

ANDREW YULE & COMPANY LIMITED
(A Government of India Enterprise)
Engineering Division, Kalyani Works
Plot -16 A & B, Block-D,
Kalyani, Nadia, PIN-741235, WB

E-Tender no. AYCL/ENGG DIVN/166/19-20/ET/269

Brief Description of Tender

TENDER DOCUMENTS FOR NON SCHEDULE ITEMS FOR ELECTRO-MECHANICAL WORK I.E. MECHANICAL EQUIPMENT SUPPLY & EXECUTION WORK, TRIAL RUN, COMMISSIONING, 1 YEAR OPERATION MAINTENANCE INCLUDING SUPPLY OF VARIOUS CHEMICALS, PERIODIC WATER TESTING ETC. FOR THE CONSTRUCTION OF 2 MGD CAPACITY WATER TREATMENT PLANT FOR SUPPLYING WATER TO KHARAGPUR SETTLEMENT UNDER THE JURISDICTION OF ADEN/WATER SUPPLY/KHARAGPUR, SOUTH EASTERN RAILWAY.

ANDREW YULE & CO. LTD. invites e-Tender under two part system from bona fide and reputed Company/OEM for above mentioned Job. The Scope details are available in **Annexure-V** of this tender document.

Tender document may be downloaded from MSTC website:

www.mstcecommerce.com/eprochome/aycl.

Corrigenda or clarifications, if any, shall be hosted on the above mentioned websites only.

Schedule of Tender

1.	TENDER NO.	AYCL/ENGG/MSD/AD/WPC/EXE/388 dated 14/02/2020
2.	MODE OF TENDER	<p><u>e-Procurement System</u></p> <p>Online submission of Techno-Commercial Bid and Price Bid through www.mstcecommerce.com/eprochome/aycl The intending bidders are required to submit their offer electronically through this e-tendering portal. No physical tender is acceptable by AYCL/MSTC</p>
3.	E-Tender No. / Event No.	AYCL/ENGG DIVN/166/19-20/ET/269
4.	Date of publication of e-Tender through publication MSTC/AYCL websites and Central Public Procurement Portal	15th February 2020
5.	Date of availability of NIT to the Vendors for downloading	15th February, 2020 at 6.00 pm
6.	Earnest Money Deposit	Rs. 50,000/- (Rupees Fifty Thousand only) to be paid by D.D. favoring Andrew Yule & Co Ltd , payable at Kolkata . Also refer Annexure –IV for EMD waiver clause.
7	Tender Fee	Rs. 500/- (Rupees Five Hundred only) to be paid by D.D. favoring Andrew Yule & Co Ltd , payable at Kolkata .
8	Date of Starting of e-Tender for submission of Online Techno-Commercial Bid and Price Bid at www.mstcecommerce.com/eprochome/aycl	15th February, 2020 at 6.00 pm
9	Date of closing of Online e-tender for submission of Techno-Commercial Bid & Price Bid at www.mstcecommerce.com/eprochome/aycl	29th February, 2020 at 2.00 pm
10.	Date & time of opening of Part I - Techno-Commercial Price Bid	29th February, 2020 at 3:00 pm
11.	Date & time of opening of Part II - Price Bid	Price for techno-commercially acceptable vendors may be opened on the same day.

List of Annexure

Important Instructions for E-procurement

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Annexure - III

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Annexure - V

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Submission of Bid

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**Special Conditions, Special Conditions of Civil Works &
Special Conditions of Contract**

Annexure - IX

Important Instructions for E-procurement

This is an e-procurement event of ANDREW YULE & COMPANY LTD.

You are requested to read the Terms & Conditions (Annexure- III and IV) of this tender before submitting your online tender. Tenderers who do not comply with the Conditions with documentary proof (wherever required) will not qualify in the Tender.

1. Process of E-tender:

A) **Registration:** The process involves vendor's registration with MSTC e-procurement portal which is free of cost. Only after registration, the vendor(s) can submit his/their bids electronically. Electronic Bidding for submission of Techno-Commercial Bid as well as Price Bid over the internet will be done. The Vendor should possess Class III signing type Digital Signature Certificate. Vendors are to make their own arrangement for bidding from a PC connected with Internet. MSTC is not responsible for making such arrangement. (Bids will not be recorded without Digital Signature).

SPECIAL NOTE: THE PRICE BID AND THE COMMERCIAL BID HAS TO BE SUBMITTED ON-LINE AT www.mstcecommerce.com/eprochome/aycl

- 1) Vendors are required to register themselves online with www.mstcecommerce.com e-Procurement PSU / Govt. depts. Register as Vendor under AYCL- Filling up details and creating own user id and password Submit.
- 2) Vendors will receive a system generated mail confirming their registration in their email which has been provided during filling the registration form.

In case of any clarification, please contact MSTC/AYCL (before the scheduled time of the e-Tender).

Contact person (ANDREW YULE & COMPANY LTD):

1. Mr. Amit Dutta
Sr. Manager Business Development (WPC)
amit.dutta@andrewyule.com

Cell : +91 9073355394 Phone : +91(33) 2582 5734; +91(33) 2582 8279
Fax : +91(33) 2582 8581

2. Mr. Prasanta Biswas
Manager – Purchase
prasanta.biswas@andrewyule.com
Cell- +91 9836718811

Phone : +91(33) 2582 5734; Fax: +91(33) 2582 8279

Contact person (E-Commerce, MSTC Ltd):

- | | |
|--|---|
| 1. Mr. Arindam Bhattacharjee
Deputy Manager (E-commerce)
Mobile No: 09330102643
Email: arindam@mstcindia.co.in | 2) Mr. Sabyasachi Mukherjee
Assistant Manager (E-commerce)
Mobile- 07278030407
Email: smukherjee@mstcindia.co.in |
| Landline: (033) 22901004 | |

3. Ms. Sumona Maity
Management Trainee (E-Commerce)
Mobile-09831155225
Email: smaity@mstcindia.co.in

System Requirement:

- i) Windows XP-SP3 or above / Windows 7 Operating System
- ii) IE-7 or above Internet browser.
- iii) Signing & Encryption type digital signature
- iv) JRE 7 updates79 software to be downloaded and installed in the system. Security level should be medium
- v) To enable ALL active X controls and disable 'use pop up blocker' under Tools Internet Options custom level (Please run IE settings from the page www.mstcecommerce.com once)

2. Part-I: Submission of EMD, Tender Fee & Filled up General Information Form (Annexure-II), Eligibility Criteria fulfillment docs.in sealed envelope to Sr. Manager (Materials) KW, AYCL:

Bidder may request for exemption from submitting EMD (Refer details given in Sl No 1 of Annexure-IV, General terms & condition).

Tender Fee – Rs. 500/- (Rupees 500/-only- Non refundable) to be paid by D.D. favouring Andrew Yule & Co Ltd, payable at Kolkata.

Earnest Money as per amount mentioned in Annexure-IV to be paid by DD favouring Andrew Yule & Co. Ltd. Payable at Kolkata

General information, under Annexure-II complete in all respect along with desired document.

In case of failure to submit the EMD within the stipulated time, the Tender may be rejected.

Part-II: Online Bid Submission: After proper submission of EMD and Tender Fee at Andrew Yule & Co, the prospective bidder to submit online Techno commercial and price bid through MSTC portal.

Following documents are to be uploaded at the E-Tender Portal as a credential of the prospective bidder:

1. Present Customer List.
2. Copies of previous purchase Orders/Performance Certificate for Supply, Installation & Commissioning of similar plants. Offers received without copies of purchase orders/performance certificates may be rejected.
3. Balance sheets and P&L Account showing an average annual turnover of Rs. 1 Crore in last three financial years (i.e. FY 2016-2017, 2017-18 & 2018-19).

Bidding in e-Tender:

- a. No interest will be paid on EMD. EMD of the unsuccessful bidder(s) will be refunded by ANDREW YULE & COMPANY LTD. EMD to be paid along with the Document within the last date as mentioned in SOT.
- b. The process involves Electronic Bidding for submission of Techno Commercial Bid as well as Price Bid.
- c. The bidder(s) who have submitted the EMD & Tender Fee to Andrew Yule can submit their Techno Commercial Bids and Price Bid through internet in MSTC website www.mstcecommerce.com e-procurement PSU / Govt depts. Login under AYCL My Menu Auction Floor Manager live event Selection of the live event.

- d. The bidder should allow to run an application namely enApple by accepting the risk and clicking on run. This exercise has to be done twice immediately after opening of Bid floor. Then they have to fill up Common terms /Commercial specification and save the same. After that clicking on the Techno-Commercial bid, if this application is not run then the bidder will not be able to save / submit his Techno-Commercial bid.
- e. After filling the Techno-Commercial Bid, bidder should click 'save' for recording their Techno-Commercial bid. Once the same is done, the Price Bid link becomes active and the same has to be filled up and then bidder should click on "**Save**" to record their Price Bid. Then once both the Techno-Commercial bid & Price Bid has been saved, the bidder can click on the "**Submit**" button to register their bid.
- f. Vendors are instructed to use link in **My Menu** to **Upload Documents** in document library. Multiple documents can be uploaded. Maximum size of single document for upload is 5 MB.
- g. Once documents are uploaded in the library, vendors can attach documents through *Attach Document* link against the particular tender. For further assistance please follow instructions of vendor guide.
- h. In all cases, bidder should use their own ID and Password along with Digital Signature at the time of submission of their bid.
- i. During the entire e-tender process, the bidders will remain completely anonymous to one another and also to everybody else.
- j. The e-tender floor shall remain open from the pre-announced date & time and for as much duration as mentioned above.
- k. Techno-Commercial bid will be opened electronically on specified date and time as given in the NIT. Bidder(s) can download Technical Comparative statement.
- i. Price bid will be opened electronically on specified date and time given in the NIT. Bidder(s) can download Price Comparative statement.
- m. All entries in the tender should be entered in online Technical & Commercial Formats without any ambiguity.
- n. All electronic bids submitted during the e-tender process shall be legally binding on the bidder. Any bid will be considered as the valid bid offered by that bidder and acceptance of the same by the Buyer will form a binding contract between Buyer and the Bidder for execution of supply. Such successful tenderer shall be called hereafter **SUPPLIER**.
- o. It is mandatory that all the bids are submitted with Digital Signature Certificate otherwise the same will not be accepted by the system.
- p. Buyer reserves the right to cancel or reject or accept or withdraw or extend the tender in full or part as the case may be without assigning any reason thereof.
- q. Deviation of the terms and conditions of the tender document is acceptable. Submission of bid in the e-tender floor by any bidder confirms his acceptance of terms & conditions for the tender.
- r. Unit of Measure (UOM) is indicated in the e-tender Floor. Rate to be quoted should be in Indian Rupee as per UOM indicated in the e-tender floor/tender document.

E-tender cannot be accessed after the due date and time mentioned in NIT.

All notices / corrigendum and correspondence to the bidder(s) shall be sent by email only during the process till finalization of tender by ANDREW YULE& COMPANY LTD/MSTC LTD. Hence the bidders are required to ensure that their corporate email I.D. provided is valid and updated at the stage of registration of

vendor with MSTC. Bidders are also requested to ensure validity of their DSC (Digital Signature Certificate).

Any order resulting from this open e-tender shall be governed by the terms and conditions mentioned therein.

Deviation to the technical and commercial terms & conditions are allowed.

ANDREW YULE & COMPANY LTD has the right to cancel this e-Tender without assigning any reason thereof.

The online tender should be submitted strictly as per the terms and conditions and procedures laid down in the website www.mstcecommerce.com/eprochome/aycl of MSTC Ltd.

The bidders must upload all the documents required as per terms of NIT. Any other document uploaded which is not required as per the terms of the NIT shall not be considered.

The bid will be evaluated based on the filled-in technical & commercial formats.

Bidders are requested to read the vendor guide and see the video in the page www.mstcecommerce.com/eprochome/mstc of MSTC Ltd. to familiarize them with the system before bidding.

ANDREW YULE & COMPANY LIMITED
Kalyani Works, Engineering Division

General Information**E-Tender ref.: AYCL/ENGG DIVN/166/19-20/ET/269****Date – 14.02.2020**

(This document should be duly filled up by **bidders who are not registered with AYCL, Engg Division**)

The applicants are required to furnish full information to the queries included in this form. In giving the particulars, the supporting documents/certificates as called for per queries at places, must be tagged with the application for evidencing the information furnished in the application.

1. **Name of the firm** in full :

2. Address, Telephone No., & E-mail :

a) Address :

b) Telephone No. :

c) E-mail ID :

e) Name of contact person :

3. Status of the company (Limited / Pvt. Ltd / Proprietary /partnership/ Reg. /Non-Reg. and date of inception) :

4. **Trade License No.** (Please attach a photo Copy of the license) :

5. **GST No.** (Please enclose photocopy of Reg.) :

6. **Banker's Details**

(a) Name of the Bank :

(b) Name& address of the Branch:

(c) Account No. :

Note: A copy of Banker's Certificate to be attached.

8. **I. T. Permanent Account No.**& assessed up to (latest clearance Certificate to be attached):

9. **Turnover** in last three financial years (Audited Balance Sheet and P & L Account to be submitted):

10. Name of **present customers** (Photocopy of few contracts may be enclosed):

I/we hereby certify that the particulars furnished by me/us above are true to the best of my / our knowledge and belief and mis-representations of facts will render me/us liable to my/our action as may be deemed fit by Andrew Yule & Co. Ltd. (Engineering Division) & have the sole discretion to reject or accept my/our candidature.

Place & Date -

(Signature of the Applicant& Office Stamp/Seal)

List of Enclosures:

TECHNO-COMMERCIAL TERMS
(To be filled online in MSTC portal)

SL NO	TERMS & CONDITIONS
1	Scope of Work: The scope of work is detailed in Annexure – V.
2	Bidder may visit Kharagpur site & collect necessary details before submission of their offer.
3	Delivery period/Lead time: Latest within Eight and half (8.5) months from date of issue of LOI/PO excluding 1 year Operation maintenance.
4	GST: Quoted Rate should be inclusive of GST @ 12% (being a South Eastern Railway job).
5	Risk purchase clause: The company reserve the right to impose risk purchase clause as "For delay in execution / supply we shall have every right to do the same through some other agency/s which shall deemed fit and the additional cost of the same (Incidental/Consequential) shall be to your account which with respect to our intimation or observation whatsoever.
6	P&F AND FREIGHT –INCLUSIVE
7	Liquidated damage - If the delivery is delayed beyond the date of scheduled date of execution in the order, penalty will be levied @ 1% per week subject to a maximum of 5%.
8	Legal condition (Arbitration): Any contract entered against this tender will be as per the following legal condition: It is recorded that this purchase order / contract / agreement is executed and concluded by and between the parties hereto at premises Engineering Division, Kalyani Works Plot -16 A & B, Block-D, Kalyani, Nadia, PIN-741235, West Bengal. In the event of any dispute arises out of this agreement between the parties only the appropriate Civil Court in the City of Kolkata shall have the exclusive jurisdiction to entertain, try and determine the said proceedings in exclusion of all other courts.
9	Price Basis: The ordered price is on FOR at South Eastern Railway, Kharagpur basis. PVC clause will be applicable on back to back basis as per SER, KGP LOA no. T/WTP/KGP/ADEN/WS/KGP/2019 DATED 19.09.19 & General Condition of Contract of Indian Railways.
10	Payment Terms: -AYCL payment terms will be on back to back with that of ultimate customer i.e. SER, KGP. Details as follows: (a) A Contract Performance Bank Guarantee for 10% of the Contract value, valid till completion of the project in all respect, is to be submitted within 21 days from the date of placement of LOI/PO. EMD submitted by the successful bidder will be adjusted against the CPBG amount. (b) 90% payment of each bill shall be paid on back to back basis by way of "On-Account" payment on pro-rata basis certified by client's Engineer or the Engineer's Representative's. (c) Balance 10% shall be released after completion of the project & against submission of PBG valid till warranty period.
11	Guarantee /Warrantee Clause: The workmanship/smooth operation of the plant with respect to the service is to be guaranteed for a period of 12 months from the date of completion of Project. The bidder should stand guarantee for performance of the subject water treatment plant. In case of any performance related issue at site, the vendor has to send his representative to site at his own cost, suggest & set right the things to the entire satisfaction of AYCL/the end customer. A Performance Bank Guarantee for 10% of the Contract Value is to be submitted by the successful bidder towards smooth performance of the plant. This PBG shall remain valid for the warranty period.
12	Inspection: Vendor to submit QAP for all equipment to initiate procurement action.
13	Codes and Standards: All equipment and materials to be furnished under this specification shall be designed, manufactures and tested in accordance with the latest revisions of the relevant Indian Standard (IS) as applicable. The work shall be done in compliance with the IS Specification.
14	Eligibility Criteria: Technical: (a) The bidder preferably should have experience in Supply, Installation & Commissioning of similar plants. Financial:

	(a) The bidder should have an average annual turnover of Rs. 1 Crore in last three financial years viz. 2016-17, 2017-18 and 2018-19.
15	<p>Force Majeure Clause:</p> <p>1.1 Neither vendor nor AYCL shall be liable to the other for any delay or non-performance of its obligations under this Contract arising from any cause beyond its reasonable control including in relation to either Party any act of God, governmental act, act of any regulatory authority, supervening illegality, war, fire, flood, explosion, power blackout, break-down of machinery, loss of utility, civil commotion, industrial dispute, manpower unrest acts or omissions of telecommunications or data communications operators or carriers , in relation to vendor (to the extent not directly attributable to vendor's negligence), (a "Force Majeure Event").The affected Party shall promptly notify the other Party in writing, of the cause and the Force Majeure Event and its likely duration within no later than two (2) days after the affected Party knew of the occurrence of the Force Majeure Event. Performance by the affected Party of its obligations under this Contract shall be suspended for the duration of the Force Majeure Event. If performance is not resumed within 15 (fifteen) days after the Force Majeure Event, either Party may terminate this Contract by giving to the other Party seven (7) days' notice in advance.</p> <p>1.2 On the occurrence of any Force Majeure Event, the affected Party shall use all reasonable efforts (including emergency fixes and workarounds) to perform its obligations under this Contract during the period of suspension. Further the affected Party shall perform such part of its obligations pursuant to this Contract as are not affected by the Force Majeure Event.</p> <p>1.3 The affected Party shall use its reasonable efforts to mitigate the effect of any event of Force Majeure as soon as practicable.</p>
16	<p>(A) "Earnest Money Deposit"- Rs. 50,000/- (Rupees Fifty Thousand only) to be paid by D.D. favoring Andrew Yule & Co Ltd, payable at Kolkata. Also refer Annexure –IV for EMD waiver clause.</p> <p>(B) Tender Fee – Rs. 500/- (Rupees Five Hundred only) to be paid by D.D. favoring Andrew Yule & Co Ltd, payable at Kolkata</p>
17	Special Conditions – The Contractor shall execute the job strictly in adherence to the Special Conditions, Special Conditions of Civil Works & Special Conditions of Contract as enumerated in Annexure –IX.

GENERAL TERMS AND CONDITIONS

- 1) **EMD:** As per Annexure-IV, by way of Demand Draft drawn in favor of M/S ANDREW YULE & CO. LTD. payable at Kolkata to be submitted.
 -) For bidders already enlisted with AYCL- Kalyani Works, having outstanding amount more than the EMD amount or who have already submitted the EMD against our earlier tenders or those who have security deposit with Andrew Yule may apply for adjustment of the same.
 -) Bidders who are MSME units may apply for exemption from furnishing EMD by making a specific request in writing and enclosing the necessary document in support of the same. For MSME's, if they withdraw or modify their bids during the period of validity, or if they are awarded the contract & failed to sign the contract, or to submit a performance security before the deadline, they will be suspended for the period of time specified in the request for bid document from being eligible to submit bids with the entity that invited the bids.
 -) Bidders whose turnover is more than Rs: 50 crores may apply for exemption from furnishing EMD by making a specific request in writing and enclosing the necessary document in support of the same.

If reason for non-submission of EMD or adjustment against the outstanding balance for EMD is not mentioned in Techno-commercial bid of tender, the tender may be rejected.
- 2) Bidder should submit **copies of purchase orders / Performance Certificate** in support of the eligibility criteria as specified in Sr. No. 15 of Annexure - III. Offers received without copies of P.O./performance certificate may be rejected.
- 3) Bidders should enclose copy of **last 3 years Balance sheets** and P&L Account. (2016-17, 2017-18, 2018-19).
- 4) **TENDER FEE** - Bidders should enclose a DD for Rs: 500/- in favor of ANDREW YULE & CO. LTD., Payable at Kolkata towards cost of tender document.
- 5) AYCL reserves the right to determine L1 bidder either on totality basis or on the basis of individual schedule viz. Schedule B & C.
- 6) AYCL reserves the right to ask for further documents for clarification, if required.
- 7) AYCL reserves the right to request for breakup of quoted rate from qualified bidders.
- 8) AYCL reserves the right to reject any bidder based on their past performance.

BRIEF DESCRIPTION OF JOB

-) The proposed site for the water Treatment Plant (WTP) is on a vacant ground measuring 100m x 90m approx. with some further additional land available nearby. Site may be visited by the bidders on their own.
-) Water source of WTP will be the radical collector well developed by Railways on the bank of river Cosseye.
-) The units involved are Cascade Aerator, Parshall Flume, Flash Mixer, Clariflocculator, Chemical House cum MCC Room, Alum, Lime, Electro-chlorinator System, Treated Water Reservoir, Sludge Sump, Rapid Gravity Sand Filter, Overhead Tank, Filtered Water Storage Tank, Associated Pumps, Piping, Valves, and Fittings etc.

Detail of Scope of Work:

1. The scope of work includes complete mechanical equipment supply & execution work, as per client approved design drawing, trial run, commissioning, 1 year operation maintenance including supply of various chemicals, periodic water testing from IIT/NTH/Regional Testing Lab etc. for 2 MGD capacity WTP with a future provision for augmentation upto 5 MGD.
2. Water quantity availability during leanest period should be assessed by successful bidder.
3. Complete mechanical equipment supply.
4. Mechanical execution work at site as per approved design & drawings from SER-KGP for the units viz. Cascade Aerator, Parshall Flume, Flash Mixer, Clariflocculator, Chemical House cum MCC Room, Alum, Lime, Electro-chlorinator System, Treated Water Reservoir, Sludge Sump, Rapid Gravity Sand Filter, Overhead Tank, Filtered Water Storage Tank, pump house etc.
5. Supply of mechanical equipment viz. Chemical Dosing System, Flash Mixer, Clariflocculator telescopic sludge discharge arrangement, Electro-chlorinator system, valves, piping, fittings, associated pumps etc.
6. Successful bidder will maintain, operate the WTP for 1 year with all man-power, tools, tackles, supply of chemicals as per requirement.
7. Successful bidder will assist AYCL to prepare & submit technical details of various components of WTP as constructed/developed at site and also detailed specification/provision for running & maintenance (Regular/periodic) of each of such components.
8. Successful bidder will depute their full team for site execution work (including safety engineer) to Kharagpur WTP site for completion of the subject work in all respect.
9. Client handling (SER-KGP) will be the sole responsibility of the successful bidder.
10. Each component of WTP should have provision for quantity & quality variation of raw water during various seasons.
11. Assured water availability analysis report along with seasonal variation impact shall be assessed by bidder and 6 copies of report are to be submitted.
12. Other existing water sources, in the form of open wells may be integrated with the WTP raw water source to explore possibility to neutralize seasonal variations.
13. Various components of WTP should be designed as fully mechanized/automated as far as possible.
14. Disinfections/Chlorination should be designed suitably as part of project.

15. Pump capacity assessment and augmentation from Cossey radical collector up to various RCC OH storage Tanks through various intermediate stages will be part of this project and will be designed by the successful bidder as part of this project to make the project running.
16. During design, scope for future augmentation/capacity enhancement must be kept under consideration.
17. Bidder will supply equipment so that provision should be kept for measurement of raw water quality fed to WTP and treated water released from WTP on regular basis and have a mechanism to keep these data documented.
18. Successful bidder will support AYCL for interim modification of the drawing/documents if required as per site condition.
19. Successful bidder will support AYCL for preparation of As-built drawing & O&M manual required after project completion.
20. Any other work not mentioned but required for the completion of the above project shall be in the scope of the bidder.
21. Project execution Bar Chart showing list of critical activities with sufficient details should be submitted by bidder within 15 days of receipt of LOI.
22. The successful bidder shall take the responsibility of process guarantee (*) and proper functionality of the complete Water Treatment Plant.

Note:

- *Water quantity availability during leanest period should be assessed by successful bidder so that adequate Factor of Safety (FOS) can be kept while carrying out design.*
- *Augmentation of water source, if reqd., should be designed as a part of this project by the successful bidder.*
- *Any liaisoning with state/Central authorities, local authority's environmental authority, municipality, IIT, KGP or any such other organizations shall be done by the successful bidder on their own. However, AYCL will assist the successful bidder for carrying out those jobs wherever necessary.*
- *If required, successful bidder shall assist AYCL, wherever necessary to obtain any NOC, permission, clearance, etc. from State/Central authorities, local authorities, environmental authority, municipality or any such organization towards this project.*

Guarantee Parameters:

(*) WATER QUALITY PARAMETERS AND BIS STANDARDS:

Sl.No.	Parameters	Drinking water IS 10500 : 2012	
		Permissible Limit	Maximum Limit
1	Odor	Agreeable	Agreeable
2	Taste	Agreeable	Agreeable
3	pH	6.5 to 8.5	No relaxation
4	TOC(mg/l)	10	25
5	TSS (mg/l)	10	50
6	Total Hardness (as CaCO ₃) (mg/l)	200	600
7	Turbidity (NTU)	1	5
8	Iron (mg/l) as Fe	0.3	1
9	Manganese (mg/l)	0.1	0.3
10	BOD (5 Days)	30	100

SCHEDULE OF SPECIFICATION

SCHEDULE	
Schedule C2-Execution of all works covered under SCHEDULE-C2. [N.S items for Electro Mechanical work for item No.9 to 14].	
9	View Details In Item Breakup Below
	Description: View Details In Item Breakup Below.
10	View Details In Item Breakup Below
	Description: View Details In Item Breakup Below.
11	View Details In Item Breakup Below
	Description: View Details In Item Breakup Below.
12	View Details In Item Breakup Below
	Description: View Details In Item Breakup Below.
13	View Details In Item Breakup Below
	Description: View Details In Item Breakup Below.

ITEM BREAKUP				
Schedule	C2-Execution of all works covered under SCHEDULE-C2 [N.S items for Electro Mechanical work for item No.9 to 13].			
Item - 9	View Details In Item Breakup Below.			
S No.	Item No	Description of Item	Unit	Qty
4	9	Chemical dosing arrangement like Alum and Lime including mechanical, electrical arrangement. Like Calgon or similar make.	Set	1
Item - 10	View Details In Item Breakup Below.			
S No.	Item No	Description of Item	Unit	Qty
5	10	Turbine type MSEP Flash Mixing Paddle complete with Base Frame, Reduction Gear Box Coupling, GM guide bush, Reduction Gear Box, Motor with flexible coupling etc. all complete. The Flash Mixing Shaft & impeller will be of M.S. epoxy painted suitable for Tank size 2 m X 2 m X 1.7 m SWD + 0.3 m FB Motor, 415V, 1440 RPM (Make of motor will be (Siemens/ABB/Crompton).	Set	1

Item - 11	View Details In Item Breakup Below.			
S No.	Item No	Description of Item	Unit	Qty
6	11	Clariflocculator Bridge 24 m dia x 3 M SWD with MSEP Fabricated Bridge with walkway 1200 mm wide, Clarifier and Flocculator zone 9.5 M dia x 2.5 M SWD MSEP Scraper s with MSEP hanger, MSEP blades and Neoprene rubber squizee, Central Bearing with , 9 Ring Current collector, End Carriage Drive with Idle and Driving Wheels , Idle Shaft, Driving Shaft, Plummer Block with Bearing, Chain, Sprocket etc. with 4 Sets Flocculator paddle with SS 304 shaft Bearing Housing , Bevel gear Pinion , 40 x 40 MSEP square bar for wheel track, with fixtures , all bolts and nuts, Motors , Gear Box, all Motors will be ABB / Crompton / Kirlosker make, all Reduction Gear Box will be "REDICON" / " ALLRYOD " make. 1 No End carriage Drive motor – 1.5 HP, 4 Nos. Flocculator Paddle Motor – 1.0 HP	Set	1
Item - 12	View Details In Item Breakup Below.			
S No.	Item No	Description of Item	Unit	Qty
7	12	Supplying, installation and commissioning of SEACLOR MAC-500G or equivalent electro chlorinator (including Supplying, fitting & fixing Dosing Pump of capacity of 6.3 ltr./hour to 10 ltr./hour or equivalent to matching to SECLOR/PROMINENT/ASIALMI electro chlorinator) for generation of sodium hypochlorite solution from common salt required for 1.0PPM free chlorine dosing to cater to 8-10 lakh gallons of water capacity per day complete with following specification : (1) The electro chlorinator should be able to be operated on a single phase (415 V (+10%), 50 HZ AC supply and should be able to withstand wide ranging voltage fluctuations of (-)50V to (+) 30V range. (2)The electro chlorinator should be of such size and shape so that it can be accommodated in a 8' x 8' size room. (3) The system should be able to generate adequate hydrochloride solution of appropriate chlorine concentration that will give minimum 500 gm chlorine /hr. when operated in a 8 hrs. shift. (4) It should be able to generate adequate hydrochlorite solution to disinfect more than 8 lakh gallon of water per day with 1.0PPM free chlorine dosing. (5) Common food grade ordinary non-iodised salt available in the local market should be used on the chlorinator for production of sodium hypochlorite . The requirement of salt should be about 4.5kg. (+5%) to produce 1kg. chlorine. (6) The consumption of power to produce 1kg. of chlorine should be 5KWH or less and the plant should have continuous working system. (7) The electrodes should be Titanium or platinum or better metal confirming to standard IS specification. (8) The cell in the chlorinator as well as the whole system should have a minimum un conditional guarantee of 2 years with free replacement. (9) The electro chlorinator should be supplied along with FRP/PVC hypo chloride dosing tank of sufficient capacity with electromechanical type of dosing pump 2 nos. (1 working + 1 standby) 30 Ltrs/Hr. capacity at a maximum pressure of 8kg/sq cm. (10) The foundation required for the machine should be done by the suppliers at their own cost and all accessories including Civil, Electrical, and pipe line fittings should be along with the machine by the supplier themselves. All electrical wirings for installation & commissioning should be done by the suppliers. (11) The system should have preferably worked successfully on Railways/other Govt. organization/other reputed organizations, the proof of which should be submitted. (12) The scope of work will include extensive training of Railway personnel designated to operated the elechlorinator regarding operation of the machine and small maintenance thereof. (13) The rate will include all taxes, duties, freight, packing and forwarding charges & no extra payment will be made on this account. (14) The firm shall engage experienced and skilled supervisory staffs for the operation and maintenance of the plant for a period of one year free of cost from the date of commissioning of the plant. (15) The plant should be provided with all safety factor to achieve it's full service life. (16) The supplier should submit and undertaking to keep ready stock of all essential spare parts and accessories to ensure the regular and effective operation of	Set	1

		the plant without interruption.		
Item - 13	View Details In Item Breakup Below.			
S No.	Item No	Description of Item	Unit	Qty
8	13	Operation and maintenance of the plant for the one year and just after running for first four weeks during the warranty covered under maintenance period by supplying all chemicals, consumables as required. The cost of all the materials for operation, maintenance and manpower to be borne by the contractor. In case of any failure of the plant more than 8.00 hrs in a day will be treated a full day failure and the same will be added against free maintenance period. Consumables required are: Lime-32400kg, NaOCl of strength -10% or high strength calcium based granule for chlorination – 20000 kg, ALUM- 81000 kg or as per company's specification complete in all respect.	Set	1

SCHEDULE C2:

ITEM NO	Description of Item	Approx Qty	Unit
56	Chemical Dosing arrangement like Alum and Lime. Like Calgon or similar make.	1.00	Set
57	Turbine type MSEP Flash Mixing Paddle complete with Base Frame, Reduction Gear Box Coupling, GM Guide Bush, Reduction Gear Box, Motor with flexible coupling etc. all complete. The Flush Mixing Shaft and Impeller will be of M.S. Epoxy painted suitable for Tank size 2m*2m*1.7m SWD+ 0.3 m FB Motor, 415V, 1440 RPM (Make of Motor will be (Siemens/ ABB/ Crompton)	1.00	Set
58	Clariflocculator Bridge 24m dia, × 3m SWD with MSEP fabricated bridge with walkway 1200 mm wide, Clarifier & Flocculator Zone 9.5m dia × 2.5m SWD MSEP Scrapers with MSEP Hanger, MSEP Blades and Neoprene rubber squeeze, Central Bearing with 9 Ring Current collector, End Carriage Drive with Idle and Driving wheels. Idle shaft, Driving Shaft, Plummer Block with Bearing, Chain. Sprocket etc. with 4 sets Flocculator Paddle with SS 304 Shaft Bearing Housing, Bevel Gear Pinion, 40*40 MSEP square bar with wheel track, with fixtures, all Bolts & Nuts, Motors, Gear Box, all Motor will be ABB/ Crompton/Kirloskar make. All Reduction Gear Box will be "REDICON / ALLRYOD" make I. No End Carriage Drive Motor- 1.5 HP, 4 Nos. Flocculator Paddle Motor- 1.0 HP.	1.00	Set

59	<p>Supplying, installation and commissioning of SEACLOR MAC- 500G or equivalent electro chlorinator (including supplying, fitting & fixing Dosing Pump of capacity of 6.3 ltr/hour to 10 ltr/hour equivalent to matching to SEACLOR/ PROMINENT/ ASIALMI electro chlorinator) for generation of sodium hypochlorite solution from common salt required for 1.0PPM free chlorine dosing to cater to 8-10 lakh gallons of water capacity per day complete with following specification : (1) The electro chlorinator should be able to be operated on a single phase 220 Volt 50Hz AC supply and should be able to withstand wide ranging voltage fluctuations of (-)50V to (+) 30V range. (2)The electro chlorinator should be of such size and shape so that it can be accommodated in a 8' x 8' size room. (3) The system should be able to generate adequate hydrochloride solution of appropriate chlorine concentration that will give minimum 500 gm chlorine /hr. when operated in a 8 hrs. shift. (4) It should be able to generate adequate hydrochlorite solution to disinfect more than 8 lakh gallon of water per day with 1.0PPM free chlorine dosing. (5) Common food grade ordinary non-iodised salt available in the local market should be used on the chlorinator for production of sodium hypochlorite. The requirement of salt should be about 4.5kg. (+5%) to produce 1kg. chlorine. (6) The consumption of power to produce 1kg. of chlorine should be 5KWH or less and the plant should have continuous working system. (7) The electrodes should be Titanium or platinum or better metal confirming to standard IS specification. (8) The cell in the chlorinator as well as the whole system should have a minimum un conditional guarantee of 2 years with free replacement. (9) The electro chlorinator should be supplied along with FRP/PVC hypo chloride dosing tank of sufficient capacity with electromechanical type of dosing pump 2 nos. (1 working + 1 standby) 30 Ltrs/Hr. capacity each at a maximum pressure of 8kg/sq cm. (10) The foundation required for the machine should be done by the suppliers at their own cost and all accessories including Civil, Electrical, and pipe line fittings should be along with the machine by the supplier themselves. All electrical wirings for installation & commissioning should be done by the suppliers. (11) The system should have preferably worked successfully on Railways/other Govt. organization/other reputed organizations, the proof of which should be submitted (12) The scope of work will include extensive training of Railway personnel designated to operate the electro-chlorinator regarding operation of the machine and small maintenance thereof . (13) The rate will include all taxes, duties, freight, packing and forwarding charges & no extra payment will be made on this account. (14) The firm shall engage experienced and skilled supervisory staffs for the operation and maintenance of the plant for a period of one year free of cost from the date of commissioning of the plant. (15) The plant should be provided with all safety factor to achieve it's full service life. (16) The supplier should submit and undertaking to keep ready stock of all essential spare parts and accessories to ensure the regular and effective operation of the plant without interruption.</p>	3.00	Set
60	<p>Operation & Maintenance of the plant for one year and just after running for first four weeks during the warranty covered under maintenance period by supplying all chemicals, consumables as required. The cost of all materials for operation, maintenance, manpower to be born by the contractor. In case of any failure of the plant more than 8.00 hrs in a day will be treated a full day failure and the same will be added against free maintenance period. Consumables required are Lime: 32400 Kg, Naocl of strength- 10% or high strength Calcium based granule for chlorination: 20000 Kg, Alum-81000 Kg or as per company's specifications complete in all respect..</p>	1.00	Set

BANK GUARANTEE FORMAT

BANK GUARANTEE NO. _____
AMOUNT _____
VALID UPTO _____

TO
M/S. ANDREW YULE & COMPANY LIMITED,
8, DR. RAJENDRA PRASAD SARANI,
KOLKATA – 700 001

IN CONSIDERATION OF ANDREW YULE & CO. LTD. ENGINEERING DIVISION, A COMPANY INCORPORATED UNDER THE COMPANIES ACT, 1956 AND HAVING ITS REGISTERED OFFICE AT 'YULE HOUSE' 8, DR. RAJENDRA PRASAD SARANI, KOLKATA – 700 001 "THE COMPANY" WHICH EXPRESSION SHALL UNLESS REPUGNANT TO THE CONTEXT OR CONTRARY TO THE MEANING THEREOF INCLUDES ITS SUCCESSORS AND ASSIGNS HAVING AGREED TO EXEMPT M/S XXXX, Address XXXX WHICH EXPRESSION SHALL UNLESS REPUGNANT TO THE CONTEXT OR CONTRARY TO THE MEANING THEREOF INCLUDES ITS SUCCESSORS AND ASSIGNS FROM THE DEMAND, UNDER THE TERMS AND CONDITIONS OF THE PURCHASE ORDER NO. XXXX, PLACED BY THE COMPANY ON THE CONTRACTOR FOR SUPPLY OF XXXX, ON PRODUCTION OF A BANK GUARANTEE FOR RS. XX.00 (RUPEES XXX ONLY), WE XXXX, HAVING ITS REGISTERED OFFICE AT XXX AND AMONG OTHERS HAVING A BRANCH OFFICE AT XXX, XXX, HEREINAFTER CALLED "THE SAID BANK" WHICH EXPRESSION SHALL UNLESS REPUGNANT TO THE CONTEXT OR CONTRARY TO THE MEANING THEREOF INCLUDES ITS SUCCESSIONS, ADMINISTRATORS, EXECUTORS AND ASSIGNS, AT THE REQUEST OF THE CONTRACTOR, DO HEREBY UNDERTAKE TO PAY TO THE COMPANY AN AMOUNT NOT EXCEEDING RS. XXX AGAINST ANY LOSS OR DAMAGE CAUSED TO OR SUFFERED OR WOULD BE CAUSED TO OR SUFFERED BY THE COMPANY BY REASON OF ANY BREACH BY THE SAID CONTRACTOR OF ANY OF THE TERMS AND CONDITIONS CONTAINED IN THE SAID ORDER.

WE XXX BANK, DO HEREBY UNCONDITIONALLY AND IRREVOCABLY UNDERTAKE TO PAY THE AMOUNT DUE AND PAYABLE UNDER THIS GUARANTEE, WITHOUT ANY OBJECTION OR DEMUR, MERELY ON A DEMAND FROM THE COMPANY, STATING THAT THE AMOUNT CLAIMED IS DUE BY WAY OF LOSS OR DAMAGE CAUSED TO OR SUFFERED BY THE COMPANY BY REASON OF BREACH BY THE SAID CONTRACTOR OF ANY OF THE TERMS AND CONDITIONS CONTAINED IN THE SAID ORDER OR BY REASON OF THE CONTRACTOR'S FAILURE TO PERFORM THE SAID ORDER, ANY SUCH DEMAND, MADE ON THE BANK, SHALL BE CONCLUSIVE AS REGARDS THE AMOUNT DUE AND PAYABLE BY THE BANK UNDER THIS GUARANTEE, BUT NOT EXCEEDING RS.XX.00 (RUPEES XXXXX ONLY)

WE XXXX, FURTHER AGREE THAT THE GUARANTEE HEREIN CONTAINED SHALL REMAIN IN FULL FORCE AND EFFECT DURING THE PERIOD THAT WOULD BE TAKEN FOR THE PERFORMANCE OF THE SAID ORDER AND THAT IT SHALL CONTINUE TO BE ENFORCEABLE TILL ALL THE DUES OF THE COMPANY UNDER OR BY VIRTUE OF THE SAID ORDER, HAVE BEEN FULLY PAID AND ITS CLAIM SATISFIED OR DISCHARGED OR TILL THE COMPANY CERTIFIES THAT THE TERMS AND CONDITIONS OF THE SAID ORDER HAVE BEEN FULLY AND PROPERLY CARRIED OUT BY THE SAID CONTRACTOR AND ACCORDINGLY, DISCHARGES THIS GUARANTEE.

WE THE SAID BANK, FURTHER AGREE WITH THE COMPANY THAT THE COMPANY SHALL HAVE THE FULLEST LIBERTY, WITHOUT OUR CONSENT AND WITHOUT AFFECTING IN ANY MANNER, OUR OBLIGATIONS HEREUNDER TO VARY ANY OF THE TERMS AND CONDITIONS OF THE SAID ORDER OR TO EXTEND TIME OR PERFORMANCE BY THE SAID CONTRACTOR FROM TIME TO TIME.

WE THE SAID BANK, FURTHER AGREES THAT IT SHALL NOT BE NECESSARY FOR THE COMPANY TO PROCEED AGAINST THE CONTRACTOR BEFORE PROCEEDING AGAINST THE BANK AND THE GUARANTEE HEREIN CONTAINED SHALL BE ENFORCEABLE AGAINST THE BANK.

THIS GUARANTEE WILL NOT BE DISCHARGED DUE TO THE CHANGE IN THE CONSTITUTION OF THE BANK OR CONTRACTOR.

WE, THE SAID BANK, LASTLY UNDERTAKE NOT TO REVOKE THIS GUARANTEE DURING ITS CURRENCY WITHOUT THE PREVIOUS CONTENTS OF THE COMPANY IN WRITING.

THE BANK ALSO AGREES THAT THE COMPANY AT ITS OPTION SHALL BE ENTITLED TO ENFORCE THIS GUARANTEE AGAINST THE BANK AS A PRICIPAL DEBTOR, IN THE FIRST INSTANCE WITHOUT PROCEEDING AGAINST THE CONTRACTOR/SUPPLIER AND NOTWITHSTANDING ANY SECURITY OR OTHER GUARANTEE THAT THE COMPANY MAY HAVE IN RELATION TO THE CONTRACTOR'S/SUPPLIER'S LIABILITIES.

FOR THE PURPOSE OF ENFORCING LEGAL RIGHT/REMEDIES IN RESPECT OF THIS GUARANTEE, WE AGREE WITH YOU TAHT KOLKATA HIGH COURT IN THE STTE OF WEST BENGAL SHALL HAVE THE EXCLUSIVE JURISDICTION.

NOTWITHSTANDING ANY THING CONTAINED HEREINBEFORE, OUR LIABILITY UNDER THIS GUARANTEE IS RESTRICTED TO RS. XXX. THIS GUARANTEE WILL EXPIRE XXXX AND UNLESS ANY CLAIM UNDER THIS GUARANTEE IS RECEIVED BY US BY XXX I.E. WITHIN 3 (THREE) MONTHS FROM THE DATE OF EXPIRY OF THE GUARANTEE AT XXXX ALL YOUR RIGHTS UNDER THIS GUARANTEE SHALL BE FORFEITED AND WE SHALL BE RELEASED AND DISCHARGED FROM ALL LIABILITIES THEREUNDER.

DATED XXX, THIS xx.xx.20xx

(STAMP AND SIGNATURE OF ISSUING INSTITUTION)

NAME:

DESIGNATION

BRNACH CODE

PRICE BID

SCHEDULE	PRICE AS PER SCHEDULE OF RATES (IN RS.)	% ABOVE/ BELOW
Schedule C2-Execution of all works covered under SCHEDULE-C2. [N.S items for Electro Mechanical work for item No. 9 to 13].	11310538.40	

Bidders are required to indicate only the PERCENTAGE figure that their quoted value would be above / below from SCHEDULE OF RATE as specified in Annexure VII.

Price quoted should be FOR destination/Site.

SUBMISSION OF BID

- (1) Submission of Techno-commercial bid in MSTC portal
- (2) Submission of Price Bid in MSTC portal - Bidders are required to indicate only the PERCENTAGE figure that their quoted value would be above / below from SCHEDULE OF RATES as specified in Annexure VII.
- (3) Bidders are requested to submit the following documents in **SEALED ENVELOPE** to the Purchase Department , Engineering Division, Kalyani before the last date of submission of bid -
 - a) EMD amount in the form of DD or Request letter for exemption of EMD.
 - b) Copies of Purchase Orders / Performance Certificate towards evidence of Eligibility Criterion.
 - c) Copies of Balance Sheet and P/L Account for 2016-17, 2017-18 and 2018-19.
 - d) General Information as per Annexure-II to be submitted by all vendors not registered at AYCL, Engineering Division along with necessary credentials / documents
 - e) DD / Cash Receipt of Rs. 500 towards Tender Document Fee

Special Conditions

S.I. No	Description
1	All the Notes, terms and conditions of GCC-2014, with all correction slips mentioned in the Tender documents, will be superseded by Indian Railways Standard General Conditions of Contract, November 2018, with all correction slips up to date.
2	All materials to be supplied by the contractor should be approved by AYCL/Engineer-in-charge, SER KGP before use in the work.
3	Unless specifically mentioned in the P.O., all materials required for execution of work will be supplied by the contractor free of cost as per standard specifications and approved by AYCL/Engineer-in-charge, SER KGP.
4	Contractor will be responsible for safety of staff working on site of work. All safety measure will be taken by contractors for movement of traffic during the operation.
5	On Completion of the work, rubbish, unused materials etc. if any should be removed and deposited at nominated place and as directed and the same are to be made neat and clean. No extra will be paid for this.
6	The quantities specified in the tender schedule are only approximate and liable to vary.
7	All the scrap and released materials to be returned to the Railway as per instructions given by the Engineer in - charge or his authorized representative at their nominated places after completion of the work.
8	No compensation towards any accident what so ever will be paid by the AYCL.
9	The AYCL will not be responsible for compensation towards contractors idle labour in case traffic block cannot be arranged to the contractor as per programme due to unforeseen reasons.
10	Contractor shall not start any work without the presence of AYCL representative/IOW or PWI at site. In case the contractors representative starts any work in absence of AYCL representative/IOW or PWI, it shall be treated as un-authorized and illegal tampering with the track and shall be liable for action.
11	In case contractor fails to return the unused and excess materials issued to them and released materials, the cost of such materials will be deducted from the contractors dues at the rate of 2.5 x Purchase cost 5 percent freight. Purchase cost for released materials should be taken as prevailing market rate.
12	For works of public nature contractor shall fix an information board containing information related to work order at prominent place free of cost. The content of such board, its fixing location, size and type of material etc. shall be as approved by AYCL/Engineer - in Charge, SER KGP. The board shall be maintained by contractor during the currency of work order. If contractor fail to fix the information board for nominated work orders, a token penalty as deemed suitable may be imposed by AYCL.
13	IF required, contractor should mobilize to do night working for which they will be required to have their own sufficient lighting arrangement. No extra payment will be admissible on this account.
14	In case of exigency, the contractor has to execute the work in any section of AYCL and/or DEN/HQ/KGP.

15	All GI Pipe line works is to be carried out only with the approved brand, medium class as per the I.S. Specification i.e. G.I. pipe of Jindal/Bansal/Tata Brand or other equivalent brand as will be approved by ADEN concerned are to be supplied and used. Materials should conform to the approval of AYCL/ Engineer in charge or his authorized representative at site to ensure that only approved brand of pipes are supplied and used by the Contractor. Contractor has to produce the necessary vouchers for procurement of pipes of approved medium varieties and proper accounting of pipes will have to be maintained by AYCL/I.O.W.
16	The materials to be supplied/used should be as per I.S specification and must be approved by AYCL/Engineer-in-charge SER KGP before supply/use.
17	Contractors have to ensure quality of output water which have to be done in some required Institute like Regional Engineering college/IIT/Other Govt./Rly. Laboratories for the period of 3 months after commissioning on weekly basis all cost of which will be borne by the contractor. The test shall include turbidity, PH, TOC, TSS, Total hardness, Iron as Fe, Manganese, Alum dose (Jar test), BOD (5days).
18	Bidders will have to note following stipulations and time lines:
18.1	The proposed site for the water Treatment Plant (WTP) is by the side of D & E Reservoir on a vacant ground measuring 100m x 90m approx. with some further additional land available nearby. Site may be visited by the bidders on their own.
18.2	Water source of WTP will be the radical collector well developed by Railways on the bank of river Cosseye.
18.3	Authentic data of water quality at source including seasonal variation should be collected/documented/prepared by the successful bidder for design of WTP. Recent authentic documented data from IIT, KGP, State Authorities, etc. may also be collected by the successful bidder on their own.
18.4	Water quantity availability during leanest period should be assessed by successful bidder and should keep adequate Factor of Safety (FOS) while carrying out design. Augmentation of water source, if regd., should be designed as a part of this project itself by the successful bidder.
18.5	Any liasioning with state/Central authorities, local authorities environmental authority, municipality, IIT, KGP or any such other organizations shall be done by the successful bidder on their own.
18.6	Any NOC, permission, clearance, etc. from State/Central authorities, local authorities, environmental authority, municipality or any such organization towards this project shall be obtained by the successful bidder on their own.
18.7	Testing of raw water & treated water after commissioning of WTP and during maintenance period will be done regularly by the successful bidder on their own cost as per direction of engineer & to the satisfaction of Engineer.
18.8	Detailed water quality analysis of treated water will be submitted by the successful bidder as per direction of Engineer.
18.9	Tenderers having past experience in R.O treatment plant for packaged water plant will not be considered eligible for the qualification.
18.10	Total completion period for project is 10 months.
18.10.1	Any clearance/NOC/approval obtained from State/Central Govt. Environmental authorities, local authorities, Municipalities or any other authorities.
18.10.2	Assured water availability analysis report along with seasonal variation impact will be submitted by successful bidder.
18.10.3	Raw water quality report along with seasonal variation impact will be submitted by successful bidder.
18.10.4	Project execution Bar Chart.

18.10.5	List of critical activities with sufficient details.
18.10.6	Successful bidder should assist AYCL to impart training to Railway officials for operation and maintenance of various components of WTP.
19	Successful bidder will have to execute the entire WTP and its components in a manner to use mostly materials of SOR of S.E Railway or using NS items mentioned in the tender.
19.1	Approval for introduction of any new NS item at the time of design will be given only if any equivalent item is not available in SOR of S.E Railway (either individually or by combination of more than one items of SOR of S.E Railway).
19.2	Approval may also be sought for introduction of any new NS item at the time of design if it is cost effective/economical but having same or better structural/functional strength or durability.
19.3	However, any such approval shall be exceptional.
20	Contractor should supply and deliver the Cement and steel required for the work, to the IOW's godown as per programme and the cement and steel will be issued to the contractor as per scale of consumption from IOW's godown and all lead, lift, handling etc. to the site of work will be at the expense of the contractor. Necessary facilities for storage shall be provided by the contractor to IOW.
21	All works are to be done as per programme fixed by AYCL/Engineer-in-charge or his authorized representative and as per their direction only.
22	During the course of work steel are to be tested by the contractor at their own cost to ascertain their conformity to specification as and when required by AYCL/Engineer-in-charge or his authorized representative.
23	The steel supplied by the contractors must conform to specification IS 2062 or relevant latest BIS Codes.
24	The steel that will be supplied by the contractor should conform to I.S. 226/I.S. 1977 for mild steel and I.S. 1481 for rivets followed with latest corrections if any. All steel section, Rivets, Paint, etc. are to be got tested as per relevant BIS codes at the contractors expense by the Chief Chemist and Metallurgist, S.E.Railway, Kharagpur or at National Test House, Alipore, Kolkata or at IIT, Kharagpur, as found convenient by the Railway. If the test results does not confirm to the relevant IS specifications, the whole lot / lots of materials shall be rejected and to be removed from the site by the contractor at the contractor's cost. No payment will be made for rejected works. Manufactures test certificate is to be submitted by the contractor alongwith necessary purchase vouchers etc.
25	All fabrication and erection shall be done in accordance with I.S.800:62 as per approved drawings followed with latest corrections if any.
26	All painting works are to be done as per following special conditions:- (a) Paints manufactured by the Firms- i. Asian Paints, ii. Johnson Nicholson, iii. GoodlacNerolac, iv. Shalimar Paints, v. Berger Paints formerly British Paints,vi. Garware Paints only shall be used. Paints for the primer and finishing coats may be preferably procured from the same manufacturer for achieving better result. Manufactures test certificate is to be submitted by the contractor alongwith necessary purchase vouchers etc. (b) The empty drums of paints used in this work will be the contractors property and will remain kept in Supervisors custody till the completion of work and after completion of each work the empty drums will be returned to the contractor (c) Thickness of paint layer should be strictly followed as given below :- i. 1st coat primer Zinc chromate IS:104 - 20microns Dry film thickness ii. 2nd coat primer before Red oxideIS 2074 - 20microns Dry film thickness iii. 1st finishing coat of Aluminium IS : 2339 - 15 microns Dry film thickness iv. 2nd finishing coat of Aluminium IS : 2339 - 15 microns Dry film thickness
27	The Contractor should be make available all the necessary tools, plants and equipment for execution of the above work at site during execution of work.

28	The vehicles and equipment of contractors can be drafted by AYCL/Railway Administration in case of Accidents or Natural calamities involving human lives, and payment in respect of that would be made by operating the item as a non scheduled item.
29	Cement: Only OPC and PPC shall be used for design mix concrete. Cement 53/43 Grade shall be confirmed to IS-12269, IS: 8112 and PSC as per IS 455 respectively. Cement testing shall be done batch wise for physical properties. Cement should be supplied from reputed manufacturer i.e. ACC, Grasim, Ultratech, Ambuja, Lafarge, JAYPEE, Konark cement conforming to relevant IS code as per directed by site Engineer.
30	Reinforcement: Reinforcement Steel to be used in the work shall be of high yield strength deformed bars cold twisted or hot rolled or re-bars produced from SAIL, TISCO, IISCO, RINL only. Reinforcement steel should confirm to IS: 1786. Testing of reinforcement steel shall be done for physical properties batch wise.
31	Binding wire:- Binding wire to be used in the work should be of standard quality. The diameter shall be between 16 to 22 SWG.
32	In case of zonal work, a penalty of 20% of work order value shall be imposed for non-execution of the said work order.
33	The Contractor with the help of his Engineer or Diploma holder, as the case be, shall make necessary Drawings, sketches, plotting, peg markings etc. as desired by the Engineer-in-charge. No extra cost shall be claimed on this account.
34	The items covered under USSOR-2010 and the items covered under section-Z of SOR-2001 are tentative and approximate and these are considered for evaluation of DV only. However the items covered under USSOR-2010 and under section-Z of SOR -2001 may be altered within the scope of work as per instruction of Engineer- in Charge according to site requirement if required. Decision of Engineer in Charge in this regard will be final and binding to all.
35	If the tenderer/s expires after the submission of his/their tender or after the acceptance of his tender, the Rly shall deem such tender as cancelled. If a partner of a firm expires after the submission of their tender or after the acceptance of their tender, the AYCL shall deem such tender as cancelled unless the firms retains its character.
36	During execution of work if Electrical/signaling/Telecom cables are damaged by the contractor/contractor's men, a flat penalty of Rs. Two lakh will be imposed on the contractor.
37	Tenderer or contractor will have to execute the work taking necessary precautions for safety of works, Passenger, traffic etc.
37.1	Contractors must get themselves registered in Shramik Kalyan Portal
37.2	After receiving of LOA they have to enter the details of LOA within 15 days
37.3	Attendance of contractual labours (As per Annexure-II) duly signed by the Railway Representative and Agency's authorized sight supervisors must be ensured at each work site by concerned Railway Supervisor. This shall be created as basic documents, hence it is to be kept safely for any future reference.
37.4	They have to enter the details of workmen engaged against the concerned LOA.
37.5	They have to enter the payment details i.e. minimum wages, PF, ESI etc. in the ' Shramik Kalyan Portal. '
37.6	The agency should give certification that they have entered the payment details in ' Shramik Kalyan Portal ' along with the bill.
37.7	The agency should give certification that they have entered the payment details in ' Shramik Kalyan Portal ' along with the bill.

III	Implementation of GST:
a)	Tenderers will examine the various provisions of the Central Goods and Service Tax Act, 2017 (CGST)/ Integrated Goods & Service Tax Act, 2017 (IGST)/ Union Territory Goods & Service Tax Act, 2017 (UTGST) respective State Goods and Service Tax Act (CGST), also as notified by Central/ State Govt. & as amended from time to time and applicable taxes before billing.
b)	Tenderers will ensure that full benefit of Input Tax Credit likely to be availed by them is duly considered while quoting rates.
i)	The successful tenderer who is liable to be registered under CGST/IGST/UTGST/SGST Act shall submit GSTIN along with other details required under CGST/IGST/UTGST/SGST Act to Railway immediately after the award of contract, without which no payment shall be released to the Contractor. The Contractor shall be responsible for deposition of applicable GST to the concerned authority.
ii)	In case the successful tenderer is not liable to be registered under CGST/IGST/UTGST/SGST Act, AYCL shall deduct the applicable GST from his/ their bills under reverse charge mechanism (RCM) and deposit the same to the concerned authority.
c)	i) In the instant tender GST will be applicable at the rate of 12 percent inclusive and
	ii) In case of increase or decrease in GST, same will be either paid by railway or recovered from the agency as the case may be.

Special Conditions of Civil Works

1. Cement and steel required for the work, contractor should supply and delivery to the IOW's godown as per programme and the cement and steel will be issued to the contractor as per scale of consumption from IOW's godown and all lead, lift, handling etc. to the site of work will be at the expense of the contractor. Necessary facilities for storage shall be provided by the contractor to IOW.
2. Unless specifically mentioned in the schedule of rates all materials required for execution of work will be supplied by the contractor free of cost as per standard specifications and approved by the Engineer-in-charge.
3. All works are to be done as per programme fixed by the Engineer-in-charge or his authorised representative and as per their direction only.
4. All materials to be supplied by the contractor should be got approved by the Engineer-in-charge before use in the work.
5. During the course of work steel are to be got tested by the contractor at their own cost to ascertain their conformity to specification as and when required by the Engineer-in-charge or his authorized representative.
6. The steel supplied by the contractors must conform to specification IS 2062 or relevant latest BIS Codes.
7. Riveting should be done as per the clauses as laid down in IRUSS(Works & Materials), Vol- I Chapter
8. All the scrap and released materials to be returned to the Railway as per instructions given by the Engineer– in - charge or his authorized representative at their nominated places after completion of the work.
9. The steel that will be supplied by the contractor should conform to I.S. 226/I.S. 1977 (Ordinary) for mild steel and I.S. 1481 for rivets followed with latest corrections if any. All steel section, Rivets, Paint, etc. are to be got tested as per relevant BIS codes at the contractor's expense by the Chief Chemist and Metallurgist, S.E.Railway / Kharagpur or at National Test House, Alipore, Kolkata as found convenient by the Railway. If the test results does not confirm to the relevant IS specifications, the whole lot / lots of materials shall be rejected and got removed from the site by the contractor at the contractor's cost. No payment will be made for rejected works. Manufactures' test certificate is to be submitted by the contractor along with necessary purchase vouchers etc.
10. All fabrication and erection shall be done in accordance with I.S.800:62 as per approved drawings followed with latest corrections if any.

11. The fabrication of shed structure shall be by riveting and or welding excepting gantry girders, which shall be by riveting only.

12. Riveting / welding shall not be started until such time the Engineer has personally satisfied himself that the alignment of the structure is correct.

13. All works are to be done following the special conditions for painting which are attached herewith.

(a) Paints manufactured by the following Firm of repute only shall be used :-

(i) M/s Asian Paints, (ii) M/s Johnson Nicholson, (iii) M/s GoodlacNerolac, (iv) M/s Shalimar Paints, (v) M/s Berger Paints formerly M/s British Paints, (vi) Garware Paints. Paints for the primer and finishing coats may be preferably procured from the same firm for achieving better result. Manufacturer's test certificate is to be submitted by the contractor alongwith necessary purchase vouchers etc.

(b) The empty drums of paints used in this work will be the contractor's property and will remain kept in Supervisor's custody till the completion of work and after completion of each work the empty drums will be returned to the contractor.

(c) Thickness of paint layer should be strictly followed as given as given below :-

- i. 1st coat primer Zinc chromate IS :104 ... 20microns (Dry film thickness).
- ii. 2nd coat primer before Red oxide IS 2074 ... 20microns (Dry film thickness).
- iii. 1st finishing coat of Aluminium IS : 2339 ...15 microns (Dry film thickness.).
- iv. 2nd finishing coat of Aluminium IS : 2339 ...15 microns (Dry film thickness.).

14. No compensation towards any accident what-so-ever will be paid by the Railway.

15. The General Conditions of contract will be governed by the S.E.Rly. General Condition of Contract and Standard Specifications 2001, Vol-2, USSOR-2010, Indian Railways Unified Standard Specification (Works & Materials) – 2010, Volume – I and II, with all correction slips upto date.

16. The Railway will not be responsible for compensation towards contractor's idle labour in case traffic

17. Contractor shall not start any work without the presence of the IOW / PWI at site. In case the contractor's representative starts any work in absence of IOW/PWI, it shall be treated as unauthorised and illegal tampering with the track and shall be liable for action.

18. The Railway will not be responsible for compensation towards contractor's idle labour in case traffic block cannot be arranged to the contractor as per programme due to unforeseen reasons.

19. In case contractor fails to return the unused and excess materials issued to them and released materials, the cost of such materials will be deducted from the contractor's dues as per Railway's rules laid down in S.E.Rly General conditions of contract and standard specifications -2001, VOL-2./ Standard General Conditions of Contract-August2014.

20. The contractor should mobilize to do night depot working for which they will be required to have their own sufficient lighting arrangement. No extra payment will be admissible on this account.
21. All works have to be done under traffic. In electrified territory contractor will take all precautions for safety of track and running trains as well as his labour in terms of Indian Railway's P.Way manual.
- 22 The Contractor with the help of his Engineer or Diploma holder , as the case be , shall make necessary Drawings, sketches, plotting, peg markings etc. as desired by the Engineer-in-charge. No extra cost shall be claimed on this account.
23. The work will be executed under supervision of Railway Engineer- in – charge or his authorized representative at site.
24. The agency should depute a trained and certified supervisor duly certified by AEN.
25. New member which are fixed to the old structure, payment of such steel will be made as per respective item of USSOR -2010.
26. The Contractor should be make available all the necessary tools, plants and equipment for execution of the above work at site during execution of work.
27. The vehicles and equipment of contractors can drafted by Railway Administration in case of Accidents / Natural calamities involving human lives, and payment in respect of that would be made by operating the item as a non scheduled item.
28. The Contractor should furnished a list of vehicles and equipment available with them along with the tender documents.
29. The following documents should be specified for submission along with tender:
- a) List of Personnel, Organization available on hand and proposed to be engaged for the subject work.
 - b) List of Plant & Machinery available on hand (own) and proposed to be inducted (own and hired to be given separately) for the subject work.
 - c) List of works completed in the last three financial years giving description of work, organization for whom executed approximate value of contract at the time of award, date of award and date of scheduled completion of work. Date of actual start, actual completion and final value of contract should also be given.
 - d) List of works on hand indicating description of work, contract value, approximate value of balance work yet to be done and date of award.
30. **Cement:**
- Only OPC and P.P.C shall be used for design mix concrete. Cement 53/43 Grade shall be confirmed to IS-12269, IS: 8112 and PSC as per IS 455 respectively. Cement testing shall be done batch wise for physical properties. Cement should be supplied from reputed manufacturer i.e. **ACC, Grasim,**

Ultratech, Ambuja, Lafarge, JP Cement conforming to relevant IS code as per directed by site Engineer.

31. Reinforcement:

Reinforcement Steel to be used in the work shall be of high yield strength deformed bars cold twisted / hot rolled or re-bars produced from SAIL / TISCO / IISCO / RINL only. Reinforcement steel should confirm to IS: 1786 Testing of reinforcement steel shall be done for physical properties batch wise.

32. Binding wire:

Binding wire to be used in the work should be of standard quality. The diameter shall be between 16 to 22 SWG.

33. Codes:

The following Codes of Practice latest revised with up to date corrections shall be followed:

- (i) IS-456-2000 Indian standard code of practice for plain and reinforced concrete.
- (ii) IS: 1199 Method of sampling and analysis of concrete.
- (iii) IS: 516 Method of test for strength of concrete.
- (iv) Standard Specification for structural steel (standard quality)- Fifth revision.
- (v) IS: 226 Specification for structural steel (Standard quality)- Fifth revision.
- (vi) IS 2062-1984 Specifications for Weldable structural steel.
- (vii) IS: 383-1970 Code of practice for fine & coarse aggregate.
- (viii) IS: 800 Code of practice for use of structural steel in general building construction (revised 8th print April 1977 incorporating amendments No. 1 & 2).
- (ix) IS: 432-Pt. I- Code of practice for mild steel and medium tensile steel bars.
- (x) IS: 1785-Plain and hard drawn steel wire for pre stressed concrete (latest addition).
- (xi) IS: 1786 Code of practice for high strength deformed steel bars and wires for concrete reinforcement.
- (xii) IS: 269 for ordinary Portland cement.
- (xiii) IS: 8112 / IS: 12269 High strength OPC 43 and 53 grade respectively
- (xiv) IS: 961- Structural steel (High tensile).
- (xv) IS: 10262-1982 Recommended guidelines for Concrete Mix Design
- (xvi) IS 1343 Code of practice for Pre stressed concrete
- (xvii) IS 6006-1983 Specifications for epoxy-coated stress relieved strands for Pre stressed Concrete
- (xviii) IS 1785 Part-I Specifications for plain hard drawn steel wires for pre stressed concrete
- (xix) IS: 1599
- (xx) Indian Railway Schedule of Dimensions for Broad Gauge including correction slips.
- (xxi) IS-1498/1970 Classification and identification of soil.
- (xxii) IS Code 10379-1982 "Code of practice for field control of Moisture and compaction of soil for embankment and sub grade.
- (xxiii) Indian Railway permanent way manual (second reprint -2004) amended upto date.
- (xxiv) South Eastern Railway Unified standard Schedule of rates (Works & Material) -2010.
- (xxv) Indian Railway Code for the Engineering department (third reprint-1999).
- (xxvi) Durability of concrete structures, report no. BS-14 (revised) by RDSO.
- (xxvii) Indian Railway Schedule of Dimensions for Broad Gauge including correction slips.

(xxviii) Guide lines for earthwork in railway projects, July-2003 with latest amendment issued by RDSO/Lucknow.

(xxix) IRS Concrete Bridge Code – 1997.

Wherever any reference to Code, Specifications etc., is made in this document, it shall be taken as a reference to the latest version thereof including all amendments and corrections etc. However, where these specifications do not cover full details relevant Indian Standard Specification shall be followed. Decision of the **Chief Engineer** shall be final in this regard.

34. The presence of contractor's operators / supervisor at each work site (P.Way or Civil Or Bridge) is a must for proper supervision of work. It is advisable to depute Rly's retired P.Way supervisor staff / works supervisory staff, bridge supervisor staff as the case may be for this purpose, who are already trained in such works. However, if the contractor intends to engage any supervisor from outside for P.Way work he must get trained in the Divisional Training school of the Division P.Way works for a period of 6 (Six) days, for which the contractor has to pay Rs.700/- per Trainee per day towards training charges excluding lodging and boarding charges. After successful completion of the training, a certificate of competency shall be issued by the Divisional Training school at the minimum level of AEN.

Only such outside operators/supervisors of contractor who have been trained in the Division Training school and possess a competency certificate issued by AEN shall be permitted to supervise the work at the work site. Retired supervisors of Railway, however need not be trained. Similarly for any Civil / Bridge work which has the potential to cause unsafe condition for moving traffic, if any outside supervisor is engaged by the contractor, he shall be got trained in similar manner for such Civil / Bridge work in the Divisional Training School and obtain a competency certificate from AEN before he is permitted to supervise the work at work site.

35. For works of public nature contractor shall fix an information board containing information related to work order at prominent place free of cost. The content of such board, its fixing location, size and type of material etc. shall be as approved by Engineer-in-charge. The board shall be maintained by contractor during the currency of work order. If contractor fails to fix the information board for nominated work orders, a token penalty as deemed suitable as per GCC may be imposed by Engineer-in-charge.
36. The General Conditions of Contract will be governed by the S.E.Rly General condition of contract and standard specifications 2001. Vol – 2 / Standard General Conditions of Contract-August 2014 with all correction slips up to date.
37. The items covered under USSOR-2010 and the items covered under section "Z" of SOR-2001 are tentative and approximate and these are considered for evaluation of DV only. However the items covered under USSOR -2010 and under section "Z" of SOR -2001 may be altered within the scope of work as per instruction of Engineer-in-charge according to site requirement if required. Decision of Engineer-in-charge in this regard will be final & binding to all.
38. For all Items of the schedule.
Unless otherwise specified in the schedule of items, the rate quoted by the tenderer includes.
- a) All labour, tools, plant, equipment and machinery etc.
 - b) All lead, lift, ascent, descent, jungle clearance and making approach roads etc.
 - c) Loading, unloading, handling, re-handling and transportation of Railway materials from Railway depot to site of work & vice-a-versa.
 - d) All taxes including GST on materials and products.

SPECIAL CONDITIONS OF CONTRACT

1. S.E Railway Standard General conditions of contract as valid on date of opening of tender with correction slips as on date of opening of tender will be applicable in this contract.
2. Further, Indian Railways Unified standard specifications (Works & Materials) Volume - I & II, 2010 with correction slips as on date of opening of tender will be applicable in this contract.
3. The entire work will be executed under the supervision of Rly.'s Engineer-in-charge or his authorized representative at site.
4. All contractor's materials including fittings should conform to IS specifications and of reputed manufacturers as approved by the Engineer-in-charge or his authorized representative at site before use in the work.
5. **Engagement of Engineer by Contractor** (vide Railway Board's IR No.2012/CE-I/CT/O/20 dtd 12/07/2013.)

Sl.No	Cost of work	Employ Nos. of Qualified Engineers.
1	Rs.200 Lakhs and above.	One Graduate Engineer.
2	More than Rs.25 Lakhs but less than Rs.200 Lakhs.	<p>One Diploma Holder Engineer</p> <p>Note:- Track related contractual works of values as specified in para-(b), individuals having Diploma in Railway Engineering awarded by IPWE (India) shall also be considered as qualified Diploma Holder Engineers and contractors for track contract works can employ such individuals at their worksite on Indian Railway (Rly. Bd'slr. No. 2012/CE-I/CT/O/20, Dt. 12.07.2013).</p>
In case the contractor fails to employ the Qualified Engineer, as aforesaid in para above, in terms of provisions of clause 26A.2 to the General Conditions of Contract, he shall be liable to pay an amount of Rs.40,000/- and Rs.25,000/- for each month or part thereof for the default period for the provisions as mentioned in para-(a) and (b) above respectively.		

6. Removal of debris from nominated locations to dumping ground:

The contractor shall arrange the frequent and regular (once in a week at least) cleaning of the nominated locations, where he has dumped the debris in case of failure of the same, contractor shall be liable for a penalty of Rs.1500/- per day, after 48 hours of the issue of notice.

7. The vehicles and equipment of contractors can be drafted by Railway Administration in case of accidents/natural calamities involving human lives. And payment in respect of that would be made by operating the item as a non-scheduled item.
8. For supply of wooden planks, etc the contractor must submit vouchers of purchase along with Timber Transit permit issued by forest Deptt. The timber should have passing hammer mark of the forest Deptt.
9. Unless specified otherwise, the rate accepted are inclusive of all lead, lift, loading, unloading, handling, sales tax and all other charges and taxes liveable by the Govt. from time to time except service tax.
10. In case of any accident, the contractor shall be liable to pay for the damages to the extent; he is responsible on the basis of the report of enquiry committee.
11. Supply of materials should be well in advance from the date of execution of all works as per requirement given by AEN/IOW in-charge (Railway in –charge of work) at site.
12. No payment will be made for wastage/surplus materials.
13. Schedule of dimension as specified in the drawing must be followed strictly; any change should not be made without written permission of competent authority.
14. Contractor should take all precaution for safety of his/ their labour. The Railway will not entertain any claim towards accident whatsoever of the labour engaged by the contractor.
15. **Note for reinforcement steel and structural steel (Authority: Railway Boards letter No. 2007/CE-I/CT/8; dtd. 01/05/2012):-**
 - i. All reinforcement steel (TMT bars) and structural steel shall be procured as per specifications mentioned in BIS's documents - IS:1786 and IS:2062 respectively.

Independent tests shall be conducted, wherever required, to ensure that the materials procured conform to the specifications.

ii. These steel shall be procured only from those firms, which are established, reliable, indigenous & primary producers of steel ,having integrated steel plants (ISP), using iron ore as the basic raw material and having in- house iron rolling facilities, followed by production of liquid steel and crude steel, as per Ministry of steel's guidelines.

iii. However, only certain isolated sections of structural steel, not being rolled by ISPs can be procured from the authorised re-rollers of IPSs or authorised licensee of BIS having traceability system and who use billets produced by ISPs. Traceability shall be ensured by an officer specially authorised by the concerned SAG officer of the Zonal Railway on case to case basis for this purpose.

16. Note for pipes/Water supply pipes:-

Wherever used, the GI pipes shall be from leading manufacturers like Tata, Jindal, Bansal or equivalent.

17. Use of Personal Protective Equipments (PPE), safety signage and safety demarcation at work site:-

Contractors' personnel should wear PPEs like safety shoes, helmet, high visibility vests, air filter masks, hand gloves etc as required for personal protection at site. Wherever required, the worksite should be demarcated by suitable means and suitable prominent signage should be provided as approved by Engineer-in-charge.

18. In case of emergent repair/maintenance work required then zonal contractor shall start the work on written instruction issued by the concerned ADEN without waiting for approved work order which may be prepared and approved post facto.