) financial Tender will be opened in the presence of all qualified Tenderers only when Tenderer's Tenders qualifies technically and in case tenderer's Tender disqualifies technically, Tenderers Financial Tenders will be returned in sealed intact condition as unopened.
- 16.2 The lowest acceptance tenderer will be evaluated by the purchaser in accordance with the terms and conditions of this tender specification. Evaluation criteria not mentioned herein but mentioned specifically in the Schedule of requirements will be taken into consideration in the evaluation of offers.
- 16.3 Purchaser will convert all tender prices expressed in the amount in various currencies in the tender prices as payable, to the local currency of Purchaser's country at the B.C selling market exchange rate established by State Bank of India on the due date of tender submittal. If there will be a bank holiday on the date of tender opening then Rate of Exchange will be taken on the day of previous working day of the bank.
- 16.4 Also if a tenderer request for a variation in the payment terms stipulated in Conditions of Contract and if such variation is acceptable to the Purchaser, the same would be evaluated at an interest rate of 12% per annum for all earlier payments for the purpose of comparison with other tenderers offers.
- 16.5 The quotations from indigenous tenderers (who will meet the eligibility qualification criteria) are required for delivery FOR destination indicating the break-up of prices upto FOR final destination basis as mentioned in Annexure- 1(a) for UPMRC (statement of prices for supply within India). Foreign tenderers will quote their rates as per Annexure- 1(b) for UPMRC (statement of prices for supply from abroad).
- 16.6 The offers received from indigenous tenderers should indicate clearly the rate/amount, GST, duties etc. as leviable on particular item. In case concessional duty or taxes are applicable, the tenderer should quote accordingly. However, if the tenderer state in his offer the applicable taxes etc. will be charged as prevailing at the time of supply, then while working out F.O.R destination rates for comparison, the highest rate as applicable on the due date of submittal of tender will be loaded on the offer. Similarly, if concessional rate of GST, Customs Duty or any other levy is applicable due to lower turnover or otherwise, the highest applicable rate on the due date of submittal of tender will be taken for the evaluation of F.O.R destination rates unless the tenderer confirms in the offer that any increase in the GST, Custom Duty or any other levy due to increase in the turnover will be absorbed by the tenderer itself.
- 16.7
- a. Evaluation of offers shall be done for the requirement of material of U.P Metro Rail Corporation Ltd. Order can be given to the lowest successful bidder.
 - b. For overseas supply, evaluation of offers will be done on rates on Final Destination Basis at Kanpur and Agra Metro Depots of U.P Metro Rail

Corporation Ltd, India including loading/ unloading, carriage, insurance, custom duty & taxes etc.

- c. For indigenous supply, tenderer shall quote their rates on final destination basis. Evaluation of offers will be made on FOR destination incl. of all taxes and duties etc.).

- 16.8 The tenderer shall be responsible for quoting the correct rates of taxes and duties. Applicable taxes and duties should be clearly mentioned in the price schedule (Annexure- 1(a) or 1(b)). Offers will be evaluated including applicable taxes, duties etc. If any bidder does not mention the applicable taxes and duties then it will be considered that their prices are inclusive of taxes and duties as applicable on due date of submittal of tender.

In case of foreign offer, if the service provider does not have permanent establishment in India, then the applicable taxes has to be deposited by the service receiver (purchaser) on reverse charge basis. Also, if the service provider does not quote the applicable taxes in his offer, then applicable taxes on service portion will be considered inclusive in the quoted rates as applicable on the due date of submittal of tender. In this case, payment will be made after deducting the applicable taxes that will be paid by service receiver (purchaser).

- 16.9 The Contract Price shall be adjusted to take account of any change, increase or decrease of any taxes and duties including Custom Duties, GST and other Additional Tax etc. enacted by law of the land in India only, affecting the cost of the goods and introduced after the date of submission of the Tender.

In case the tenderer has not quoted the rates of taxes and duties separately and quoted the prices inclusive of taxes and duties and same has been considered for evaluation, UPMRC will not adjust the payment for an upward revision in the taxes and duties during the execution of the contract. However, for any downward revision, the benefit accrued shall be passed on UPMRC.

If a tenderer quotes concessional rates of duties and taxes and subsequently rate of applicable taxes and duties revised by the Government then revision of taxes & duties on concessional rates of taxes & duties quoted by the firm will be adjusted on pro-rata basis.

In the event of exemption or reduction of Custom Duties, GST or any other Cess/Levy being granted by the Government in respect of the works, the benefit of the same shall be passed on to the Employer.

Other terms and conditions for evaluation of financial offers will be as mentioned in Special Conditions of Contract.

- 16.10 Purchase preference shall be applicable to local suppliers in terms of Ministry of Commerce & Industry, Dept. of Promotion of Industry & Internal Trade (Public Procurement Section), Government of India Letter no. P-45021/2/2017-PP (BE-II) dated 29 May 2019.

The extracts of the above mentioned letter are as follows;

- 16.10.1 **'Local Content'** means the amount of value added in India which shall be total value of the item procured (excluding net domestic indirect taxes) minus the value of imported content in the item (including all customs duties) as proportion to the total value, in percent.
- 16.10.2 **'Local Supplier'** means a supplier or service provider whose product or service offered for procurement meets the minimum local content as prescribed under this order.
- 16.10.3 **Minimum Local Content:** The minimum local content shall ordinarily be 50%.
- 16.10.4 The Margin of Purchase preference shall be 20%
- 16.10.5 Verification of Local Content (Tenderer's are required to submit the self certification / certificate from statutory auditor or cost auditor in Appendix FT-13)
- a. The local supplier at the time of tender, bidding or solicitation shall be required to provide self certification that the item offered meets the minimum local content and shall give details of location(s) at which the local value addition is made.
 - b. In case of procurement for a value in excess of Rs10 Crores, the suppliers shall be required to provide a certificate from statutory auditor or cost auditor of the company (in case of companies) or from a practicing cost accountant or practicing chartered accountant (in respect of suppliers other than companies) giving the percentage of local content.

17. HIGHER PRICE FOR EARLIER DELIVERY

It should be noted that if a contract is placed on a higher tender as a result of this invitation to tender, the preference to the lowest acceptable offer in consideration of offer of earlier delivery, the Contractor will be liable to pay to the government the difference between the contract rate and that of the lowest acceptable tender on the basis of final price F.O.R. destination including all elements of freight, applicable taxes and duties and other incidentals in case of failure to complete supplies in terms of such contract within the date of delivery specified in the tender and incorporated in the contract. This in addition and without prejudice to other rights under the terms of contract.

18. ACCEPTANCE OF TENDER

- 18.1 The purchaser may accept a tender for all the packages or for a complete package (package shall not be splitted), reject any tender without assigning any reason and may not accept the lowest or any tender. Acceptance of the tender shall be for a complete package.
- 18.2 The Purchaser reserves the right to increase or decrease the quantity up to 25% of the quantity offered by the successful tenderer. The contractor is bound to accept the increase or decrease in the tendered quantity upto 25% under this clause as ordered at the time of placement of contract and/or during the currency of the contract. Purchaser may increase the qty. beyond 25% at the same rate. However, the purchaser reserves the right to operate the increase in qty. beyond 25% at its sole discretion. While operating this clause the quantity shall be rounded off to the next whole no.
- 18.3 Acceptance of tender will be communicated by Cable, Telefax, Telegram, Express Letter or formal acceptance of tender. In case where acceptance is

indicated by Cable, Telefax, Telegram, Express Letter or formal acceptance of tender will be forwarded to the Contractor as soon as possible, but the Cable, Telefax, Telegram, Express Letter should be deemed to conclude the contract.

19. EFFECT AND VALIDITY OF OFFER

- 19.1 The submission of any offer connected with these specifications and documents shall constitute an agreement that the tenderer shall have no cause of action and claim, against the Purchaser for rejection of offer. The Purchaser shall always be at liberty to reject or accept any offer or offers at his sole discretion and any such action will not be called into question and the tenderer shall have no claim in that regard against the Purchaser.
- 19.2 The offer shall be kept valid for acceptance for a minimum period of 180 (one hundred and eighty) calendar days from the date set for opening of tenders.
- 19.3 Offers shall be deemed to be under consideration immediately after they are opened and until such time the official intimation of award of contract is made by the Purchaser to the Tenderer. While the offers are under such consideration, tenderers and or their representatives or other interested parties are advised to refrain from contacting the Purchaser by any means. If necessary, the Purchaser will obtain clarifications on the offers by requesting for such information from any or all the tenderers, either in writing or through personal contacts, as may be considered necessary. Tenderers will not be permitted to change the substance of their offers the offers have been opened.

20. GENERAL

The tenderers must ensure that the conditions laid down for submission of offers detailed in the preceding paras, are completely and correctly fulfilled. Offers, which are not complete in all respects as stipulated above, may be summarily rejected. For tenders guidance in submitting complete offers, a check List has been enclosed with the tender in Appendix-FT-19 which must be filled in and furnished with the tender.

21. LAST DATE OF RECEIPT OF TENDERS

The offers complete in all respects should reach the U.P Metro Rail Corporation Ltd, Lucknow, INDIA, not later than the time and date as specified in the "NIT".

22. CHECK LIST

A check List has been included at Appendix-FT-19 of this document. This has been designed to help the tenderers in submitting complete offers. An incomplete offer is liable to be rejected.

The tenderers must fill the Check List & submit alongwith their offer in their own interest.

**U.P Metro Rail Corporation Ltd
Administrative Building, Vipin Khand,
Gomti Nagar, Lucknow-226010.**

**GENERAL CONDITIONS OF
CONTRACT
(GCC)**

CONTENTS

Clause	Description	Page
1.0	DEFINATION AND INTERPRETATION	3
2.0	PARTIES	5
3.0	QUOTATIONS OF RATES BY CONTRACTORS	6
4.0	PENALTY FOR DELAY IN COMMISSIONING	6
5.0	DRAWINGS/SPECIFICATION	7
6.0	CONTRACT	7
7.0	PERFORMANCE GUARANTEE BOND	8
8.0	DELIVERY	10
9.0	NOTIFICATION OF DELIVERY	11
10.0	TIME FOR AND DATE OF DELIVERY: THE ESSENCE OF THE CONTRACT	11
11.0	FORCE MAJEURE	14
12.0	ACCEPTANCE OF STORES DESPATCHED AFTER THE EXPIRY OF DELIVERY PERIOD	14
13.0	SHIPMENT OF STORES BEYOND THE STIPULATED DELIVERY PERIOD FOR F.O.B. CONTRACT	15
14.0	PROGRESS REPORTS	16
15.0	INSPECTION BY INSPECTING OFFICER	16
16.0	PACKING AND MARKING	18
17.0	FREIGHT	19
18.0	PAYMENT TERMS	19
19.0	PAYMENT PROCEDURE	19
20.0	WITHHOLDING AND LIEN RESPECT OF SUMS CLAIMED	20
21.0	RESPONSIBILITY OF THE CONTRACTOR FOR EXECUTING THE CONTRACT	21
22.0	RESPONSIBILITY FOR COMPLETNESS	24
23.0	CHARGES FOR WORK NECESSARY FOR COMPLETION OF THE CONTRACT	24
24.0	INDEMNITY	24
25.0	RISK OF LOSS OR DAMAGE TO GOVERNMENT OR PURCHASER`S PROPERTY	24
26.0	CUSTOMS DRAWBACK	25

27.0	BOOK EXAMINATION CLAUSE	26
28.0	REMOVAL OF REJECTED STORES	26
29.0	CURRUPT PRACTICES	27
30.0	INSOLVENCY AND BREACH OF CONTRACT	28
31.0	LAWS GOVERNING THE CONTRACT	28
32.0	ARBITRATION	29
33.0	SECRECY	31
34.0	WARRANTY	31
35.0	SERVICING AND WAREHOUSING FACILITIES	32
36.0	OPERATION AND INSTRUCTION MANUALS & SERVICE TROUBLE SHOOTING GUIDES	33
37.0	TURN-KEY CONTRACTS	34
38.0	POST WARRANTY MAINTENANCE	34

GENERAL CONDITIONS OF CONTRACT

1.0 DEFINATION AND INTERPRETATION

In the contract, unless the context otherwise requires:

- 1.1. "Acceptance of Tender" means the letter of memorandum communicating to the Contractor the acceptance of his tender and includes "Letter of Acceptance" of his tender;
- 1.2. "Consignee" means where the stores are required by the acceptance of tender to be despatched by rail, road, air or steamer, the person specified in the Acceptance of Tender to whom they are to be delivered at the destination; where the stores are required by the acceptance of tender to be delivered to a person as an interim consignee for the purpose of despatch to another person, such other persons; and in any other case the person to whom the stores are required by the acceptance of tender to be delivered in the manner therein specified ;
- 1.3. "Interim consignee" means the representative of the Purchaser to whom the material is delivered for onward despatch to the consignee and does not include a carrier for the purpose of transmission of the stores to the consignee ;
- 1.4. "Contract" means and includes Bid Invitation, Instructions to Tenderers, General Conditions of Contract, Acceptance of Tender including Letter of Acceptance, Special conditions of contract/tender, Schedule of Requirements, particulars and the other conditions specified in the acceptance of tender(the agreement entered into between the purchaser and the contractor including all attachments and appendices thereto and all documents incorporated by reference therein) and also includes a repeat order, which has been accepted or acted upon by the Contractor and a formal agreement, if executed;
- 1.5. The "Contractor" means the person, firm or company with whom the order for the supply is placed and shall be deemed to include the Contractor's successors (approved by the Purchaser), representatives, heirs, executors and administrators, as the case may be, unless excluded by the terms of the contract;
- 1.6. The "Sub-Contractor" means any person, firm of company from whom the Contractor may obtain any material or fittings to be used in the supply or manufacture of the stores;
- 1.7. "Drawing" means the drawing or drawings specified in or annexed to the Specifications;
- 1.8. "Government" means the Central Government or a State Government as the case may be;
- 1.9. The "Inspecting Officer" means the person or organisation specified in the contract for the purpose of inspection of stores or works under the contract and includes his/their authorized representative;

- 1.10. "Material" means anything used in the manufacture or fabrication of the stores ;
- 1.11. "Particulars" include —
- a) Specifications;
 - b) drawings;
 - c) "Proprietary mark" or "brand" means the mark or brand of a product which is owned by an industrial firm ;
 - d) any other details governing the construction, manufacture or supply of stores as may be pre scribed by the contract;
- 1.12. "Proving Test" means such test or tests as are prescribed by the specification(s) to be made by the Purchaser, or his nominee, either at firm's premises or after erection at site, before the plant is taken over by the Purchaser;
- 1.13. "Purchase Officer" means the officer signing the acceptance of tender and includes any officer who has authority to execute the relevant contract on behalf of the Purchaser;
- 1.14. The "Purchaser" means the U.P Metro Rail Corporation Limited through the Chief Electrical Engineer (Rolling Stock), Administrative Building, Vipin Khand, Gomti Nagar, Lucknow -226 010, INDIA and includes his successors and assignees ;
- 1.15. "Signed" includes stamped, except in the case of an acceptance of tender or any amendment thereof;
- 1.16. "Site" means the place specified in the contract at which any work is required to be executed by the Contractor under the contract or any other place approved by the Purchaser for the purpose;
- 1.17. "Stores" means the goods specified in the contract which the Contractor has agreed to supply under the contract;
- 1.18. "Test" means such test as is prescribed by the particulars or considered necessary by the Inspecting Officer whether performed or made by the Inspecting Officer or any agency acting under the direction of the Inspecting Officer;
- 1.19. "Work" means all the work specified or set forth and required in and by the said specifications, drawings and "Schedule of Requirements", hereto annexed or to be implied therefrom or incidental thereto, or to be hereafter specified or required in such explanatory instructions and drawings (being in conformity with the said original specification(s), drawing(s) and "Schedule of Requirements") and also in such additional instructions and drawings not being in conformity as aforesaid, as shall from time to time, during the progress of the work hereby contracted for, be supplied by the Purchaser;

- 1.20. The delivery of the stores shall be deemed to take place on delivery of the stores in accordance with the terms of the contract, after approval by the Inspecting Officer if so provided in the contract —
- a) the consignee at his premises; or
 - b) where so provided, the interim consignee at his premises ; or
 - c) a carrier or other person named in the contract for the purpose of transmission to the consignee: or
 - d) the consignee at the destination station in case of contract stipulating for delivery of stores at destination station.
- 1.21. “Writing” or “Written” includes matter either in whole or in part, in manuscript, typewritten, lithographed, cyclostyled, photographed or printed under or over signature or seal, as the case may be.
- 1.22. Words in the singular include the plural and vice-versa.
- 1.23. Words importing the masculine gender shall be taken to include the feminine gender and words importing persons shall include any company or association or body of individuals, whether incorporated or not.
- 1.24. ‘The heading of these conditions shall not affect the interpretation or construction thereof.
- 1.25. Terms and expression not herein defined shall have the meanings assigned to them in the Indian Sale of Goods Act, 1930 (as amended) or the Indian Contract Act, 1872 (as amended) or the General Clauses Act, 1897 (as amended) as the case may be.

2.0 PARTIES

The parties to the contract are the Contractor and the Purchaser, as defined in clauses 1.5 and 1.14.

2.1. Authority of Person Signing the Contract on behalf of the Contractor

A person signing the tender or any other document in respect of the contract on behalf of the Contractor without disclosing his authority to do so shall be deemed to warrant that he has authority to bind the Contractor. If it is discovered at any time that the person so signing has no authority to do so, the Purchaser may, without prejudice to any other right or remedy of the Purchaser, cancel the contract and make or authorise the making of a purchase of the stores at the risk and cost of such person and hold such person liable to the Purchaser for all costs and damages arising from the cancellation of the contract including any loss which the Purchaser may sustain on account of such purchase. The provisions of clause 10.0 shall apply to every such purchase as far as applicable.

2.2. Address of the Contractor and notices and communications on behalf of the Purchaser:

- a) For all purposes of the contract, including arbitration thereunder, the address of the Contractor mentioned in the tender shall be the address to which all communications addressed to the Contractor shall be sent, unless the Contractor has notified change by a separate letter containing no other communication and sent by speed post/registered post acknowledgement due to the Purchaser. The Contractor shall be solely responsible for the consequence of an omission to notify a change of address in the manner aforesaid.
- b) Any communication or notice on behalf of the Purchaser in relation to the contract may be issued to the Contractor by the Purchase Officer and all such communications and notices may be served on the Contractor either by speed post/ registered post or under certificate of posting or by ordinary post or by mail or by hand delivery at the option of such officer.

3.0 QUOTATIONS OF RATES BY CONTRACTORS

- 3.1. The price quoted by the Contractor shall not be higher than the controlled price fixed by law for the stores or where there is no controlled price, it shall not exceed the prices or contravene the norms for fixation of prices laid down by Government or where no such prices or norms have been fixed by the Government, it shall not exceed the price appearing in any agreement relating to price regulation by any industry in consultation with the Government. In any case, save for special reasons stated in the tender, the price quoted shall not be higher than the lowest price charged by the Contractor for stores of the same nature, class or description to a Private Purchaser, domestic or foreign as well as Government Purchaser.
- 3.2. If the price quoted is higher than the controlled price or where there is no controlled price, the price usually charged by the Contractor from a private Purchaser, domestic or foreign as well as Government Purchaser for the stores of the same nature, class or description, the Contractor will specifically mention this fact in his tender giving reasons for quoting higher price(s). If he fail to do so or makes any mis-statement it shall be lawful for the Purchaser, (i) to revise the price at any stage so as to bring it in conformity with the sub-clause 3.1 above

4.0 PENALTY FOR DELAY IN COMMISSIONING

The Contractor or his agents shall commission the machine within the stipulated time as shown in the contract. This time frame will be applicable from the date of intimation from the consignee in respect of readiness and installation of the machine in cases where the machine is to be installed by the consignee. The time schedule includes the time for installation in cases where installation is also to be undertaken by the supplier.

The time allowed for commissioning of machine by the Contractor or his agent shall be deemed to be the essence of the contract. In case of delay in commissioning of the machine on the part of Contractor, the Purchaser shall be entitled to recover and the Contractor shall be liable to pay pre estimated liquidated damage at the rate of 2% of the total contract value for each and every month or part thereof for which commissioning is delayed. Provided always that the entire amount of liquidated damages to be paid under the provision of this clause shall not exceed 10% of the total contract value. After expiry of 5 months period from the date of default i.e. from the date of commissioning provided in the contract, purchaser will be at liberty to invoke the PG bond submitted by the supplier.

Continuance of commissioning work after expiry of stipulated time will also not absolve the Contractor from the liquidated damages as stated above.

The decision of the Purchaser, whether the delay in commissioning has taken place on account of reasons attributed to the Contractor shall be final.

5.0 DRAWINGS/SPECIFICATIONS

- 5.1. When tenders are called for in accordance with the drawing/specification, the Contractor's tender to supply in accordance with such drawing specification shall be deemed to be an admission on his part that he had fully acquainted himself with the details thereof and, in no circumstances, will any claim on his part which may arise on account of his insufficient examination of the said drawing/specification be considered.
- 5.2. The Contractor shall be responsible for and shall pay for any alternations for the works due to any discrepancies, errors or omissions in the drawings or other particulars supplied by him whether such drawings or particulars have been approved by the Purchaser or not provided that such discrepancies, errors or omissions be not due to inaccurate information or particulars furnished to the Contractor on behalf of the Purchaser. If any dimensions figuring upon a drawing differ from those obtained by scaling the drawing, the dimensions as figured upon the drawing shall be taken as correct.
- 5.3. Any drawings, tracings or descriptions specified shall, unless otherwise directed, be furnished by the Contractor with the first consignment of the work to which they relate and no payment whatsoever will be made until such drawings, tracings or descriptions have been furnished to the satisfaction of the Purchaser.

6.0 CONTRACT

- 6.1. This contract is for the supply of the stores of the description, specifications and drawings, and in the quantities set forth in the contract on the date or dates specified therein. Unless otherwise specified, the stores shall be entirely brand new and of the best quality and workmanship to the satisfaction of the Inspecting Officer.

- 6.2. The whole contract is to be executed in the most approved, substantial and workmanlike manner, to the entire satisfaction of the Purchaser or his nominee, who, both personally and by his deputies, shall have full power, at every stage of progress, to inspect the stores at such times as he may deem fit and to reject any of the stores, which he may disapprove, and his decision thereon, and on any question of the true intent and meaning of the specifications shall be final and conclusive.
- 6.3. Any variation or amendment of the contract shall not be binding on the Purchaser unless and until the same is duly endorsed on the contract or incorporated in a formal instrument or in exchange of letters and signed by the parties.
- 6.4. The Purchaser or his nominee may require such alteration to be made on the work, during its progress as he deems necessary. Should these alterations be such that either party to the contract considers an alteration in price justified, such alteration shall not be carried out until amended prices have been submitted by the Contractor and accepted by the Purchaser. Should the Contractor proceed to manufacture such stores without obtaining the consent in writing of the Purchaser to an amended price, he shall be deemed to have agreed to supply the stores at such price as may be considered reasonable by the Purchaser.

7.0 PERFORMANCE GUARANTEE BOND

- 7.1. After Letter of Acceptance is issued by the Purchaser, the Contractor shall furnish a Performance Security within 30 days from the issue of the Letter of Acceptance to the Contractor for an amount equivalent to 10% of the value of the contract in the following forms.
 - a) Bank Draft in favour of U.P Metro Rail Corporation Ltd. payable at Lucknow from a Scheduled Commercial Bank based in India, or
 - b) Fixed Deposit Receipt of a Scheduled Commercial bank / Post offices based in India duly pledged in favour of U.P Metro Rail Corporation Ltd., or
 - c) Irrevocable Bank Guarantee in the prescribed format issued by a Scheduled Commercial Bank based in India or from a branch in India of a scheduled foreign bank.
 - d) In case of a joint venture / consortium, the performance security is to be submitted in the name of the JV/consortium. However, splitting of the performance security (while ensuring the security is in the name of JV/Consortium) and its submission by different members of the JV/Consortium for any amount proportionate to their scope of work or otherwise is also acceptable.
- 7.2. In case furnishing of an acceptable Performance Guarantee Bond is delayed by the Contractor beyond the period provided in clause 7.1, and the bond is accepted by the Purchaser, liquidated damages equivalent to 2% of the value of the contract for each month or part of the month subject to max. of 10% of the

value of the contract for the period of delay in submission of the bond, shall be levied. Alternatively, the Purchaser may declare the contract as at an end and enforce clause-10.2 (b). However, total liquidated damages on account of delay in submission of performance guarantee bond and on account of liquidated damages for delay in supply as per clause 10.2(a) will be maximum 10% of the total value of contract.

- 7.3. If the Contractor, having been called upon by the Purchaser to furnish Performance Guarantee Bond fails to furnish the same, it shall be lawful for the Purchaser:
- a) Recover from the Contractor the amount of Performance Guarantee Bond from the pending bills of the Contractor under any contract with the Purchaser or the Government or any person contracting through the Purchaser or otherwise howsoever, or
 - b) To cancel the contract or any part thereof and to purchase or authorise the purchase of the stores at the risk and cost of the Contractor and in that event the provisions of clause 10.2 shall apply as far as applicable.
- 7.4. On the performance and completion of the contract in all respects or after receiving the acceptable bank guarantee for warranty guaranty, the Performance Guarantee Bond will be returned to the Contractor within 90 days without any interest. The bank guarantee for warranty guarantee shall be released within 90 days after expiry of warranty guarantee. If contract is also placed for CAMC, then bank guarantee for warranty guarantee will be returned after getting the PBG of 5% value of the contract for CAMC as specified in the particular specifications as specified in Bid Document part-II.
- 7.5. The Purchaser shall be entitled and it shall be lawful on his part to forfeit the amount of the Performance Guarantee Bond in whole or in part in the event of any default, failure or neglect on the part of the Contractor in the fulfillment or performance in all respects of the contract under reference or any other contract with the Purchaser or any part thereof to the satisfaction of the Purchaser and the Purchaser shall also be entitled to deduct from the amount of the Performance Guarantee Bond any loss or damage which the Purchaser may suffer or be put by reason of or due to any act or other default, recoverable by the Purchaser from the Contractor in respect of the contract under reference or any other contract and in either of the events aforesaid to call upon the Contractor maintain the amount of the Performance Guarantee Bond at its original limit by furnishing fresh Bank Guarantee of additional amount, provided further that the Purchaser shall be entitled to recover any such claim from any sum then due or which at any time thereafter may become due to the Contractor under this or any other contracts with the Purchaser.
- 7.6. The Performance Guarantee Bond shall remain in full force and effect during the period that would be taken for satisfactory performance and fulfillment in all respects of the contract i.e. till satisfactory commissioning of the machine(s) at consignee's works, and shall in the first instance be valid upto twelve months

after the date of last shipment delivery of the goods contracted to be purchased provided that before the expiry of the date of validity of the Performance Guarantee Bond, the Contractor on being called upon by the Purchaser from time to time, shall obtain from the Guarantor Bank, extension of time for validity thereof for a period of six months, on each occasion. The extension or extensions aforesaid, executed on non judicial stamp paper of appropriate value must reach the Purchaser atleast thirty days before the date of expiry of the Performance Guarantee Bond on each occasion.

- 7.7. As and when an amendment is issued to the contract, the Contractor shall, within fifteen days of the receipt of such an amendment furnish to the Purchaser an amendment to the Performance Guarantee Bond rendering the same valid for the contract as amended and upto twelve months beyond the extended delivery date.
- 7.8. The Performance Guarantee Bond and or any amendment thereto shall be executed on a stamped paper of requisite money value in accordance with the laws of the country in which the same is/are executed by the party competent to do so. The Performance Guarantee Bonds executed in India shall also be got endorsed by the Collector under section 32 of the Indian Stamp Act, 1899 for adequacy of the Stamp Duty, by the Contractor.
- 7.9.
- I. The Bank Guarantee to be submitted by the contractor/supplier under this clause, shall be sent directly by the issuing bank to the UPMRC under Registered Post AD or Speed Post or Courier Service.
 - II. In exceptional cases, when the BGs are submitted by the contractors/suppliers etc. through themselves (and not directly by the issuing bank under Registered Post AD or Speed Post or Courier Service), the BG issuing Bank Branch immediately should send by Registered Post AD or Speed Post or Courier Service an unstamped duplicate copy of the Bank Guarantee directly to the UPMRC with a covering letter to enable UPMRC to compare with the original BGs and to confirm that the submitted BG is in order.
- 7.10. NSIC registered firms are not exempted from submission of Performance Guarantee Bond. Hence, they are required to necessarily submit Performance Guarantee Bond in case their offers are accepted and are called upon to do so.
- 7.11. If the contract is also placed for CAMC, then Warranty/Guaranty PBG will be returned after getting the PBG of 5% value of the contract for CAMC as specified in the Particular specifications/Special Condition of Contract.

8.0 DELIVERY

- 8.1. The Contractor shall as may be required by the Purchaser deliver FOR at the place/places detailed in the contract, the quantities of the stores detailed therein

and the stores shall be delivered or dispatched not later than the dates specified in the contract. The delivery will not be deemed to be complete until and unless the stores are inspected and accepted by the Inspecting Officer as provided in the contract.

- 8.2. Notwithstanding any inspection and approval by the Inspecting Officer on the Contractor's premises, property in the stores shall not pass on to the Purchaser until the stores have been received, inspected and accepted by the consignee.
- 8.3. **In the case of indigenous supplies**, the Purchaser shall not be liable to render assistance to the Contractor in securing or to arrange for or provide transport to the Contractor, notwithstanding that transport of the stores, is controlled by or under the orders of the Government.
- 8.4. **In the case of foreign contracts on FOR basis:**

All activities for delivery of Imported as well as Indigenous components like Sea freighting, Insurance, Port clearance, Custom clearance, Inland freighting, Loading & Unloading both on the Vessel as well as consignee's site and thereafter, its complete supply to ultimate consignee, shall be discharged by the supplier or their agent. Custom duty will be reimbursed by UPMRC on proof of documents by the successful bidder.

9.0 NOTIFICATION OF DELIVERY

Notification of delivery or despatch in regard to each and every instalment shall be made to the Purchaser, Consignee and Port Consignee (if applicable) immediately on despatch or delivery. The Contractor shall further supply to the consignee, or the interim consignee, as the case may be, a packing account quoting number and date of the acceptance of tender and date of despatch of the stores. All packages, shall be fully described in the packing account and full details of the contents of the packages and quantity of materials shall be given to enable the consignee to check the stores on arrival at destination. The copy of Railway Receipt/Consignment Note or Bill of Lading or Airway Bill with other shipping documents, if any, shall be forwarded to the consignee and or the port consignee named in the contract, as applicable, by registered post immediately on the despatch of stores. The Contractor shall bear and reimburse to the Purchaser demurrage charges, if any, paid by reason of delay on the part of the Contractor in forwarding the copy of the Railway Receipt, Consignment Note or Bill of Lading and other shipping documents.

10.0 TIME FOR AND DATE OF DELIVERY: THE ESSENCE OF THE CONTRACT

The time for and the date specified in the contract or as extended for the delivery of the stores shall be deemed to be the essence of the contract and delivery must be completed not later than the date(s) so specified or extended:

10.1. Progressing of Deliveries

The Contractor shall allow reasonable facilities and free access to his works and records to the Inspecting Officer, Progress Officer or such other Officer as may be nominated by the Purchaser for the purpose of ascertaining the progress of the deliveries under the contract.

10.2. **Failure and Termination**

If the Contractor fails to deliver the stores or any installment thereof within the period fixed for such delivery in the contract or as extended or at any time repudiates the contract before the expiry of such period, the Purchaser may without prejudice to his other rights:

- a) Recover from the Contractor as agreed pre estimated liquidated damages and not by way of penalty a sum equivalent to 2 per cent of the price of any stores (including elements of taxes, duties, freight etc.) which the Contractor has failed to deliver within the period fixed for delivery in the contract or as extended for each month or part of a month during which the delivery of such stores may be in arrears where delivery thereof is accepted after expiry of the aforesaid period subject to max. of 10% of the contract value. Provided, however, that if the delay shall have arisen from any cause which the Purchaser may admit as reasonable ground for further time, the Purchaser may in his discretion allow such additional time as he may consider to have been required by the circumstances of the case and shall forego the whole or such part, as he may consider reasonable of his claim for such loss or damages as aforesaid; or
- b) Cancel the contract or a portion thereof and if so desired purchase or authorise the purchase of the stores not so delivered or others of a similar description (where stores exactly complying with particulars are not, in the opinion of the Purchaser, which shall, be final, readily procurable) at the risk and cost of the Contractor. It shall, however, be in the discretion of the Purchaser to obtain or not the Performance Guarantee Bond from the firm/firms on whom the contract is placed at the risk and expense of the defaulting firm. However, in respect of contracts where performance guarantee bond of 10% of contract value has been taken, risk purchase clause will not be applicable and in case of default by such firms, the performance guarantee bond submitted shall be forfeited for ***in part or full*** and the quantities unsupplied shall be procured independently without risk and cost of the original contractor and adverse performance of defaulting firm will be taken into account in future tender cases on merit.

Where risk purchase action is taken under sub-clause (b) above, the Contractor shall be liable for any loss which the Purchaser may sustain on that account provided the purchase, or, if there is an agreement to purchase, such agreement is made, in case of failure to deliver the stores within the period fixed for such delivery in the contract or as extended within nine months from the date of such failure and in case of repudiation of the contract before the expiry of the aforesaid period of delivery, within nine months from the date of cancellation of the contract. The Contractor shall not be entitled to any gain on such purchase and the manner and method of such purchase shall be in the entire discretion of the Purchaser. It shall not be necessary for the Purchaser to serve a notice of such purchase on the Contractor.

10.3. Extension of Time for Delivery

If such failure as in the aforesaid clause 10.2 shall have arisen from any cause which the Purchaser may admit as reasonable ground for extension of time, the Purchaser shall allow such additional time as he considers to be justified by the circumstances of the case, and shall forgo the whole or such part, as he may consider reasonable, of his claim for such loss or damage as aforesaid. Any failure or delay on the part of Sub-Contractor, though their employment may have been sanctioned under condition 21.0 hereof, shall not be admitted as a reasonable ground for any extension of time or for exempting the Contractor from liability for any such loss or damage as aforesaid.

10.4. Consequence of Rejection

If on the stores being rejected by the Inspecting Officer or Interim Consignee or Consignees at the destination, the Contractor fails to make satisfactory supplies within the stipulated period of delivery, the Purchaser shall be at liberty to:

- i. require the Contractor to replace the rejected stores forthwith but in any event not later than a period Of 21 days from the date of rejection and the Contractor shall bear all cost of such replacement including freight, if any, on such replacing and replaced stores but without being entitled to any extra payment on that or any other account; or
- ii. purchase or authorize the purchase of quantity of the stores rejected or others of a similar description (when stores exactly complying with particulars are not in the opinion of the Purchaser, which shall be final, readily available) without notice to the Contractor at his risk and cost and without affecting the Contractor's liability as regards the supply of any further installments due under the contract; or
- iii. cancel the contract and purchase or authorise the purchase of the stores or others of a similar description (when stores exactly complying with particulars are not, in the opinion of the Purchaser, which shall be final, readily available) at the risk and cost of the Contractor. In the event of action being taken under sub-clause (ii) above or under this sub-clause, the provisions of clause 10.02 above will apply as far as applicable.
- iv. where under the contract the price payable is fixed F.O.B. port of export or F.O.R. despatching station, the Contractor shall, if the stores are rejected at destination by the consignee, be liable, in addition to his other liabilities, including refund of price recoverable in respect of the stores so rejected, to reimburse to the Purchaser the freight and all other expenses incurred by the Purchaser in this regard.

10.5. Penalty for delays in supplies during delivery period:

In case of failure on the part of supplier to arrange supplies as per the delivery schedule/installments fixed in advance, save force majeure conditions or delays

attributable to Purchaser, the purchaser reserves the right to levy liquidated damages, which shall be levied as per para 10.2 (a) above, for the delayed quantity which have remained unsupplied for that period. This will be applicable both in indigenous and foreign contracts.

- 10.6. Thus the total liquidated damages on account of clause 1.02 (a) and 4.0 above will be maximum 20% of the total contract value.

11.0 FORCE MAJEURE

In the event of any unforeseen event directly interfering with the supply of stores arising during the currency of the contract, such as war, hostilities, acts of the public enemy, civil commotion, sabotage, fires, floods, explosions, epidemics, quarantine restrictions, strikes, lockouts, or acts of God, the Contractor shall, within a week from the commencement thereof, notify the same in writing to the Purchaser with reasonable evidence thereof. If the force majeure condition(s) mentioned above be in force for a period of 90 days or more at any time, the Purchaser shall have the option to terminate the contract on expiry of 90 days of commencement of such force majeure by giving 14 days' notice to the Contractor in writing. In case of such termination, no damages shall be claimed by either party against the other, save and except those which had occurred under any other clause of this contract prior to such termination.

12.0 ACCEPTANCE OF STORES DESPATCHED AFTER THE EXPIRY OF DELIVERY PERIOD

- 12.1. In cases where only a portion of the stores ordered is tendered for inspection at the fag end of the delivery period and also in cases where inspection is not completed in respect of the portion of the stores tendered for inspection during the delivery period because of the reason that adequate notice for inspection in accordance with clause 15.1 was not given by the Contractor, the Purchaser reserves the right to cancel the order for the balance quantity, as per clause 10.2 above without any further reference to him. If the stores tendered for inspection during or at the fag end of the delivery period are not found acceptable after carrying out the inspection, Purchaser is entitled to cancel the contract in respect of the same. If, however, the stores tendered for inspection are found acceptable, the Purchaser may grant an extension of the delivery period subject to the following conditions:

- a) The Purchaser has the right to recover from the Contractor the liquidated damages on the stores, which the Contractor has failed to deliver within the period fixed for delivery.
- b) That no increase in price on account of any statutory increase in or fresh imposition of Customs Duty, GST , Freight Charges or on any account of any other tax or duty leviable in respect of the stores specified in the contract, which takes place after the date of delivery period stipulated in the said Acceptance of Tender, shall be admissible on such of the said stores as are delivered after said date.
- c) That notwithstanding any stipulation in the contract for increase in price on any other ground, no such increase which takes place after the delivery date

- stipulated in the contract shall be admissible on such of the said stores as are delivered after the said date.
- d) But nevertheless the Purchaser shall be entitled to the benefit of any decrease in price on account of reduction in or remission of Customs Duty, GST or on account of any other ground which takes place after the expiry of the delivery date stipulated in the contract. The Contractor shall allow the said benefit in his bills or in the absence thereof shall certify that no decrease in price on account of any of these factors has taken place.
- 12.2. The Contractor shall not despatch the stores till such time an extension in terms of clause 12.1 (a) to (d) above is granted by the Purchaser and accepted by the Contractor. If the stores are despatched by the Contractor before an extension letter as aforesaid is issued by the Purchaser and the same are accepted by the consignee, the acceptance of the stores shall be deemed to be subject to the conditions (a) to (d) mentioned in clause 12.1 above.
- 12.3. In case where the entire quantity has not been tendered for inspection within the delivery period stipulated in the contract and the Purchaser chooses to grant an extension of the delivery period the same would be subject to conditions (a) to (d) mentioned in clause 12.1 above.

13.0 SHIPMENT OF STORES BEYOND THE STIPULATED DELIVERY PERIOD

- 13.1. In the event of the Contractor failing to ship the stores duly inspected and passed within the stipulated delivery, the Purchaser is entitled to cancel the contract in respect of the same as per clause 1002 above or invoke the clauses providing other remedies such as liquidated damages as provided in the contract. However, if he so chooses, the Purchaser may grant an extension of the delivery period subject to :—
- a) The Purchaser recovering from the contractor liquidated damages as stipulated in the conditions of contract for the stores, which the Contractor has failed to ship within the period fixed for delivery after the inspection and passing of the stores.
- b) The Purchaser retaining the right to recover from the Contractor any extra expenditure which might have been incurred by the Purchaser on account of additional bank charges payable for extension/amendment of the Letter of Credit, the increase in Custom Duty and Freight Charges directly relatable to the delay in shipping of the stores, etc.
- c) That any additional expenditure incurred by the purchaser or custom duty, freight charges as also extra cost which may arise on account of variation in exchange rate during the extended delivery schedule shall be borne by the Contractor.
- 13.2. The Contractor shall not despatch the stores till such time an extension in terms of the above is granted by the Purchaser. If the stores are despatched by the Contractor before an extension letter as aforesaid is issued by the Purchaser, the supply of the stores shall be deemed to be subject to conditions set above.

14.0 PROGRESS REPORTS

- 14.1. The Contractor shall, from time-to-time, render such reports concerning the progress of the contract and/or supply of the stores including commissioning in such form as may be required by the Purchaser.
- 14.2. The submission, receipt and acceptance of such reports shall not prejudice the rights of the Purchaser under the contract, nor shall operate as an estoppel against Purchaser merely by reason of the fact that he has not taken notice of/or subjected to test any information contained in such report.

15.0 INSPECTION BY INSPECTING OFFICER

- 15.1. When Inspection during manufacture or before delivery or despatch is required, notice in writing shall be sent by the Contractor to the Inspecting Officer when the stores or material to be supplied are ready for inspection and test, and no stores shall be delivered or despatched until the Inspecting Officer has certified in writing that such stores have been inspected and approved by him. At least four weeks' notice must be given to the Inspecting Officer to enable him to arrange the necessary inspection. The examination of stores will be made as soon as practicable after the same have been submitted for inspection, and the result of the examination will be notified to the Contractor.
- 15.2. In cases where the Inspecting Authority specified in the contract requires on behalf of the Purchaser that inspection of the raw materials to be used and/or stage inspection during the manufacturing process of the component/stores etc. is also to be done, notice in writing shall be sent by the Contractor to the Inspecting Officer to visit his premises/works to test the raw materials and/ or conduct necessary inspection during the manufacturing process of the component/stores etc. as deemed essential.

15.3. Marking of Stores

The Contractor shall, if so required, at his own expense, mark all the approved stores with a recognized Government or Purchaser's mark. The stores which cannot be so marked shall, if so required by the Inspecting Officer, be packed at the Contractor's expense in suitable packages or cases, each of which shall be sealed and marked with such mark.

15.4. Facilities for Test and Examination

The Contractor shall, at his own expense afford to the Inspecting Officer all reasonable facilities as may be necessary for satisfying himself, that the stores are being and/or have been manufactured in accordance with the Particulars. The Inspecting Officer shall have full and free access at any time during the execution of the contract to the Contractor's work for the purpose aforesaid, and he may require the Contractor to make arrangements for inspection of the stores or any part thereof or any material at his premises or at any other place specified by the Inspecting Officer and if the Contractor has been permitted to employ the

services of a Sub-Contractor, he shall in his contract with the Sub-Contractor, reserve to the Inspecting Officer a similar right.

15.5. Cost of Test

The Contractor shall provide, without any extra charge, all materials, tools, labour and assistance of every kind which the inspecting Officer may demand of him for any test, and examination, other than special or independent test, which he shall require to be made on the Contractor's premises and the Contractor shall bear and pay all costs attendant thereon. If the Contractor fails to comply with the conditions aforesaid, the Inspecting Officer shall, in his sole judgment, be entitled to remove for test and examination all or any of the stores manufactured by the Contractor to any premises other than his (Contractor's) and in all such cases the Contractor shall bear the cost of transport and/or carrying but such tests elsewhere. A certificate in writing of the Inspecting Officer, that the Contractor has failed to provide the facilities and the means for test and examination, shall be final.

15.6. Delivery of Stores for Test

The Contractor shall provide and deliver free of charge, at such places as the Inspecting Officer may nominate, such materials as he may require for test by chemical analysis or independent testing machines.

15.7. Liability for Costs of Special or Independent Test

The cost of any special or independent tests to be carried out by the Inspecting Officer at a place other than the Contractor's premises will be defrayed by the Purchaser unless it is stated in the specification that it is to be paid by the Contractor. However, in the event of rejection of stores or any part thereof by the Inspecting Officer in the consequence of the sample thereof which is removed to the laboratory or other places of test, being found on test, to-be not in conformity with the Contract, or, in the event of the failure of the Contractor for any reason to deliver the stores passed on test within the stipulated period, the Contractor shall, on demand, pay to the Purchaser all costs incurred in the inspection and/or test, Cost of test shall be assessed at the rate charged by the laboratory to private person for similar work.

15.8. Method of Testing

The Inspecting Officer shall have the right to put all the stores or materials forming part of the same or any part thereof to such tests as he may think fit and proper. The Contractor shall not be entitled to object on any ground whatsoever to the method of testing adopted by the Inspecting Officer.

15.9. The Contractor shall satisfy the Inspector that adequate provision has been made :-

- i. to carry out his instructions fully, and with promptitude ;
- ii. to ensure that parts required to be inspected before use are not used before inspections; and
- iii. to prevent rejected parts being used in error. Where, parts rejected by the Inspector have been rectified or altered, such parts shall be segregated for separate inspection and approval before being used in the work.

15.10. Powers of Inspecting Officer

The Inspecting Officer shall have the power:

- i. Before any stores or part thereof are submitted for inspection to certify that they cannot be in accordance with the contract owing to the adoption of any unsatisfactory method of manufacture ;
 - ii. To reject any stores submitted as not being in accordance with the particulars ;
 - iii. To reject the whole of the installment tendered for inspection, if after inspection of such portion thereof as he may in his discretion think fit, he is satisfied that the same is unsatisfactory;
 - iv. To mark the rejected stores with a rejection mark, so that they may be easily identified if re-submitted for inspection.
- The Inspecting Officer's decision as regards the rejection shall be final and binding on the Contractor.

15.11. Inspection Certificates

On the stores being found acceptable by the Inspecting Officer, he shall furnish the Contractor with necessary copies of the Inspection certificates duly completed for being attached to the Contractor's bill in support thereof.

15.12. Certification of Inspection and Approval in Case of Foreign Contracts

- i. No Stores will be considered ready for delivery until the Purchaser or the Inspecting Officer nominated by him shall have certified in writing that they have been inspected and approved by him.
- ii. It shall be the responsibility of the contractor to ensure that only such goods as have been duly inspected and approved by the Inspecting Authority, are offered for arranging shipment to the UPMRC's Forwarding Agents and to furnish to them a certificate as under:
"Certified that the goods offered for arranging shipment have been duly inspected and approved by the prescribed authority in accordance with the terms of the contract and a copy of the Inspection Certificate issued in this regard is enclosed."

16.0 PACKING AND MARKING

16.1. Packing

16.1.1. The Contractor shall pack at his own cost the stores sufficiently and properly for transit by rail/road, air and/or sea as provided in the contract so as to ensure their being free from loss or damage on arrival at their destination. He shall decide the packing for the stores by taking into account the fact that the stores will have to undergo arduous transportation before reaching the destination and will have to be stored and handled in tropical climatic conditions (Including Monsoons) before being put to actual use.

16.1.2. Unless otherwise provided in the contract, all packing cases, boxes, tins, drums and wrappings in which the stores are supplied by the Contractor, shall be considered as non-returnable and their cost as having been included in the contract price. Containers used for transportation are returnable.

- 16.1.3. Each package shall contain a packing note specifying the name & address of the Contractor, the number and date of the acceptance of tender and the designation of the Purchase Officer issuing the supply orders, the description of the stores and the quantity contained therein.

16.2. Marking

The marking of all goods supplied shall comply with the requirement of the Indian Acts relating to merchandise marks or any amendment thereof and of the rules made thereunder. The following marking of the materials is required :—

- a) The following particulars should be stenciled with indelible paint on all the materials/packages:
- i. Contract No.
 - ii. Specification No.
 - iii. Item No.
 - iv. Port consignee (wherever applicable)
 - v. Abbreviated Consignee marks.
- b) In addition to the marking as specified above, distinguishing colour marks should be given so as to distinguish the ultimate consignees in India.

16.3. Inspection of Packing/Marking

The inspection officer may reject the stores, if the stores are not packed and/or marked as aforesaid and in case, where the packing materials are separately prescribed, if such materials are not in accordance with the terms of the contract, such rejection of stores by the inspecting officer shall be final and binding on the contract.

17.0 FREIGHT

- 17.1. The stores shall be despatched at public tariff rates. In the case of F.O.R. station of despatch contract, the stores shall be booked by the most economical route and or at the most economical tariff available at the time of despatch as the case may be. Failure to do so will render the Contractor liable for any avoidable expenditure caused to the Purchaser. Where alternative routes exist the Purchaser shall, if called upon to do so, indicate the most economical route available or name the authority whose advice in the matter shall be taken and acted upon. If any advice of any such authority is sought his decision or advice in the matter shall be final and binding on the Contractors for indigenous supplies.

- 17.2. The purchaser will not bear any Octroi charges.

18.0 PAYMENT TERMS

The Standard payment terms subject to recoveries, if any, by way of Liquidated Damages shall be as mentioned in Special Condition of Contracts.

19.0 PAYMENT PROCEDURE

- 19.1. Payment for indigenous suppliers will be made in Indian Rupees against bills preferred by the Contractor. Any payment in the foreign exchange that the

Contractor may have to make for imported components forming part of the tender will be arranged by him direct.

- 19.2. Payments against foreign contractors will be arranged through normal banking channels except where payment through letter of credit has been stipulated in the contract. In the case of payment through the letter of credit, all charges levied by the foreign bank(s) shall be borne by the Contractor.
- 19.3.
- i. Tenderer to give consent in a mandate form for receipt of payment through EFT(Electronic Fund Transfer).
 - ii. Tenderers to provide the details of Bank A/c in line with RBI guidelines for the same. These details will include Bank name, Branch name & Address, Account type, Bank A/c No. and Bank & Branch Code as appearing on MICR cheque issued by bank.
 - iii. Tenderer to attach certificate from their bank certifying the correctness of all above mentioned information (as mentioned in para (II) above).
 - iv. In case of non payment through EFT or where EFT facility is not available, payment will be released through cheque.
- 19.4. In case of payment through direct remittance/letter of credit to foreign contractors they have to submit the certificates/information before opening of the LC or making the payment to them.

20.0 WITHHOLDING AND LIEN IN RESPECT OF SUMS CLAIMED

- 20.1. Whenever any claim or claims for payment of a sum of money arises out of or under the contract against the Contractor, the Purchaser shall be entitled to withhold and also have a lien to retain such sum or sums in whole or in part from the amount of Performance Guarantee Bond and any other Guarantee furnished by the Contractor and for the purpose aforesaid, the Purchaser shall be entitled to encash the Performance Guarantee Bond etc. and also have a lien over the amount of the Performance Guarantee Bond etc. pending finalisation or adjudication of any such claim. In the event of the said amount being insufficient to cover the claimed amount or amounts or if no Performance Guarantee Bond etc. has been taken from the Contractor, the Purchaser shall be entitled to withhold and have lien to retain to the extent of the such claimed amount or amounts referred to supra, from any sum or sums found payable or which at any time thereafter may become payable to the Contractor under the same contract or any other contract with the Purchaser or the Government pending finalization or adjudication of any such claim.

It is an agreed term of the contract that the sum of money or moneys so withheld or retained under the lien referred to above, by the Purchaser will be kept withheld or retained as such by the Purchaser till the claim arising out of or under the contract is determined by the Arbitrator (if the contract is governed by the arbitration clause) or by the competent court as prescribed under clause 3103 hereinafter provided, as the case may be, and that the Contractor will have no

claim for interest or damages whatsoever on any account in respect of such withholding or retention under the lien referred to supra and duly notified as such to the Contractor.

- 20.2. For the purpose of clause 20.1, where the Contractor is a partnership firm or a limited company, the Purchaser shall be entitled to withhold and also have a lien to retain towards such claimed amount or amounts in whole or in part from any sum found payable to any partner/ limited company, as the case may be, whether in his individual capacity or otherwise.
- 20.3. **Lien in respect of Claims in other Contracts**-Any sum of money due and payable to the Contractor (including the amount of Performance Guarantee Bond any other Guarantee) under the contract may be withheld by way of lien by the Purchaser or Government against any claim of the Purchaser or Government in respect of payment of a sum of money arising out or under any other contract made by the Contractor with the Purchaser or Government.

It is an agreed term of the contract that the sum of money so withheld or retained under this clause by the Purchaser or Government will be kept withheld or retained as such by the Purchaser or Government till his claim arising out of in the same contract or any other contracts is either mutually settled or determined by the Arbitrator, if the contract is governed by the arbitration clause or by the competent court under clause 3103 hereinafter provided, as the case may be, and that the Contractor shall have no claim for interest or damages whatsoever on this account or any other ground in respect of any sum of money withheld or retained under this clause and duly notified as such to the Contractor.

- 20.4. In addition to this other remedies under the law and these conditions, the Purchaser shall have a lien on each machine in respect of which the 80% has been paid to secure payment of this amount and recovery of any sum due from the Contractor, should the machine(s) not be successfully commissioned within the time specified as per clause Installation, Commissioning & Proving Tests in the Technical Specifications contained in Bid Documents Part-II.

21.0 RESPONSIBILITY OF THE CONTRACTOR FOR EXECUTING THE CONTRACT

- 21.1. **Risk in the Stores**:- The Contractor shall perform the contract in all respects in accordance with the terms and conditions thereof. The stores and every constituent part thereof, whether in the possession or control of the Contractor, his agents or servants or a carrier, or in the joint possession of the Contractor, his agents or servants and the Purchaser, his agents or servants, shall remain in every respect at the risk of the Contractor, until their actual delivery to the consignee at the stipulated place or destination or, where so provided in the acceptance of tender, until their delivery to a person specified in the contract as interim consignee for the purpose of despatch to the consignee. The Contractor shall be responsible for all loss, destruction, damage or deterioration of or to the stores from any cause whatsoever while the stores after approval by the Inspecting Officer are awaiting despatch or delivery or are in the course of transit from the Contractor to the consignee or the interim consignee as the case may be. The Contractor shall alone be entitled and responsible to make claims

against a Railway Administration or any other carrier in respect of non-delivery, short delivery, misdelivery, loss, destruction, damage or deterioration of the goods entrusted to such carrier by the Contractor for transmission to the consignee or the interim consignee, as the case may be.

- 21.2. **Consignee's Right of Rejection** — Notwithstanding any approval which the inspecting Officer may have given in respect of the stores or any materials or other particulars or the work or workmanship involved in the performance of the contract (whether with or without any test carried out by the Contractor or the Inspecting Officer or under the direction of the Inspecting Officer) and notwithstanding delivery of the stores where so provided to the interim consignee, it shall be lawful for the consignee, on behalf of the Purchaser, to reject the stores or any part, portion of consignment thereof within 90 days after expiry of the stipulated time provided in the contract for the commissioning of the machine or in case the commissioning is completed after the stipulated time, after commissioning of the machine at the place or destination specified in the contract if such stores or part, portion of consignment thereof is not in all respects in conformity with the terms and conditions of the contract whether on account of any loss, deterioration or damage before despatch or delivery or during transit or otherwise howsoever. The rejection advice issued by consignee may be in the standard format as per Store Code Vol-I, para 764.
- 21.3. Provided that where, under the terms of the contract, the stores are required to be delivered to an interim consignee for the purpose of despatch to the consignee, the stores shall be at the Purchaser's risk after their delivery to the interim consignee, but nevertheless it shall be lawful for the consignee on behalf of the Purchaser to reject the stores or any part, portion of consignment thereof upon their actual delivery to him at the destination if they are not in all respects in conformity with the terms and conditions of contract except where they have been damaged or have deteriorated in the course of transit or otherwise after their delivery to the interim consignee.
- 21.4. The provisions contained in clause 28.0 relating to the removal of stores rejected by the Inspecting Officer shall, mutatis mutandis apply to stores rejected by the consignee as herein provided.
- 21.5. The Contractor shall refund any advance/part payment received by him in respect of the rejected stores within 21 days of the receipt of intimation from the consignee about the rejection of the stores. In default, the Purchaser may take steps against Contractor for recovery of such price. This is strictly without prejudice and in addition to the rights provided in clause 10.4.
- i. In case of rejection of pre-inspected supply of goods at consignee end, the material rejection advice/rejection memo should be sent to all concerned i.e. firm, purchaser, pre-inspecting agency, paying authority as per the contract, associate bill paying authority etc. without fail.
 - ii. The concerned paying authority as per the contract and associated bill paying authority should note the rejection advice details in its recovery register for effecting recovery of payments made, as the case may be.

- iii. Joint inspection of rejected lot of goods should be held with pre-inspection agency and firm. In cases of failure of the firm to associate with joint inspection, the same should be held with pre-inspecting agency.
- iv. Firm may be permitted to rectify the rejected goods in its premises only after the firm has deposited the payments already made against the same or equivalent amount has been withheld for this purpose.
- v. In case of replacement supply against the rejected lot of goods, the same should be pre-inspected by the pre-inspecting agency prior to acceptance of the same by the consignee.
- vi. In case of acceptance of replacement supply/ rejected supply after rectification, the material rejection advice/ rejection memo issued earlier should be withdrawn under advice to all concerned.

21.6. **Subletting and Assignment** — The Contractor shall not sublet (otherwise than that which may be customary in the trade concerned), transfer, assign or otherwise part with directly or indirectly to any person or persons, whatever is in this contract, or any part thereof without the previous written permission of the Purchaser or his nominee.

In the event of the Contractor's failure to obtain such permission, the Purchaser shall be entitled to cancel the contract and to purchase the stores elsewhere on the Contractor's account and risk and the Contractor shall be liable for any loss or damage which the Purchaser may sustain in consequence or arising out of such purchase.

21.7. **Changes in a Firm**

- a) Where the Contractor is a partnership firm, a new partner shall not be introduced in the firm except with the previous consent in writing of the Purchaser, which may be granted only upon execution of a written undertaking by the new partner to perform the contract and accept all liabilities incurred by the firm under the contract prior to the date of such undertaking. In the event of the Contractor's failure to comply with this requirement, it shall be lawful for the Purchaser to cancel the contract and purchase or authorise the purchase of the stores at the risk and cost of the Contractor and in that event the provisions of clause 1002 as far as applicable shall apply.
- b) On the death or retirement of any partner of the Contractor firm before complete performance of the contract, the Purchaser may, at his option cancel the contract and in such case the Contractor shall have no claim whatsoever to compensation against the Purchaser.
- c) If the contract is not determined as provided in sub-clause (b) above notwithstanding the retirement of a partner from the firm he shall continue to be liable under the contract for acts of the firm until a copy of the public notice given by him under section 32 of the Partnership Act, has been sent by him to the Purchaser by registered post acknowledgement due.
- d) The decision of the Purchaser as to any matter or thing concerning or arising out of this sub-clause or on any question whether the Contractor or any partner of the Contractor firm has committed a breach of any of the conditions in this sub-clause shall be final and binding on the Contractor.

22.0 RESPONSIBILITY FOR COMPLETENESS

- 22.1. Any fittings or accessories which may not be specifically mentioned in the specifications but which are usual or necessary, are to be provided by the Contractor without extra charge, and the plant must be complete in all details.
- 22.2. The work shall be performed at the place or places specified in the contract or at such other place or places as may be approved by the Purchaser.
- 22.3. In all cases where the contract provides for tests on site, the Purchaser, except where otherwise specified, shall provide, free of charge, such labour, materials, fuels, stores, apparatus and instruments as may be required from time to time and as may reasonably be demanded, efficiently to carry out such tests of the plants, materials or workmanship etc. in accordance with the contract.
- 22.4. In the case of contracts requiring electricity, for the completion of the work and for test on site, such electricity, when available, shall be supplied free to the Contractor at the pressure of the ordinary supply.

However, responsibilities of Purchaser and the contractor required for execution of work at consignees site shall be as defined in bid document Part-II.

23.0 CHARGES FOR WORK NECESSARY FOR COMPLETION OF THE CONTRACT

The Contractor shall pay all charges for handling, stamping, painting, marking, protecting or preserving patent rights, drawings, templates, model and gauges and for all such measures as the Purchaser or the Inspecting Officer may deem necessary for the proper completion of the contract though special provision therefore may not be made in the specification or drawings. The Contractor shall also pay for Dock and Harbour dues, port's rates, export taxes and other fees' or charges, if any, levied because of exportation.

24.0 INDEMNITY

The prices stated are to include all rights (if any) of patent, registered design or trade mark and the Contractor shall at all times indemnify the Purchaser against all claims which may be made in respect of the stores for infringement of any right protected by patent, registration of designs or trade mark; provided always that in the event of any claim in respect of alleged breach of a patent, registered designs or trade mark being made against the Purchaser, the Purchaser shall notify the Contractor of the same and the Contractor shall, at his own expense, either settle any such dispute or conduct any litigation that may arise there from.

25.0 RISK OF LOSS OR DAMAGE TO GOVERNMENT OR PURCHASER'S PROPERTY

- 25.1. All the property of the Government or Purchaser loaned, whether with or without deposit on terms and conditions to be separately agreed upon in respect of each particular contract, to the Contractor in connection with contract shall remain the

property of the Government or the Purchaser, as the case may be. The Contractor shall use such property for the purpose of the execution of the contract and for no other purpose whatsoever.

- 25.2. All such property shall be deemed to be in good condition when received by the Contractor unless he shall have within twenty four hours of the receipt thereof notified the Purchase Officer or the concerned authority to the contrary. If the Contractor fails to notify any defect in the condition or quality of such property, he shall be deemed to have lost the right to do so at any subsequent stage.
- 25.3. The Contractor shall return all such property and shall be responsible for the full value thereof to be assessed by the Purchaser/loaning authority whose decision shall be final and binding on the Contractor. The Contractor shall be liable for loss or damage to such property from whatever cause happening while such property is in the possession of or under the control of the Contractor, his servants, workmen or agents.
- 25.4. Where such property is insured by the Contractor against loss or fire at the request of the Government or Purchaser such insurance shall be deemed to be effected by way of additional precaution and shall not prejudice the liability of the Contractor as aforesaid.

25.5. Safety Measures

- 25.5.1. The Contractor should take all precautionary measures in order to ensure the protection of his own personnel moving about or working on the railway premises, and should conform to the rules and regulations of the Railway.
- 25.5.2. The Contractor should abide by all railway regulations in force from time to time and ensure that the same are followed by his representatives, agents or sub-contractor or workmen.
- 25.5.3. The Contractor should ensure that unauthorised, careless or inadvertent operation of installed equipment which may result in accident to staff and/or damage to equipment does not occur.
- 25.5.4. The Contractor should indemnify and keep the Purchaser indemnified and harmless against all actions, suits, claims, demands costs charges or expenses arising in connection with any accident, death or injury, sustained by any person or persons within the railway premises and any loss or damage to railway property sustained due to the acts or omissions of the Contractor irrespective of whether such liability arises under the workman's compensation act or the fatal accidents act or any other statute in force from time to time.

26.0 CUSTOMS DRAWBACK

If, by reason of a customs notification published after the placing of the contract, the stores to be supplied shall become, on exportation, subject to customs drawback in respect of duty paid on them or on the materials used in their

manufacture, the Contractor shall recover the amount of the drawback and the contract price of the stores shall be reduced by the amount so recovered.

27.0 BOOK EXAMINATION CLAUSE

The Purchaser shall have the right for "Book Examination" as follows:

- 27.1. **The** Contractor shall whenever called upon and requiring to produce or cause to be produced or examination by any Govt. Officer duly authorised in that behalf, any cost or other account book of account, voucher, receipt, letter, memorandum, paper or writing or any copy of or extract from any such document and also furnish information any way relating to such transaction and procedure before the duly authorised Government Officer returns verified in such manner as may be required relating in any way to the execution of this contract or relevant for verifying or ascertaining the cost of execution of this contract. The decision of such Government Officer on the question of relevancy of any document, information or return being final and binding on the parties.

The obligation imposed by this clause is without prejudice to the obligation of the Contractor under any statute, rules or orders and it shall be binding on the Contractor.

- 27.2. The Contractor shall, if the authorised Government Officer so required (whether before or after the prices have been finally fixed), afford facilities to the Government Officer concerned to visit the Contractor's works for the purpose of examining the processes of manufacture and estimating or ascertaining the cost of production of the articles. If any portion of the work be entrusted or carried out by a Sub-Contractor or any of its subsidiary or allied firm or company, the authorised Government Officer shall have the power to examine all the relevant books of such Sub-Contractor or any subsidiary or allied firm or company which shall be open to his inspection as mentioned in clause 27.1.
- 27.3. If on such examination, it is established that the contracted price is in excess of the actual cost plus reasonable margin of profit, the Purchaser shall have the right to reduce the price and determine the amount to a reasonable level.
- 27.4. Where a contract provides for book examination clause, the Contractor or 'its agency is bound to allow examination of its books within a period of 60 days from the date the notice is received by the Contractor, or its agencies calling for the production of documents as under clause 27.1 above. In the event of Contractor's or his agencies failure to do so, the contract price would be reduced and determined according to the best judgment of the Purchaser which would be final and binding on the Contractor and his agencies.

28.0 REMOVAL OF REJECTED STORES

- 28.1. On rejection of any stores submitted for inspection at a place other than the premises of the Contractor, such stores shall be removed by the Contractor at his own cost subject as herein after stipulated, within 21 days of the date of

intimation of such rejection. If the concerned communication is addressed and posted to the Contractor at the address mentioned in the contract, it will be deemed to have been served on him at the time when such communication would in the course of ordinary post reach the Contractor, provided that where the price or part thereof has been paid, the consignee is entitled without prejudice to his other rights to retain the rejected stores till the price paid for such stores is refunded by the Contractor save that such retention shall not in any circumstances be deemed to be acceptance of the stores or waiver of rejection thereof.

- 28.2. All rejected stores shall in any event and circumstances remain and always be at the risk of the Contractor immediately on such rejection. If such stores are not removed by the Contractor within the periods aforementioned, the Inspecting Officer may remove the rejected stores and either return the same to the Contractor at his risk and cost by such mode of transport as the Purchaser or Inspecting Officer may decide, or dispose of such stores at the Contractor's risk and on his account and retain such portion of the proceeds, if any, from such disposal as may be necessary to recover any expense incurred in connection with such disposals (or any price refundable as a consequence of such rejection). The purchaser shall, in addition, be entitled to recover from the Contractor handling and storage charges on the rejected stores after the expiry of the time-limit mentioned above.
- 28.3. The stores that have been despatched by rail and rejected after arrival at destination may be taken back by the Contractor either at the station where they were rejected or at the station from which they were sent, after refunding the price paid for such stores and other charges refundable as a consequence of such rejection. If the contract is placed for delivery F.O.R. station of despatch, the Contractor shall pay the carriage charges on the rejected consignment at public tariff rates from the station of despatch to the station where they are rejected. If the Contractor elects to take back the goods at the station from which they were despatched, the goods shall in addition, be booked back to him freight to-pay at public tariff rates and at Contractor's risk. The Contractor shall be liable to reimburse packing and incidental costs and charges incurred in such return of rejected stores in addition to other charges refundable as a consequence of rejection. The goods shall remain the property of the Contractor unless and until accepted by the Purchaser after inspection.

29.0 CORRUPT PRACTICES

- 29.1. The Contractor shall not offer or give or agree to give to any person in the employment of the Purchaser or working under the orders of the Purchaser any gift or consideration of any kind as an inducement or reward for doing or forbearing to do or having done or forborne to do any act in relation to the obtaining or execution of the contract or any other contract with the Purchaser or Government or for showing any favour or for bearing to show disfavour to any person in relation to the contract or any other contract with the purchaser or Government. Any breach of the aforesaid condition by the Contractor, or any one

employed by him or acting on his behalf (whether with or without the knowledge of the Contractor) or the commission of any offence by the Contractor, or by any one employed by him or acting on his behalf, under Chapter IX of the Indian Penal Code, 1860 or the Prevention of Corruption Act, 1947 or any other act enacted for the prevention of corruption by public servants shall entitle the Purchaser to cancel the contract and all or any other contracts with the Contractor and to recover from the Contractor the amount of any loss arising from such cancellation in accordance with the provisions of clause 10.2.

- 29.2. Any dispute or difference in respect of either the interpretation, effect or application of the above clause or of the amount recoverable there under by the Purchaser from the Contractor, shall be decided by the Purchaser, whose decision thereon shall be final and binding on the Contractor.

30.0 INSOLVENCY AND BREACH OF CONTRACT

The Purchaser may at any time, by notice in writing summarily determine the contract without compensation to the Contractor in any of the following events, that is to say :—

- a) if the Contractor being an individual or if a firm, any partner thereof, shall at any time, be adjudged insolvent or shall have a receiving order or order for administration of his estate made against him or shall take any proceeding for composition under any Insolvency Act for the time being in force or make any conveyance or assignment of his effects or enter into any assignment or composition with his creditors or suspend payment or if the firm be dissolved under the Partnership Act, or
- b) if the Contractor being a company is wound up voluntarily or by the order of a Court or a Receiver, Liquidator, or Manager on behalf of the Debenture holders is appointed, or circumstances shall have arisen which entitle the Court or Debenture holders to appoint a Receiver, Liquidator or Manager, or
- c) if the Contractor commits any breach of the contract not herein specifically provided for.

Provided always that such determination shall not prejudice any right of action or remedy which shall have accrued or shall accrue thereafter to the Purchaser and provided also the Contractor shall be liable to pay to the Purchaser any extra expenditure he is thereby put to and the Contractor shall, under no circumstances, be entitled to any gain on re-purchase.

31.0 LAWS GOVERNING THE CONTRACT

- 31.1. This contract shall be governed by the Laws of India for the time being in force.
- 31.2. Irrespective of the place of delivery and the place of payment under the contract, the contract shall be deemed to have been made at the place in India from where the acceptance of tender has been issued.
- 31.3. Jurisdiction of Courts.—The Courts of the place from where the acceptance of tender has been issued shall alone have jurisdiction to decide any dispute arising out of or in respect of the contract.

31.4. Compliance with provisions of Contract Labour (Regulation and Abolition) Act, 1970 — For Indigenous Supplies:

- i. The Contractor shall comply with the provisions of the Contract Labour(Regulation and Abolition) Act, 1970 and the Contract Labour (Regulation and Abolition) Central Rules, 1971, as modified from time-to-time, wherever applicable and shall also indemnify the Purchaser from and against any claims under the aforesaid Act and the Rules.
- ii. The Contractor shall obtain a valid license under the aforesaid Act as modified from time-to-time before the commencement of the contract and continue to have a valid license until the completion of the contract. Any failure to fulfill this requirement shall attract the penal provisions of the contract arising out of the resultant non-execution of the contract.
- iii. The Contractor shall pay to labour employed by him directly or through Sub-Contractors the wages as per provisions of the aforesaid Act and the Rules wherever applicable. The Contractor, shall notwithstanding the provisions of the contract to the contrary, cause to be paid the wages to labour indirectly engaged on the contract including any engaged by his Sub-Contractors in connection with the said contract, as if the labour had been immediately employed by him.
- iv. In respect of all labour directly or indirectly employed in the contract for performance of the Contractor's part of the contract, the Contractor shall comply with or cause to be complied with the provisions of the aforesaid Act and the Rule; wherever applicable.
- v. In every case in which, by virtue of the provisions of the aforesaid Act or the Rules, the Purchaser is obliged to pay any amount of wages to a workman employed by the Contractor or his Sub-Contractor in execution of the contract or to incur any expenditure in providing welfare and health amenities required to be provided under the aforesaid Act and the Rules or to incur any expenditure on account of the contingent liability of the Purchaser due to the Contractor's failure to fulfill his statutory obligations under the aforesaid Act or the Rules, the Purchaser will recover from the Contractor, the amount of wages so paid or the amount of expenditure so incurred, and without prejudice to the rights of the Purchaser under section 20, sub-section (2) and section 21, sub-section(4) of the aforesaid Act, the Purchaser shall be at liberty to recover such amount or part thereof by deducting it from the amount of the Performance Guarantee Bond and/or from any sum due by the Purchaser to the Contractor whether under the contract or otherwise. The Purchaser shall not be bound to contest any claim made against it under sub-section (1) of section 20 and sub-section (4.) of section 21 of the aforesaid Act except on the written request of the Contractor and upon his giving to the Purchaser full security for all costs for which the Purchaser might become liable in contesting such claim. The decision of the Purchaser regarding the amount actually recoverable from the Contractor as stated above, shall be final and binding on the Contractor.

32.0 ARBITRATION

- 32.1. If conciliation fails, then such disputes or differences, whatsoever arising between the parties, arising out of touching or relating to manufacture, measuring operation or effect of the Contract or the breach thereof shall be referred to Arbitration in accordance with the following provisions:

- i. Matters to be arbitrated upon shall be referred to a sole Arbitrator where the total value of claims does not exceed Rs. 1.5 million. Beyond the claim limit of Rs. 1.5 million, there shall be three Arbitrators. For this purpose Employer will make out a panel of engineers. This panel will be of serving or retired engineers of Government Departments or of Public Sector Undertakings;
- ii. For the disputes to be decided by a sole Arbitrator, a list of three engineers taken from the aforesaid panel will be sent to the Contractor by the Employer from which the Contractor will choose one;
- iii. For the disputes to be decided by three Arbitrators, the employer will make out a list of five engineers from the aforesaid panel. The Contractor and Employer shall choose one Arbitrator each and the two so chosen shall choose the third Arbitrator from the said list who shall act as the presiding Arbitrator;
- iv. Neither party shall be limited in the proceedings before such Arbitrator(s) to the evidence or the arguments put before the Conciliator;
- v. The Conciliation and Arbitration hearings shall be held in Lucknow only. The language of the proceedings that of the documents and communications shall be English and the awards shall be made in writing. The Arbitrators shall always give item-wise and reasoned awards in all cases where the total claim exceeds Rs. One million; and
- vi. The award of the sole Arbitrator or the award by majority of three Arbitrators as the case may shall be binding on all parties.

32.2. Interest on Arbitration Award

Where the arbitral award is for the payment of money, no interest shall be payable on whole or any part of the money for any period, till the date on which the award is made.

32.3. Cost of Arbitration

The cost of arbitration shall be borne by the respective parties. The cost shall, inter alia, include the fees of the Arbitrator(s) as per rates fixed by the Employer from time to time.

32.4. Jurisdiction of Courts

Where recourse to a Court is to be made in respect of any matter, the Employer and the Contractor agree to the sole jurisdiction of courts in Lucknow.

32.5. Suspension of work on Account of Arbitration

The reference to Conciliation/ Arbitration shall proceed notwithstanding that the Works shall not then be or be alleged to be complete, provided always that the obligations of the Employer, Engineer and the Contractor shall not be altered by reasons of arbitration being conducted during the progress of the Works. Neither party shall be entitled to suspend the work or part of the work to which the dispute relates on account of arbitration and payments to the Contractor shall continue to be made in terms of the Contract.

33.0 SECRECY

- 33.1. The Contractor shall take all reasonable steps necessary to ensure that all persons employed in any work in connection with the contract, have full knowledge of the Official Secrets Act and any regulations framed thereunder.
- 33.2. Any information obtained in the course of the execution of the contract by the Contractor,; his servants or agents or any person so employed, as to any matter whatsoever, which would or might be directly or indirectly, of use to any enemy of India, must be treated secret and shall not at any time be communicated to any person.
- 33.3. Any breach of the aforesaid conditions shall entitle the Purchaser to cancel the contract and to purchase or authorise the purchase of the stores at the risk and cost of the Contractor in accordance with the clause-1002 of the General Conditions of Contract, In the event of such cancellation, the stores or parts manufactured in the execution of the contract shall be taken by the Purchaser at such price as he considers fair and reasonable and the decision of the Purchaser as to such price shall be final and binding on the Contractor.

34.0 WARRANTY

- 34.1. The Contractor shall warrant that everything to be furnished hereunder shall be free from defects and faults in design, material, workmanship and manufacture and shall be of the highest grade and consistent with the established and generally accepted standards for goods of the type ordered and in full conformity, with the contract specifications and samples if any and shall if operatable, operate properly.
- 34.2. This warranty shall survive inspection of, payment for and acceptance of the goods and shall expire after 24 month from the date of commissioning of machine at ultimate destination in India, Any approval of acceptance by purchaser of the Stores or of the material incorporated here in shall not in any way limits the contractor's liability.
- 34.3. The contractor's liability in respect of any complaints defects and or claims shall be limited to the furnishing and installation of replacement parts free of any charge or the repair or defective parts only to the extent that such replacement or repairs are attributable to or arise from faulty workmanship or material or design in the manufacture of the stores, provided that the defects are brought to the notice of Contractor with in 3 (Three) months of their being first discovered during the warranty period or 3 (Three) months from the date of expiry of warranty period or at the option of the Purchaser to the payment of the value, expenditure and damage as hereafter mentioned.
- 34.4. The contractor shall, if required, replace or repair the goods or such portion thereof as is rejected by the Purchaser free of cost at the ultimate destination or at the option of the purchaser, the contractor shall pay to the purchaser value thereof at the contract price or in the absence of such price at price decided by

the Purchaser, and such other expenditure and damages as may arise by reason of the breach of the condition herein specified.

- 34.5. All replacement and repairs that the purchaser shall call upon the contractor to deliver or perform under this warranty shall be delivered and performed by the contractor within 1 (one) weeks, promptly and satisfactorily. The warranty period will be extended by the number of days the machine remains under breakdown during the warranty period and the warranty Bank Guarantee would be returned at the end of such extended warranty period for the full machine.
- 34.6. If the Contractor so desires, the replaced parts can be taken over by him or his representative in India for disposal as he deems fit at the time of replacement of goods/parts. No claim whatsoever shall lie on the Purchaser for the replaced parts thereafter.
- 34.7. The warranty herein contained shall not apply to any material which shall have been repaired or altered by the Purchaser, or on his behalf in any way without the consent of the Contractor, so as to effect the strength, performance or reliability or to any defects to any part due to misuse, negligence or accident,
- 34.8. The decision of the Purchaser in regard to Contractor's liability and the amount, if any, payable under this warranty shall be final and conclusive.
- 34.9. The warranty period in the offer shall survive for a period of 24 months from the date of commissioning of machine. If the offer is found with less than 24 months or ambiguous/uncertain on warranty conditions, the tender is liable to be rejected.
- 34.10. The Purchaser, without prejudice, shall be entitled and it shall be lawful on his part to forfeit the amount of the Guarantee Bond furnished in respect of Warranty in whole or in part in the event of any default, failure or neglect on the part of the Contractor in the fulfillment or performance in all respects of the warranty provisions under reference or failure to extend the validity of Guarantee Bond for the period of break down occurred during warranty period and for such part(s) replaced and/or repaired and part(s) immediately connected thereto as per clause 34.5.

35.0 SERVICING AND WAREHOUSING FACILITIES

- 35.1. The tenderer will clearly spell out in the offer the facilities available with him or his agent for providing adequate after-sales service in India during warranty period. The tenderer will also indicate the organisation located at various places in India and the availability of trained staff, maintenance spares etc. at different centres in the country. In the case of imported machines, presence of qualified service engineering personnel with the supplier or his agent will be essential and the bidder should certify in the offer that such service team will be available. This information should be provided by the bidder in relevant Section of Bid document Part-II.

- 35.2. All spares required for the maintenance of these machines should be made available to various consignees for ware-housing in India for a period as specified in Bid Document part-II.
- 35.3. After the warranty period, the manufacturer or his agent shall agree to provide service supports for trouble shooting and obtaining spare parts. The manufacturer shall be obliged to provide spare parts required by the Purchasers for a period of 15 (Fifteen) years or as per codal life of machine mentioned in bid document Part-II from the date of delivery of the machine at the ultimate destination to safeguard against obsolescence.
- 35.4. The following information must be furnished by the Tenderer/Manufacturer regarding facilities for after sale service available in India.
- i. Whether similar types of machines have been sold earlier by the manufacturer through the agents in India, if so the machine model number and details of the customers to whom the machines were sold should be furnished.
 - ii. Whether any trained engineers are available in India either with the firm or with their agents to attend to after sale problems of;
 - a. Control equipment
 - b. Machine and
 - c. Location where these engineers are available in India.
 - iii. If reply to (ii) above is in negative, the nature of after sale service proposed to be provided by the manufacturer during the warranty period and later. The number of service engineers and their location may also be specified;
 - iv. What inventory of spare parts for the control equipment and the machine will be maintained by the manufactures directly or with their Indian Associate in India for the warranty period requirement. The location of proposed warehouse for maintaining the inventory and the approximate value of such inventory may also please be indicated, alongwith the list of such spares.
 - v. Whether repairable parts assemblies like printed circuit boards will be repaired in India or sent to the manufacturer aboard during the warranty period and the modalities for the same,

36.0 OPERATION AND INSTRUCTION MANUALS & SERVICE TROUBLE SHOOTING GUIDES

- 36.1. The supplier shall furnish per machine ordered 4 copies each or such number as specified in Bid Document Part-II of the relevant operating manual, maintenance manual, instruction for both electrical and mechanical equipments, trouble shooting guide, spare parts catalogue with price list, detailed wiring diagram, hydraulic circuit diagram, Lubrication diagram with schedule of lubrication and lubricants to be used. In case of imported machines equivalent indigenously available brands of lubricants hydraulic oils and other consumable and spare parts should be indicated. All technical documents will be in English language.
- 36.2. In addition, one hard copy and one soft copy each of the above mentioned literature shall be supplied to the consignee. All the drawings/diagrams shall be reproducible tracing film.

- 36.3. Dimensions Specifications for rubber spare parts and electronic spare parts should be given.

37.0 Turn-Key contracts

- 37.1. The supplier shall arrange certification by a RCC Consultant, who should be a Chartered Engineer registered with the Institution of Engineers, that:
- a. The design of the machine foundation &
 - b. Construction of the foundation.

is in accordance with the latest version of the relevant part of the Indian Standard for Code of Practice for design & construction of machine foundation as specified in IS:2974.

The original certificate issued by the consultant for certification of both the design & construction of the foundation and a copy of his registration certificate from the Institution of Engineers shall be submitted by the supplier to the consignee.

- 37.2. The supplier shall stand a warranty for the foundation alongwith the machine. He shall arrange to rectify any defects (e.g. sinking or cracking) occurring during the warranty period in the foundation. He shall also be responsible for uprooting and reinstalling the machine if so required for carrying out the repairs to the foundation. The warranty period would be extendable by the time period for which the machine remains out of commission due to the defect in the foundation or a period of one year, whichever is more.
- 37.3. The payment for the construction of the foundation and installation & Commissioning of the machine would be released only after submission of a certificate as required vide Para-3701 above, which has to be certified by the consignee. This certification shall be done while issuing the PTC for the machine.
- 37.4. Detailed specifications of the quantity and quality of the material etc. of the turnkey work is to be specified by the firm alongwith the offer so that these can be incorporated in the contract to ensure right quality as well as quantity of the material etc.

38.0 Post Warranty Maintenance

- 38.1. Tenderers may be required to quote for post warranty Annual Maintenance for a period of 5 years or such period as specified in Bid Document Part-II after expiry of the warranty period of the M&P alongwith their offers.
- 38.2. In such cases, tenderers are required to mention such CAMC schedule of such Annual periodic maintenance alongwith offers giving the charges for CAMC maintenance schedule and other details of items to be used in such preventive maintenance.

**SPECIAL CONDITIONS OF
CONTRACT
(SCC)**

CONTENTS		
Clause	Description	Page
1.0	Payment Terms	2
2.0	Evaluation Criteria	4

SPECIAL CONDITION OF CONTRACT

1.0 Payment Terms: (refer clause no. 18.0 of GCC)

Payment terms should be followed strictly as per terms and conditions of bid document.

A. **Foreign Suppliers:** All the payments will be made through an unconfirmed, irrevocable Letter of Credit (LC) payable at site from a bank in India. The standard payment terms subject to recoveries, if any, by way of Liquidated Damages as per clause 10.2 of GCC will be as under :-

(a) 80% of the payment of shipped material value against irrevocable L.C, will be made on proof of inspection certificate and shipment documents within 30 days of receipt of shipping documents as specified. The shipping documents shall consists of:

- i. Two copies of negotiable cum original Bill of Lading/Airway Bill.
- ii. A copy of inspection certificate issued by the inspecting officer.
- iii. Signed/certified commercial invoice (of 100% SHIPPED VALUE) showing the description, quantity and price of stores shipped along with packing list/shipping specification.
- iv. A copy of contractor's letter addressed to the insurer as advance intimation sent by the beneficiary to insurer advising the closing/shipping particulars to enable insurer to arrange insurance.
- v. Certificate for country of origin issued by the appropriate authority.
- vi. A certificate that one set of non negotiable document has been sent to purchaser and ultimate consignee.
- vii. Certificate of purchasers of having receipt of PBG as per Clause no. 7.0 of GCC.
- viii. Any other document apart from i) to vii) above and as per the requirement of the contract.
- ix. Packing List

In case of FOR contracts, 80% payment for supplied material will be made on receipt of the material duly pre inspected and receipted at site by the consignee in good condition. Payment for the imported portion will be made against irrevocable L.C on receipt of the complete consignment in good condition as per specification at ultimate consignee's end.

(b) In case where dispatch is permitted by road, 80% payment will be made against receipt of the material duly pre inspected and receipted at site by the consignee in good condition.

(c) i) Balance 20% payment of the shipped material value and payment of installation testing commissioning and training if any will be made through bank transfer on furnishing a Bank Guarantee for an amount equal to 10% of the contract value, as per format fully indemnifying the Purchaser against all losses incurred by the Purchaser during the Warranty period stipulated in the Warranty Clause No. 34.0 within 30 days of the receipt of Bill along with

Proving Test Certificate after successful completion of proving test in which the machine performance would have been demonstrated by the supplier or his Indian associate after its commissioning at the consignee's premises. Where, however, the installation and commissioning of the machine is delayed or put off beyond 90 days of the receipt of goods at the ultimate destination due to express written instructions of the Purchaser/Consignee, the balance 20% payment shall be released to the supplier on his furnishing the necessary Bank Guarantee of equal amount i.e. balance 20% valid for the period as asked by the purchaser.

- ii) The Bank Guarantee as mentioned above should be in the prescribed format issued by a Scheduled Commercial Bank based in India or from a branch in India of a scheduled foreign bank.
 - iii) In exceptional cases, when the BGs are submitted by the contractors/suppliers etc. through themselves (and not directly by the issuing bank under Registered Post AD or Speed Post or Courier Service), the BG issuing Bank Branch immediately should send by Registered Post AD or Speed Post or Courier Service an unstamped duplicate copy of the Bank Guarantee directly to the UPMRC with a covering letter to enable UPMRC to compare with the original BGs and to confirm that the submitted BG is in order.
- (d) Payment of maintenance during DLP or CAMC if any will be made quarterly basis against the certificate from the consignee for satisfactorily maintenance of equipment/plant.

B. For indigenous Suppliers:-

The standard payment terms subject to recoveries, if any, by way of Liquidated Damages as per clause 10.2 of GCC will be as under:

- (a) 80% payment of the supplied material value will be made on receipt of the material duly pre inspected and receipted at site by the consignee in good condition.
- (b) i) Balance 20% payment of supplied material value and payment of installation, testing, commissioning, and training if any will be made on furnishing a Bank Guarantee for an amount equal to 10% of the contract value, as per Annexure-11 fully indemnifying the Purchaser against all losses incurred by the Purchaser during the Warranty period stipulated in the Warranty Clause No. 34.0 within 30 days of the receipt of Bill alongwith Proving Test Certificate after successful completion of proving test in which the machine performance would have been demonstrated by the supplier or his Indian associate after its commissioning at the consignee's premises. Where, however, the installation and commissioning of the machine is delayed or put off beyond 90 days of the receipt of the goods at the ultimate destination due to express written instructions of the Purchaser/Consignee, the balance 20% payment shall be released to the supplier on his furnishing the necessary Bank Guarantee of equal amount i.e balance 20% valid for the period ask by the purchaser.
 - ii) The Bank Guarantee as mentioned above should be in the prescribed format issued by a Scheduled Commercial Bank based in India or from a branch in India of a scheduled foreign bank
 - iii) In exceptional cases, when the BGs are submitted by the contractors/suppliers etc. through themselves (and not directly by the issuing

bank under Registered Post AD or Speed Post or Courier Service), the BG issuing Bank Branch immediately should send by Registered Post AD or Speed Post or Courier Service an unstamped duplicate copy of the Bank Guarantee directly to UPMRC with a covering letter to enable UPMRC to compare with the original BGs and to confirm that the submitted BG is in order.

Payment of maintenance during DLP or CAMC if any will be made quarterly basis against the certificate from the consignee for satisfactorily maintenance of equipment/plant.

2.0 EVALUATION CRITERIA

2.1. Total value of the offer will be calculated on the followings:

2.1.1. The cost of Supply of 02 sets of Fully Automatic Synchronized Pit Jacks & 04 sets of Fully Automatic Synchronized Mobile Jacks with Spares as per specifications given in Schedule of Requirement (Particular Specifications).

2.1.2. Erection, Testing & commissioning, integrated commissioning of 02 sets Fully Automatic Synchronized Pit Jacks & 04 sets of Fully Automatic Synchronized Mobile Jacks and O&M documentation and training to employer's staff and other obligations as mentioned in Schedule of Requirement (Particular Specifications).

2.1.3. Maintenance of equipments for 24 Months of DLP.

2.2. Following items will not be taken into evaluation and may be quoted as optional

2.2.1. Deleted

Note:

- a) Above items are required strictly as per specifications given in Schedule of Requirement.
- b) The above prices shall be on 'FOR destination basis' at Kanpur and Agra.
 - i Quoted price against S. No. '2.1.3 above shall be more than or equal to 3% of the total quoted price against S. No. '2.1.1' to 2.1.3'.
 - ii In case quoted price for item no. 2.1.3 is less than 3% of the total price against item no. '2.1.1' to 2.1.3' then for **financial evaluation** and contract execution, the price for item no. '2.1.1' to '2.1.2' shall be reduced on pro-rata basis and price against item '2.1.3' will be so adjusted so as to ensure that the adjusted price of item no. '2.1.3' is equal to 3% of the total revised (adjusted/reduced) price against the items no. 2.1.1 to 2.1.3.
- c) On supply items applicable taxes and custom duty shall be clearly indicated. These are payable only when tenderer indicate these in their offer clearly. Supplier shall

undertake transit insurance and will be responsible for the supply of contracted stores to be delivered in good condition at final destination.

- d)** Payment related to local services if any such as Erection, testing & commissioning, integrated commissioning, O&M documentation, training to employer's staff and Maintenance during DLP shall attract Tax Deduction at Source under the income tax regulations as applicable.
- e)** For indigenous supply, tenderer shall quote their rates on final destination basis. Evaluation of offers will be made on FOR destination incl. of all taxes and duties.
- f)** Purchaser reserves the right to increase/decrease the quantity (to any extent) of procurement of any spare quoted against the Mandatory spares/ RECOMMENDED SPARES. Purchaser at its sole discretion may place order for spares at any time within six months before the expiry of the Defect Liability Period.
- g)** Supplier shall not undertake supply of any spare unless specifically confirmed by the Purchaser.
- h)** Supplier shall indicate the lead time for supply of each item of spares (against Mandatory as well as Recommended) in their offer. In the event of delay of supply of ordered spares beyond the commuted lead time, penalty as per contract conditions shall be leviable.
- i)** For overseas manufacturer, the price shall be on 'FOR destination. Offer without freight charges will be loaded with highest rate of freight charges received against the tender.
- j)** For overseas supply, in case details of Freight charges, Insurance etc are not given, evaluation of offers will be done on CIF + 1% landing charges + total concessional custom duty (Including basic custom duty, applicable IGST, cess & other applicable taxes and duties, if any) as applicable under project import on (CIF + 1%) basis. Insurance charges will be loaded @0.25% of C&F value. Offer without freight charges will be loaded with highest rate of freight charges received against the tender.
- k)** In case of foreign offer, if the service provider does not have permanent establishment in India, then the applicable taxes has to be deposited by the service receiver (purchaser) on reverse charge basis. Also, if the service provider does not quote the applicable taxes in his offer, then applicable taxes on service portion will be considered inclusive in the quoted rates as applicable on the due date of submittal of tender. In this case, payment will be made after deducting the service taxes that will be paid by service receiver (purchaser).

PART- II

SCHEDULE OF REQUIREMENTS

1. GENERAL SPECIFICATIONS

CONTENT

Clause	Description	Page
1.	GENERAL DESCRIPTION AND SCOPE OF SUPPLY	2
2.	PLANING, PROGRAMME AND PROGRESS MONITORING	20
3.	PACKAGING	21
4.	TRANSPORTATION	21
5.	DELIVERY	21
6.	CHECKS AND TESTS	22

1. GENERAL DESCRIPTION AND SCOPE OF SUPPLY

1.1 Application of the General Specification (GS)

The provisions contained in the GS shall prevail over the provisions contained in International/European/British/Indian Standards and Codes of Practice and similar documents stated in the contract.

The provisions contained in the Particular Specification (PS) and the Employer's Drawings shall prevail over the provisions contained in this GS.

The GS shall be read in conjunction with the Particular Specification and other documents constituting the contract. This specification will apply to those design features that are part of Particular Specifications.

1.2 Abbreviations

Common abbreviations used in the GS and in the PS shall have the following meanings:

AC	Alternating Current
ACB	Air circuit breaker
BS	British Standard
CAD	Computer aided design
DC	Direct current
UPMRC	Uttar Pradesh Metro Rail Corporation
E	Earth
EMC	Electromagnetic compatibility
EMIP	Environmental mitigation plan
EMU	Electrical multiple unit
EN	Euro norm
FAT	Factory acceptance tests
GCC	General conditions of contract
GS	General specifications
GOW	General overhaul workshop
HRC	High rupturing capacity
HRc	Rockwell hardness
HS/LS	High speed/low speed
HV	High voltage
IEC	International electrotechnical commission
IS	Indian Standard
ISO	International Standards Organisation
ITT	Instruction to Tenderers

LED	Light emitting diode
OHE	Overhead equipment
PS/TS	Particular specification/Technical specification
QAP	Quality assurance plan
SCC	Special conditions of contract
LRW	Light repair Workshop
LV	Low voltage
MCB	Miniature circuit breaker
MCCB	Moulded case circuit breaker
MIG	Metal inert gas
NC	Numerical control
NF	French Standard
PLC	Programmable logic controller
PO	Power outlet
PVC	Polyvinyl chloride
TIG	Tungsten inert gas
UIC	International Union of Railways
US	Ultrasonic
UV	Ultraviolet
VLV	Very low voltage

1.3 Definitions

Words and phrases defined in the GCC or SCC shall retain the same meaning within the GS and PS unless specifically redefined within this GS:

1. "Client, Employer" refers to U.P Metro Rail Corporation (UPMRC) and Manager of the contract to which this tender invitation relates.
2. "Client's Representative, Employer Representative", Engineer refers to responsible persons or parties designated by the Client to act on his behalf in his name for all management tasks or actions concerning the works and installations defined in the contract.
3. "Contractor", "Supplier", Constructor" or "Manufacturer" refers to the party to which this procurement has been awarded.
4. "In Principle": This term signifies that derogation may be granted to the specification to which it is associated.
5. "External" applies to everything not provided under this contract.
6. "Commissioning" refers to the readiness of the equipment for putting into service after successful completion of installation works and Site tests.
7. "Factory tests" refers to the tests to be carried out at the manufacturer's premises before shipment/despatch of the equipment to the site.

8. "Site tests" refers to the tests to be carried out after installation of the equipment at site.

1.4 Scope of work

- 1.4.1 The scope of work includes design, manufacture, supply, installing, testing and commissioning of the Machinery and Plant & training of employer staff.
- 1.4.2 The Contractor for Electrical & Mechanical works shall terminate mains of electric power for battery charging etc, within about 10 m of the designated required place. Contractor shall do all connection from the mains to his machine.

The arrangement of electric power, compressed air and wastewater disposal during the commissioning phase shall be the responsibility of the Contractor. For operational and testing requirements, the Client shall provide, the above.

1.5 Training of maintenance and operation staff

The Contractor shall provide comprehensive training to the Client's staff to enable safe and efficient maintenance and operation of the equipment supplied as part of the contract to achieve maximum reliability and economy of cost. The Contractor shall submit to the Client's Representative for review and approval, a training plan at least 2 months before the readiness of the equipment for commissioning. The training plan shall include:

- schedule of training courses,
- syllabus, size of class and duration of each capsule,
- training facilities to be provided by the Client,
- qualifications and experience level necessary for the trainees,
- instructor's qualifications and competency certificate issued by the OEM.
- normal modes of operation of equipment,
- procedures to be followed for safe and efficient operation of the equipment.

The training shall be held at nominated Depot comprising of :

- (i.) Operational training
- (ii.) Maintenance & Overhauling training,

The training shall consist of classroom training and practical hands on training. The training shall take place in Employer nominated Depot. The Contractor shall depute competent trainers to carry out training with a high degree of proficiency. During the warranty period, the Contractor is responsible for faultfinding and repairs, he shall also provide practical hands on training to the Client's maintenance staff in this regard.

The Contractor shall also provide training courses and training materials to the Client's training instructors to a higher level of competence to allow the instructors to subsequently train the Client's staff in maintenance and operation of the equipment.

1.6 Spares and tools

The Tenderer shall quote in the bid, for the mandatory spares & recommended spares. Details may be seen in Particular Specification.

The manufacturer shall guarantee spare parts' supply support for a period of at least 10 years after completion of the DLP i.e the defect liability period of the last supplied machine.

The Contractor shall provide to the Client, all special tools and instruments required for the maintenance of the machine. These shall be supplied in prescribed tool boxes having padlocking facilities.

All spares shall be manufactured, works tested, calibrated, suitably packed and labelled and delivered to the Site and placed in the Employer nominated Depot store after joint check.

1.7 Use of drawings and data

All data in respect of rolling stock written in this General specification is for information only and there may be slight variations.

The compatibility of the equipment with the rolling stock characteristics is the responsibility of the Contractor and he shall obtain the required data/documents from the respective Rolling Stock Contractors.

All information or documents related to the Rolling Stock and which are deemed necessary are to be obtained by the Contractor from the respective rolling stock supplier.

The drawings shown on the plans define the operating conditions and are provided for indicative purpose only. These may be adapted by the Contractor in consultation with the Client.

1.8 Inscriptions

- The marking and inscriptions mentioned in the technical specifications shall be presented in English.
- Inscriptions shall be engraved or enameled. Painting of inscription will not be permitted.
- Fixations shall be riveted or directly engraved on the support.

1.9 Technical relationships between Client and Contractor

The consultant or the technical bodies, if designated by the Client will be empowered to settle, on behalf of the Client, the technical problems related to the Contract.

1.10 Exchange of information with third parties

Exchange of information may be required between the Contractor and other parties playing a part in execution of the line:

- to finalize matters relative to interfaces or layout of equipment,
- to enable the Contractor to ascertain that the environmental conditions planned for his installations are indeed met (tolerances on power supply, air conditioning etc),

- to achieve this, the Contractor may establish direct contact with these parties, contingent upon prior notification of the Client. The list of relevant contractors shall be advised to the contractor for necessary interface requirements.

1.11 Disclosure of results of design or studies

The Contractor undertakes not to communicate to third parties the results of the studies carried out under this Contract, unless authorized to do so by the Client or his Representative.

1.12 Standards' list

The Machinery and Plant to be supplied shall be new, manufactured according to the best manufacturing practices and according to the latest, state of the art technology.

The machinery and Plant shall be of proven design.

Rigid quality control shall be followed by the main manufacturer of the equipment as well as his subcontractors for the subassemblies.

The main manufacturers of the equipment as well as the suppliers of main assemblies to the main manufacturer should have ISO9000/9001/9002 or equivalent certification.

The International/European/British/Indian Standards to be followed as per GS or PS shall be the latest on the date of award of contract.

Standard N°	Description
EN 60 204-1	Safety of machinery - Electrical equipment of machines – General requirements – 09/1998
NF E 85-101	Items used on industrial installations – Metal railings – 10/1988
NF C 15-100	Low-voltage electrical installations – Rules
ISO 2632	Surface texture – Methods of measurement – Roughness comparison specimens
ISO 1217	Displacement compressors – Acceptance tests – 09/1996
BS 7333	Specification for Jib Cranes - 1990
IS 3938	Hoist class of duty
IS 806	For structure portion of jib crane
IS 4758	Sound level
ISO 1711	Assembly tools for screws and nuts - Technical specifications - Hand operated wrenches and sockets
BS 4568	Specification for steel conduit and fittings metric of ISO form for electrical installations (page 26)
BS 7671	Requirements for electrical installations (page 29) – 1997
BS 6651	Code of practice for Protection of Structures against Lighting (page 30) - 1992
BS 5378	Safety colors and safety signs
ISO 3864	
BS EN 60529	Degrees of protection provided by enclosures (IP code)
IS 4460/1967	Specifications for gears
IS 226 & IS 2062	Specifications for carbon steel
IS 816/823	Welding

IS 325	Electric motors
IS 13947	Degree of protection
IS 2516/1985	Moulded case circuit breakers
IS 8623/1977	Factory built assembled switch gear and control gear
IS 3043	Code of practice for earthing

1.13 Climatic Conditions and operating environment

The equipment shall be required to work under the following climatic conditions:

- Maximum temperature during summer 50⁰ C
- Relative humidity during rainy season 100 %
- Minimum temperature during winter 3⁰ C
- Environment Dusty with industrial pollutants

1.15 Reference Data of Tracks

The trains shall be operated on the tracks with the following specifications. The track specification may however vary slightly and the Contractor shall obtain the details from the Track Work Contractor.

Track Gauge 1435 mm for SG

1.15.1 Reference Data of EMU Coaches

The details of EMU coaches like Number of Coaches in the train, Weight of coach, Length of coach, Width of coach, Height of coach, is placed at Particular Specification of Tender Document.

1.16 Electromagnetic compatibility

Deleted

1.17 General Electrical Requirements

1.17.1 Motors

All equipment shall withstand the local climatic and environmental conditions (temperature, humidity, dust, etc.) defined in para. 1.14 above.

The motors shall be dust and water splash proof and shall be suitable to work on 380 to 440V AC, 50Hz, three phase, 4 Wires supply.

The protection level of the motors shall be at least IP 55 for internal and IP 65 for external motors unless mentioned otherwise in PS.

These shall be ventilated and specially designed for duty ratio and start-ups per hour as per equipment group and shall be fitted with a built-in under-voltage electric brake, wherever required.

The Contractor shall specify but not limited to the following details:

- the brand,

- the type,
- the insulation class : H
- the power,
- the nominal rotation speed,
- the current input at start-up,
- the current input under nominal load,
- the construction of the rotor, stator winding
- the brand of brake,
- the type of brake,
- the mode of action of the brake,
- the nominal braking torque.

1.17.2 The motors shall be sized such as to withstand the start-up forces and sudden braking and accidental blocking forces without damage. They shall be protected on all three phases. The Contractor may also propose a variable power supply wherever felt advantageous.

Electrical cabinet

Material for electrical cabinet shall be stainless steel grade -316L .

Cubicles shall be symmetrically arranged as far as possible

The arrangements of the equipment within each cubicle shall be such that all normal maintenance can be carried out through hinged access doors or removable covers, from the front.

Where a number of different items are in close proximity, the enclosure shall be grouped to form a single suite or a composite enclosure shall be provided.

Each suite of panels or cubicles shall be fitted with a designation label giving identification number, voltage rating and duty. Such labels shall be fitted on the front of the cubicle, and on the sides and/or rear where appropriate.

All electrical and electronic equipment/components used in the plant shall be designed for use in outdoor application in very rough environmental conditions (as specified in TS) (power, control, regulation, etc.) & shall be contained in a dust and water splash tight cabinet and shall be at least IP 56.

An approved method of construction shall be employed and the use of externally visible assembly bolts and screws will not be accepted.

The design of cubicles shall be such as to ensure adequate ventilation and air circulation without permitting the entry of vermin. Dust penetration shall be kept to a minimum by the fitting of recessed rubber seals around doors and removable panels.

Cubicles shall be provided with flush front access doors fitted with lockable handles and lift-off type hinges so arranged that one shank engages before the other to permit ease of fitting. No instruments or relays shall be mounted on the doors unless otherwise specified.

Control wiring within the cubicles shall be neatly looped or contained in purposely designed trunking unless every cable is insulated for the highest voltage present in accordance with the requirements of BS 7671.

The front door of all cubicles shall only be opened when the functional unit is shut off .

Live panel wiring terminations shall have a protective cover and warning labels.

Where the voltage exceeds 110V d.c. or a.c., danger signage with suitable labels shall be fitted to give warning of the potentials contained therein. Where applicable, labels shall be fixed adjacent to the warning label advising isolation and earthing of conductors before removal of the panel. The wording of the labels shall be subject to the approval of the Employer's Representative.

1.17.3 Electrical cabinet equipment

Component layout within panels shall provide a logical arrangement of equipment with the maximum feasible segregation between mains voltage/high current and low voltage/low current components and wiring.

All components within control panels shall be either directly mounted on the back plate by means of screws in tapped holes or onto a "DIN" type mounting rail itself directly mounted on the back plate by means of screws in tapped holes. The arrangement shall be got approved first by the Employer.

For incoming and outgoing power cabling this space shall be increased as necessary to ensure that the bending radius of the conductors is not compromised and segregation between power cabling and control cabling is preserved.

Wiring shall be carried out in a neat and systematic manner and securely fixed by insulated cleats or other approved methods, and arranged so that access to any apparatus or connection point is not impeded.

Where inter-panel wiring passes through panel side sheets the access hole shall be fitted with a suitable rubber grommet.

Identification ferrules shall be fitted on all wires at both ends; numbers and letters used shall correspond with the appropriate wiring diagram and shall be read from the terminals outwards. They shall be legible and durably marked and shall not be affected by oil or moisture. All cables connected to any nodal point shall be allocated with a discrete number which must not be used elsewhere in the associated circuits. The wires shall not be jointed or broken in between terminal points. Wiring for all known future equipment shall be provided and all wires

shall be terminated. Wires of different voltages, AC or DC shall be completely separated. All equipment and terminals associated with voltages in excess of 110V shall be fully shrouded. Isolators, clearly labelled, shall be provided in such positions and connections so that maintenance can be carried out with maximum safety. All power supply terminals and cables shall be marked in accordance with the electrical schematic diagrams.

The functions of the main components shall be identified on engraved labels whose content is identical to that given on the electrical schematic diagrams.

Warning labels shall be fitted in all situations where the removal of covers or access panels may expose live equipment operating at voltages above 50V between circuits or to earth and shall bear the inscription 'Danger - Live Parts' in red letter on a white background. Minimum height of letters is 10 mm.

If the cubicle contains items of equipment which may retain electrical charges after they have been switched off, a warning label shall be provided.

All labels shall be of Formica engraving laminate or similar approved, of ample size and engraved in English characters. A permanent mechanical means of fixing these labels shall be provided, other than by adhesives.

All equipment and apparatus, both inside and outside the switchboard, including instruments, meters, and relays, which is not clearly identified by integral labelling, shall be adequately labelled by means of an engraved label bearing, in black letters on a white background.

Miniature circuit-breakers (MCB's) and moulded case circuit-breakers (MCCB's) shall comply with BS EN 60898 and BS EN 60947-2 respectively. They shall be fitted with latest state of the art over load & short-circuit protections. Earth leakage protection shall be of the current operated type. Unless otherwise specified, the A.C. rated short-circuit capacity for MCB shall not be less than 10 kA, and that for MCCB shall not be less than 25kA. In case of Residual Current Circuit Breakers with Integral Overload Protection, manually operated ON/OFF facilities shall be provided.

Auxiliary switches supplied for indication, protection, metering, control interlocking and supervisory purposes shall be readily accessible and enclosed in a transparent dust-proof cover. Terminal blocks at different voltages shall be segregated into voltage groups and terminal board layouts shall correspond with the wiring diagrams.

Fuses and links shall be provided to enable any circuit to be isolated as necessary for maintenance and test purposes without isolating the whole panel.

Push Buttons shall be coloured as follows:

- (1) "Start" - Green;
- (2) "Stop" Red; All other push buttons shall be black.

Emergency stop push buttons shall be provided and positioned in the immediate vicinity of the associated motor drive

Emergency stop push buttons shall be connected in the control circuits such that they are effective under all conditions, and shall have red mushroom headed stay put on push type pattern. A deliberate reset action shall be required before the drive can be put back into service, but resetting of the push button shall not restart the drive.

All control circuit supplies for contactor starting shall be obtained from a 110V 50Hz internal control transformer contained in the cubicle.

Main drive motor starters shall be suitable for their required frequency duty in line with this Particular Specification. Other motors starters shall also be suitable for their required frequency duty but in no circumstance shall the frequency duty be less than 40 operations per hour. Their performance shall be in accordance with BS EN 60947-4-1. Protective, control, interlock and alarm relays shall be placed in positions readily accessible during operation of the plant.

All the equipment shall be designed to operate in electrified railway environment.

It shall in particular be protected against the following effects:

- the numerous disturbing phenomena due to the proximity of high amperage current liable to be working in switching mode,
- the proximity of equipment generating high frequencies (converters, etc,) various parasitic disturbances, and against power supply anomalies such as: high ripple ratio, high over-voltage, slow voltage or frequency variations, etc.

The equipment shall normally be able to operate at the ambient temperature of the workshop.

All components, and in particular the relays, shall be of the high endurance type whose high degree of reliability shall allow normal operation of the machine over a period of 10000 hours.

1.18 General Mechanical Requirements

1.18.1 Materials- General

All materials incorporated in the Works shall be suitable for the duty concerned and shall be new and of best commercial quality, free from imperfections, and selected for long life and minimum maintenance under the conditions specified.

All material used shall be of current production and well-proven application for the design and intended usage.

Where different components of equipment are interconnected to form a complete system, their characteristics of performance and capacities shall be matched in order to ensure efficient, economical, safe and sound operation of the complete system.

1.18.2 Workmanship- General

Workmanship and general finishes shall be of best quality and in accordance with best workshop practice.

All similar items of Plant and their component parts shall be completely interchangeable. Spare parts shall be manufactured from the same materials as used for the originals and shall fit all similar items or plant. Where machining may be needed before fitting renewable parts, the machining fits with their tolerances shall be shown on the drawings accompanying the instruction manuals.

All revolving parts shall be truly balanced both statically and dynamically so that when running at normal speeds and at any load up to the maximum, there shall be no significant vibration due to out-of-balance forces.

All parts and equipment, which are subject to, wear or damage by dust or moisture in the environment they are installed shall be totally enclosed in housings of the appropriate degree of protection.

All equipment shall operate without excessive vibration and with a minimum of noise.

1.18.3 Materials and Ancillaries

a. Structural Steel Sections: -

- Hot rolled structural steel section shall comply with BS 4: Part 1.
- Corrosion protection shall be by hot dip galvanization with minimum thickness of coating of 85 micron or heavy protective finish as specified in the Specification.

b. Mild Steel: -

- Mild steel for general purposes shall conform with the requirement of BS:4360.
- Steel parts shall be galvanized as appropriate to approved standards and as specified above. Uncoated or non-corrosion resistant steel parts shall not be used unless otherwise approved by the Employer's Representative.

c. Steel Castings and Forgings: -

- All steel castings shall conform with the requirements of BS:3100. Forgings shall conform to BS:29.
- No repair shall be undertaken without prior Approval by the Employer's Representative. Such Approval shall also refer to the procedure for repair. Repairs by welding to steel castings and forgings shall be undertaken only by properly qualified welders and in full accordance with an Approved procedure. All such repairs shall be **subject to stress relief**.

d. Corrosion Resistant Steel: -

- i. Unless otherwise specified or approved by the Employer's Representative, stainless steel tubes, sheets and plates used in this Contract shall be in accordance with the following Standards: -

Austenitic stainless steel tubes shall comply with BS 6323: Part 1 and 8.

Stainless and heat-resisting steel plates, sheet and strip shall comply with BS 1449: Part 2, grade 304 unless otherwise specified.

- ii. Stainless steel shall have good arc-welding properties and low carbon content. Stainless steels adversely affected by welding shall not be used. There shall be no visible welding marks on the exterior surface. All stainless steels shall be subject to Approval by the Employer's Representative.
- iii. Stainless steel protective cover shall be applied on the external surface and retained until installation is completed. Covering materials between seams or panel joints shall be removed before assembly. The protective cover shall be removed by the Contractor as instructed by the Employer's Representative, there shall be no residual covering materials left on the surface or in between seams or panel joints after removal.

All die-cast aluminium components in large quantities shall bear a marking clearly indicating the month and the year of manufacture.

- iv. Aluminium die-casting shall conform to BS 1490.

e. Bronze : -

Bronze castings for bearings, packing boxes, and similar applications shall be of the phosphor bronze type to BS 1400.

f. Copper: -

- i. Copper tubing shall be of the seamless type to BS 2871.
- ii. Copper for electrical purposes shall conform to the requirements of BS1432-4 and BS 1977 as appropriate for the duty.

g. Brass : -

Brass tubing shall be of the heavy gauge seamless type and shall comprise 70% copper, 29% zinc and 1% tin.

1.18.4 Welding and Fabrication

These clauses on welding refer to fabrications in mild steel. If the Contractor supplies any equipment welded from other metals he shall propose the relevant welding standards and procedures for the acceptance of the Client's Representative.

a. Distortion and assembly:

Metal arc welding shall comply with the provisions of BS EN 499 and BS 5135 or equivalent. The temperature of steel shall be more than 10°C when welding is commenced. Finished members shall be true to line and free from twists, bends and open joints.

During the fabrication of a welded assembly, the procedure and sequence shall be such as to minimise distortion and shrinkage. All welds shall be deposited in a sequence that will balance the applied heat as welding progresses.

Members to be joined by welding shall be accurately cut to size to ensure that the finished dimensions are met and, where required, shall be rolled or pressed to proper curvature in accordance with the approved drawings. Edges of members shall be suitably machined for the required type of welding and to permit thorough penetration.

The design of welded joints and connections, and the fabrication of welded steel parts shall conform to the requirements of an acceptable British Standard or equivalent for structural steelwork, and shall also be stress relieved to an acceptable British Standard or equivalent if required. If stress relieving is used then the Contractor shall ensure that no distortion arises as a result of the process and that the finished size of the equipment is within the required tolerances.

Any welding of steel castings to the framework shall conform to BS 4570 or equivalent.

b. Equipment:

Electrodes, fluxes and equipment shall be used in accordance with the manufacturer's instructions. The use of welding processes other than those covered by BS 5135 or equivalent, will be subject to reviewed and acceptance by the Client's Representative. Welding electrodes for manual electric arc welding shall be of the heavily coated type, suitable for all positions of welding.

All welding shall be performed by a process, which will exclude the atmosphere from the molten metal and, whether possible, be under procedure control using automatic machines. Electric arc welding is preferred.

c. Quality assurance:

Procedures in line with ISO 9000 or equivalent shall be followed as part of the Quality Plan for all welding procedures and welder certification. These procedures and certifications shall be in line with BS EN 287 and BS EN 288 or equivalent.

All critical welds, as identified by the Contractor, shall be traceable. The Contractor shall submit weld maps and a sample of weld traceability records. These critical welds shall also be subject to a non-destructive test to be proposed by the Contractor for the review and acceptance of the Client's Representative.

Welding shall be carried out by qualified welders only. Welding procedures and welder certificates in accordance with BS EN 288 and BS EN 287 or equivalents shall be followed by the Contractor.

d. Preparation and cleaning:

Surfaces prepared for welding shall exhibit sound metal without laminations and other injurious defects. Surfaces of plates to be welded shall be free from rust, grease, mill scale and other foreign matter over a distance of at least 25 mm back from weld edges. The Contractor shall indicate on his drawings material grade to be used for all fabrications.

Particular care shall be exercised in aligning and separating edges of members to be joined by butt-welding in order to ensure complete penetration and fusion at the bottom of the joint. Each fully penetrated butt joint shall be finished with a sealing run.

All galvanised surfaces to be welded shall have all zinc coating thoroughly removed by means of angle grinding until bare parent metal is revealed. Care must be exercised not to remove more parent metal than absolutely necessary so as not to weaken the strength of the structure.

After deposition, welds shall be cleaned of slag and shall show uniform sections, smoothness of weld metal, feather edges without overlay and freedom from porosity, inclusions and undercut. As a minimum, visual inspection at the edges and ends of welds shall indicate sound fusion with the parent metal. The Contractor shall propose for the acceptance by the Client's Representative the standards and criteria to be used for weld acceptance. In the case of pressure-tight components, all slag shall be removed by shot-blasting.

1.18.5 Gearboxes and Gearing

All gears shall be heat treated for maximum wear and fracture resistance. High speed gears shall be of helical teeth configuration. Each geared shaft assembly shall be supported on ball or roller bearings.

Gearboxes shall be designed such that the gears will be automatically lubricated at all operating speeds. The box shall prevent escape or contamination of the lubricant. Breathing shall be provided. Where oil replacement is necessary, facilities for filling, drainage and means of indicating clearly the correct oil level shall be provided.

Lifting lug(s) shall be provided for gearboxes where deemed necessary. Gearing shall comply with BS 436, BS 545 and BS 721 or equivalent.

1.19 General Hydraulic Requirements

1.19.1 General

Hydraulic power transmission systems if provided, shall be constructed in accordance with BS 4575 or equivalent. All cylinders, piston rods, pipes, hoses, valves and fittings shall be designed to withstand a static pressure of at least three (3) times the maximum operating pressure without plastic deformation.

The power unit shall be of integral and compact design consisting of all components necessary for the system to function efficiently and safely as intended. It shall be constructed as a self-contained removable module with all components systematically mounted on a structural steel frame for easy maintenance.

The hydraulic system shall be equipped with the following protection devices:

1. Overheating
2. Overpressure
3. Low oil level
4. Surge protection if required

The hydraulic oil proposed shall have characteristics suitable for the intended duties and be compatible with all the components and elastomers used in the system. The oil shall be of appropriate viscosity, correct specific gravity and have good oxidation resistance and good anti-foaming properties. The oil shall not be classified as dangerous goods. The oil shall be readily available in India.

The system shall be designed to ensure that any tripping or transient operation does not result in surge pressures that could cause damage to the system.

The contractor shall achieve Indian equivalent of lubricant & hydraulics oil used in machines.

1.19.2 Hydraulic cylinders and Rams

All hydraulic cylinders and rams shall be designed to sustain axial forces resulting from a pressure equal to 2.5 times the full load pressure. A ram shall not be subject to bending stress or eccentric loading. The rams shall be provided with over centre valves locally fitted at the inlet and outlet ports to prevent creeping of the cylinder when pressure is not applied.

The piston rod shall be constructed of austenitic stainless steel, which is chrome plated and polished.

Cylinders shall be provided with solid metal stops at the end of the stroke, or with other equally effective means to prevent the rod from travelling beyond the limits of the cylinder at maximum speed and maximum operating pressure.

Adjustable cushions shall be provided at the limits of the cylinder stroke. Cushions shall be designed to decelerate the ram from the maximum speed to stop without impact.

All hydraulic cylinders shall be provided with self-aligning clevises at both ends for connection to the system structure.

Rod wipers shall be replaceable without the need to remove the clevis and cylinder from its installed position. The rod bearing and seal of a cylinder shall be mounted in an external cartridge and be replaceable without the need to remove piston.

All cylinders shall be factory tested to 200% of full load pressure for a duration of 5 minutes without evidence of any pressure drop or leakage. This shall be identified in the Factory Acceptance Test and a suitable test certificate provided.

1.19.3 Hydraulic oil storage tanks

Oil storage tanks shall have sufficient capacity to provide an adequate oil reserve to prevent the entrance of air or other gas into the system. They shall be of rigid construction so as to prevent distortion due to

the weight of oil and shall be so designed and constructed that when completely filled, a factor of safety of at least 4, based on the maximum normal pressure in the tank can be sustained without plastic deformation. The return lines shall terminate below the minimum fluid level of the tank.

The tank shall be designed to adequately dissipate heat from the oil under all normal working conditions and provide a slow recirculation of heavy contaminants. The oil returning from the pump intake points shall be separated by baffles or other means ; such baffles shall not hinder the cleaning of the tank.

A transparent indicator of approved design shall be provided for checking the oil level and it shall be accessible without the need to remove any cover or other parts of the equipment.

A breather or other suitable venting arrangement shall be provided at a position to facilitate the venting of air from the tank.

A manually sealable drain valve shall be provided at a position to facilitate the complete draining of oil from the tank.

1.19.4 Hydraulic pipe work and fitting

All pipe work shall be provided in stainless steel. Pipe work shall be so supported that undue stresses are eliminated at joints, bends and fittings, particularly at any section of the system, which is subjected to vibration. Cross-sectional areas of pipe work shall be sufficient to prevent cavitations and starvation.

Hydraulic hoses shall be of adequate strength and be suitable for the type of oil used. Hose connections shall be of the type recommended by the hose manufacturer. The installation of hoses shall be such as to avoid the use of sharp bends and chafing or trapping by moving parts of the machine.

The relief valve shall be located between the pump and the check valve and shall be of such a type and so installed in a by-pass connection, which the valve cannot be shut off from the hydraulic pump. The return from the valve shall be passed directly to the tank and not to the suction side of the pump.

The relief valve pressure setting shall be as low as practical, commensurate with the operating requirements and shall not be greater than 125% of the working pressure of the pump, in order to avoid damage to the motor and hydraulic system. The size of the relief valve and by-pass shall be sufficient to by-pass the maximum rated capacity of the pumps, without raising the pressure more than 20% above that at which the valves open. Relief valves having exposed pressure adjustments shall have their means of adjustment sealed.

Control valve spindles or plungers shall be positively restrained against being forced from the valve casing. Design and installation shall be such that they are fail-safe. Solenoids shall be capable of operating without malfunction within $\pm 10\%$ of the nominal control voltage and be protected against the entry of splashed oil and dirt.

The system shall incorporate continuous full flow removable oil filters. All filters shall have integral bypass valves and provisions for visual

and electrical indication of blockages. The filters shall be durable, with a low resistance to flow, high direct retention rate, high permissible temperature range, high permissible pressure differential and cleanable. The degree of filtration and level of cleanliness shall be consistent with the requirements for the components and environmental conditions.

All filters shall be installed where they are readily accessible and adequate space shall be allowed for element changing. Where suction filters or strainers are used, they shall be accessible for maintenance without draining the oil tank. Suction filters or strainers shall be selected and installed so that the inlet conditions at the pump are within the pump manufacturer's specification.

1.19.5 Screws, springs and Pivots

The use of iron and steel for screws, springs and pivots in the machine shall be avoided as far as possible. All fixing screws shall be of stainless steel.

Springs shall be of non-rusting material (e.g. phosphor bronze or nickel silver) where possible. Pivots or other parts for which non-ferrous material is unsuitable shall be of an Approved corrosion-resistant material.

1.19.6 Bolts, Studs, Nuts and Washers

All bolts, studs and nuts shall be to an Approved Standard and to metric dimensions and shall generally be of stainless steel. Those subject to vibration, high temperature or pressure shall be of high tensile material to the Approval of the Employer's Representative. The use of black grade bolts shall be permitted only at approved locations of minor importance.

Bolts, studs, nuts and washers shall be made of free machining quality stainless steel.

Bolts, studs and nuts shall be suitably machined. Rolled threads will be considered acceptable if conforming to an Approved standard. Washers shall be provided under all nuts and also bolt heads where appropriate. Bolts and studs shall protrude by at least one thread pitch beyond the outside face of nuts.

Jacking and connection screws shall all be of high tensile steel with fine threads of an Approved form.

Nuts, bolts, tap-bolts, set pins and any other item subject to vibration shall be secured with Approved locking devices

1.19.7 Bedplates, Alignment and Levelling

All bedplates of fabricated construction shall, prior to final machining, be fully stress-relieved.

To facilitate the alignment and levelling of larger components, all bedplates shall incorporate jacking screws suitably arranged to provide for movement of driving motors in both axial and transverse directions. Motor seating pads shall be so arranged that single piece machined packers can be inserted in place of shims of required

thickness under each foot, or pair of feet, on completion of alignment.

After final alignment checks have been completed, and the unit run at full output for not less than six hours, the alignment shall be rechecked and the unit securely dowelled to the bedplates.

1.20 General requirements for painting and finishes

1.20.1 Preparation and surface treatment

All metal surfaces external to the equipment except copper, all supporting steel external to the equipment, all pipe work and all ductwork, insulated or bare, and supports shall be painted with protective coatings appropriate for an "Exterior Exposed Polluted Inland" environment and prime coated before painting with the finish coats. All paint and surface treatments shall be appropriate for the proposed design life of the equipment.

Blast cleaning shall be carried out in accordance with BS 7079 or equivalent. The maximum amplitude of the blast cleaned surface shall not exceed 0.1 mm.

Blast cleaned steelwork shall be free from dust, mill scale and adherent particles. The first coat of the protective treatment shall be applied by an approved process with the least possible delay, and in any case within four hours of blast cleaning.

Galvanising shall be in accordance with BS 729 or equivalent. Steelwork shall be chemically pickled, then stoved and dipped in a bath of molten zinc. Each article shall be covered evenly on all sides, to give an additional weight of 0.76 kg/m² of surface covered and shall be free from runs. All holes shall be cleaned and sharp edges removed from the steelwork prior to galvanising. Excess spatter shall be removed after galvanising. Tests shall be carried out on samples of finished product, to verify compliance with this clause when instructed and at no cost to the Client.

The nominal and local thickness of metal coating shall comply with BS EN 22063 or equivalent. The Contractor shall submit the details of the metal coatings for the Client's Representative's acceptance. Sampling and testing shall be carried out in accordance with BS EN 22063 or equivalent.

1.20.2 Deleted

1.21 Nameplates and Labels

The Contractor shall provide and attach to each major piece of equipment a metal name and rating plate to be approved by the Employer's Representative. All nameplates shall be mechanically attached (not adhered) in a manner Approved by the Employer's Representative. Each plate shall quote the name and address of the manufacturer, serial number, full rating data and the date of manufacture.

2 PLANNING, PROGRAMME AND PROGRESS MONITORING

2.1 Preparation and submission of program of work

The Contractor shall interact with Employer / engineer to provide details and obtain approval where necessary on following for supply and installation of Plant & Equipment as per the stipulated schedule:

Activity
Submission of design documents and other technical documents from the manufacturers for approval
Program for manufacture of the equipment (Details of progress chart)
Documents for execution of works relating to installation
Proposal for factory tests (Complete test procedure)
Program for installation (Details of installation programming chart)
Program for tests at site and commissioning (Complete test procedure)
Program for training of staff (Details of training schedule & module)
Program for supply of maintenance manuals and other documents well in advance before despatch of machine)
Program for supply of spares

2.2 Progress Report

The Contractor shall prepare a Progress Report covering all aspects of the execution of works. Such Reports shall be delivered to the Client's Representative as and when necessary or asked for.

2.3 Progress Meetings

In order to ensure execution of the Works in an efficient and proper manner, the Client or the Administration and the Contractor will exchange technical information for approval of the solutions and equipment offered and hold periodical meetings. Two categories of meeting may be held for this purpose

Technical meetings

Attended by engineers and technicians, convened upon request by either party, during which, among other subjects, clarifications of additional information relative to the technical specifications may be provided.

Periodical Progress Review Meetings

To be held as and when required by Engineer during which:

- Certain problems that maybe holding progress of the work may be examined.
- Interface requirement with designated contractors may be discussed.

The Progress Review Meetings are attended, notably by the Contractor's Manager and the Client's or the Administration's discipline Manager or their Deputy.

Progress Review Meetings related to works will be held in Lucknow and the respective site locations and will be the subject of reports, in conditions, which remain to be defined.

3 PACKAGING

The Contractor shall provide suitable packing, crates and marking. In doing so, it shall comply with the following requirements:

- Each packing case/crate shall be water proof, rot proof and insect/rodent proof and of robust construction. The Contractor shall in determining the packaging materials take cognisance of the climatic conditions likely to occur during the period of transport, shipment and storage.
- All items heavier than 100 Kg. shall be marked on the outside of the case to show the gross weight, the points for slinging and where the weight is bearing.
- Care shall be taken to prevent movement of items within cases, crates or packages by the provision of bracing, straps and securing bolts as necessary. Bags of loose items shall be packed in cases and shall be clearly identified by well-secured labels on which the quantity and name of the part and its catalogue or index number have been stamped.
- Electronic circuit boards shall be well protected by using anti static bubble bag etc.
- Rubber products shall be suitably packed to avoid damage due to hardening, deforming and peeling off etc.
- Tubes, cables and conductor ends shall be properly sealed to prevent ingress of moisture.
- Each bulky/heavy case, crate or package shall include wedges for easy loading and unloading by mechanical handling equipment.

4 TRANSPORTATION

The Contractor shall notify the Client's Representative at least 15 days in advance of any expected date of transportation and give further notice of the actual transportation date. This shall be in addition to the inspection requirements as specified in para 6.1.

Two copies of packing list and test certificates shall be delivered along with the package at site and one copy to the Client's Representative.

5 DELIVERY

The Contractor shall deliver all the equipment to be supplied under the contract to the site. The Contractor shall unload all the items at the designated delivery point and positioning or storing them. All documents, operational & maintenance manuals, inspection test procedure drawings and other deliverables shall be supplied to the Client's Representative.

Any parts of the equipment that is damaged shall not be considered as delivered unless repairs or replacements have been made.

6 CHECKS AND TESTS

Testing and commissioning shall comply with all the requirements of the provisions in the Particular Specification (PS). The 'Factory Tests' shall be carried out by the Supplier at the manufacturer's works & supplier shall do modification/ improvement, if any, based on the FAT report before the despatch of machine and 'At Site Tests' after completion of assembly and installation work at site.

6.1 In-Manufacturer's-Plant / Factory tests

The Contractor shall arrange for carrying out the Factory Tests before shipment/despatch of the machine to site. The details of tests to be carried out shall be submitted by the Contractor to the Client's Representative for approval, and a call shall be given 30 days prior to the scheduled Test. The Clients may like to depute his Representative to witness the Factory Tests in some cases. In case the Client's Representative witnesses the factory Tests, he shall be required to sign the test certificates.

The Contractor shall provide for quality checks of supplies on his sub-contractors' premises, prior to delivery of these supplies to his workshops.

Operation of safety and protection devices shall also be checked. The Factory tests shall be elaborated in the PS

6.2 At-Site/Testing and Commissioning

After delivery and assembly of the equipment at site and completion of installation work, tests shall be carried out in presence of a Representative of the Contractor to check that the equipment design makes it suitable to fulfil the scheduled functions.

The purpose of the tests is to record and acknowledge that the equipment is capable of performing regular service under different operating conditions.

The checks and tests to be carried out on the supply shall be elaborated in the PS:

The necessary tools, loads, specimens or equipment required for the tests shall be the responsibility of the Contractor.

2. PARTICULAR SPECIFICATIONS

CONTENT

Clause	Description	Page
1.	PROJECT & PERMANENT WORKS	1
2.	GENERAL DESIGN REQUIREMENT	6
3.	SPECIFIC REQUIREMENTS (PIT JACK)	9
4.	SPECIFIC REQUIREMENT (MOBILE JACK)	16
5.	FINISH	22
6.	PLANING, PROGRAMME AND PROGRESS MONITORING	26
7.	PACKAGING	28
8.	TRANSPORTATION	28
9.	DELIVERY	29
10.	CHECKS & TESTS	29
11.	DOCUMENTATION	31
12.	TRAINING	33
13.	MAINTENANCE DURING DLP	34
14.	WARRANTY	35
15.	SPARES & TOOLS	36
16.	PART CATALOGUE	37
17.	SCHEDULE OF KEY DATES	38
18.	SCHEDULE OF ACCESS DATES	40
19.	INTERFACE & COORDINATION	41

1. PROJECT AND PERMANENT WORKS

1.1 Location and Boundaries

All pages of the offer shall be serially numbered for ease of evaluation. This shall also be applicable for catalogues, drawings and literature attached with the offer.

Bidders are required to give clause wise comments as per format in Appendix-FT-9 given in the Part-II of this bidding document.

1.1.1. The location plans together with the indicative works and Site area boundaries are shown on the Drawings in the Tender Document. The Designated Contractor shall set out the Works and Site area boundaries of the Contract.

1.1.2 Climatic Conditions and operating environment

The equipment shall be required to work under the following climatic conditions:

- Maximum temperature during summer 50° C
- Relative humidity during rainy season 100 %
- Minimum temperature during winter 1° C
- Environment : Dusty with industrial pollutants
- Water: Hard with high salt content.

1.2 General Description of the Works

1.2.1. The works shall comprises the design, manufacturing, delivery, installation, testing, and commissioning of 02 (two) sets of fully automatic synchronised pit jacks and 04 (four) sets of fully automatic synchronised mobile jacks for lifting of three coaches at Kanpur and Agra Depots of standard gauge corridors of Kanpur Metro and Agra Metro Rail Project

Fully automatic pit jacks shall be provided to lift and support three coupled railcars for unscheduled repairs involving replacement of one or more bogies for Kanpur and Agra Depot trains. The 02 (two) sets of fully automatic synchronised pit jacks shall be installed in the unscheduled repair bays of (01 each in) Kanpur Metro Depot and Agra Metro Depot

Fully automatic synchronised mobile jacks shall be consisting of 12 nos. of mobile jacks (along with one set of central control unit and associated cabling) to lift and support three coupled rail cars. All the 04 (four) sets of fully automatic synchronised mobile jacks shall be installed in scheduled repair bays of 04 (four) depots (02 each) of Kanpur Metro and Agra Metro.

- 1.2.2. UPMRC shall execute only usual civil work as per the design submitted by the contractor. **Any special material required for grouting / foundation or interconnection shall be supplied by the contractor along with the instructions to use.**
- 1.2.3. The fully automatic synchronised pit jacks and synchronised mobile jacks shall be complete with control console and all other accessories required to make equipment fully functional along with set of special tools and test equipment.

1.3 Detailed Scope of Works

The scope of the Works, in addition to those specified in the General Specification, includes the followings:

- 1.3.1. Design, manufacture, supply, installation, integrated testing and commissioning of 02 (two) sets of fully automatic synchronised pit jacks and 04 (four) sets of fully automatic synchronised mobile jacks.
- 1.3.2. Preparation and supply of drawings, documents, samples, specimen and operation & maintenance manuals as specified.
- 1.3.3. Supply of resources, materials, tools, plant and manpower for fabrication and installation of the equipment to meet the intended function and arrange training of employer's engineers on the operation & maintenance aspects of the fully automatic synchronised pit jacks and fully automatic synchronised mobile jacks.
- 1.3.4 Where necessary, license applications and statutory submissions in accordance with Enactment are up to the commencement of the Defects Liability Period.

1.3.5 Maintenance of the machine during DLP

The manufacturer should either directly or through associate company have trained manpower and maintenance facilities in India preferably for Kanpur and Agra Metro Depots. The associate company must have at least 3 years experience of manufacturing the machine for railways/metros application or of giving after-sales service for machine used in railways/metros. The bidder shall commit to maintain at least 2 trained and skilled engineers for each pit jack. The competency of the trained manpower deputed for the purpose of maintenance during DLP period shall be certified by the equipment supplier. The contractor shall submit complete credentials of associate company in compliance with this clause within 2 months of placement of order. Bidder shall submit undertaking as per the format placed at Appendix-A.

- 1.3.6 Provide spares & part catalogue-containing details of all equipments & supplier as mentioned in clause -16 of this Particular Specifications.

1.4 Design Responsibility

The Contractor shall be responsible for the design of the Permanent Works, which shall include but not be limited to:

- 1.4.1 The development of the design shall be carried out in conjunction with the information contained in the Drawings and shall be in accordance with the Specification set out in the Contract. **The contractor shall obtain design approval from the designated Engineer In charge before starting the manufacturing of the fully automatic synchronized pit Jacks and fully automatic synchronized mobile jacks**
- 1.4.2 The Contractor being responsible for the development and completion of the design of any other items of the Works as stated in the Contract, including, without limitation, the updating and amendment of the Drawings from time to time.
- 1.4.3 The Contractor, co-ordinating with the Engineer and Designated Contractors on all matters relating to design and documentation, shall retain full responsibility for managing such design and for the maintenance of all documentation associated with the design process. The personnel identified to fulfil these roles shall be direct employees of the Contractor.
- 1.4.4 The Contractor shall determine and verify as appropriate the materials, site measurements and installation criteria before adopting in the design of the equipment.
- 1.4.5 The Contractor shall ensure that the information contained in the submissions has been co-ordinated with the overall requirements of the Works and the works of the Designated Contractors.
- 1.4.6 The information that extracted from the Drawings and adopted by the Contractor in his design shall become the Contractor's design for which neither the Employer nor the Engineer shall be responsible.
- 1.4.7 The Contractor's designs, whether for Temporary Works or Permanent Works which are subject to the approval of any Relevant Authority, shall before submission to the Relevant Authority, be first submitted to the Engineer for review without objection. The Contractor must make all due allowances for the requirements of the Relevant Authorities' approval and consent process in the Works Programme and in the timing of the Works.
- 1.4.8 Responsibility for the Contractor's design proposals submitted to the Relevant Authorities shall remain with the Contractor who must provide sufficient resources to deal with subsequent questions, alterations etc. requested by the Relevant Authorities. All communications with any Relevant Authority, whether written or oral, must be copied/recorded to the Engineer.

1.4.9 The contractor may engage local agency for supply of steel, its fabrication and installation related works at site subject to prior approval of employer. The contractor shall solely be responsible for design, quality of fabrication works, its installation and shall issue quality certificate for the same. The contractor shall seek design approval of steel & fabrication, other item proposed to be used, from the Engineer in charge.

1.4.9.1 The contractor shall ensure no corrosion on steel structure during the 30 years working life of the fully automatic pit jacks. All structural members & fasteners shall have adequate corrosion resistance against high humidity or at conditions of prolonged water logging in to the machine pit. The contractor shall provide documentary evidence (chemical composition & physical characteristics) of the grade of steel to be used for fabrication purposes and seek employer prior approval at the time of design submissions to the engineer.

1.4.9.2 Stress analysis of sensitive structures shall be carried out from a reputed test house & report shall be submitted.

1.4.9.3 Contractor shall solely be responsible for installation, commissioning & testing of the plant and shall depute his engineers during installation, commissioning & testing.

1.5 Tenderer's Technical Proposal

1.5.1 The tenderers are required to submit clause by clause compliance of Tender Document in the format given in **FT-9**. They are also required to submit his technical proposal along with deviations, conditions, if any, as per Schedule-I, Schedule-II & Schedule-V(1)/V(2) enclosed in the tender documents which shall be the part of technical bid.

1.5.2 The cost for the unconditional withdrawal of the deviations/conditions shall be given as per, **Schedule-III**, enclosed in the tender documents, which shall be part of financial bid.

1.5.3 All deviations from the tender documents, remarks, comments etc. shall be included in the Statement of Deviations (Schedule-II).

1.5.4 The price of unqualified and unconditional withdrawal of all the conditions, qualifications, deviations etc. as mentioned in (Schedule-II) shall be quoted by the tenderer in the format given in Schedule-III.

1.5.5 All implicit and explicit deviations, remarks and comments mentioned elsewhere in the tenderer's proposal shall be treated as "NULL and VOID" and considered withdrawn unconditionally.

1.5.6 Any clause included in the Statement of Deviations (Schedule-II) but not priced in the Schedule-III, shall be treated as "NULL and VOID" and will be considered unconditionally withdrawn.

1.5.7 The Tenderer shall provide a valid and fully compliant proposal for the **Fully Automatic Synchronised Pit Jacks And Fully Automatic Synchronised Mobile Jack** as detailed in the Employer's Requirement. The Tenderer shall submit a detailed clause by clause commentary on all the clauses of the Employer's Requirements.

1.5.8 Tenderers shall note that their comments to the clause by clause commentary wherever given shall only be in the following form-

- **“Complied”** shall be indicated by the tenderer where the tenderer is able to comply fully with the clause.
- Where a clause merely provides information, and no other comment is necessary, **“Noted”** will suffice.
- Where the tenderer is not able to comply fully with the clause or has any observation or proposes an alternative design, **“Not Complied”** shall be indicated and comments if any of the tenderer shall be indicated in detail. All Clauses with status as “Not Complied” shall be included in the Statement of Deviations Schedule-II and shall be priced in Schedule-III.

1.5.9 Tenderer shall also note that-

- i) Any comment by the tenderer in the Clause-by-Clause Commentary, other than “Complied”, “Noted” or “Not Complied” shall be treated as “Not Complied”. Unless tenderer prices against such clauses in the Schedule-III, the comment against any clause shall be deemed to have been unconditionally withdrawn with no financial implications and shall be considered as “NULL and VOID”.
- ii) Any “Not Complied” comment by the tenderer in the Clause-by-Clause Commentary that has not been included in the Statement of Deviations Schedule-II shall be treated as “Complied”.
- iii) Any “Not Complied” comment by the tenderer in the Clause-by-Clause Commentary which has also been included in the Statement of Deviations Schedule-II but has not been priced in Schedule-III shall be treated as null and void and deemed to have been unconditionally withdrawn.
- iv) In case price for unqualified withdrawal of any remark, comment, condition, qualification or deviation etc. indicated in Schedule-II is not quoted in Schedule-III, it shall be considered that the remark, comment, condition, qualification or deviation is unconditionally withdrawn without any financial implication. However, Employer at its sole discretion and option may assess the financial implication of the said remark, comment, condition, qualification or deviation etc. based on best engineering principles and concepts, which shall be binding on the tenderer,

and the same may be considered by Employer for financial evaluation.

1.5.10A tender without a Clause-by-Clause Commentary, as stated above, is liable to be rejected.

1.6 Preliminary Works

The Contractor shall inspect the Designated Contractors' enabling works and satisfy himself that all works to be carried out by the Designated Contractors are in accordance with the interface requirements as specified in the interface specification.

2 GENERAL DESIGN REQUIREMENTS

The following general requirements on equipment design shall apply to all equipment.

- 2.1 The equipment shall be of proven design and designed life shall be 30-years without rusting & corrosion in foundation, base frame and structural components. The design life for mechanism, driving components and others parts of the equipment shall be at least 15 years. No major structural repairs and major component replacement shall normally be required during the respective design life. The material & parts used for the same shall be specified in detail design stage.
- 2.2 The Equipment shall be designed for heavy-duty workshop use and shall be available throughout the year without any limitation in day to day lifting frequencies.
- 2.3 Equipment that requires an electricity supply shall be compatible with the system voltage 360 to 440V, three phase 4 wire, frequency from 47.5 to 51.5 Hz. Any regulation or protection required shall be in the scope and responsibility of supplier.
- 2.4 Equipment shall incorporate a means of adjustment in order to allow for foundation differential settlement of maximum 25 mm.
- 2.5 Work related to the production of the equipment shall comply with relevant European standards, Code of Practice and the latest statutory requirements of India including, but not be limited to, the following:
 - BSEN287 - Approval testing of welders for fusion welding.
 - BSEN288 - Specification and approval of welding procedures for metallic materials.
 - BS4575 - Fluid power transmission and control systems.
 - BS5304 - Code of practice for safety of machinery.
 - BS5395 - Stairs, ladders and walkways.

BS5950 - Structural use of steelwork in building

BSEN60073 - Specification for coding of indicating devices and actuators by colours and supplementary means.

EN60204 – Electrical equipment

BSEN60529 - Specification for degrees of protection provided by enclosures (IP code).

ISO9001-3:1991 - Guideline for the Application of ISO9001 to the Development, Supply and Maintenance of Software.

2.6 The layouts given on the Drawings shall be used for conceptual purposes. The Contractor shall furnish their requirements in accordance to the Schedule of Key Dates in this Particular Specification.

2.7 The equipment shall be designed and/or selected to allow operation without over stressing, damaging or interfering in any way whatsoever with other equipment in the Depot.

2.8 Components of equipment of similar construction or similar application shall be mutually interchangeable. The Contractor shall, to the extent that he is responsible for the design or component selections of equipment items, recognise and implement all safety requirements and ensure that the design and performance of the equipment are compatible with the suitable International safety standards.

2.9 Equipment shall be “fail-safe” and “overload protected”. The equipment shall incorporate all necessary safety devices to protect the equipment, operators, buildings and all other people and things in the vicinity of the equipment. No failure of the equipment shall cause or give rise to any damage or catastrophe of any nature whatsoever.

2.10 Equipment design shall take into consideration fire protection, elimination of dust and dirt by means of suitable traps or the like, minimum maintenance requirements and ease of access for cleaning, routine maintenance and general disassembly.

2.11 Guards shall be fitted to all exposed moving parts of the equipment where the environment and working processes of the system dictate that there is a foreseeable risk of injury or causing ill health to personnel from sources such as moving parts, electricity, coolant, swarf, noise and vibration, dust and fumes, etc.

Moving parts of the equipment shall be efficiently lubricated to ensure quiet operation as well as durable and reliable service life. Lubrication points shall be clearly identified for easy replenishment with minimum removal of other equipment components.

2.12 The environment within which the equipment is to operate shall be taken into consideration in the equipment design. The contractor is

advised to carefully examine the air pollutants and deposits generally encountered in Kanpur and Agra ambiances.

2.13 Deleted

2.14 Based on the experience gain during test, trials and use of machine or any problem arises during operation of the machine which warrants re-check of the design /manufacture/ quality of the equipment, the contractor shall be responsible for all modification as required and these shall be done without any extra cost to the employer.

2.15 Any modification required to be done for satisfactory functioning of the fully automatic pit jacks shall be mutually decided & carried out by the contractor free of cost to the satisfaction of UPMRC Engineer. Therefore contractor shall carefully consider local ambient condition and pollution, dust etc.

2.15(a) All the major bought out items which are required to be used in the machine shall be of proven make and shall be procured only after taking employers' approval for the same , with a complete submission of each item mentioning, make, country of origin, part numbers, catalogues etc.

2.16 Use of drawings and data

2.16.1 All data in concern with the rolling stock written in this specification is for information only and there may be slight variations.

2.16.2 The compatibility of the equipment with the rolling stock characteristics is the responsibility of the Contractor and he shall obtain the required data/documents from the Rolling Stock Contractors.

2.16.3 All information or documents related to the Rolling Stock deemed necessary are to be taken from the rolling stock supplier by the Contractor.

2.16.4 The drawings shown on the plans define the operating conditions and are provided for indicative purpose only. These may be adapted by the Contractor in consultation with the Client.

2.17 Reference Data of Tracks

The trains /Road cum Rail vehicle shall be operated on the standard gauge tracks with the following specifications. The track specification may however vary slightly and the Contractor shall obtain the details from the Track Work Contractor.

Track Gauge: 1435 mm (Standard Gauge)

2.18 Principal Notional Vehicle Dimensions

Description	Dimension	
Gauge	1,435 mm	
Maximum Length over couplers for all cars	23,000 mm	
Minimum Length over couplers for all cars	21,400 mm	
Maximum Width over Body	2900 mm	
Minimum Passenger Saloon Headroom	2,050 mm	
Maximum Floor height above rail level of any unloaded vehicle	1,130 mm	
Minimum Floor height above rail level of fully loaded vehicle	1,100 mm	
Maximum height of coupler above rail level for unloaded vehicle	815 mm	
Minimum height of coupler above rail level for fully loaded vehicle	740 mm	
Bogie wheel base	Maximum	2500 mm
	Minimum	2200 mm
Distance between bogie centres	Maximum	15000 mm
	Minimum	14,600 mm
Centre to centre distance between Bogie 2 of DMC and Bogie 1 of TC	Minimum	6700 mm
Wheel diameter	New	860 mm
	Fully worn	780 mm
Maximum axle load	16 Tonne(including all tolerances as per IEC 1133-1992)	

It should be noted that the above notional vehicle dimensions of the rolling stock are indicative only, which will be confirmed during detailed design stage. Kinematic profile of train coach shall be as per Schedule-VI.

3 SPECIFIC REQUIREMENTS OF FULLY AUTOMATIC SYNCHRONIZED PIT JACKS

The fully automatic synchronised pit jacks (under floor lifting system) shall be designed to lift and support an EMU train unit of **three-cars length**. Lifting may be carried out either **one single car, two coupled cars or three coupled cars** at one time. Each car weighs 45 tonnes maximum. Unbalancing of weight within the wheels shall be as per international standards. New fleet of Rolling Stock (for standard gauge) for the expansion of the new corridors of Kanpur and Agra Metro is under procurement. The principal vehicle dimensions for standard gauge for Kanpur and Agra Metro are indicated in 2.18 of this particular specification. The drawing of pit available at site is enclosed at section Site Drawing, Part-II of this document.

3.1 Jack Configuration

3.1.1 The pit jack equipment shall consist of six bogie hoists for lifting stand and lowering the rail car units by the wheels and six pair of body stand for lifting/lowering 3 rail coaches.

3.1.2 Each bogie hoist shall be raised or lowered via **either 4 lifting columns or two/single lifting column** of proven design. Lifting column shall consist of a spindle-lifting element, a lifting beam, guiding box, one automatic following gap cover and associated electrical

equipment. A gear motor power the spindle lifting system via mechanical connection of all lifting columns (in case of 4 lifting columns) to provide absolute synchronisation.

- 3.1.3 Each bogie hoist shall have a bogie-lifting platform sized for bogies. Each pair of bogie hoists shall be capable of lifting a 45 T railcar. The lifting platform shall be of cantilevered type that provides a clear passage for transport of bogie and bogie tractor underneath the raised railcars. Lighting (LED) shall be done on the face of cantilever lifting head for the illumination of complete under frame of the railcars and also lighting arrangement shall be made inside the pits by the contractor for smooth maintenance of the installation.
- 3.1.4 Each body stand shall have a supporting pad for lifting railcar body at its jacking points. Each body stand consists of one spindle-lifting element, one lifting beam, one guiding box, one automatic following gap cover and associated electrical equipment. Each double pairs of body stands shall be capable of supporting a 45 T railcar. The locations of jacking pockets shall be near the edges of the car body (clearly marked) in the vicinity of the bogies. The exact locations shall be determined by interfacing with the rolling stock manufacturer.
- 3.1.5 The equipment shall be installed inside simple square pits and flush with the shop floor while not in operation.
- 3.1.6 Auxiliary rails/ split rails shall be provided to allow for towing of bogies with a rail bound bogie tractor beneath the lifting platforms while the bogie lifting platforms are raised. The rails between the six pits shall be in the scope of supply of the pit jack supplier & shall not be welded to the shop floor rails.
- 3.1.7 Tenderers shall provide the scheme of their design of the fully automatic synchronised pit jacks in the offer. GA drawing shall be provided supporting the scheme. Minor deviation on the specified parameters will be permitted to suit the standard equipment available. The deviations should be clearly specified in the offer.

3.2 Operating principle

- 3.2.1 The jacks shall be electrically linked together to allow various combinations of synchronous lifting/lowering services. The combinations shall include the following modes, which shall be selected from a master control console.
 - A. Three coupled car
 - B. Two coupled car
 - C. Single car
 - D. Independent control of Bogie hoist and body stand.
- 3.2.2 The lifting operations of coupled car and single car, which are categorized as group control, shall be commanded at the master control console.

3.2.3 The lifting operations of individual bogie hoists and body stands, which are categorized as local control, shall be commanded at a local control pendant of the corresponding pit.

3.3 Key Parameters

The equipment shall comply with the following requirements on dimensions and tolerances:

- Bogie hoist lift 1.8m
- Body stand lift Not less than 2.7m

Note: The body stand lift should match the Rolling Stock needs to hold the car body when maximum hoisting is done at bogie lift.

- Bogie hoist lifting speed Not less than 0.4 m/min
- Body stand lifting speed Not less than 0.8 m/min
- Railcar track gauge 1435mm/+3-0
- Bogie wheel base To be advised
- Auxiliary track capacity with bogie hoists raised 60 kN/axle
- Main Track capacity with bogie hoists lowered 170 kN/axle
- Gap between platform rails and shop rail ≤ 5 mm
- Bogie hoist level tolerance within individual bogie ± 3 mm
- Bogie hoist level tolerance within adjacent bogies ± 5 mm
- Bogie hoist level tolerance within two cars ± 10 mm
- Body stand level tolerance within a pair ± 3 mm
- Body stand level tolerance within adjacent pairs ± 5 mm
- Body stand level tolerance within two cars ± 10 mm

The jack equipment shall allow clearances underneath raised railcar for transport of dismantled bogie by electric bogie tractor. Minimum clearances shall be:

*3000mm wide x 1100mm high for bogie passage,

*2697mm wide x 1700mm high for bogie tractor passage.

*These values are indicative only & it will be confirmed during design stage.

3.4 Jack Structure

- 3.4.1 Each bogie hoist shall consist of either four lifting spindle elements, which are always operated together or single lifting spindle of proven design.
- 3.4.2 Each pair of body stands shall consist of two lifting spindle elements, which may be operated together or individually.
- 3.4.3 The structural design of the equipment shall withstand the weights, and other forces from movement of rail car.
- 3.4.4 While the jacks are at the lowered positions, the shop area, where the fully automatic pit jacks locate, shall provide a safe and clear passage for railcars and workshop vehicles. The pit areas shall be covered with jack structures or galvanised steel chequered plates. The maximum weight of workshop vehicles will be 100kN with a maximum axle load of 60kN. The maximum deflection of floor covers shall not exceed 1/750 of the cover spans.
- 3.4.5 While the jacks are at the raised positions, the floor openings that result from the displacement of lifting elements shall be covered automatically by steel covers (following gap covers). It should also facilitate the movement of the electric tractors pulling / pushing the bogies below the lifted cars. General clearances between structural elements at the floor level, except wheel flange grooves, shall not exceed 10mm under all operating conditions.
- 3.4.6 The structure of the equipment shall be fabricated by welding of steel connections.
- 3.4.7 All floor covers shall be solid steel plates with a minimum thickness of 8mm set flush with floor level. The surface of these cover plates shall be non-skid with diamond pattern.
- 3.4.8 The static structural calculation of lifting elements shall be made to verify that the stresses permissible according to European Standards for the chosen material are not exceeded under 1.4 times the nominal load.
- 3.4.9 The equipment to be installed at the pits shall adopt an approved corrosion prevention coating system to cope up with the possibility of water logging for long hours.
- 3.4.10 The spindle shall be a robust, vertical, self-locking screw shaft driving a spindle load-lifting nut, which shall be manufactured from cast bronze. A safety nut shall follow the lifting nut of cast bronze. The load screw shall be of class 3A as per IS 2004/78 having threads in accordance with IS 4696 or equivalent international / European / British standard. Screw must be irreversible under a 150% of nominal load. Load screw shall be covered with protection boots.

The spindles shall be fitted with flexible bellows for protection. The bellows shall be grease, acid, water and steam resistant. The fastening of the bellows shall be designed to facilitate quick disassembly for inspection of the spindles.

3.5 Hoisting Mechanism

- 3.5.1 Lifting spindle elements shall be of screw type (absolute self locking through an angle of inclination related to the exterior diameter of the screw and driven by geared electric brake motor.
- 3.5.2 Magnetic brakes shall be used to precisely control the stopping of the lifting elements but shall not be used for locking. The brakes shall be applied in the event of power failure.
- 3.5.3 The synchronisation of lifting spindles shall be monitored and corrected by motor wiring circuit, which shall be controlled by means of level measurement devices.
- 3.5.4 **In case of failure of any one motor/ control during hoisting operation, suitable mechanism shall be available to safely lower the railcar to floor level for clearing the track. The system shall be in operation until the damaged motor is replaced.**

3.6 Control and Interlock Provision

- 3.6.1 The master control console shall be provided at the central area of the fully automatic synchronized pit jacks for mode selection and group controls. The console shall only be accessible by a unique key, which shall be latched into the console during operation.
- 3.6.2 A local control pendant shall be provided at each pit, which accommodates one bogie hoist and one pair of body stands. The pendants shall be linked by 3-metre long cables and easily retrieved from the pits by opening hinged steel covers, which shall be set flush with the shop floor.
- 3.6.3 Operation of the bogie hoists shall be interlocked with operation of the body stands ensuring the safety and not permitting incorrect operation.
- 3.6.4 An optical sensor device shall be provided to sense the bogie wheel lifting points to confirm that the wheels are correctly located over the bogie lifting platforms. Upon this verification, the device shall permit the lifting operation to proceed.
- 3.6.5 The bogie hoist shall not be operable unless the body stands of the same pit are either fully lowered or under load supporting the vehicle.
- 3.6.6 The selected body stands shall be raised in pairs and stopped once contacts with jacking pockets of the railcars are detected by sensors at the pads of the body stands.

- 3.6.7 The controls, interlock functions and monitoring of the jacks shall be executed by PLC, which allows simplicity in wiring and expandability in future control alterations.
- 3.6.8 All pushbuttons for motion control shall be of non-latch and spring-return type.
- 3.6.9 All control stations shall be of robust enclosures with minimum 2 mm thick stainless steel sheets and suitably braced to form a rigid structure. Exterior corners and edges shall be rounded to give a smooth overall appearance. Interior edges shall be smooth.
- 3.6.10 All pushbuttons shall be electrically interlocked to prevent inadvertent operation of opposing motions. All movements shall be clearly indicated on the control pushbuttons by means of labels in English/signs.
- 3.6.11 A fault display panel shall be provided at the master control console. When a fault occurs, a buzzer on the panel shall sound and a lamp shall flash indicating the location and the nature of the fault. By pressing an acknowledge button, the buzzer shall become silenced and the flashing lamp shall become steady. After the fault is rectified, the display shall revert to the normal state by pressing a reset button.

3.7 Safety Provision

- 3.7.1 Locking devices shall be provided to lock the body stands and bogie lifting platforms on removal of the power supply. The devices shall be capable of taking the full system load.
- 3.7.2 Wheel stops shall be provided at the bogie platforms and fully activated and locked to prevent the railcar from rolling off the platforms whenever the railcar is raised above 50mm from the shop floor. Lifting of bogie platforms shall be interlocked with any failure of stop engagement. While lowering, once the bogie hoist has reached bottom most position, the locking shall be released and stops retracted.**
- 3.7.3 Approaching signals shall be provided and activated whenever any part of the railcars or jacks has reached a clearance of 150mm or less from the floor. The Signals shall include an automatic stop of lowering and audible intermittent alarm for approx 10 seconds. Further lowering shall only be possible by pressing an override button.
- 3.7.4 Motion limit switches shall be provided in spindle units to prevent over-lifting and over-lowering of any lifting element. The upward and downward level limits shall be predetermined and adjustable.
- 3.7.5 Lifting nut limit switches shall be provided to prevent the up lifting operation of the system once any of the lifting nuts has worn to a predetermined amount. The fault shall be indicated on the fault display panel. **The advance safety features like optical wear & tear**

indicator of working nut and automatic cut off (electrical) due to wear in safety nut shall be offered.

- 3.7.6 Overload cut-out devices shall be provided to protect the equipment against damages in the event of equipment being overloaded. Once any of the overload devices are activated, overload lights and buzzers on corresponding panels shall be turned on and all operation modes except lowering shall be prohibited. On removal of the overload, the jacks shall resume normal operation automatically.
- 3.7.7 A set of traffic signal shall be provided on the wall on the entry side of Unscheduled Repair Bay. The signal shall include one red light and one green light and give directions to operators for safe entry of Railcar with the lifting hoists at lowered position.
- 3.7.8 Main control panels shall be fitted with through door electrical isolation switches for the safety of maintenance personnel.
- 3.7.9 Emergency stop buttons of mushroom type shall be provided on all control stations.
- 3.7.10 Fully automatic pit jacks shall be provided with alarm system in case of water flooding in underground sump with subsequent operation of the float operated sump pump along with flexible drainpipe for 40m approx per pit, which shall be provided by the contractor.
- 3.7.11 In case of fault in PLC, the operation of lifting or lowering of all the system shall be cut off simultaneously both for bogie hoist and body hoist.

3.8 Maintenance Provision

- 3.8.1 The equipment installation shall adopt an open pit design to allow adequate space for maintenance of equipment components through steel structural ladders. Scheme for ventilation & sufficient illumination of the pits for human comfort and ease of maintenance shall be adopted. All components including motors, gearboxes and shafts shall be easily accessible.
- 3.8.2 The equipment shall be of modular design, with components manufactured into sub-assemblies to facilitate easy assembly and removal for maintenance purposes.
- 3.8.3 An automatic lubrication system shall be provided in each pit to assure proper lubrication of equipment components. All moving parts shall be effectively lubricated by either oil or grease.

3.9 Noise Level

The noise level of the fully automatic synchronized pit jacks during its operation shall not exceed 75dBA when measured at a distance of one meter from the machine. Minor variation to above limits is acceptable on discretion of Employer.

4 SPECIFIC REQUIREMENTS OF FULLY AUTOMATIC SYNCHRONIZED MOBILE JACK

The fully automatic synchronised mobile jacks (on-under floor lifting system) shall be designed to lift and support an EMU train unit of three-car length for Kanpur and Agra Metro. Lifting may be carried out for one single car, two coupled cars or three coupled cars at one time.

4.1 Jack Configuration

Each set consists of the following minimum elements:

- Each set of jacks shall be designed for lifting three cars either single or coupled.
- 12 jacks each with a main frame, lifting spindle with driving gear, lifting carriage with anvil, lifting nut, safety nut, travelling gear and local control box.
- Within the frame of jacks, there shall be suitable encoders, limit switches, emergency limit switches and other safety features as required.
- One trolley-mounted control console with PLC synchronisation control, various indications, controls and troubleshooting mechanism as mentioned,
- Underground concealed cables in pre laid galvanised conduit pipes, which are for both power cables and control cables of the jacks, linking outlet socket points for the jacks and the console at a central area respectively for one set of jacks. The cable connecting jacks shall have connector at both ends.
- The power cables, connecting isolator and the jacks, the portion of the cables running on the ground shall be in concealed galvanised conduits. The isolator for the power cables shall be provided by building E&M contractor but sockets/ plugs etc will be provided by the mobile jacks contractor.

4.2 Operating Principle

- 4.2.1 The jacks of any set shall be able to operate either individually or in a group of 4 or 8 or 12 jacks together in synchronous mode for railcar lifting lowering and sustaining loads at any point between the travel limits.
- 4.2.2 It shall be possible to transport each jack manually by one person towards the railcar and to align the anvil with the jacking pocket on the railcar. The jack shall be raised by means of the pushbuttons on the local control box. The raising motion of the anvil shall stop automatically once a contact with the jacking pocket is detected by a switch on the anvil.

4.2.3 The control console shall be plugged into the socket at the central area of the two railcars or three rail cars for synchronous group operation of the selected jacks. The group control shall only be allowed if all of the selected jacks are in contact with the railcar.

4.3 Key Parameters

The jacks shall comply with the following requirements:

- Capacity 12 T
- Highest anvil position: ≥ 2.10 m
- Lowest anvil position ≤ 0.50 m
- Anvil extension 600 mm minimum with a capacity of 12 T *

(Anvil extension is Horizontal length of claw from the face of jack frame)

- Contact head width approx. 0.20 m
- Contact head length approx. 0.22 m
- Lifting and lowering speed 0.30 m/min
- Level tolerance between any two jacks ± 5 mm

* Note: The Jacks supplier shall interface with the Rolling Stock supplier for the exact size of the contact head of the anvil.

The main frame of the jack body shall be of welded steel construction and shall consist of side plates with guides for the lifting carriage.

The jacks shall be provided with suitable means to prevent relative sliding of coach and the lifting pad.

The base of the frame shall substantially spread the load over the workshop floor, which will be constructed of reinforced concrete. The approximate area for reinforced floor shall be 1300mm x 1600mm under each jack.

The design and installation of the jacks shall be based upon heavy-duty workshop application with high safety factors to ensure minimum deflection and low stress values. The jacks shall be designed in accordance with BSEN1493 or DIN EN1493.

The steel used shall conform to Indian Standard IS 226, IS 2062 or European standards. The welding shall conform to IS 816 or IS 823 or equivalent international / European / British standards. The welding shall be compatible to steel used.

The jacks shall be provided with lifting eyes and fork pockets to allow easy transport within the workshop. An easy access shall be available to lifting nut and safety nut for the required monitoring of them.

4.3.1 Lifting Spindle & Drive

The spindle shall be driven through a fully enclosed reduction gear running in an oil bath by a squirrel cage flanged brake motor designed to IP55. All motor and gear bearings shall be of roller type. **It shall be placed at the top of the jack frame and preferably motor shall be horizontal to the floor.** The motor and drive gear shall be easily removable without requiring dismantling of the jack. **The braking system of the drive motor of offered jacks shall be explained in offer.**

The spindle shall be a robust, vertical, self-locking screw shaft driving a spindle load-lifting nut, which shall be manufactured from cast bronze. A safety nut shall follow the lifting nut of cast bronze.

The load screw shall be of class 3A as per IS 2004/78 having threads in accordance with IS 4696 or equivalent international / European / British standard. Screw must be irreversible under a 150% of nominal load. Load screw shall be covered with protection boots.

The spindles shall be fitted with flexible bellows for protection. The bellows shall be grease, acid, water and steam resistant. The fastening of the bellows shall be designed to facilitate quick disassembly for inspection of the spindles.

4.3.2 Lifting Carriage

A carriage shall be mounted on each body. The carriage shall be fitted with a bronze nut guided by the lower rollers of the body running on sections added to the jack framework.

The carriage shall be guided up and down the columns by plain and flanged rollers fitted with bearings. The guiding system shall stop any carriage longitudinal or transverse inclination, which may cause seizure or abnormal wear to the screw or to the nut.

The shape of the contact heads shall be compatible with the jacking pockets of the rolling stock.

The maximum deflection of the cantilever when laden shall not exceed 1/500 of the span.

4.3.3 Travelling Gear

The jacks shall be mounted on 3-roller type travelling gears with steering wheels for one-man operation on the concrete floor. The front two rollers shall be spring-loaded and third steering type roller shall be equipped with dead man type hydraulic pallet jack. The travelling gears shall allow a minimum of 15mm clearance from the floor for movement of jack.

Handles shall be fitted to the jacks for easy raising, lowering, steering and transporting the jacks.

The jacks shall be equipped with ground-support monitoring devices to prohibit carriage movement when one of the jacks is still bearing on one of the travel wheels. The controls shall ensure that the synchronous lifting shall start only when all the jacks have touched the load pads and are ready for the lifting.

The jacks shall be easily transported and safely operated on the flat concrete floor with a level tolerance of $\pm 5\text{mm}$ in any length of 2m.

4.4 Control Provision

The operation of the jacks in a group of four, eight or twelve shall be controlled at the control console. The operation of an individual jack shall be controlled at the jack-mounted local control box.

The control gear shall be protected against phase failure (single phasing), under-voltage, over-current, motor overload and wrong direction movements due to wrong rotation of drive motor as a result of phase reversal etc.

4.4.1 Synchronization Control

The jacks shall be provided with a levelling synchronisation system ensuring the control and automatic correction of the height of the lifting claws. This system shall detect any obstacle or mechanical locking.

Each jack will be equipped with an encoder driven by a notched belt and sending impulses to the PLC corresponding to the carriage movements. The PLC compares the information coming from each jack and corrects any possible height difference. At any time the height of the 8 claws is within $\pm 5\text{mm}$.

If for any reason, the height difference exceeds, the lift will stop and a fault will appear.

Both logical control chains and synchronization controls will be realized by a stored-program control PLC of good make. Integration of the synchronization control into the PLC can do without a separate, particularly manufactured electronic component (such as microprocessor control).

The PLC installed will monitor the complete connected hardware (input units, output units, contactors etc) with regard to errors. Furthermore, the control itself is monitored with regard to correct functioning via second independent control equipment.

In the event of a PLC failure when the vehicle is lifted, the operator will have the option to lower the 4/8/12 jacks, each jack stops on its lower limit switch. Only lowering is authorised in this mode.

The control panel will be equipped with a troubleshooting system. It shall suitably indicate the fault occurred. Tenderer shall explain their type of system in the offer.

4.4.2 Control Console

The control console shall be mounted on a trolley for the operator to move around for effective monitoring of the operation. It shall be fabricated of sufficiently thick (at least 1.2mm) steel sheets and duly treated and painted (epoxy paint, or powder coated) for longer life.

The control console shall be equipped with a plug for connecting all jacks through the socket on the floor at the central area of the two cars. The cable of the plug shall be 10-metre long and coiled onto a console-mounted cable reel and this shall be provided by mobile jacks' contractor.

The door of the control console shall be key-lockable. The door shall be connected to the switchboard via an earth braid and the power-on indicator lights shall be mounted on the front.

The control console shall include but not limited to the following controls and indicators:

- Lockable main power switch c/w indicating light
- Selector switch for operation of a group of four or eight jacks
- Shrouded pushbuttons for raising and lowering operation
- Individual jack status lamps in blue
- Emergency stop button
- Fault message c/w indicator in amber
- Overload cut-out indicator in red

The control of lifting operation from the control console shall be prohibited with any of the following conditions:

- Any of the selected jacks are under the local control mode
- Any of the selected jacks are not in contact with the railcar lifting pads (jacking pockets),
- Any of the selected jacks are overloaded,
- Any single fault signal, trip of travel limit switch, obstruction under anvil.

4.4.3 Local Control Box

The local control box shall be permanently fixed type mounted on the jack. Pendant type Local control box with suitable length of cable, which can be hooked on jack frame, is also acceptable. Such a box can be portable with a handle for easy carriage.

The jacks shall be connected to the outlet points of concealed cable network by plugs with approx 5m cable lengths.

A selector switch shall be installed at each jack-mounted local control box for remote or local control selection. When the remote control is

selected and contact with the railcar jacking pocket is also detected, a signal shall be transmitted to the control console.

The local control box shall include but not limited to the following controls and indicators.

- Power switch c/w indicating light
- Selector switch for local or remote control
- Shrouded pushbuttons for raising and lowering operation
- Fault message c/w indicator in amber
- Overload cut-out indicator in red

The control of lifting operation from the local control box shall be prohibited with any of the following conditions.

- The jack is under the remote control mode
- The jack is overloaded
- Any single fault signal, trip of travel limit switch, obstruction under anvil of the jack

4.5 Safety Provision

4.5.1 Safety nuts shall be fitted on the spindles to monitor the wear on the load nuts. The safety nuts shall be able to support the full working load in the event of the failure of the load nuts. The safety nut that take up the load shall also activate a switch to allow only lowering of the load.

4.5.2 Nut wear sensor will activate when the gap between the Lifting nut and safety nut reaches the low limit. It shall then allow lowering but not raising operation. It is, then, compulsory to change worn nuts.

4.5.3 Visible and audible signals shall be provided to personnel in vicinity during lifting operation. The audible signal shall be adjustable in volume.

4.5.4 The jacks shall be equipped with two stage switches for both upper and lower limits of travel. The first stage shall be designed for normal operation and the second stage for emergency. The travel limits shall be adjustable within the designed travel range.

4.5.5 Alternative to above, the PLC stops the motion by counting the encoder impulses; the first jack stops the others. Different height can be easily adjusted from PLC. In case, the PLC doesn't stop the motion, a safety limit switch is mechanically activated and stops. A fault is indicated on central control panel. The lower limit switch stops the lift when it reaches the down position. In case the carriage is stopped or if one of the lower limit switches doesn't work, the jacks are stopped and a fault is indicated.

- 4.5.6 Overload devices shall be provided to protect the equipment against damages while the equipment is overloaded. Once the devices are activated, the jacks shall only allow the anvil to be lowered until the devices are re-set by unloading.
- 4.5.7 In the event of power failure or component failure, all jacks under operation shall emergency stop and lock the anvils.
- 4.5.8 All the push button shall be of “dead man” type.
- 4.5.9 Safety chain to stop the whole unit in case of wrong connection shall be provided. This device also switches off the jack operation in case of any plug being disconnected or connecting cable being damaged during the operation.
- 4.5.10. Each jack shall be fitted with an emergency stop button, one of which when activated shall cut off the power to all jacks.
- 4.5.11. The Safe Working Load (SWL) of each jack shall be clearly marked in English prominently on the jack.

4.6 Maintenance Provision

Lubrication nipples shall be provided at each jack for lubricating the lifting spindle and moving parts.

The assembling method of lifting spindle shall be designed to facilitate quick and easy changing of the spindle nuts, without additional lifting equipment.

5 FINISH

5.1 Painting

The Contractor shall not use paint after the expiration of its “pot-life” declared by the paint manufacturer.

All paints, painting processes and methods shall be submitted for acceptance prior to the commencement of work. Paint tests shall be carried out to ensure that paints and painting processes used can obtain the best possible results.

Site painting of steelwork partially encased in concrete shall be carried out immediately after casting and removal of form work. Special care shall be taken to ensure that exposed surfaces at the junction between concrete and steelwork are completely covered.

Lifting and handling methods used in the protective treatment process and subsequent transport, storage and erection shall be such as to ensure that damage to the treatment is kept to the absolute minimum. Damaged coatings shall be made good by cleaning to bare metal and re-applying the full painting and surface treatment system. New paint shall

overlap the existing paint by at least 50 mm all round the affected part. Steelwork which receives its final coat of paint or final protection at the shop shall be packed carefully before despatch to Site.

The Contractor shall ensure that all treatment and paint finishes are suitable for the Site climatic conditions.

Paint Finishes for E&M Elements of the Works includes:

A. Unless otherwise specified, the Contractor shall apply paint finish to all exposed metal works including supporting rods and brackets, cable trays, trunkings, lighting fittings, pipeworks, ductworks, surface conduits and accessories and other equipment, as supplied and installed under this Contract.

B. Method of Application

The paint finish shall be regarded as an additional finish applied over hot dip galvanized steel sheet or extruded aluminium surface, or other coatings already defined elsewhere in the Contract. Details shall be submitted to the Employer's Representative for Approval prior to application.

As far as possible, paint finish shall be applied at manufacturer's Works prior to delivery to Site for installation.

C. Electrostatic Painting of E&M Equipment at Manufacturer's Works

The process shall be applicable to equipment which are fabricated and pre-finished/painted at manufacturer's Works and shall include the following steps: -

- Degreasing with alkaline liquid
- Washing with water
- Drying
- Applying primer coats of 1-2 micron thick
- Applying undercoats of 10-15 micron thick
- Applying finish coats of 10 micron thick
- Baking

D. Painting of E&M Installations

The process shall be applicable to supporting rods and brackets, pipeworks, ductworks and other E&M equipment which tailor-fabricated on and shall include the following steps:-

(1) Preparation

Galvanized surface shall be washed with white spirit to remove dirt and grease. Following cleansing the surface shall be washed with a Mordant solution such as British Rail 'T wash'. If metal coating is defective, instructions shall be obtained from the Employer's Representative before proceeding.

Mild steel or ductile iron surfaces shall be scraped or wire-brushed to remove rust and loose scale and welding slag or splatter. Crevices shall be cleaned out. Oil, grease and dirt shall be removed using white spirit.

All preparation materials shall be fully cleansed from surface before proceeding.

(2) General

Colours as Approved by the Employer's Representative shall be agreed prior to painting. For each finish colour, the colour of undercoat recommended by the paint manufacturer shall be used.

Control Samples: Approval of representative sample areas of each paint type shall be obtained from the Employer's Representative before carrying out the remainder.

(3) Cleanliness

All brushes, tools and equipment shall be kept in a clean condition. All surfaces shall be kept clean and free from dust during painting and drying. A suitable receptacle for liquids, slops, washings etc. shall be provided. Disposal shall be in accordance with the Environmental Protection Department procedure.

(4) Preparation of materials

Paints shall be prepared as recommended by the manufacturer. Any paint showing impurities, lumps, skin or uneven consistency shall be strained through fine gauze prior to application. Different paints shall not be intermixed. Paints shall be stirred to attain an even consistency before use.

(5) Protection

Freshly applied paints shall be adequately protected from damage. "Wet Paint" signs shall be exhibited and protective barriers shall be provided on Site where necessary. Surfaces adjacent to those being painted shall be adequately protected.

(6) Application

Paints shall be applied in accordance with the manufacturer's recommendations to clean, dry surfaces in dry atmospheric conditions and after any previous coats have hardened.

(7) Priming

Priming coats shall be applied by brush unless other methods are specifically permitted and Approved by the Employer's Representative. Priming coats shall be to manufacturer's recommended thickness. Any primed surfaces that have deteriorated on Site or in transit shall be touched-up or re-primed. Metal surfaces shall be painted on the same day they have been cleaned. Undercoats shall be applied by brush in a wet, even film all over surfaces, avoiding uneven thickness at edges and angles. All priming and undercoats shall be rubbed down to a smooth surface with abrasive paper and all dust shall be removed before applying the next coat of paint. Unless otherwise specified, finish coats shall be applied by brush in a wet, even film all over surfaces, avoiding brush marks, sags, runs and other defects. Second coats shall be applied within 48 hours of first coats. Surface shall be cut in neatly and clearly. Adjacent surfaces shall not be splashed or marked.

E. Materials for Painting of E&M Elements of the Works

All coating materials for use shall be obtained only from the ISI approved manufacturers, unless otherwise specified. Any of the other listed suppliers' equivalent products can be substituted provided that all compatible coating materials come from the same supplier. Coating materials shall be delivered in manufacturers sealed containers, clearly labelled with the following information.

- (1) Type of material
- (2) Brand Name, if any
- (3) Intended Use
- (4) Manufacturer's batch numbers.

F. Paints for E&M Finishes

I. For hot-dip galvanized finish:

- (1) Primer shall be zinc chromate primer ICI Dulux F500-388 or equivalent
- (2) Undercoat shall be ICI Dulux speed undercoat A543-101 or equivalent

(3) Finish coat shall be ICI Dulux gloss finish A365-line or equivalent

(4) 1 primer, 1 undercoat and 2 finish coats shall be applied

II. For extruded aluminium surface:

(1) Etch primer shall be IMP Unilite 220 or equivalent

(2) Finish coat shall be polyurethane, IMP Imperite 330 or equivalent

(3) 2 primers and 2 finish coats shall be applied

III. For other finish/surface:

(1) Undercoat shall be ICI Dulux speed undercoat A543-101 or equivalent

(2) Finish coat shall be ICI Dulux gloss finish A365-line or equivalent

(3) 1 primer, 1 undercoat and 2 finish coats shall be applied

Paint samples and manufacturers shall be approved by the Employer's Representative prior to commencement of painting.

G. .Paint for Conduit and Duct Systems

Bituminous paint for steel conduits and steel cable ducts shall comply with BS 3416, type1.Zinc chromate primer for cable duct systems shall comply with BS 4652.Galvanizing paint for cable duct systems shall be a proprietary type Approved by the Employer's Representative.

5.2 Identification

All components of the fully automatic pit jacks and mobile jacks shall be identified and marked, corresponding to the panel, by means of durable engraved labels.

The manufacturer's identification plate and the year of manufacture shall be affixed to the machine.

6 PLANNING, PROGRAMME AND PROGRESS MONITORING

6.1 Preparation and Submission Of Program Of Work

The Contractor shall interact with Employer / engineer to provide details and obtain approval where necessary on following for supply and

installation of Plant /machine & Equipment as per the stipulated schedule:

Activity
Submission of design documents and other technical documents from the manufacturers for approval
Program for manufacture of the equipment
Documents for execution of works relating to installation
Proposal for factory tests
Program for installation
Program for tests at site and commissioning
Program for training of staff
Program for supply of maintenance manuals and other documents
Program for supply of spares

6.2 Progress Report

The Contractor shall prepare a Progress Report covering all aspects of the execution of works. Such Reports shall be delivered to the Client's Representative as and when necessary or asked for.

6.3 Progress Meetings

In order to ensure execution of the Works in an efficient and proper manner, the Client or the Administration and the Contractor will exchange technical information for approval of the solutions and equipment offered and hold periodical meetings. Two categories of meeting may be held for this purpose

6.3.1 Technical Meetings

Attended by engineers and technicians, convened upon request by either party, during which, among other subjects, clarifications of additional information relative to the technical specifications may be provided.

6.3.2 Periodical Progress Review Meetings

To be held as and when required by Engineer during which:

- Certain problems that maybe holding progress of the work may be examined.

- Interface requirement with designated contractors may be discussed.

The Progress Review Meetings are attended, notably by the Contractor's Manager and the Client's or the Administration's discipline Manager or their Deputy.

Progress Review Meetings related to works will be held in Lucknow, Kanpur and Agra.

7 PACKAGING

The Contractor shall provide suitable packing, crates and marking. In doing so, it shall comply with the following requirements:

- Each packing case/crate shall be water proof, rot proof and insect/rodent proof and of robust construction. The Contractor shall in determining the packaging materials take cognisance of the climatic conditions likely to occur during the period of transport, shipment and storage.
- All items heavier than 100 Kg. shall be marked on the outside of the case to show the gross weight, the points for slinging and where the weight is bearing.
- Care shall be taken to prevent movement of items within cases, crates or packages by the provision of bracing, straps and securing bolts as necessary. Bags of loose items shall be packed in cases and shall be clearly identified by well-secured labels on which the quantity and name of the part and its catalogue or index number have been stamped.
- Electronic circuit boards shall be well protected by using anti static bubble bag etc.
- Rubber products shall be suitably packed to avoid damage due to hardening, deforming and peeling off etc.
- Tubes, cables and conductor ends shall be properly sealed to prevent ingress of moisture.
- Each bulky/heavy case, crate or package shall include wedges for easy loading and unloading by mechanical handling equipment.

8 TRANSPORTATION

The Contractor shall notify the Client's Representative at least 15 days in advance of any expected date of transportation and give further notice of the actual transportation date. This shall be in addition to the inspection requirements as specified in para 10.1.

Two copies of packing list and test certificates shall be delivered along with the package at site and one copy to the Client's Representative.

9 DELIVERY

The Contractor shall deliver all the equipment to be supplied under the contract to the Kanpur Metro and Agra Metro Depot site unless otherwise stated in scope of supply in financial offer. The Contractor shall unload all the items at the designated delivery point and positioning or storing them. All documents, operational & maintenance manuals, inspection test procedure, drawings and other deliverables shall be supplied to the Client's Representative one month before the delivery of the machine. **Contractor's local associate shall take care of, keep a watch on and guard the machines/materials on arrival of machines at their respective depots of Kanpur and Agra Metro till the time the machines get installed and commissioned by the contractor at site in all respect.**

Any parts of the equipment that is damaged shall not be considered as delivered unless repairs or replacements have been made.

10 CHECKS AND TESTS

10.1 In-manufacturer's Plant

Contractor shall submit Test Protocol of Mobile Jacks and Pit Jacks for approval to conduct FAT at the manufacturer's premises along with the invitation for inspection.

During manufacture, and especially prior to shipment, verifications and checks shall be carried out in order to ensure that the supply is in accordance with the technical specification and with the approved design documents.

All quality checks shall be carried out, as required, during manufacture on the Contractor's or on the sub-contractors' premises.

The Contractor shall provide for all checks of supplies on his sub-contractors' premises prior to delivery of these supplies to his workshops.

Operation of safety and protection devices shall also be checked.

The Contractor shall also carry out the following checks and tests:

10.2 Prior to assembly

A complete and thorough check (dimensional and machining quality) of all screws shall be carried out on the Contractor's premises. During this check, each screw shall be marked at the top end with a cold-stamped letter, height 6 mm. The same mark shall be made on the corresponding nut.

10.3 After assembly

- Functional tests

Operation check of limit switches, over-travel switches and locks, measurement of absorbed current, operation of the support monitoring device and etc.

- Static tests (Fully automatic pit jacks)

The jacks shall require static tests according to EN1493. Measurement of deflections shall be recorded.

- Dynamic tests (Fully automatic pit jacks)

The Jacks shall require the following tests and the tests according to EN1493:

- lifting speeds,
- behaviour of components during lifting after a stop,
- limit switch contact and brake efficiency,
- heating of motors, electrical components and screw nuts,
- synchronous travel of the jacks,
- insulation of the electrical installation and current measurements.
- noise level when lifting and lowering nominal load to be less than 55 dBA at one metre.

10.4 At-Site

After delivery and assembly of the equipment (mobile jacks and pit jacks), operating tests shall be carried out to check that equipment design makes it suitable to fulfil the stipulated specifications.

The purpose of the tests is to record and acknowledge that the equipment is capable of performing regular service under different operating conditions.

Tests shall be carried out on jacks in order to check:

- Synchronisation of jack operation of all control modes,
- All functional and performance requirements,
- All safety measures including the efficiency of limit switch contacts and brakes,
- Insulation of the electrical installation.

- Noise level when lifting and lowering nominal load to be less than 52 dB at one metre.

Integration tests shall be carried out for the trial runs of the equipment with railcars and bogies in order to verify the satisfactory operation of the equipment.

The machine performance shall be demonstrated by the supplier after successful commissioning at the consignee's works. Thereafter, the consignee shall watch performance for a period of two month or lifting of 50 train sets 03 coupled car, whichever is later before the final proving test certificate is issued.

11 DOCUMENT SUBMISSION

All documents shall be provided in English. The contractor shall submit 4 sets of hard copy of operation & maintenance manuals/documents, training manuals and 04 (four) set of soft copies in CD's [for each sets of Pit Jack and Mobile Jack Equipment] .

11.1 For Execution of Builder's Work

The Contractor shall obtain an Engineer's consent on the interface and builder's work requirement for installation of the equipment. The documents shall include the followings:

- Detailed dimensional builder's works drawings and interface technical information including equipment operating loads, pit configuration, foundations, cast-in items, electrical and mechanical provisions including power requirements.

11.2 For Execution of Work

Prior to manufacture of equipment, the Contractor shall send the following documents:

- Detailed design documents, drawings, diagrams, part lists etc. shall be provided to Engineer-in-charge for approval prior to manufacturing of the equipment (1 set hard copy + 1 set softcopy).
- A detailed technical note, notably indicating the weight of components and removable parts, and including a list of all parts with the respective sub-contractor's references,
- General drawings, detailed assembly drawings, detailed drawings of all components & systems.
- Descriptive and operating note with a description of the machine cycle and the operator input screen pages,

- Detailed electrical diagram and electronic for troubleshooting including cable index,
- Connection diagram with markings,
- List of basic spare parts to be kept in stock for repairs,
- Documentation, drawings, notes and references of sub-contractors,
- Installation and commissioning procedure,
- Scheduled of work and completion period.
- A life cycle cost plan of the equipment covering the capital costs, operation costs and maintenance costs.

11.3 At Completion of Work

The Contractor shall provide the entire documentation for review and approval by the Engineer;

- the list or complete nomenclature of general drawings and detailed drawings of electronic and electrical diagrams,
- the general nomenclature of the supply including sub-contractors,
- mechanical drawings, electrical, hydraulic and electronic diagrams required for maintenance and troubleshooting of the machine,
- illustrated lists of mechanical and electrical parts itemised in accordance with the diagrams and drawings mentioned above and including the addresses of the various contractors,
- maintenance and adjustment manual with summary of circuits and functions and among other information, a lubrication manual including location of lubrication points, type of lubricants, frequencies and quantities,
- an operating manual (start up and user's instructions) including the numeric control system,
- complete documentation of equipment from sub-contractors (including read and display apparatus, diameter measurement apparatus and numeric control system),
- complete documentation on motors and major components,
- spare part list with quantities for three years after handover of the Works, anticipated frequency of replacement and prices with a one-year validity period,

- flow charts, assembly listings and the copy of the source programme on CD /DVD ROM.
- a schedule of all lubricants used shall be provided with details of location, type of lubricant, manufacturer, manufacturer's identification and frequency of application.

The layout of the elementary diagrams shall include the schematic with a maximum of significant information (voltage, signal shape, etc.), location and nomenclature of components, printed circuit drawing with representation of components.

12 TRAINING

The Contractor shall provide comprehensive training to the Client's staff to enable safe and efficient maintenance and operation of the equipment supplied as part of the contract to achieve maximum reliability and economy of cost for both at Kanpur and Agra Metro depot The Contractor shall submit to the Client's Representative for review and approval of a training plan at least 2 months before the readiness of the equipment for commissioning. The training plan shall include:

- schedule of training courses,
- syllabus, size of class and duration of each capsule,
- training facilities to be provided by the Client,
- qualifications and experience level necessary for the trainees,
- Instructor's qualifications.

Trainings shall be in two stages:-

- a. The contractor shall provide hands on training of employer's staff for minimum 10 trainer man days for each equipment at all the concerned depots of Kanpur and Agra Metro. The training shall focus on the following subject to well verse the O&M staff the design, assembly ,operation & maintenance aspects of the machine:-
 - i. Full exposer to assembling stages of the machine for better understanding of the sequential integration of subassemblies and systems including electrical interfacing.
 - ii. Safety features available in the machine including interlocking with machine operations
 - iii. Interactive sessions for the preparation of at site training materials to be supplied & all similar activities that can enhance the operation & maintenance skills of the staff.

All expenses of training except travel & lodging shall be borne by the contractor.

b. At Kanpur and Agra Metro Depots: The contractor shall provide following training of total 10 trainee man-days for each equipment to the employers staff on operation & maintenance aspects of machine at each employers nominated depot.

(i) The operation training shall cover:-

- i. all operational aspects of the machine covering full features including safety features.
- ii. Minor faults diagnosis and quick remedial

(ii) The maintenance & overhauling training shall cover:-

- a. Maintenance training for day-to-day maintenance, servicing of fully automatic pit jacks and mobile jack including major overhaul.
- b. essentially include extensive training on maintenance of machine lubrication system, hydraulic system, pneumatic system, safety interlocking, panel AC, electrical & control electronics, programmable PLC, software reloading and similar other aspects.

The training shall consist of classroom training and practical hands on training. The Contractor shall depute competent trainers to carry out training to a high degree of proficiency with competency certificate issued by OEM. During the warranty period when the Contractor is responsible for faultfinding and repairs, he shall provide practical hands on training to the Client's maintenance staff.

The Contractor shall also provide training courses and training materials to the Client's training instructors to a higher level of competence to allow the instructors to subsequently train the Client's staff in maintenance and operation of the equipment.

13 MAINTENANCE

13.1 The fully automatic synchronised pit jacks and synchronized mobile jacks shall be maintained for the scheduled and unscheduled maintenance by the successful tenderer during the defect liability period (DLP) of 24 months from the date of handing over of installed & commissioned plant /machine to the employer. Tenderer shall submit in the offer, details / organisation how to carry out the maintenance during this defect liability period.

13.2 The tenderer shall have to meet with the time frame for breakdown/corrective maintenance mentioned below: -

Minor maintenance:-Inclusive of repairing and replacement of all spares/ components of all defects other than major defects.

- a. Response Time (Max) - 6 hours
- b. Attention: Time (Max) - 12 hours on expiry of response time.

Major maintenance:-detection of hydraulic leakage, refilling of oil, pipefitting, welding/brazing work, Rewinding/ replacement of motors. Basically it covers attention of all types of major failures/breakdown.

- a. Response Time (Max) - 24 hours
- b. Attention: Time (Max) - 48 hours after expiry of response time.
(Should be in proportion with the type of failure)

Delay in attending minor/major defects on the part of the contractor will invite penalty @ Rs 10,000 per day subject to limit of 10 % of the contract price as specified in clause no 10.2 of General Conditions of Contract. The calculation of the delay will start on expiry of maximum allowable attention time for both minor & major defects.

The contractor shall maintain bank of spares at Kanpur Metro and Agra Metro Depots to optimise the machine down time. The contractor shall themselves arrange for any transportation, loading/unloading, spares, lubricant & other consumables, machinery & plants, tools/ tackles, labour, garbage disposal etc during DLP.

13.3 During maintenance, the contractor shall follow all statutory acts, regulation & code practices in force like IE rules & acts etc.

13.4 Deleted.

13.5 The equipment entrusted to contractor for repair at their workshop shall be at the risk & cost of the contractor. If any deduction is required to compensate any loss in this account shall be adjusted from balance payments or by means of forfeiting the warranty bank guarantee.

13.6 Separate head of payment for maintenance during DLP have been indicated in the bid. Payment against it shall be made on quarterly basis subject to issuance of certificate by Engineer- in- Charge on the basis of satisfactory maintenance & availability of spares and consumables for schedule maintenance & valid competency certificate of maintenance engineer issued by the contractor (OEM).

14 WARRANTY

14.1 Refer GCC Clause no. 34 in addition to the warranty clauses no 14.2 to 14.8

14.2 The Contractor shall warrant that all equipment and spares etc. supplied against the contract shall be free from defects and faults in design, materials, workmanship and manufacture and shall be of the highest grade and consistent with the established and generally accepted standards for goods of the type ordered and in full conformity with the contract specifications.

- 14.3 The warranty period shall be 24 months after the date of issue of successful commissioning and proving test certificate, of the machine at site. Any approval of acceptance issued by the Client during the course of installation, commissioning & proving out test shall not in any way limit the Contractor's liability.
- 14.4 In case where replacement of parts takes place during the warranty period, for replaced item and concerned sub- assembly, the DLP shall extend further 24 months from the date of replacement of the defective parts. This extended period shall be known as extended warranty period.
- 14.5 The Contractor's liability in respect of any defects shall be to supply, install & commission any defective part free of any charge or to repair the defective parts, so as to ensure minimum down time of the machine
- 14.6 In case of delay in replacement/repair of defective parts, the Client may get the replacement carried out through any other outside agency. In such a case the cost of repair, replacement shall be borne by the Contractor.
- 14.7 Failure of the Contractor to meet with the warrantee obligations shall result in unsatisfactory performance of the contractor and the consequence of the same shall be applicable.
- 14.8 The decision of the Client in regard to Contractor's liability and amount if any payable under this warranty shall be final and conclusive.

15 SPARES AND TOOLS

- 15.1 The Contractor shall provide to the Client all special tools and instruments required for the maintenance of the equipment. These shall be supplied in protective boxes provided with padlocking facilities.

15.2 Spares

Tenderer shall provide spares as mentioned below: -

- I. Mandatory spares.
- ii. Consumable spares & spares for schedule maintenance.
- iii. Recommended spares.

15.2.1 Mandatory Spares

Tenderer shall quote for mandatory spare as per the list mentioned at **Annexure-1(c)** in financial offer **and un-priced list of mandatory spares shall be provided in the technical offer.** The cost of the mandatory spares shall be considered in bid evaluation. The price

quoted for the mandatory spares shall remain valid for entire DLP and 3 years beyond DLP. Employer reserve the right to place the order for mandatory spares as per the employer's requirement.

15.2.2 Spares & Consumables for Schedule Maintenance

The consumable spares shall include lubricants, oils, greases, sealants, filter medias, gaskets and any other items whose declared life is less than one year.

Tenderer shall provide all the consumable spares at employer's work for the smooth functioning of equipment and also any of the spares required for scheduled maintenance and unscheduled repair of equipment during Defects liability period. Tenderer shall give a list of spares to be maintained by him at employer's works for the scheduled maintenance and unscheduled repair of equipment during DLP in the technical packages. If spares provided fall short than the requirement or which are not included in the list but shall be required during DLP, it shall be made available by the supplier at his cost at the earliest. The contractor's payment shall not be entertained without the physical supply of DLP spares as per list. Tender shall provide the list of spares (including mandatory) parts to be supplied as per Appendix-FT-15

15.2.3 Recommended Spares

Tenderer shall quote for recommended spares for equipment/machine **in the financial offer and un-priced list of recommended spares shall be provided in the technical offer.** The price offered shall remain valid for a period of 3 years beyond DLP. UPMRC at its sole discretion reserve the right to purchase recommended spares or not. The price quoted for recommended spares will be part of evaluation. Tender shall provide the list of recommended spares as per Appendix-FT-16

16 PART CATALOGUE

Tenderer shall provide part catalogue containing details of all equipments & supplier. The first subsection shall be on alphanumeric part list, which shall include: -

- a. Part no.
- b. Description.
- c. Name of manufacturer with contact details.
- d. Quantity & unit.
- e. Part of next higher assembly.
- f. Cross reference to figure no.
- g. Category
- h. Life expected life maintenance between failure or mean distance between failure where available.

- i. General or specific purpose

- j. Purchase and technical specification for every items of Fully Automatic synchronized Pit Jack and Fully automatic Mobile Jacks.

17 KEY DATES

17.1 Schedule of Key Dates for Fully Automatic Synchronized Pit Jacks

Key date no.	Requirement	Key date
KD – 1	Obtain Engineer's consent on the builder's works drawings and interface technical information.	04 Week from the date of issue of LOA
KD – 2	Provide complete design and drawings of Fully Automatic Synchronized Pit Jacks.	04 Weeks after KD – 1
KD – 3	Supply of 01 no. Fully Automatic Synchronized Pit Jacks along with O&M Manuals & supply of DLP spares and mandatory spares at Kanpur Metro Priority Depot.	Week 1st of April 2021
KD – 3(1)	Supply of 01 no. Fully Automatic Synchronized Pit Jacks along with O&M Manuals & supply of DLP spares and mandatory spares at Agra Metro Priority Depot.	Week 1st of September 2021
KD – 4	Complete installation, testing and commissioning, integrated commissioning of 01 no. Fully Automatic Synchronized Pit Jacks along with complete operation and maintenance training at Kanpur Metro Priority Depot.	Week 1st of June 2021
KD – 4(1)	Complete installation, testing and commissioning, integrated commissioning of 01 no. Fully Automatic Synchronized Pit Jacks along with complete operation and maintenance training at Agra Metro Priority Depot.	Week 1st of November 2021

17.2 Schedule of Key Dates for Fully Automatic Synchronized Mobile Jack

Key date no.	Requirement	Key date
KD – 1	Obtain Engineer's consent on the builder's works drawings and interface technical information.	04 Week from the date of issue of LOA
KD – 2	Provide complete design and drawings of Fully Automatic Synchronized Mobile Jacks.	04 Weeks after KD – 1
KD – 3	Supply of 01 no. Fully Automatic Synchronized Mobile Jacks along with O&M Manuals & supply of DLP spares and mandatory spares at Kanpur Metro Priority Depot.	Week 1st of April 2021
KD – 3(1)	Supply of 01 no. Fully Automatic Synchronized Mobile Jacks along with O&M Manuals & supply of DLP spares and mandatory spares at Agra Metro Priority Depot.	Week 1st of September 2021
KD – 3(2)	Supply of remaining 02 no. Fully Automatic Synchronized Mobile Jacks, along with O&M Manuals & supply of DLP spares and mandatory spares (01 each) at remaining Depot Kanpur Metro & Agra Metro.	June 2023
KD – 4	Complete installation, testing and commissioning, integrated commissioning of 01 no. Fully Automatic Synchronized Pit Jacks along with complete operation and maintenance training at Kanpur Metro Priority Depot.	Week 1st of June 2021
KD – 4(1)	Complete installation, testing and commissioning, integrated commissioning of 01 no. Fully Automatic Synchronized Pit Jacks along with complete operation and maintenance training at Agra Metro Priority Depot.	Week 1st of November 2021

KD – 4(2)	Complete installation, testing and commissioning, integrated commissioning of 02 nos. Fully Automatic Synchronized Pit Jacks along with complete operation and maintenance training at remaining Depot of Agra Metro and Agra Metro.	August 2023
-----------	--	-------------

17.3 All Key Dates are subject to Liquidated Damage.

17.4 It should be noted that Key Dates (para 17.2) for KD-3(2) & KD-4(2) are tentative in nature and shall be confirmed one and half year before the Key Dates mentioned in KD-3(2) & KD-4(2).

18 SCHEDULE OF ACCESS DATES

18.1 Schedule of Access dates for Kanpur Metro (Priority Depot)

Site Areas	Access Date	Vacate Date	Reason For Vacation
Pit Jack & Mobile Jack Installation Area	April 2021	June 2021	Completion of the Work

18.2 Schedule of Access dates for Agra Metro (Priority Depot)

Site Areas	Access Date	Vacate Date	Reason For Vacation
Pit Jack & Mobile Jack Installation Area	September 2021	November 2021	Completion of the Work

Schedule for access dates for remaining 02 Depots (01 each) of Kanpur and Agra Metro shall be notified later.

18.3 The precise duration and location of access requirements shall be developed and be mutually acceptable to the Contractor and Designated Contractor as required by General Specification.

The areas of the Site to which the interface access dates apply are indicated within the Schedule of Access Dates, Specification and Drawings.

Not less than two weeks or an appropriate period before access is due and on the date for access to an area of interface, the Contractor, the relevant Designated Contractor, the Engineer and / or Relevant Authority shall inspect, assess, confirm and record the state of

readiness achieved to the permanent works, temporary works, access arrangements and provision of attendances.

The following inspection records of the findings shall be kept by the Designated Contractor and M&P contractor and shall be submitted to the Engineer on the day of inspections:-

- (a) Quality records confirming satisfactory completion of the work by the Designated Contractor.
- (b) A detailed list of outstanding work.
- (c) Sketch of access routes to the work area.
- (d) Other relevant records.

19 INTERFACE & COORDINATION

19.1 Interface with Designated Depot Civil and E&M Contractor

Scope of works	Package Of Fully Automatic Synchronized Pit Jacks And Mobile Jack Contractor	Civil Contractor
Installation of machinery and plant	Supply of detailed interface drawings including detailed foundations, drain point and other Civil works, electrical power requirements etc.	
Civil works	Supply of cast in items. The cast in items shall include any base plates fixing bolts & other fixture required for Installation of equipment.	Construction of the pits foundations, pit drainage & including piping and other civil work required for equipment/ machine. Positioning and casting of cast in items supplied by Fully automatic pit jacks supplier.
	Installation of Machinery & Plant and sump.	Temporary/ Permanent Road approach to the workshop.
Electrical works	All electrical work from connection point for electric power supply provided by designated	Provision of electric connections as per requirement by Fully automatic pit jacks

	contractor. Provide work completion certificate conforming to statutory requirements to certify that the installation of the electrical system as installed under the contract meets the requirement of the local authority.	supplier. Provision of concealed piping and conduiting requirement.
--	---	--

19.2 Interface with Designated Track Work Contractor

Scope Of Works	Package Of Fully Automatic Synchronized Pit Jacks And Mobile Jack Contractor	Track Work Contractor
Installation of track in unscheduled repair bay.	Demarcation and alignment of the track with rail installation	Supply of detailed interface drawings. Installation of tracks.

19.3 Interface with Rolling Stock Contractor

Scope Of Works	Package Of Fully Automatic Synchronized Pit Jacks And Mobile Jack Contractor	Rolling Stock Contractor
Design Of Fully Automatic Synchronised Pit Jacks And Mobile Jacks	Supply of fully automatic pit jacks and mobile jacks for lifting rolling stock.	Provide rolling stock parameters.

For the parameters of the existing rolling stock, the contractor shall interface with Engineer.

FORM OF TENDER

TENDER No. _____

FORM OF TENDER

Date:

To,
Dy. COS
U.P Metro Rail Corporation Limited
Administrative Building, Vipin Khand
Gomti Nagar, Lucknow-226010
India.

Sub: Design, Manufacturing, Supply, Installation, Testing & Commissioning of Fully Automatic Synchronized Pit Jacks & Fully Automatic Synchronized Mobile Jacks for Kanpur and Agra Metro Depots.

GENTLEMEN,

1. Having inspected, examined the Employer's Requirements, General Conditions of Contract, Special Conditions of Contract, Tender Drawings and Instruction to Tenderers including Pricing Document, and addenda thereto (if any) issued by the UPMRC for "**Design, Manufacturing, Supply, Installation, Testing & Commissioning of Fully Automatic Synchronized Pit Jacks & Fully Automatic Synchronized Mobile Jacks**" and having completed and prepared Appendices hereto, we hereby [jointly and severally]* offer to "**Design, Manufacturing, Supply, Installation, Testing & Commissioning of Fully Automatic Synchronized Pit Jacks & Fully Automatic Synchronized Mobile Jacks** and remedying any defects therein, in conformity with the above documents for the sum stated in the Pricing Document as completed by us and appended hereto.
2. We undertake [jointly and severally]* to complete and deliver the whole of the Works and achieve all Stages, within the times stated in 'Particular Specifications hereto.
3. We undertake [jointly and severally]*:
 - (a) to keep this Tender open for acceptance without unilaterally varying or amending its terms for the period stated in Notice of Invitation to Tender hereto [(the withdrawal of any member or any other change in the composition of the partnership/joint venture/consortium on whose behalf this Tender is submitted shall constitute a breach of this undertaking)]*; and
 - (b) if this Tender is accepted, to provide Guarantees, Undertakings & Warranties for the due performance of the Contract as stipulated in the General Conditions of Contract, Special Conditions of Contract and hereto; and

- (c) to hold in confidence all documents and information whether technical or commercial supplied to us at any time by or on behalf of the UPMRC in connection with this Tender or with the above-mentioned Works and, without your written authority or as otherwise required by law, not to publish or otherwise disclose the same.
4. We submit with this Tender a duly executed Tender Guarantee in respect of our obligations under this Tender.
 5. We understand that you are not bound to accept the lowest or any tender you may receive.
 6. We declare that the submission of this Tender confirms that no agent, middleman or any intermediary has been, or will be engaged to provide any services, or any other item or work related to the award and performance of this Contract. We further confirm and declare that no agency commission or any payment which may be construed as an agency commission has been, or will be paid and that the tender price does not include any such amount. We acknowledge the right of the Employer, if he finds to the contrary, to declare our Tender to be non-compliant and if the Contract has been awarded to declare the Contract null and void.
 7. This Tender shall be governed by and construed in all respects according to the laws for the time being in force in India. The courts at Lucknow will have exclusive jurisdiction in the matter.

We are, Gentlemen,
 Yours faithfully,
 Signature:
 Date:
 Name:
 Address:
 For and on behalf of

Witness1
 Signature:
 Date:
 Name:
 Address:

Witness2
 Signature:
 Date:
 Name:
 Address:

*** Note:**

If the Tenderer comprises a joint venture or consortium:

- (a) the provisions marked with an asterisk are to be retained subject to deletion of the brackets and inapplicable descriptions (i.e. joint venture or consortium)

- (b) the liability of each member under the Tender, and under any contract formed upon its acceptance, will be joint and several;
- (c) an authorized representative of each member must sign the Tender.
- (d) Signature on the Form of Tender shall be witnessed and dated.
- (e) Duly notarized# Power of Attorney issued in favour of Authorized representative of each member of Joint Venture/Consortium shall be attached.
- (f) Duly notarized#, irrevocable Power of Attorney issued by each member of Joint Venture/Consortium in favour of Leader of the Joint Venture/Consortium for participation in this tender shall be attached.
- (g) Power of Attorney of the authorized representative of each member of Joint Venture/Consortium who issues the Power of Attorney in favour of Leader of the Joint Venture/Consortium, with clear evidence that the person is authorized to issue such Power of Attorney shall be attached.

Regarding notarization requirements, please refer ITT Clause 7.2.

SCHEDULES & APPENDICES

TENDERER'S TECHNICAL PROPOSALS

The Tenderer shall submit documents for EACH of the numbered items in the following paragraphs to enable evaluation of the Technical Proposals. Each of the numbered items shall be addressed with either submission of documentation or confirmation of "not applicable". The Tenderer shall include any further information necessary to demonstrate the suitability of his proposal. Offer shall be submitted with information against each of the specified items.

Tenderer also submit all the informations as required, mentioned in particular specifications against each clause and also fill the information as per Schedule-V(1) and Schedule-V(2).

A. General	
A1	A list of all sub assemblies, accompanied with brief technical descriptions.
A2.	A list stating limitations, conflicting requirements and non-compliance of the offered equipment in respect to the specified equipment
A3	Deleted.
A4	Brief plans for delivery, Testing and Commissioning of Plant and Equipment.
A5	Method of interfacing and final integration of equipment with relevant Designated Contractors.
B Description of Offered Equipment	
B1	A detailed technical note including description of the equipment and all important assemblies, main dimensions of the equipment etc.
B2	Sufficient drawings to make a reasonable assessment of:- (i) The equipment as a whole (ii) The working system
B3	References and characteristics of main parts,
C Spare Parts, Special Tools, Test Equipment and Maintenance Facilities	
C1	Lists of spare parts for commissioning and defect liability period special tools and test equipment as part of the scope of supply under the Contract.
C2	Deleted
C3	A list of spare parts for 10-year operation shall be submitted as recommended spares, mentioning the names of suppliers and/or local agents, anticipated frequency of replacement, delivery periods for re-ordering, recommended quantities.
C4	For firms out of Lucknow or foreign firms, the details of the local maintenance office including: Company profile; Maintenance facilities in Lucknow; Number of years maintaining similar equipment/ machines/plant Repair arrangement for faulty components on emergency basis.

D	Contractor Organisation
D1	The Tenderer shall demonstrate his capabilities to manufacture offered equipment.
D2	<p>The details of the Tenderer including the following:</p> <p>Company profile;</p> <p>Date of formation of company;</p> <p>Relevant registered license;</p> <p>Number of years of manufacturing similar equipment;</p> <p>List of references where similar equipment has been supplied along with performance certificate.</p> <p>Sample submission documents, which are extracted from their previous similar projects, include design drawings and testing procedures.</p>
D3	<p>The details of the Principal Manufacturer including the following:</p> <p>Manufacturer's Company profile;</p> <p>Country of origin;</p> <p>Equipment catalogues of items offered;</p> <p>Number of years manufacturing similar equipment;</p> <p>Number of years supplying similar equipment;</p> <p>A list of references including project title, year of project, employer's name and references of the sub-contractors;</p>

STATEMENT OF DEVIATIONS

REFER Appendix FT-10(a)

Deviations, Conditions, Qualifications etc.

REFER Appendix-FT-10(b)

Deleted

Schedule –IV

Schedule-V(1)**Technical details required of Pit Jacks**

S. No.	Description	Specified	Indicative	Offered
1	Manufacturer			
	a) Country of Origin			
2	Bogie Hoist			
	a) Lifting Height [mm]	1500		
	b) Lifting Capacity [kg]			
	c) Lifting Speed [mm/min]	Not less than 400		
3	Body Stand			
	a) Lifting Height [mm]	Approx 2400		
	b) Lifting Capacity [kg]			
	c) Lifting Speed [mm/min]	Not less than 800		
4	Type of Auxiliary Track			
5	Track Capacity			
	a) With Bogie Raised [tonnes]			
	b) With Bogie Lowered [tonnes]			
6	Level Measurement Device			
	a) Type			
	b) Accuracy			
7	Bogie Hoist Level Tolerance			
	a) Within Individual Hoist [mm]	± 3		
	b) Within adjacent Hoists [mm]	± 5		
	c) Within Two Cars [mm]	± 10		
8	Body Stand Level Tolerance			
	a) Within a Pair [mm]	± 3		
	b) Within adjacent Pairs [mm]	± 5		
	c) Within Two Cars [mm]	± 10		
9	Safety Provision			
	a) Min. Wheel Stop Fully Engagement Level [mm]	50 max		
	b) Type of Position Sensing Device			
	c) Type of Worn Nut Sensing Device			
	d) Type of Overload Cut-out Device			
	e) Setting of Overload Cut-out Device			

10	Motor Details			
	a) Bogie Hoist Motor			
	a) Total no. of Bogie Hoist Motors			
	b) Make / Type			
	c) Rating [kW]			
	d) Starting Method			
	e) Overload Protection			
	f) Ingress Protection			
	g) Class of Insulation			
	b) Body Stand Motor			
	i). Total no. of Body Stand Motors			
	ii). Make / Type			
	iii). Rating [kW]			
	iv). Starting Method			
	v). Overload Protection			
vi). Ingress Protection				
vii). Class of Insulation				
11	Control Provision			
	a) Control Voltage [V]			
	b) Make of Control Pendant			
	c) Make of PLC			
	d) Make of Control Console			
	e) Dimension of Control Console [mm]			
12	Electrical Power Supply			
	a) Maximum Power Consumption [kVA]			
	b) Maximum Running Current [A]			
	c) Maximum Starting Current [A]			

Technical Schedules
Mobile Jacks

Item	Description	Specified	Indicative	Offered
1	Manufacturer			
	a) Country of Origin			
2	Weight of a Single Jack [kg]			
3	Dimension of the Base [mm]			
4	Floor Load Requirement			
5	Floor Level Requirement			
6	Anvil			
	a) Highest Position [mm]			
	b) Lowest Position [mm]			
	c) Horizontal Extension from face of jack frame [mm]			
	d) Lifting Speed [mm/min]	300		
	e) Contact Head Width [mm]	~ 200		
	f) Contact Head Length [mm]	~ 220		
7	Level Measurement Device			
	a) Type			
	b) Accuracy			
8	Level Tolerance between any two Jacks [mm]	± 5		
9	Travelling Gear			
	a) Type			
	b) Wheel Material			
	c) Floor Clearance [mm]			
10	Safety Provision			
	a) Type of Limit Switches			
	b) Type of Overload Cut-out Device			
	c) Setting of Overload Cut-out Device			
11	Hoist Motor Details			
	a) Total no. of Hoist Motors			
	b) Make / Type			
	c) Rating [kW]			
	d) Starting Method			
	e) Overload Protection			
	f) Ingress Protection			
g) Class of Insulation				
12	Bellow			
	a) Type			
	b) Material			
13	Control Provision			
	a) Control Voltage [V]			
	c) Make of PLC			
	d) Make of Control Console			
	e) Dimension of Control Console [mm]			
14	Electrical Power Supply			
	a) Maximum Power Consumption [kVA]			
	b) Maximum Running Current [A]			
	c) Maximum Starting Current [A]			

SOD to be shared at Design Stage

LETTER OF UNDERTAKING

TENDER NO-

We hereby undertake that incase of our being the preferred bidder we would set up maintenance facility in Kanpur or Agra either directly or through local associate company, who shall be having at least 3 years experience of manufacturing the machine for railways/metros application or of giving after-sales service for machine used in railways/metros. We commit to maintain at least 2 trained and skilled engineers for each plant, for catering to complete maintenance requirement of UPMRCL as per the specification.

We shall certify the competency of the trained manpower deputed for the purpose of maintenance during DLP period, as specified in the tender documents

Signed:

For and on behalf of
(Name of Tenderer/Joint Venture)

STRUCTURE OF THE TENDERER

The Tenderer shall supply a chart particularising the structure of the Tenderer (identifying all companies comprising the Tenderer in the event that the Tenderer is a joint venture or consortium) and the ownership of each of the companies comprising the Tenderer, identifying all respective intermediate and ultimate holding companies.

COMPOSITION OF THE TENDERER

1. A notarised copy of Memorandum of Understanding (MOU) relating to the composition of the Tenderer shall be submitted. For guidance, if the Tenderer is a joint venture or a consortium then the joint venture or consortium agreement is to be submitted by the Tenderer. Should the Tenderer be an entity established or to be established to tender for this Contract, details of the shareholders' agreement or proposed shareholders' agreement shall be supplied together with the percentage participation and percentage equity in the agreements.
2. The contractual arrangements and copies of agreements in relation thereto must, as a minimum, provide information on all members or participants involved, their respective participation in the Tenderer, the management structure, ownership and control of the members or participants comprising the Tenderer and if, appropriate, the name of the member or participant who would have overall lead management responsibility for the Works, the registered addresses of all parties and the names of their respective senior partners, chairmen or managing directors as appropriate. Such agreements should also reflect the joint and several liabilities of the members to the Employer in the event that the Contract is awarded to them and provide "deadlock" provisions in the event that decisions of the joint venture or consortium cannot be reached by unanimous agreement.
3. The Tenderer shall provide written confirmation that:
 - (a) The agreement or agreements submitted represent the entire agreement between the members or participants comprising the Tenderer as to the Tenderer's legal persona;
 - (b) There is or are no other agreements relating to the Tenderer's incorporation, powers or organization which may affect in any way his ability to carry out the Works; and

No changes will be made to any such agreements during the tender period or during the contract period (if contract awarded) without first obtaining the Employer's agreement to the proposed change or changes.

PROFORMA OF BANK GUARANTEE FOR TENDER GUARANTEE
(ON NON-JUDICIAL STAMP PAPER OF RS. 100, WITH STAMP OF BANK)

Ref.

Date

Bank Guarantee No.....

To,
U.P Metro Rail Corporation Ltd.,
Administrative Building, Vipin Khand,
Gomti Nagar, Lucknow -226010.

Dear Sir,

In accordance with your invitation to tender No. M/s
..... hereinafter called the
tenderer with the following Directors on their Board of Directors/ Partners of the firm :

- | | |
|----|-----|
| 1. | 2. |
| 3. | 4. |
| 5. | 6. |
| 7. | 8. |
| 9. | 10. |

Wish to participate in the said tender for the supply of

As a Bank Guarantee against Bid Guarantee for a sum of

..... (in words &

Figure s) valid for (195days) one hundred and eighty days from the date of opening of the Tender viz is required to be submitted by the tenderers as a condition for the participation, this bank hereby guarantees and undertakes during the above said period of (195days) one hundred and ninety five days to immediately pay, on demand by the General Manager (Finance), U.P Metro Rail Corporation Ltd., Administrative Building, Vipin Khand, Gomti Nagar, Lucknow -226010, **INDIA** in writing the amount of (in words & figures) to the said General Manager (Finance), U.P Metro Rail Corporation Ltd., Administrative Building, Vipin Khand, Gomti Nagar, Lucknow -226010, **INDIA**, and without any reservation and recourse, if :-

- (i) the tenderer after submitting his tender, modifies the rates or any of the terms and conditions thereof, except with the prior written consent of the purchaser; or

- (ii) the tenderer withdraws the said bid within 180 days after opening of bid; or
- (iii) the tenderer having not withdrawn the bid, fails to furnish the Contract Performance Guarantee within the period provided in the Conditions of Contract.

This guarantee shall be irrevocable and shall remain valid upto 4.00 P.M. on If further extension to this guarantee is required, the same shall be extended to such required periods on receiving instructions from M/son whose behalf this guarantee is issued.

Date

Signature

Place

Printed Name

Witness :

1.

(Designation)

(Bank's Common Seal)

**PROFORMA OF BANK GUARANTEE FOR BID GUARANTEE (SUBMITTED BY INDIAN AGENT ON BEHALF OF BIDDER)
(ON BANK'S LETTER HEAD WITH ADHESIVE STAMP)**

Ref

Date.....

Bank Guarantee No

To,
U.P Metro Rail Corporation Ltd.,
Administrative Building, Vipin Khand,
Gomti Nagar, Lucknow -226010.

Dear Sir,

In reference to letter no..... datedof "Bidder"
M/s.....(Name & Address of bidder)
authorizing M/s.....(Name & Address of Indian associate) as
Bidder's Indian Associate and in accordance with your invitation to tender
No.....for supply ofwe,
M/s.....(Name of Indian Associate) hereinafter
called the Indian Associate of the bidder with the following Directors on their
Board of Directors/partners of the firms:

- | | |
|----|-----|
| 1. | 2. |
| 3. | 4. |
| 5. | 6. |
| 7. | 8. |
| 9. | 10. |

Agree to submit this bank guarantee for and on behalf of the "Bidder" who wish to participate in the said tender for the supply of I/We, the Indian Associate of the bidder assume and own the responsibility for payment of the dues under this Bank Guarantee. As a Bank Guarantee against Bid Guarantee for the sum of..... (in words & figures) valid for (225days) two hundred and twenty five days from the date of opening of the tender viz is required to be submitted by the tenderer as a condition for the participation, this bank hereby guarantees and undertakes during the above said period ofdays to immediately pay, on demand by the U.P Metro Rail Corporation Ltd., Administrative Building, Vipin Khand, Gomti Nagar, Lucknow -226010, **INDIA**, India in writing the amount of (words & figures) to the said U.P Metro Rail Corporation Ltd., Lucknow, India, and without any reservation and recourse, if :-

- (i) the tenderer after submitting his tender, modifies the rates or any of the terms and conditions thereof, except with the previous written consent of the purchaser ; or
- (ii) the tenderer withdraws the said bid within 195 days after opening of bid ; or
- (iii) the tenderer having not withdrawn the bid, fails to furnish the Contract Performance Guarantee within the period provided in the General Conditions of the contract.

This guarantee shall be irrevocable and shall remain valid upto If further extension to this guarantee is required, the same shall be extended to such required periods on receiving instructions from M/Son whose behalf this guarantee is issued.

Date

Signature

Place

Printed Name

Witness:

1.

(Designation)

.....
(Bank's Common Seal)

Bank Address:

Telephone No.:

Fax No.:

E-mail:

**PROFORMA OF BANK GUARANTEE
(FOR CONTRACT PERFORMANCE GUARANTEE BOND)**

Ref

Date

Bank Guarantee No.

To,
U.P Metro Rail Corporation Ltd.,
Administrative Building, Vipin Khand,
Gomti Nagar, Lucknow-226010.

1. Against contract vide Advance Acceptance of the Tender No..... dated covering supply of (hereinafter called the said contract') entered into between the, U.P Metro Rail Corporation Ltd., Lucknow (hereinafter called the Purchaser) and (hereinafter called the "Contractor"), this is to certify that at the request of the Contractor we, Bank, Ltd., are holding in trust in favour of the Purchaser, the amount of (write the sum here in words) to indemnify and keep indemnified the Purchaser against any loss or damage that may be caused or likely to be caused to or suffered by the Purchaser (**India**) by reason of any breach by the Contractor of any of the terms and conditions of the said contract and/or the performance thereof. We agree that the decision of the Purchaser, whether any breach of any of the terms and conditions of the said contract and/ or in the performance thereof has been committed by the Contractor and the amount of loss or damage that has been caused or suffered by the Purchaser shall be final and binding on us and the amount of the said loss or damage shall be paid by us forth with on demand and without demur to the Purchaser.

2. We, Bank Ltd., further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for satisfactory performance and fulfilment in all respects of the said contract by the Contractor i.e. till (viz the date upto 12 months after the date of last shipment/ delivery of the goods ordered) hereinafter called the 'said date' and that if any claim accrues or arises against us,Bank Ltd., by virtue of this guarantee before the said date, the same shall be enforceable against us Bank Ltd., notwithstanding the fact that the same is enforced within six months after the said date. Payment under this letter of guarantee shall be made promptly upon our receipt of notice to that effect from the Purchaser.

3. It is fully understood that this guarantee is effective from the date of the said contract and that we,Bank Ltd., undertake not to revoke this guarantee during its currency without the consent in writing of the Purchaser.

4. We, Bank Ltd., further agree that the Purchaser shall have the fullest liberty, without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said contract or to extend time of performance by the

Contractor from time to time or to postpone for any time or from time to time any of the powers exercisable by the Purchaser against the said Contractor and to forbear or enforce any of the terms and conditions relating to the said contract and We.....Bank Ltd., shall not be released from our liability under this guarantee by reason of any such variation or extension being granted to the said Contractor or for any forbearance and or omission on the part of Purchaser or any indulgence by the Purchaser to the said Contractor or by any other matter or thing what-so-ever, which, under the law relating to sureties, would but for this provision have the effect of so releasing us from our liability under this guarantee.

5. We,Bank Ltd., further agree that the guarantee herein contained shall not be affected by any change in the constitution of the said Contractor.

Date

Signature.....

Place.....

Printed Name

Witness:.....

.....

(Designation)

.....

(Bank's Common Seal)

**FORM OF DECLARATION FOR NON-ENGAGEMENT OF ANY AGENT,
MIDDLEMAN OR INTERMEDIARY**

We hereby jointly and severally declare that the submission of this Tender confirms that no agent, middleman or any intermediary has been, or will be engaged to provide any services, or any other item or work related to the award and performance of this Contract. We further confirm and declare that no agency commission or any payment which may be construed as an agency commission has been, or will be paid and that the tender price does not include any such amount. We acknowledge the right of the Employer, if he finds to the contrary, to declare our Tender to be non-compliant and if the Contract has been awarded to declare the Contract NULL and VOID.

SIGNATURE OF THE TENDERER

Appendix-FT-4

(Please See Clause-9.7 of 'Instruction to Tenderers')

PROFORMA FOR AUTHORITY FROM MANUFACTURERS

No.

Date

To,
Chief Electrical Engineer (Rolling Stock)
U.P Metro Rail Corporation Ltd.
Administrative Building, Vipin Khand,
Gomti Nagar, Lucknow-226010
India.

Dear Sir,

Sub :-

We, an established and reputable manufacturers of having factories at and offices at do hereby authorise M/s (Name and address of Agents) to represent us, to bid, negotiate and conclude the contract on our behalf with you against Tender No.

No company/ firm or individual other than M/sare authorised to represent us in regard to this business against this specific tender.

Yours faithfully,

(NAME) for & on behalf of M/s

(Name of Manufacturers)

Note: This letter of authority should be on the Letter-Head of the manufacturing concern and should be signed by a person competent and having the power of attorney to bind the manufacturer.

FORM OF CERTIFICATE CONFIRMING RECEIPT OF ALL TENDER ADDENDA

This is to certify that we, M/S [* Name of the Company] have received all Tender Addenda to Tender No-, as listed below:

1. Addendum No.
2.
3.
4.

.
. .
. .

SIGNATURE OF TENDERER

* In case of a joint venture or consortium, to be submitted by each constituent member.

PROFORMA FOR EQUIPMENT AND QUALITY CONTROL
EMPLOYED BY THE MANUFACTURER

Tender No. Date of Opening

1.0 NAME OF THE FIRM

2.0 LOCATION

2.1 Postal Address.

- i. Head Office
- ii. Works/ Factory

2.2 Telephone No. (with ISD/STD code).

- i. Head Office
- ii. Works/ Factory

2.3 Telegraphic address & Telex/ Fax

- i. Head Office
- ii. Works/ Factory

3.0 DESCRIPTION OF FACTORY / WORKS

- i. Total Land area (in Sq. meters)
- ii. Total covered area (in Sq. meters)
- iii. Different sub-units (with details of covered/ uncovered area, etc.)
- iv. Special features, if any:

4.0 NO. OF PERSONNEL EMPLOYED (CATEGORY-WISE)

- i. Managerial *
- ii. Supervisory*
- iii. Skilled artisans
- iv. Unskilled

* The qualification may also be indicated.

5.0 GENERAL INFORMATION-TECHNICAL

5.1 Description of different departments in the Factory/ Works and function of each department, along with an organisational chart

5.2 Detailed description of machinery and Plant in each department (make and year of procurement/ commissioning to be provided. For special type of equipment copy of Pamphlets/write ups to be furnished so as to supplement the description.

5.3 Details of raw-materials held in stock (state whether imported/ indigenous).

5.4 Production capacity of the quoted items

- i. Per month
 - ii. Per year
- 5.5 List of other items, which the firm regularly manufactures and corresponding production capacity.
- 6.0 DESIGN CAPABILITY
- 6.1 Details of Qualified Personnel (indicating qualification and experience)
- 6.2 Other facilities available.
- 7.0 MANUFACTURING PROCESS
- 7.1 Level of In-house Facilities
- 7.2 Important items of Work done by Outside Vendors
- 7.3 Brief details of manufacturing process relevant to the items quoted.
- 8.0 QUALITY ASSURANCE
- 8.1 Is the firm certified for ISO 9000 or equivalent?
If so, please give certification details.
(If firm is certified for ISO 9000 or equivalent, no further information on para 8 is required to be filled in).
- 8.1.1 If no, does the firm contemplate to obtain ISO 9000 certification? What steps have been taken by the firm in that direction.
- 8.2 Does the factory have an established Quality Assurance programme? If yes, please enclose a copy of the write-up if not, what plans are there, if any, for setting it up?
- 8.3 Details of Quality Assurance Organisation.
Names of key personnel, their qualifications, designations and position in overall management structure (explain with organisation chart, if necessary).
- 8.4 Quality control testing Facilities and Laboratory equipment available.
- 8.5 Availability of gauges (Please give details)
- 8.6 Calibration of laboratory / test equipment/ gauges, indicated in para 8.4 and 8.5 above.
- i. How is the calibration done?
 - ii. Frequency of calibration.
 - iii. System to ensure that calibration of above equipments does not fall overdue.
 - iv. Action taken if such calibration has Fallen overdue.

- 8.7 Source of procurement of raw-materials, important bought-outs, steps taken to ensure their quality.
- 8.8 Details of inspection/ checks done on material during various stages of the above manufacturing process.
- 8.9 Have acceptable values for the parameters Inspected during above stage checks have been laid down? If yes, the action taken if value of the parameters inspected does not meet the desired laid-down value.
- 8.10 System for documentation of the results of the above stage checks.
- 9.0 AFTER-SALES-SERVICE
- 9.1 Facilities Available at works and Branch Offices.
- 9.2 Assessment of Quality of service including Response Times.

Signature
Name
Designation

No	Financial Information in Rupee equivalent	Last Financial Year		
		i.e from _ to _		
		In respective currencies	Exchange rate	Rupee equivalent
1.	Total Assets			
2.	Total Liabilities (excluding Shareholder's funds including reserves and surplus)			
3.	Shareholder's Funds or Net worth (Net Worth=Total assets at S.No.1 – Total Liabilities at S.No.2 above)			

This information should be extracted from the Annual Financial Statements and Banking Reference. (The information should be duly certified and signed by the qualified Chartered Accountant)

NOTE: The exchange rate, wherever mentioned, in this questionnaire shall be taken as the 'B.C Selling Rate of Exchange of the currencies at the close of business of the State Bank of India', applicable on the respective financial year ending date.

PAST PERFORMANCE OF BIDDER

Tender No.....

Date of opening...

1. Ref Para a. of B of ELIGIBILITY QUALIFICATION CRITERIA

Details of orders for design manufacture and supply and commissioning of Fully Automatic Synchronized Pit Jacks & Fully Automatic Synchronized Mobile Jacks executed during the last five years

Sl No.	Full address of purchaser with contact name and telephone Nos	Order No_ and Date	Machine particulars	Qty	Name and address of Manufacturing unit (where plant was manufactured)	Date of supply	Date of commissioning	Commissioning certificate to be attached in proof in commissioning of machine. Performance certificate to be attached in proof of satisfactory performance of machine for 2 years after commissioning of the machine.
								Note: Tenderer shall ensure that required numbers of Commissioning certificates & Performance certificates are provided in the offer as per eligibility qualification criteria.

2. **Ref Para a/ii of B of ELIGIBILITY QUALIFICATION CRITERIA:** Performance certificate from end users and not from the mediator/intermediate agency with specified details.

3. **Ref Para b. of B of ELIGIBILITY QUALIFICATION CRITERIA** The manufacturing unit **where the Automatic Synchronized Pit Jacks & Fully Automatic Synchronized Mobile Jacks** shall be manufactured and credentials of manufacturing for number of such plants manufactured and their performance report shall be provided.

Note A: In case performance /commissioning certificate is not in English language then English translated copy authenticated by the government authorized translator duly notarized shall be provided.

B. All certificates shall be from the end user and not from the mediator/ intermediate agency. The certificate given by intermediate agency shall not be considered.

C. The Certificate issued from Government agency should be signed by not below the Gazetted Officer.

Signature.....

Name.....

Designation.....

FORMAT FOR FURNISHING CLAUSE-WISE COMMENTS

Ref. Clause/ sub clause. No.	Complied/not complied

PROFORMA FOR STATEMENT OF TECHNICAL DEVIATIONS

Title	Clause Number	Details of Deviations	Remarks

1. We hereby confirm that the pricing for unconditional withdrawal of the above deviations has been given in the Financial **Tender**.
2. We hereby confirm that all implicit and explicit deviations, comments and remarks, mentioned elsewhere in our **Tender**, shall be treated as NULL and VOID and stand withdrawn.
3. We hereby confirm that the deviations noted in the Annexure – 10(a) & 10(b), our **Tender** is fully and fully compliant.

Date (Signature)

Place (Printed Name)

(Designation).....

(Common Seal).....

NOTE: Where there is no deviation, the statement should be returned duly signed with an endorsement indicating “No Deviations”.

PROFORMA FOR STATEMENT OF TECHNICAL DEVIATIONS WITH COST OF UNCONDITIONAL WITHDRAWAL OF DEVIATIONS

Title	Clause Number	Details of Deviations	Price for deviation withdrawal

1. We hereby confirm that the pricing for unconditional withdrawal of the above deviations has been given in the Financial **Tender**.
2. We hereby confirm that all implicit and explicit deviations, comments and remarks, mentioned elsewhere in our **Tender**, shall be treated as NULL and VOID and stand withdrawn.
3. We hereby confirm that the deviations noted the Annexure 10(a) & 10(b), our **Tender** is fully and fully compliant.

In case price for unqualified withdrawal of any remark, comment, condition, qualification or deviation etc. indicated in Annexure -10(a) and 10(b) is not quoted in financial tender, it shall be considered that the remark, comment, condition, qualification or deviation is unconditionally withdrawn without any financial implication. However, Employer at its sole discretion and option may assess the financial implication of the said remark, comment, condition, qualification or deviation etc. based on best engineering principles and concepts, which shall be binding on the tenderer, and the same may be considered by Employer for financial evaluation.

Date (Signature)

Place (Printed Name)

(Designation).....

(Common Seal).....

NOTE: Where there is no deviation, the statement should be returned duly signed with an endorsement indicating “No Deviations”.

FORM OF TENDER– APPENDIX FT-11 (a)
STATEMENT FOR COVENANT OF INTEGRITY
to the Promoter from a Tenderer, Contractor, Supplier or Consultant to be
attached to its Tender
(or to the Contract in the case of a negotiated procedure)

"We declare and covenant that neither we nor anyone, including any of our directors, employees, agents, joint venture partners or sub-contractors, where these exist, acting on our behalf with due authority or with our knowledge or consent, or facilitated by us, has engaged, or will engage, in any Prohibited Conduct (as defined below) in connection with the tendering process or in the execution or supply of any works, goods or services for [*specify the contract or tender invitation*] (the "**Contract**") and covenant to so inform you if any instance of any such Prohibited Conduct shall come to the attention of any person in our organisation having responsibility for ensuring compliance with this Covenant.

We shall, for the duration of the tender process and, if we are successful in our tender, for the duration of the Contract, appoint and maintain in office an officer, who shall be a person reasonably satisfactory to you and to whom you shall have full and immediate access, having the duty, and the necessary powers, to ensure compliance with this Covenant.

If (i) we have been, or any such director, employee, agent or joint venture partner, where this exists, acting as aforesaid has been, convicted in any court of any offence involving a Prohibited Conduct in connection with any tendering process or provision of works, goods or services during the five years immediately preceding the date of this Covenant, or (ii) any such director, employee, agent or a representative of a joint venture partner, where this exists, has been dismissed or has resigned from any employment on the grounds of being implicated in any Prohibited Conduct, or (iii) we have been, or any of our directors, employees, agents or joint venture partners, where these exist, acting as aforesaid has been excluded by any major Multi-lateral/Bi-lateral Development Bank/ Agency including World Bank Group, African Development Bank, Asian Development Bank, European Bank for Reconstruction and Development, European Investment Bank or Inter-american Development Bank etc from participation in a tendering procedure on the grounds of Prohibited Conduct, we give details of that conviction, dismissal or resignation, or exclusion below, together with details of the measures that we have taken, or shall take, to ensure that neither this company nor any of our directors, employees or agents commits any Prohibited Conduct in connection with the Contract [*give details if necessary*].

In the event that we are awarded the Contract, we grant the Project Owner, the funding agency and auditors appointed by either of them, as well as any authority or institution or body having competence under applicable law, the right of inspection of our records and those of all our sub-contractors under the Contract. We accept to preserve these records generally in accordance

with applicable law but in any case for at least six years from the date of substantial performance of the Contract.”

For the purpose of this Covenant, Prohibited Conduct includes,

- **Corrupt Practice** is the offering, giving, receiving or soliciting, directly or indirectly, anything of value to influence improperly the actions of another party.
- **Fraudulent Practice** is any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation.
- **Coercive Practice** is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of any party to influence improperly the actions of a party.
- **Collusive Practice** is an arrangement between two or more parties designed to achieve an improper purpose, including influencing improperly the actions of another party
- **Obstructive Practice** is
 - (a) deliberately destroying, falsifying, altering or concealing of evidence material to the investigation; and/or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation, or
 - (b) acts intended to materially impede the exercise of the funding agency's contractual rights of audit or access to information or the rights that any banking, regulatory or examining authority or other equivalent body may have in accordance with any law, regulation or treaty or pursuant to any agreement into which the funding agency has entered in order to implement such law, regulation or treaty;
- **Money Laundering**
- **Terrorist Financing**
- **Project Owner** means the person designated as such in the tender documents or the Contract.

SIGNATURE OF TENDERER

FORM OF TENDER – APPENDIX 11 (b)
STATEMENT FOR CODE OF INTEGRITY AS PER
Rule 175 (1) Code of Integrity, General Finance Rule

Bidder shall act in contravention of the codes which includes;

(i) prohibition of

(a) making offer, solicitation or acceptance of bribe, reward or gift or any material benefit, either directly or indirectly, in exchange for an unfair advantage in the procurement process or to procurement process.

(b) any omission, or misrepresentation that may mislead or attempt to mislead so that financial or other benefit may be obtained or an obligation avoided.

(c) any collusion, bid rigging or anticompetitive behaviour that may impair the transparency, fairness and the progress of the procurement process.

(d) improper use of information provided by the procuring entity to the bidder with an intent to gain unfair advantage in the procurement process or for personal gain.

(e) any financial or business transactions between the bidder and any official of the procuring entity related to tender or execution process of contract; which can affect the decision of the procuring entity directly or indirectly.

(f) any coercion or any threat to impair or harm, directly or indirectly, any party or its property to influence the procurement process.

(g) obstruction of any investigation or auditing of a procurement process.

(h) making false declaration or providing false information for participation in the tender process or to secure the contract;

(ii) disclosure of conflict of interest.

(iii) Disclosure by the bidder of any previous transgressions made in respect of the provisions of sub-clause (i) with any entity in any country during the last three years or of being debarred by any other procuring entity.

SIGNATURE OF TENDERER

Deleted

**SELF CERTIFICATION / CERTIFICATE FROM STATUTORY
AUDITOR OR COST AUDITOR FOR MINIMUM LOCAL CONTENT IN
OFFERED ITEM**

Refer Clause No. 16.10.5 of ITT

Deleted

Detail of Spares to be Supplied

S.N	Description	Qty

Date:

Place:

Signature:

Printed Name:

Designation:

Common Seal:

Recommended Spare Parts for 03 Years

S.N	Description	Qty

Date:

Place:

Signature:

Printed Name:

Designation:

Common Seal:

COMPLETE ADDRESS OF PROPOSED MANUFACTURING UNIT/PLANT FROM WHERE EQUIPMENT/MACHINE IS PROPOSED TO BE SUPPLIED AGAINST THIS TENDER.

The complete address of proposed manufacturing unit/plant is as given below:

S. No.	Description of Equipment/ Machine	Name & Address of Proposed Manufacturing Unit along with Tel. No./E-mail	Remarks

Signature & Seal of the Manufacturer/ Tenderer

UNDERTAKING FOR DOWNLOADING THE TENDER DOCUMENTS FROM WEBSITES

I/We have downloaded the Tender documents from the Internet site www.upmetrorail.com and I/we have not tampered / modified the Tender documents in any manner. In case, if the same is found to be tampered / modified, I/we understand that my/our Tender will be summarily rejected and the money deposited will be forfeited and I am/we are liable to be banned from doing business with UPMRC and/or prosecuted.

Signature & Seal of the Manufacturer/ Tenderer

IMPORTANT NOTICE

- (A) The following check list is intended to help the Tenderers in submitting offer which are complete. An incomplete offer is liable to be rejected. Tenderers are advised to go through the list carefully and take necessary action.
- (B) Tenderers are also required to submit copy of the checklist, duly marked, along-with their offer.

CHECK LIST

1.	Have you submitted a complete offer? It should consist of followings :	
(a)	Quotation in prescribed Performa as per Annexure 1(a) & 1(b).	Submitted / Not Submitted
(b)	Letter of Authority if required Appendix-FT-4	Submitted / Not Submitted
(c)	Tender Guarantee if required Appendix-FT-2(i).	Submitted / Not Submitted
(d)	Statement of Deviations from Tender Conditions Appendix-FT-10(a) and 10(b)	Submitted / Not Submitted
2	Have you submitted other supporting documents to establish your eligibility? It may consist of the followings :	
(a)	<ul style="list-style-type: none"> • Documents relates to Initial filter criteria, required numbers of Certificates. • All appendices from FT-1 to FT-19. 	Submitted / Not Submitted
(b)	Submission of offer as per ITT clause no-9.	Submitted / Not Submitted
(c)	Net worth statement Appendix-FT-7, Income Tax Clearance Certificate	Submitted / Not Submitted
(d)	Clause wise comments on Particular specification, ITT, GCC, SCC, as per Clause 3.2 "Instructions to Tenderers"	Submitted / Not Submitted
(e)	Any other document asked by the purchaser if submitted, specify the Documents OR Any other document which the Tenderer Considers relevant.	Submitted / Not Submitted
(f)	Tenderer has to submit structure of tender as per Appendix –FT-1	Submitted / Not Submitted
(g)	Tenderer has to submit the complete address of manufacturing unit from where the machine/plant/equipment will be manufactured as per Appendix-FT-17.	Submitted / Not Submitted
3.	If you are a foreign firm have you submitted the detailed particulars of your agent and agency agreement- clause 4.2 of "Instructions to Tenderers"	Submitted / Not Submitted

**Signature & Seal of the
Manufacturer/ Tenderer**

**BILL OF QUANTITY
(BOQ)**

BILL OF QUANTITY

S.N .	Item Description	Qty
A	Supply Part	
1.	Supply of Fully Automatic Synchronized Pit Jacks with mandatory spares [annexure 1(c)] as per specification given in Schedule of Requirement.	02 Set
2.	Supply of Fully Automatic Synchronized Mobile Jacks with mandatory spares [annexure 1(c)] as per specification given in Schedule of Requirement.	04 Set
3.	Recommended spares for 3 years maintenance of the Pit Jacks after DLP as mentioned in Schedule of Requirement.	02 Set
4.	Recommended spares for 3 years maintenance of the Mobile Jacks after DLP as mentioned in Schedule of Requirement.	04 Set

S.N .	Item Description	Qty
B	Service Part	
5.	Erection, Testing & commissioning, integrated commissioning of Synchronized Pit Jacks as per Schedule of Requirement.	02 Set
6.	Erection, Testing & commissioning, integrated commissioning of Synchronized Mobile Jacks as per Schedule of Requirement.	04 Set
7.	O&M documentation and training to employer's staff and other obligations as mentioned in Schedule of Requirement for Pit Jacks.	02 Set
8.	O&M documentation and training to employer's staff and other obligations as mentioned in Schedule of Requirement for Mobile Jacks.	04 Set
9.	Maintenance of Synchronized Pit Jacks equipments for 24 Months of DLP.	02 Set
10.	Maintenance of Synchronized Mobile Jacks equipments for 24 Months of DLP.	04 Set

TENDERER'S FINANCIAL PROPOSAL

TENDERER's FINANCIAL OFFER

Annexure-1(a)

Statement of Prices for Supply from India

SN	Item Description	Qty	Unit Price (on FOR destination)	GST	Freight Charges if any	Total price at FOR basis at site	
						Total Price (in figure)	Total Price (in words)
1.	Supply of Fully Automatic Synchronized Pit Jacks with mandatory spares [annexure 1(c)] as per specification given in Schedule of Requirement.	02 Set					
2.	Supply of Fully Automatic Synchronized Mobile Jacks with mandatory spares [annexure 1(c)] as per specification given in Schedule of Requirement.	04 Set					
3.	Erection, Testing & commissioning, integrated commissioning of Synchronized Pit Jacks as per Schedule of Requirement.	02 Set			Not Applicable		
4.	Erection, Testing & commissioning, integrated commissioning of Synchronized Mobile Jacks as per Schedule of Requirement.	04 Set			Not Applicable		
5.	O&M documentation and training to employer's staff and other obligations as mentioned in Schedule of Requirement for Pit Jacks.	02 Set			Not Applicable		
6	O&M documentation and training to employer's staff and other obligations as mentioned in Schedule of Requirement for Mobile Jacks.	04 Set			Not Applicable		
7.	Maintenance of Synchronized Pit Jacks equipments for 24 Months of DLP.	02 Set			Not Applicable		
8.	Maintenance of Synchronized Mobile Jacks equipments for 24 Months of DLP.	04 Set			Not Applicable		

9	Recommended spares for 3 years maintenance of the Pit Jacks after DLP as mentioned in Schedule of Requirement	02 Set.					
10	Recommended spares for 3 years maintenance of the Mobile Jacks after DLP as mentioned in Schedule of Requirement.	04 Set					
11	Total Price (1+2+3+4+5+6+7+8+9+10) In Figures						
12	Total Price (1+2+3+4+5+6+7+8+9+10) In Words						

Note:

1. Above items are required strictly as per specifications given in Schedule of requirement.
2. The above prices shall be FOR destination basis at Kanpur and Agra Metro Depots site.
3. Quoted total sum price against S. No. '7&8' above shall be more than or equal to 3% of the total quoted price against S. No. '1' to 8'. In case quoted total sum price for item no. '7&8' is found less than 3% of the total price against item no. '1' to 8' then for **Financial Evaluation** and contract execution, the price for item no. '1' to '6' shall be reduced on pro-rata basis and total sum price against item '7&8' will be so adjusted so as to ensure that the adjusted sum price of item no. '7&8' taken together is equal to 3% of the total revised (adjusted/reduced) price against the items no. 1 to 8.
4. On supply items applicable taxes and duties etc. may be clearly indicated. These are payable only when tenderer indicate these in their offer clearly.
5. Payment related to local services if any such as erection, testing & commissioning, integrated commissioning, O&M documentation, training to employer's staff and maintenance during DLP shall attract Tax Deduction at Source under the income tax regulations as applicable.
6. For indigenous supply, tenderer shall quote their rates on final destination basis. Evaluation of offers will be mad on FOR destination inclusive of all taxes and duties.

Date:

Place:

Signature:

Printed Name:

Designation:

Common Seal:

TENDERER's FINANCIAL OFFER

Annexure-1(b)

Statement of Prices for Supply from Abroad

SN	Item Description	Qty	Currency	Unit Price (FOB port of dispatch)	Sea freight, Insurance & inland haulage charges from port of dispatch to ICD Kanpur (Uttar Pradesh , India) and from ICD Kanpur (Uttar Pradesh) to the Site	GST	Custom Duty	Total price at FOR basis at site	
								Total Price (in figure)	Total Price (in words)
1.	Supply of Fully Automatic Synchronized Pit Jacks with mandatory spares [annexure 1(c)] as per specification given in Schedule of Requirement.	02 Set				Not Applicable			
.2.	Supply of Fully Automatic Synchronized Mobile Jacks with mandatory spares [annexure 1(c)] as per specification given in Schedule of Requirement.	04 Set				Not Applicable			
3.	Erection, Testing & commissioning, integrated commissioning of Synchronized Pit Jacks as per Schedule of Requirement.	02 Set			Not Applicable		Not Applicable		
4.	Erection, Testing & commissioning, integrated commissioning of Synchronized Mobile Jacks as per Schedule of Requirement.	04 Set			Not Applicable		Not Applicable		
5.	O&M documentation and training to employer's staff and	02 Set			Not Applicable		Not Applicable		

	other obligations as mentioned in Schedule of Requirement for Pit Jacks.								
6	O&M documentation and training to employer's staff and other obligations as mentioned in Schedule of Requirement for Mobile Jacks	04 Set			Not Applicable		Not Applicable		
7.	Maintenance of Synchronized Pit Jacks equipments for 24 Months of DLP.	02 Set			Not Applicable		Not Applicable		
8.	Maintenance of Synchronized Mobile Jacks equipments for 24 Months of DLP.	04 Set			Not Applicable		Not Applicable		
9	Recommended spares for 3 years maintenance of the Pit Jacks after DLP as mentioned in Schedule of Requirement.	02 Set.				Not Applicable			
10	Recommended spares for 3 years maintenance of the Mobile Jacks after DLP as mentioned in Schedule of Requirement.	04 Set				Not Applicable			
11	Total Price (1+2+3+4+5+6+7+8+9+10) In Figures								
12	Total Price (1+2+3+4+5+6+7+8+9+10) In Words								

Note:

1. Above items are required strictly as per specifications given in Schedule of requirement.
2. For overseas manufacturer, the price shall be on 'FOR destination at Kanpur and Agra Metro Depot site. Offer without freight charges will be loaded with highest rate of freight charges received against the tender.

3. Quoted total sum price against S. No. '7&8' above shall be more than or equal to 3% of the total quoted price against S. No. '1' to 8'. In case quoted total sum price for item no. '7&8' is found less than 3% of the total price against item no. '1' to 8' then for **Financial Evaluation** and contract execution, the price for item no. '1' to '6' shall be reduced on pro-rata basis and total sum price against item '7&8' will be so adjusted so as to ensure that the adjusted sum price of item no. '7&8' taken together is equal to 3% of the total revised (adjusted/reduced) price against the items no. 1 to 8.
4. Custom Duty to be quoted above Includes basic custom duty, applicable IGST, cess and other applicable taxes and duties (if any). Custom Duty will be reimbursed by UPMRCL on proof of documents.
5. In case details of Freight charges, Insurance etc are not given, evaluation of offers will be done on CIF + 1% landing charges + total concessional custom duty (Including basic custom duty, applicable IGST, cess & other applicable taxes and duties, if any) as applicable under project import on (CIF + 1%) basis. Insurance charges will be loaded @0.25% of C&F value. Offer without freight charges will be loaded with highest rate of freight charges received against the tender.
6. Payment related to local services if any such as erection, testing & commissioning, integrated commissioning, O&M documentation, training to employer's staff and maintenance during DLP shall attract Tax Deduction at Source under the income tax regulations as applicable.

Date:
Place:

Signature:
Printed Name:
Designation:
Common Seal:

List of mandatory Spares to be provided for each *Fully Automatic Pit Jack And **Mobile Jacks

SI. No.	Item description (2)	Part No./Ref. No. (3)	Unit (4)	Qty. (5)	Currency (6)	Unit price/Currency (7)	Total price (8)
1	Hoist motor set			*2+**2			
2	Body stand motor set			*2+**2			
3	Drive gear box set			*2+**2			
4	Set of motor protection relay & contactors			*2+**2			
5	Set of limit & proximity switches			*2+**2			
6	PLC module of all types for one control panel.			*2+**2			
7	Set of carrying, supporting & safety nuts			*2+**2			
8	Set of thrust bearings			*2+**2			

Note: "Quantity" is defined as set of one number complete with its assemblies and sub-assemblies of the same specifications and being used in one equipment.

Date:

Place:

Signature:

Printed Name:

Designation:

Common Seal

SITE DRAWINGS
(To be shared at Design Stage)