

CHENNAI METROPOLITAN WATER SUPPLY AND SEWERAGE BOARD



NATIONAL COMPETITIVE BIDDING

Tender No : CNT / NCB / SEW / GOTN / PART – II /2396 /2013-14

BID DOCUMENT

FOR

**Automation of 37 Sewage Pumping Stations in CMWSS Board
PACKAGE -2**

VOLUME I

**INVITATION FOR BIDS
INSTRUCTION FOR BIDDERS
CONDITIONS OF CONTRACT
CONTRACT DATA**

SUPERINTENDING ENGINEER (Contracts & Monitoring)

CHENNAI METROPOLITAN WATER SUPPLY & SEWERAGE BOARD

No.1, Pumping Station Road, Chintadripet, Chennai 600 002.

Phone No.044-28451300 Extn.253, Fax: 044-38454336

E-mail secm@chennaietrowater.com

secandm@gmail.com

NAME OF WORK : Automation of 37 sewage pumping stations
in CMWSS Board – Package - 2

CONTRACT NO. : CNT/NCB/SEW/GOTN/ PART- II/ 2396 /2013-14

PERIOD OF SALE OF BIDDING DOCUMENT : FROM 27.06.2013 TO 29.07.2013

DATE OF PRE BID MEETING: 12.07.2013 at 11.30 AM

LAST DATE AND TIME FOR RECEIPT OF BIDS : DATE 30.07.2013 TIME 15.00 HOURS

DATE AND TIME OF OPENING OF TECHNICAL BIDS : DATE 30.07.2013 TIME 15.30 HOURS onwards

COMPLETION PERIOD OF CONTRACT : 6 MONTHS 6 MONTHS and 3 years O&M contract
after commencement of the project

OFFICER INVITING BIDS : SUPERINTENDING ENGINEER
(CONTRACTS & MONITORING)
CMWSS BOARD
No.1, PUMPING STATION ROAD
CHINTADRIPET
CHENNAI-600 002
TELEPHONE: 044-28451300 Extn: 253

PLACE OF RECEIVING AND OPENING OF BIDS : OFFICE OF THE SUPERINTENDING ENGINEER
(CONTRACTS & MONITORING)
CMWSS BOARD
No.1, PUMPING STATION ROAD
CHINTADRIPET
CHENNAI -600 002.

ADDRESS FOR PURCHASE: INFORMATION FACILITATION OFFICER,
CMWSS BOARD,
NO. 1 PUMPING STATION ROAD
CHINTADRIPET,
CHENNAI-600 002
TELEPHONE: 044-28451300 Extn: 227

Automation of 37 sewage pumping stations
in CMWSS Board – Package - 2

CONTENTS

Sl. No.	Description	Page No.
1	Notice Inviting Tender (NIT)	3
2	Special Instructions for submission of Technical Bids	5
2.a	Instructions to Bidders	7
3	Forms of Bid and Qualification Information	26
4	Conditions of Contract	40
5	Contract Data	78
6	Forms of Securities	89
7	Technical Specifications & Drawings	93
8	Bill of Quantities	94
9	Declaration	95

CHENNAI METROPOLITAN WATER SUPPLY AND SEWERAGE BOARD

No.1 Pumping station Road, Chindatripet, Chennai-600 002

NOTICE INTIVING TENDER

NATIONAL COMPETITIVE BIDDING

Sealed bids are invited from the eligible bidders for the following work. Bidding will be conducted through National Competitive Bidding procedures of CMWSS Board under two cover system conforming to the Tamil Nadu Transparency in Tenders Act, 1998 and Rules 2000.

S. No.	Name of work and Tender No.	Bid security Rs.	Sale period	Due date & Time for submission of bids	Contract Period
1.	Automation of 37 sewage pumping stations in CMWSS Board – Package - 1 CNT/NCB/SEW/ GOTN/ Part-II/2395 / 2013-14	3,14,000/-	27.06.2013 To 29.07.2013	Upto 03.00 PM on 30.07.2013	6 months for supply, delivery, installation testing and commissioning and 3 Years Operation and Maintenance contract after commissioning of project
2	Automation of 37 sewage pumping stations in CMWSS Board – Package - 2 CNT/NCB/SEW/ GOTN/ Part-II/2396/ 2013-14	2,90,000/-	27.06.2013 To 29.07.2013	Upto 03.00 PM on 30.07.2013	6 months for supply, delivery, installation testing and commissioning and 3 Years Operation and Maintenance contract after commissioning of project
3	Automation of 42 sewage pumping stations in CMWSS Board – Package- 3 CNT/NCB/SEW/ GOTN/ Part-II/2397 / 2013-14	3,18,000/-	27.06.2013 To 29.07.2013	Upto 03.00 PM on 30.07.2013	6 months for supply, delivery, installation testing and commissioning and 3 Years Operation and Maintenance contract after commissioning of project
4	Automation of 36 sewage pumping stations in CMWSS Board – Package - 4 CNT/NCB/SEW/ GOTN/ Part-II/2398 / 2013-14	3,02,000/-	27.06.2013 To 29.07.2013	Upto 03.00 PM on 30.07.2013	6 months for supply, delivery, installation testing and commissioning and 3 Years Operation and Maintenance contract after commissioning of project
5	Automation of 35 sewage pumping stations in CMWSS Board – Package - 5 CNT/NCB/SEW/ GOTN/ Part-II/2399 / 2013-14	2,93,000/-	27.06.2013 To 29.07.2013	Upto 03.00 PM on 30.07.2013	6 months for supply, delivery, installation testing and commissioning and 3 Years Operation and Maintenance contract after commissioning of project
6	Inline Water Quality Monitoring System in CMWSS Board CNT/NCB/WSS/ GOTN/ Part-II/2400 / 2013-14	78,000/-	27.06.2013 To 15.07.2013	Upto 03.00 PM on 16.07.2013	5 months for supply, delivery, installation testing and commissioning and 3 Years Performance based Operation and maintenance contract after commissioning of project
Consortium bids are acceptable for the works under Sl. No. 1 to 5 above For all other conditions / instructions please refer Bid document					

S. No.	Name of work and Tender No.	Bid security Rs.	Sale period	Due date & Time for submission of bids	Contract Period
7.i	Date of Pre-Bid meeting			For Sl. No. 1 to 5 – on 12.07.2013 at 11.30 AM For Sl. No. 6 – on 02.07.2013 at 11.30 AM	
7.ii.	Due date and time for opening of Technical Bids			For Sl. No. 1 to 5 - On 30.07.2013 from 3.30 P.M. onwards. For Sl. No. 6 - On 16.07.2013 at 03.30 PM. If the due date happens to be a holiday the Bid will be received and opened on the next working day	
8.i.	Availability of Bid Document in person			Information & Facilitation Officer, CMWSS Board, No.1 Pumping Station Road, Chintadripet, Chennai-600 002 : Telephone: 044-28451300 Extn.227)	
8.ii.	Through website			www.chennaietrowater.tn.nic.in & www.tenders.tn.gov.in The bid document can downloaded free of cost and should be bounded in separate volumes along with necessary enclosures while submission of tender	
9.	Cost of Bid Document			Rs.5,250/- (inclusive of tax) per set per work payable in the form of cash or DD/Pay Order drawn from a Nationalized/Scheduled Bank in favour of Managing Director, CMWSS Board. The document will also be sent by surface mail on an extra advance payment of Rs.2000/- per set per work. The downloaded document from the web site can be used for submission at free of cost.	
10.	Address for information and clarifications and for receipt of bids			Office of Superintending Engineer, Contracts & Monitoring, CMWSS Board, No.1, Pumping Station Road, Chintadripet, Chennai – 600 002 Phone No. 044-2845 1300 Extn. 253 FAX : 044-2845 4336 Email : secm@chennaietrowater.com secandm@gmail.com	

SUPERINTENDING ENGINEER
CONTRACTS & MONITORING

2. **SPECIAL INSTRUCTIONS FOR SUBMISSION OF TECHNICAL BIDS**

Special Instructions for submission of Technical Bids

1. All pages in the Technical Bid (Both Original and Copy) should be page numbered sequentially.
2. All pages of the Technical bid (both original and copy) should be signed by authorized signatory whose name should be communicated to CMWSSB with office seal without any omission
3. All credentials including the Notarized copies of performance certificates and Bankers certificates enclosed for the bids should be identified as the documents submitted by the bidder over their signature with office seal
4. Any document / credential submitted without signature of authorized persons will not be considered for evaluation.
5. Bidders should produce the originals for the performance / client certificate for verification whenever required with the copies of those certificates enclosed along with the bid.
6. Bidder should furnish all the details pertaining to the Qualification Criteria in Abstract Qualification Information and sign the declaration with full signature. If the space available in the Table is insufficient, additional sheets may be furnished in the specified format separately with declaration.

SECTION 2.a. INSTRUCTIONS TO BIDDERS (ITB)

2.a : Instructions to Bidders

Table of Clauses	P.No	P.No	
A. General		E. Bid Opening and Evaluation	
1. Scope of Bid	9	23. Bid Opening	20
2. Source of Funds	9	24. Process to be Confidential	21
3. Eligible Bidders	9	25. Clarification of Bids & contacting Employer	21
4. Qualification of the Bidder	9	26. Examination of Bids and Deter- mination of Responsiveness	22
5. One Bid per Bidder	13	27. Correction of Errors	22
6. Cost of Bidding	13	28. Currency for Bid Evaluation	22
7. Site Visit	13	29. Evaluation and Comparison of Bids	22
B. Bidding Documents		30. Preference for Domestic Bidders	23
8. Content of Bidding Documents	14	F. Award of Contract	
9. Clarification of Bidding Documents	14	31. Award Criteria	23
10. Amendment of Bidding Documents	14	32. Employer's Right to Accept any Bid and to Reject any / all Bids	23
C. Preparation of Bids		33. Notification of Award & Signing of Agreement	23
11. Language of Bid	15	34. Performance Security	24
12. Documents Comprising the Bid	15	35. Advance Payment and Security	24
13. Bid Prices	15	36. Adjudicator	25
14. Currencies of Bid and Payment	15	37. Corrupt or Fraudulent Practices	25
15. Bid Validity	16		
16. Bid Security	16		
17. Alternative Proposals by Bidders	16		
18. Format and Signing of Bid	16		
D. Submission of Bids			
19. Sealing and Marking of Bids	17		
20. Deadline for Submission of Bids	20		
21. Late Bids	20		
22. Modification, substitution and Withdrawal of Bids	20		

A. General

1. Scope of Bid

- 1.1 The Chennai Metropolitan Water Supply and Sewage Board (CMWSSB) (referred to as Employer in these documents) invites bids for Automation of 37 sewage pumping stations in CMWSS Board – Package - 2
” (as defined in these documents and referred to as "the works") detailed in the table given in Invitation for Bids. The bidders may submit bids for any or all the works detailed in the table given in Invitation for Bid.
- 1.2 The successful bidder will be expected to complete the works by the intended completion date specified in the Contract data.
- 1.3 Throughout these Bidding documents, the terms bid and Tender and their derivatives (bidder/Tenderer, bid/tendered, bidding/Tendering, etc) are synonymous and day means calendar day. Singular also means plural.

2. Source of Funds

- 2.1 Eligible payment under the contract for this works will be made from GOTN funds.

3. Eligible Bidders

- 3.1 All bidders except those who have been debarred/banned by the Board/Govt of Tamil Nadu are eligible to bid for the tender
- 3.2 All bidders shall provide in Section 3, Forms of Bid and all Qualification Information required under this contract.
- 3.3 **DELETED**
- 3.4 Bidders shall not be under a declaration of ineligibility for corrupt and fraudulent practices in accordance with sub-clause 37.1.

4. Qualification of the Bidder

- 4.1 All bidders shall provide in Forms of Bid and Qualification Information, a preliminary description of the proposed work method and schedule, including drawings and charts, as necessary.
- 4.2 Pre-qualification was not undertaken for this contract.
- 4.3 All bidders shall include the following information and documents with their bids in Forms of Bid and Qualification Information.
 - (a) Copies of original documents defining the constitution or legal statutes, place of registration and principal place of business, written power of attorney of the signatory of the Bid to commit the Bidder.
 - (b) Total monetary value of contracted works performed during the qualifying period.
 - (c) Experience in works of a similar nature and details of work carried out during the qualifying period and details of works under way or contractually committed and clients who may be contacted for further information on those contracts.

- (d) Major items of construction equipment proposed to carry out the contract;
- (e) Qualifications and experience of key management and technical personnel proposed for the Contract;
- (f) Reports on the financial standing of the Bidder, such as profit and loss statements and auditor's reports for the past five years;
- (g) Evidence of adequacy of working capital for this contract (access to line (s) of credit and availability of other financial resources);
- (h) Authority to seek references from the Bidder's bankers;
- (i) Information regarding any litigation, current or during the last eight years, in which the Bidder is involved, the parties concerned, and disputed amount;
- (j) Proposals for subcontracting components of the Works amounting to more than ten percent of the Contract Price; (for each, qualifications and experience of the identified sub contractor in the relevant field should be annexed)
- (k) The proposed methodology and program of construction, backed with equipment planning and deployment, duly supported with broad calculations and quality control procedures proposed to be adopted, justifying their capability of execution and completion of work within the stipulated period of completion as per Mile stones.
- (l) All the credentials furnished by the Bidders towards the satisfying the qualification criteria shall be duly certified by a "Notary Public".
- (m) The credentials to meet the qualification criteria for serial no 2 to 5 eligibility criteria shall be from the Client / Employer not below the rank of Executive Engineer. No self-certification will be accepted.

4.4 Bids submitted by a consortium of two or three firms as partners shall comply with the following requirements :

- [a] The bid shall include all the information listed in Sub-clause 4.3 above;
- [b] The bid and, in case of a successful bid, the Agreement, shall be signed so as to be legally binding on all partners;
- [c] one of the partners shall be nominated as being in charge, and this authorization shall be evidenced by submitting a power of attorney signed by legally authorized signatories of all the partners;
- [d] The partner in charge shall be authorized to incur liabilities and receive instructions for and on behalf of any and all partners of the consortium and the entire execution of the contract, including payment, shall be done exclusively with the partner in charge;
- [e] All partners of the consortium shall be liable jointly and severally for the execution of the contract in accordance with the contract terms, and a statement to this effect shall be included in the authorization mentioned under [c] above, as well as in the bid and in the Agreement [in case of a successful bid];
- [f] The consortium agreement should indicate precisely the role of all members of Consortium in respect of planning, design, construction equipment, key personnel, work execution, and financing of the project. All members of Consortium should have active participation in execution during the currency of the contract. This should not be varied/modified subsequently without prior approval of the employer;

[g] The consortium agreement should be registered in **Chennai** before execution of the agreement so as to be legally valid and binding on partners; and

[h] A copy of the Consortium Agreement entered into by the partners shall be submitted with the bid. Alternatively, a Letter of Intent to execute a consortium Agreement in the event of a successful bid shall be signed by all partners and submitted with the bid, together with a copy of the proposed Agreement.

i) Only a maximum of 3 partners are allowed in a Consortium

4.5 A. To qualify for award of the contract, each bidder should have performed / executed the following during the period from 01-04-2008 to 31-03-2013 as detailed below.

Sl. No	Qualification Criteria	Minimum required qualification
1.	Must have achieved in any financial year during 2008-2009 to 2012-2013 Annual financial turn-over not less than the amount given (Rupees in Lakhs)	Rs. 558.65 Lakhs
2	Satisfactorily completed any single work of value not less than the amount (Rupees in Lakhs)	Rs. 223.46 Lakhs
3	Should have successfully supplied, installed and commissioned a project with the following components / work	
i.	RTU/PLC system with SCADA interface capability	1No.
ii	SCADA system	1No.
iii.	Ultrasonic / Radar level transmitters	1No.
iv.	GSM/GPRS connectivity	1Job
4.	Should have experience in design and supply of MCC panel and DG synchronizing panel	1Job
5.	Bidder should be authorized by OEM for supply of PLC/RTU specifically for this job	
6.	Bidder should possess ISO 9001 – 2008 certification	

For Sl.No.2 to 6 above the experience of the bidder as on the date of submission of bid will be considered for evaluation.

- Consortium bids are acceptable
- The bids of the Contractors whose previous performance is found to be poor / not satisfactory, will not be taken up for evaluation.
- Financial turnover and cost of completed works of previous years shall be given weightage of 6% per year based on rupee value to bring them to 2013-2014 price level.

B. Each bidder should further demonstrate:

(a) Availability (either owned or leased or by procurement against mobilization advances) of the following key and critical equipment for this work:

-	Pipe tapping equipment	2 nos.	
-	Multimeter	1no.	0-500 V AC
-	Set of Crimping Tool for all sizes of Cables (Copper & Aluminium)	1set	
	Tester	1no.	2 KV HV
-	Clip on type Ammeter	1no.	0-500 A

The bidders should, however, undertake their own studies and furnish with their bid, a detailed project planning and methodology supported with layout and necessary drawings and calculations (detailed) as stated in clause 4.3 (k) above to allow the Employer to review their proposals. The numbers, types and capacities of each plant/equipment shall be shown in the proposals along with the cycle time for each operation for the given production capacity to match the requirements.

- (b) availability for this work of a Project Manager with minimum of 10 years experience in a Project of size similar to the present work and other key personnel with adequate experience as indicated in the contract data; and
- (c) Liquid assets and/or availability of credit facilities of not less than Rs 112.00 Lakhs. (*Credit lines/letter of credit/certificates from Banks for meeting the funds requirement etc.*) to be drawn in the name of prime contractor.

C. DELETED

- 4.6** Consortium is permitted in the tender. Only a maximum of 3 partners are allowed in a Consortium. In respect of turnover as per clause 4.5 (A) above, the lead partner should meet not less than 50 % of the qualifying criteria and other partners should meet individually not less than 25% of qualifying criteria and all the partners should collectively meet 100% of qualifying criteria.

In respect of qualification criteria under Sl.no.2 to 5 as per clause 4.5A above, the Bidder on his own or any one of the partners of the Consortium as the case may be should have completed successfully the works specified as stipulated in the Bid document for which necessary documentary evidence should be produced to the satisfaction of CMWSS Board.

Sub contractors' experience and resources shall not be taken into account in determining the Bidders compliance with the qualifying criteria.

- 4.7** Bidders who meet the minimum qualification criteria A will be qualified only if their available bid capacity is more than the value put to tender. The available bid capacity will be assessed at the time of evaluation of Technical Bids itself. In case of the Bidders who do not satisfy the requirement of the Bid Capacity their Bid will be treated as non-responsive and their Price Bids will not be opened.

The available bid capacity will be calculated as under:

$$\text{Assessed Available Bid capacity} = (A \times N \times 1.5 - B) \quad \text{where}$$

A = Maximum value of engineering works executed in any one year during the last five years (updated to 2013-2014 price level) taking into account the completed as well as works in progress.

N = Number of years prescribed for completion of the works for which bids are invited.

B = Value, at 2013-2014 price level, of existing commitments and on-going works to be completed during the next six months.

Note: The statements showing the value of existing commitments and on-going works as well as the stipulated period of completion remaining for each of the works listed should be countersigned by the Engineer in charge, not below the rank of an Executive Engineer or equivalent.

In case of the Bidders / Consortium Partners who formed part of Joint venture / consortium in the past including for ongoing works, the references A & B would be determined based on the details for such partners who undertook / proposed to undertake physical execution of the works and in proportion to their participation in such joint ventures / consortiums.

The assessed bid capacity of each of the consortium partners should be more than the required bid capacity. The required bid capacity for consortium partners would be determined on the basis of their participation in the consortium for the purpose of this tender.

However, to qualify for the Bid capacity requirement, the lead partner should meet not less than 50% of the required Bid capacity and other partners should meet individually not less than 25% of the Bid capacity requirement. However, all the partners should collectively meet 100% of the Bid capacity requirement.

4.8 Even though the bidders meet the above qualifying criteria, they are subject to be disqualified if they have:

- made misleading or false representations in the forms, statements and attachments submitted in proof of the qualification requirements; and/or
- record of poor performance such as abandoning the works, not properly completing the contract, inordinate delays in completion, litigation history, or financial failures etc. and/or
- participated in the previous bidding for the same work and had quoted unreasonably high bid prices and could not furnish rational justification to the Employer.

5. One Bid per Bidder

5.1 Each bidder shall submit only one bid for one package either individually or as a partner in a joint venture. A bidder who submits or participates in more than one bid (other than as a subcontractor who will not submit his bid as a bidder or in cases of alternates that have been permitted or requested) will cause all the proposals with the bidder's participation to be disqualified.

6. Cost of Bidding

6.1 The bidder shall bear all costs associated with the preparation and submission of his Bid, and the Employer will in no case be responsible and liable for those costs.

7. Site visit

7.1 The Bidder, at the Bidder's own responsibility and risk is encouraged to visit and examine the Site of Works and its surroundings and obtain all information that may be necessary for preparing the Bid and entering into a contract for the Works. The costs of visiting the Site shall be at the Bidder's own expense.

B. Bidding Documents

8. Content of Bidding Documents

8.1 The set of bidding documents comprises the documents listed in the table below and addenda issued in accordance with Clause 10:

- 1 Invitation for Bids
- 2 Instruction to Bidders
- 3 Forms of Bid and Qualification Information
4. Conditions of Contract
- 5 Contract Data
- 6 Forms of Securities
- 7 Technical Specifications
- 8 Bill of Quantities

8.2 Of the three sets of the bidding documents supplied, two sets should be completed and returned with the bid.

9. Clarification on Bidding Documents

9.1 A prospective bidder requiring any clarification of the bidding documents may notify the Employer in writing by Mail / e-mail / Facsimile at the Employer's address indicated in the Invitation for Bids. The Employer will respond to any request for clarification, which he receives from prospective bidders 48 hours prior to the deadline for submission of bids.. Copies of the Employer's response will be forwarded to all purchasers of the bidding documents, including a description of the enquiry but without identifying its source.

9.2 Pre-bid meeting

9.2.1 The bidder or his official representative is invited to attend a pre-bid meeting which will take place at
Chennai Metropolitan Water Supply and Sewerage Board, No.1 Pumping station Road,
Chintadripet , Chennai – 600002 on 12.07.2013 at 11.30 hrs.

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

9.2.3 The bidder is requested to submit any questions in writing or by cable to reach the Employer not later than one week before the meeting.

9.2.4 Minutes of the meeting, including the text of the questions raised (without identifying the source of enquiry) and the responses given will be transmitted without delay to all purchasers of the bidding documents. Any modification of the bidding documents listed in Sub-Clause 8.1 which may become necessary as a result of the pre-bid meeting shall be made by the Employer exclusively through the issue of an Addendum pursuant to Clause 10 and not through the minutes of the pre-bid meeting.

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

10. Amendment of Bidding Documents

10.1 Before the deadline for submission of bids, the Employer may modify the bidding documents by issuing addenda.

10.2 Any addendum thus issued shall be part of the bidding documents and shall be communicated in writing to all the purchasers of the bidding documents. Prospective bidders shall acknowledge receipt of each addendum in writing to the Employer.

- 10.3** To give prospective bidders reasonable time in which to take an addendum into account in preparing their bids, the Employer shall extend as necessary the deadline for submission of bids, in accordance with Sub-Clause 20.2 below.

C. Preparation of Bids

11. Language of the Bid

- 11.1** All documents relating to the bid shall be in the English language.

12. Documents comprising the Bid

- 12.1** The bid submitted by the bidder shall comprise the following:

First Cover - Technical Bid

- (a) Bid Security;
- (b) Technical Bid
- (c) Qualification Information Form and Documents;
- (d) The Bid (in the format indicated in Forms of bid, Qualification Information and letter of acceptance)

Second Cover - Financial Bid

- (e) Priced Bill of Quantities;

and any other materials required to be completed and submitted by bidders in accordance with these instructions. The documents listed under Sl.No. 3, and 9 of Sub-Clause 8.1 shall be filled in without exception.

- 12.2** Bidders bidding for this contract together with other contracts stated in the IFB/NIT to form a package will so indicate in the bid together with any discounts offered for the award of more than one contract.

13. Bid Prices

- 13.1** The contract shall be for the whole works as described in Sub-Clause 1.1, based on the priced Bill of Quantities submitted by the Bidder.
- 13.2** The bidder shall fill in rates and prices and line item total (both in figures and words) for all items of the Works described in Bill of Quantities along with total bid price (both in figures and words). *Items for which no rate or price is entered by the bidder will not be paid for by the Employer when executed and shall be deemed covered by the other rates and prices in the Bill of Quantities.* Corrections, if any, shall be made by crossing out, initialing, dating and rewriting.
- 13.3** All duties, taxes, and other levies payable by the contractor under the contract, or for any other cause shall be included in the rates, prices and total Bid Price submitted by the Bidder.
- 13.4** The rates and prices quoted by the bidder shall be fixed for the duration of the contract and shall not be subject to adjustment on any account.

14. Currencies of Bid and Payment

- 14.1** The unit rates and the prices shall be quoted by the bidder entirely in "**Indian Rupees**" (INR)

15. Bid Validity

15.1 Bids shall remain valid for a period not less than **one hundred and twenty days** after the deadline date for bid submission specified in Clause 20. A bid valid for a shorter period shall be rejected by the Employer as non-responsive.

15.2 In exceptional circumstances, prior to expiry of the original time limit, the Employer may request that the bidders may extend the period of validity for a specified additional period. The request and the bidders' responses shall be made in writing. A bidder may refuse the request without forfeiting his bid security. A bidder agreeing to the request will not be required or permitted to modify his bid, but will be required to extend the validity of his bid security for a period of the extension, and in compliance with Clause 16 in all respects.

15.3 The contract is not subjected to price adjustment

16. Bid Security

16.1 The Bidder shall furnish, as part of his Bid, a Bid security in the amount as shown in NIT for this particular work. This bid security is to be furnished in the form of Bank draft /Pay order drawn on any Nationalised / Scheduled Bank in favour of Managing Director, CMWSSB payable at Chennai

The Bank guarantee towards Bid security will not be accepted

16.2 Deleted

16.3 Any bid not accompanied by an acceptable Bid Security and not secured as indicated in Sub-Clauses 16.1 above shall be rejected by the Employer as non-responsive.

16.4 The Bid Security of unsuccessful bidders will be returned as promptly as possible upon award of contract. Employer shall pay no interest on the bid security.

16.5 The Bid Security of the successful bidder will be discharged when the bidder has signed the Agreement and furnished the required Performance Security.

16.6 The Bid Security should be forfeited

(a) if the Bidder withdraws the Bid after opening of Technical Bid during the period of Bid validity;

(b) if the Bidder does not accept the correction of the Bid Price, pursuant to Clause 27; or

(c) in the case of a successful Bidder, if the Bidder fails within the specified time limit to

(i) sign the Agreement; or

(ii) furnish the required Performance Security.

17.0 Alternative Proposals by Bidders

17.1 Alternative proposal will not be considered

18. Format and Signing of Bid

18.1 The Bidder shall prepare one original and one copy of the documents comprising the bid as described in Clause 12 of these *Instruction to Bidders*, bound with the volume containing the Forms of Bid and clearly marked "**ORIGINAL**" and "**COPY**" as appropriate. In the event of discrepancy between them the original shall prevail.

- 18.2** The original and copy of the Bid shall be typed or written in indelible ink and shall be signed by a person or persons duly authorized to sign on behalf of the Bidder, pursuant to Sub Clauses 4.3. All pages of the bid where entries or amendments have been made shall be initialed by the person or persons signing the bid.
- 18.3** The Bid shall contain no alterations or additions, except those to comply with instructions issued by the Employer, or as necessary to correct errors made by the bidder, in which case the person or persons signing the bid shall initial such corrections.
- 18.4** The Bidder shall furnish information as described in the Form of Bid on commissions or gratuities, if any, paid or to be paid to agents relating to this Bid, and to contract execution if the Bidder is awarded the contract.

D. Submission of Bids

19. Sealing and Marking of Bids

- 19.1** The tender shall be submitted in two (2) parts viz. **PART - A and PART - B**. Each part shall be placed in an independent sealed envelope.

Each part shall be labeled as follow

PART - A : TECHNICAL BID ENVELOPE

Contract No : CNT/ /NCB/SEW/GOTN/ PART- II/2396 /2013-14

Name of Work : Automation of 37 sewage pumping stations in CMWSS Board –
Package – 2

Due date/time : **30.07.2013 @ 15.00 HRS.**

PART – B : TENDER PRICE ENVELOPE

Contract No : CNT/ /NCB/SEW/GOTN/ PART- II/2396 /2013-14

Name of Work : Automation of 37 sewage pumping stations in CMWSS Board –
Package - 2

- 19.2** The contents of each of the two (2) envelopes shall be as described in the subsequent clauses. For all further references, these envelopes will be referred to briefly as:

- Technical Bid Envelope
- Tender Price Bid Envelope
- The envelope containing Part A and the envelope containing Part B shall be placed inside an outer envelope and shall be labeled as follows:

Bid for : Automation of 37 sewage pumping stations in CMWSS Board – Package - 2

This envelope contains two (2) independent sealed envelopes as follows:

PART - A : Technical Tender Envelope

PART - B : Tender Price Envelope
Contract No. : CNT/ /NCB/SEW/GOTN/ PART- II/ 2396 /2013-14
Due date & time : 30.07.2013 @ 15.00 HRS.

19.3 The envelope shall be addressed to :
The Superintending Engineer (Contracts & Monitoring)
Chennai Metropolitan Water Supply and Sewerage Board
No.1 Pumping Station Road, Chintadripet,
Chennai 600 002

Each envelope shall carry the name and address of the Tenderer prominently.

19.4 The Technical Tender Envelope shall contain the following in the sequence indicated below. The technical tender shall be submitted in two copies.

- 19.5**
- i. Covering letter
 - ii. Performance Certificate obtained from the clients as per Qualification Information
 - iii. The Bid Security
 - iv. Letter of Tender/ Contractor's Bid with signature of the authorized signatory with seal
 - v. Declaration by the Tenderer that his Tender is without any technical and commercial deviations in the format of the letter enclosed with the Tender.
 - vi. Certified Power of Attorney authorizing a representative or representatives of the Firm to sign the Tender and all subsequent communication
 - vii. Documentary evidence of unambiguous fulfillment of eligibility criteria for Tendering
 - viii. Latest Income Tax Clearance Certificate and Sales Tax Clearance Certificate.
 - ix. Tender document signed by the authorized signatory.
 - x. Full technical description of the items and services proposed by the Tenderer including makes.
 - xi. Details of Construction Equipment proposed for the execution of the works and makes.
 - xii. Details of manpower proposed for the Project Management and Site Management including qualification and experience of the personnel.
 - xiii. Work methodology and plan.
 - xiv. Bar Chart and PERT charts for the execution of the works

- xv. Confirmation of performance guarantee and Defects Liability Period in accordance with Clause 35 of the Conditions of Contract.
- xvi. Confirmation of the commercial terms and conditions. **There shall be no reference to the price**
- xvii. List of concurrent commitments including a schedule of contracts under execution including values, percentage of works completed and the schedule date of completion of the work.
- xviii. Any other technical details

19.5 The "Technical Tender Envelope" shall **NOT** contain the following:

- i. Schedule of Prices of the Tender Document constituting the Lump Sum Tender Price.
- ii. Any indication either direct or indirect or implicit or explicit or implied regarding the Tender Price or its break up details or any other related price indication etc. shall be a cause for outright disqualification of the entire Tender.

19.6 The envelope labeled, as "Tender Price Envelope" shall contain the following in the sequence indicated below. This shall be submitted as two copies – 1 original and 1 copy.

- i. Covering letter
- ii. The Tender Price for the work with each page signed, dated and stamped with the seal of the Firm.
- iii. Apart from the Schedule of Prices and Annexure duly filled in, Tenderers shall not enclose any other documents or statements that influence the price except discount/rebate letter. In such an event the Board shall summarily disqualify the Tenderer and reject the Tender.

19.7 The Bidder shall seal the original and copy of the Bid in separate envelopes, duly marking the envelopes as "**ORIGINAL**" and "**COPY**". These envelopes (called as inner envelopes) shall then be put inside one outer envelope.

19.8 The **inner and outer** envelopes shall

- (a) be addressed to the Employer at the following address:

**The Superintending Engineer (C & M)
CMWSSB, No.1, Pumping Station Road,
Chintadripet, Chennai -600 002**

- (b) Bear the following identification:

- Bid for[name of contract]
- Bid Reference No.....[insert number]
- Do not open before[time and date for bid opening, as per Clause 20]

19.9 In addition to the identification required in Sub-Clause 19.2, the inner envelopes shall indicate the name and address of the bidder to enable the bid to be returned unopened in case it is declared late, pursuant to Clause 21.

19.10 If the outer envelope is not sealed and marked as above, the Employer will assume no responsibility for the misplacement or premature opening of the bid.

20. Deadline for Submission of the Bids

20.1 Bids must be received by the Employer at the address specified above not later than 15.00 Hours on **30.07.2013** . In the event of the specified date for the submission of bids declared a holiday for the Employer, the Bids will be received upto the appointed time on the next working day.

20.2 The Employer may extend the deadline for submission of bids by issuing an amendment in accordance with Clause 10, in which case all rights and obligations of the Employer and the bidders previously subject to the original deadline will then be subject to the new deadline.

21. Late Bids

21.1 Any Bid received by the Employer after the deadline prescribed in Clause 20 will be returned unopened to the bidder.

Any Bid submitted in person after 3.00 PM. on the due date will not be accepted. Similarly, any bid received by post after 3.00 PM. on the due date will not be accepted and will be returned unopened to the bidder. Hence, the bidders are requested to submit their bid well in advance i.e., before 3.00 PM. as per the Office Clock on the dead line / extended deadline date and time of bid submission. The bidders can submit the bids on any day during the bid submission period.

22. Modification and Withdrawal of Bids

22.1 Bidders may modify or withdraw their bids by giving notice in writing before the deadline prescribed in Clause 20.

22.2 Each Bidder's modification or withdrawal notice shall be prepared, sealed, marked, and delivered in accordance with Clause 18 & 19, with the outer and inner envelopes additionally marked "**MODIFICATION**" or "**WITHDRAWAL**", as appropriate.

22.3 No bid may be modified after the deadline for submission of Bids.

22.4 Withdrawal or modification of a Bid between the deadline for submission of bids and the expiration of the original period of bid validity specified in Clause 15.1 above or as extended pursuant to Clause 15.2 may result in the forfeiture of the Bid security pursuant to Clause 16.

22.5 Bidders may only offer discounts to, or otherwise modify the prices of their Bids by submitting Bid modifications in accordance with this clause,

E. Bid Opening and Evaluation

23. Bid Opening

- 23.1** The Employer will open the technical tender envelope of all the Bids received (except those received late), including modifications made pursuant to Clause 22, in the presence of the Bidders or their representatives who choose to attend at **15.30** hrs. on the date and the place specified in Clause 20. In the event of the specified date of Bid opening being declared a holiday for the Employer, the Bids will be opened at the appointed time and location on the next working day.
- 23.2** Envelopes marked "**WITHDRAWAL**" shall be opened and read out first. Bids for which an acceptable notice of withdrawal has been submitted pursuant to Clause 22 shall not be opened.
- 23.3** The Bidders' names, Bid modifications and withdrawals, the presence or absence of Bid security, and such other details as the Employer may consider appropriate, will be announced by the Employer at the opening. Bids (and modifications) sent pursuant to Clause 22 that are not opened and read out at bid opening will not be considered for further evaluation regardless of the circumstances. Withdrawn bids will be returned unopened to bidders. The tender price envelope will not be opened on the same day but on another day in the presence of the qualified Tenderers or their authorised representatives. The date and time of opening the tender price envelope will be advised to the qualified Tenderer in writing.
- 23.4** The Employer shall prepare minutes of the Bid opening, including the information disclosed to those present in accordance with Sub-Clause 23.3.
- 23.5** Bidding procedure: Two cover bidding procedure will be adopted and will be processed as detailed below:-

Bids (in two covers) must be delivered in the address given below on or before 15.00 hrs. office time on **30.07.2013**. The first cover (Technical Tender envelope) will consist of Bid Security and a Technical Bid in two separate covers without any reference to prices and the second cover (Price Tender Envelope) will consist of Price Bid only.

Late bids and Bids without Bid Security will be summarily rejected.

The First cover will be opened in the presence of bidders' representative who choose to attend at the address given below at **15.30 hrs office time on 30.07.2013**.

Following the evaluation procedures by the employer on the bid security and the technical qualification contained in the first cover, the employer will subsequently open the second cover (Price Tender Envelope) of the Bidders who meet the minimum acceptable qualification criteria and who has submitted a technically responsive bid. Only the price bids of those bidders whose bids are found technically responsive and acceptable will be opened on the date and time to be intimated later and the price bids will be evaluated.

24. Process to Be Confidential

- 24.1** Information relating to the examination, clarification, evaluation, and comparison of Bids and recommendations for the award of a contract shall not be disclosed to Bidders or any other persons not officially concerned with such process until the award to the successful Bidder has been announced. Any effort by a Bidder to influence the Employer's processing of Bids or award decisions may result in the rejection of his Bid.

25. Clarification of Bids

- 25.1** To assist in the examination, evaluation, and comparison of Bids, the Employer may, at his discretion, ask any Bidder for clarification of his Bid, including breakdowns of unit rates. The request for clarification and the response shall be in writing but no change in the price

or substance of the Bid 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 Bids in accordance with Clause 27.

25.2 Subject to sub-clause 25.1, no Bidder shall contact the Employer on any matter relating to its bid from the time of the bid opening to the time the contract is awarded. If the Bidder wishes to bring additional information to the notice of the Employer, it should do so in writing.

25.3 Any effort by the Bidder to influence the Employer in the Employer's bid evaluation, bid comparison or contract award decisions may result in the rejection of the Bidders' bid.

26. Examination of Bids and Determination of Responsiveness

26.1 Prior to the detailed evaluation of Bids, the Employer will determine whether each Bid (a) meets the eligibility criteria defined in Clause 3; (b) has been properly signed; (c) is accompanied by the required securities and; (d) is substantially responsive to the requirements of the Bidding documents.

26.2 A substantially responsive Bid is one which conforms to all the terms and conditions of the Bidding documents, without material deviation or reservation. A material deviation or reservation is one (a) which affects in any substantial way the scope, quality, or performance of the Works; (b) which limits in any substantial way, inconsistent with the Bidding documents, the Employer's rights or the Bidder's obligations under the Contract; or (c) whose rectification would affect unfairly the competitive position of other Bidders presenting substantially responsive Bids.

26.3 If a Bid is not substantially responsive, it will be rejected by the Employer, and may not subsequently be made responsive by correction or withdrawal of the non-conforming deviation or reservation.

27. Correction of Errors

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

- (a) where there is a discrepancy between the rates in figures and in words, lower of the two will govern; and
- (b) where there is a discrepancy between the unit rate and the line item total resulting from multiplying the unit rate by the quantity, the unit rate as quoted will govern.

27.2 The amount stated in the Bid will be adjusted by the Employer in accordance with the above procedure for the correction of errors and shall be considered as binding upon the Bidder. If the Bidder does not accept the corrected amount the Bid will be rejected, and the Bid security shall be forfeited in accordance with Sub-Clause 16.6 (b).

28. DELETED

29. Evaluation and Comparison of Bids

29.1 The Employer will evaluate and compare only the Bids determined to be substantially responsive in accordance with Clause 26.

29.2 In evaluating the Bids, the Employer will determine for each Bid the evaluated Bid Price by adjusting the Bid Price as follows:

- (a) making any correction for errors pursuant to Clause 27; or

- (b) making an appropriate adjustments for any other acceptable variations, deviations; and
 - (c) making appropriate adjustments to reflect discounts or other price modifications offered in accordance with Sub Clause 22.5.
- 29.3** The Employer reserves the rights to accept or reject any variation, deviation offer. Variations, deviations, and other factors, which are in excess of the requirements of the Bidding documents or otherwise result in unsolicited benefits for the Employer shall not be taken into account in Bid evaluation.
- 29.4** number not used
- 29.5** If the Bid of the successful Bidder is seriously unbalanced in relation to the Engineer's estimate of the cost of work to be performed under the contract, the Employer may require the Bidder to produce detailed price analysis for any or all items of the Bill of Quantities, to demonstrate the internal consistency of those prices with the construction methods and schedule proposed. After evaluation of the price analysis, the Employer may require that the amount of the performance security set forth in Clause 34 be increased at the expense of the successful Bidder to a level sufficient to protect the Employer against financial loss in the event of default of the successful Bidder under the Contract.

30. DELETED

F. Award of Contract

31. Award Criteria

- 31.1** Subject to Clause 32, the Employer will award the Contract to the Bidder whose Bid has been determined to be substantially responsive to the Bidding documents and who has offered the lowest evaluated Bid Price, provided that such Bidder has been determined to be (a) eligible in accordance with the provisions of Clause 3, and (b) qualified in accordance with the provisions of Clause 4.
- 31.2** If, pursuant to Clause 12.2 this contract is being let on a "slice and package" basis, the lowest evaluated Bid Price will be determined when evaluating this contract in conjunction with other contracts to be awarded concurrently, taking into account any discounts offered by the bidders for the award of more than one contract.

32. Employer's Right to Accept any Bid and to Reject any or all Bids

- 32.1** Notwithstanding Clause 31, the Employer reserves the right to accept or reject any Bid, and to cancel the Bidding process and reject all Bids, at any time prior to the award of Contract, without thereby incurring any liability to the affected Bidder or Bidders or any obligation to inform the affected Bidder or Bidders of the grounds for the Employer's action.

33. Notification of Award and Signing of Agreement

- 33.1** The Bidder whose Bid has been accepted will be notified of the award by the Employer prior to expiration of the Bid validity period by cable, telex or facsimile confirmed by registered letter. This letter (hereinafter and in the *Conditions of Contract* called the "Letter of Acceptance") will state the sum that the Employer will pay the Contractor in consideration of the execution, completion, and maintenance of the Works by the

Contractor as prescribed by the Contract (hereinafter and in the Contract called the "Contract Price").

33.2 The notification of award will constitute the formation of the Contract, subject only to the furnishing of a performance security in accordance with the provisions of Clause 34.

33.3 The Agreement will incorporate all agreements between the Employer and the successful Bidder. On payment of the performance security as per clause 34.1 within 15 days of receipt of the letter of acceptance by the successful bidder, the Employer will issue an unfilled document to the bidder who has to arrange for affixing the special adhesive stamp for a value not less than Rs.20/- and produce it back to the Employer. The Employer will then prepare complete set of document in which the Employer and successful bidder will sign. The exercise of signing the agreement should be completed within 10 days from the date of receipt of the performance security from the successful bidder

33.4 Upon the furnishing by the successful Bidder of the Performance Security, the Employer will promptly notify the other Bidders that their Bids have been unsuccessful.

34 Performance Security

34.1 Within 15 days of receipt of the Letter of Acceptance, the successful Bidder shall deliver to the Employer a Performance Security in any of the forms given below for an amount to be calculated as per Clause 34.5 plus additional security for unbalanced Bids in accordance with Clause 29.5 of ITB and Clause 52 of CC.

- 34.2**
- i) An irrevocable bank guarantee in the form given in Forms of Securities
 - ii) Certified cheque/Bank Draft in favour of CMWSS Board payable at Chennai.

34.3 The performance security of a consortium shall be in the name of consortium. If the performance security is provided by the successful Bidder in the form of a Bank Guarantee, it shall be issued either (a) at the Bidder's option, by a Nationalised / Scheduled Indian bank or (b) by a foreign bank located in India and acceptable to the Employer. The Bank Guarantee shall be in the name of the successful bidder which has been obtained on the application made by the bidder to the banks. The Bank Guarantee in the name of successful bidder obtained by any other individual /Agency/Companies for the bidder will not be accepted.

34.4 Failure of the successful Bidder to comply with the requirements of Sub-Clause 34.1 shall constitute sufficient grounds for cancellation of the award and forfeiture of the Bid Security.

34.5 The value of performance security to be remitted for construction activity will be calculated by adopting the following formula:

a)	For contracts within any plus percentage and upto minus 5% of the contract value for construction compared to the departmental estimated value for construction	2% of contract value
b)	For contracts above minus 5% and upto minus 15% compared to the departmental estimated value for construction	4% of contract value

c)	For contracts which are more than minus 15% compared to the departmental estimated value for construction	5% of contract value

35 Advance Payment and Security

35.1 The Employer will provide an Advance Payment on the Contract Price as stipulated in the Conditions of Contract, subject to maximum amount, as stated in the Contract Data.

36. Adjudicator

36.1 The Employer proposes that Thiru. S.V. Pandiarajan be appointed as Adjudicator under the Contract, at a daily fee of Rs.2000/- plus boarding, lodging, travelling expenses at actual. If the Bidder disagrees with this proposal, the Bidder should so state in the Bid. If in the Letter of Acceptance, the Employer has not agreed on the appointment of the Adjudicator, the Adjudicator shall be appointed by The President, Institution of Engineers (TamilNadu State Center) Chennai at the request of either party.

37. Corrupt or Fraudulent Practices

37.1 The Employer requires that Bidders observe the highest standard of ethics during the evaluation and execution of such contracts. In pursuance of this policy, the Employer:

- (a) defines, for the purposes of this provision, the terms set forth below as follows:
 - (i) "corrupt practice" means the offering, giving, receiving or soliciting of any thing of value to influence the action of a public official in the evaluation process or in contract execution; and
 - (ii) "fraudulent practice" means a misrepresentation of facts in order to influence the evaluation process or the execution of a contract to the detriment of the Employer and includes collusive practice among Bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the Employer of the benefits of free and open competition.
- (b) will reject a proposal for award if it determines that the Bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question;
- (c) will declare a firm ineligible, either indefinitely or for a stated period of time, to be awarded a contract if it at any time determines that the firm has engaged in corrupt or fraudulent practices in competing for, or in executing a contract.

37.2 Further more, Bidders shall be aware of the provision stated in sub-clause 59.2 of the Conditions of Contract.

3. FORMS OF BID AND QUALIFICATION INFORMATION

Table of Forms:

- **CONTRACTOR'S BID**
- **ABSTRACT QUALIFICATION INFORMATION**
- **QUALIFICATION INFORMATION**
- **NOTICE TO PROCEED WITH THE WORK**
- **AGREEMENT FORM**

Contractor's Bid

Description of the Works : Automation of 37 sewage pumping stations in CMWSS Board – Package - 2

CONTRACT NO. : CNT/NCB/SEW/GOTN/ PART- II/ 2396 /2013-14

To Address : The Superintending Engineer (C & M)
CMWSSB, No.1, Pumping Station Road,
Chintadripet, Chennai.-600 002

GENTLEMEN,

We offer to execute the Works described above in accordance with the Conditions of Contract accompanying this Bid for the Contract Price stated in the Financial Bid.

We accept the proposal of advance Payment up to a maximum of **10%** of contract value for construction activities as per the Conditions prescribed by the Employer.

We accept the appointment of **Thiru. S.V. PANDIARAJAN** as the Adjudicator. (OR)

We do not accept the appointment of _____ as the Adjudicator and propose instead that _____ be appointed as Adjudicator whose daily fees and biographical data are attached.

This Bid and your written acceptance of it shall constitute a binding contract between us. We understand that you are not bound to accept the lowest or any Bid you receive.

We undertake that in competing for (and, if the award is made to us, in executing) the above contract, we will strictly observe the laws against fraud and corruption in force in India namely, "Prevention of Corruption Act, 1988).

Commissions or gratuities, if any, paid or to be paid by us to agents relating to this Bid, and to contract execution if we are awarded the contract, are listed below:

<u>Name and address of agent gratuity</u>	<u>Amount</u>	<u>Purpose of Commission or</u>
_____	_____	_____
_____	_____	_____

(if none, state "none")

We hereby confirm that this Bid complies with the Bid Validity and Bid Security required by the Bidding documents.

We attach herewith our current income tax and sales tax clearance certificates.

Yours faithfully,
Authorized Signature :

Name & Title of Signatory :
Name of Bidder :
Address :

ABSTRACT INFORMATION ON QUALIFICATION CRITERIA
Details of Performance Certificate Cited for Meeting Qualification Criteria during the
qualifying period from 01.04.2008 to 31.03.2013.

Sl. No	Qualification Criteria	Details of the work indicating the Contract No., Value, Date of Completion etc of the work cited	Page No. of Tech. Bid	Name of the Client/ Officials who issued the Certificate with Contract details such as address, Telephone Number and Cell Number	Head of the Organization with complete contact address, Telephone Number, email address, etc
1.	Must have achieved in any financial year during 2008-2009 to 2012-2013 Annual financial turn-over not less than the amount given (Rupees in Lakhs)	Rs. 558.65 Lakhs			
2.	Satisfactorily completed any single work of value not less than the amount (Rupees in Lakhs)	Rs. 223.46 Lakhs			
3.	Should have successfully supplied, installed and commissioned a project with the following components / work				
i.	RTU/PLC system with SCADA interface capability	1 No.			
ii	SCADA system	1 No.			
iii	Ultrasonic / Radar level transmitters	1 No.			
iv	GSM/GPRS connectivity	1 No			
4.	Should have experience in design and supply of MCC panel and DG synchronizing panel	1 lot			
5.	Bidder should be authorized by OEM for supply of PLC/RTU specifically for this job				

I / We declare that the information furnished above are true to our knowledge and we have taken care to furnish the correct details with contact address, available communication facilities such as FAX, email, Telephone numbers, Mobile numbers etc.

**Signature of the bidder with Seal
Name and Title of the Signatory**

Qualification Information

The information to be filled in by the Bidder in the following pages will be used for purposes of pre-qualification as provided for in Clause 4 of the Instructions to Bidders. This information will not be incorporated in the Contract.

1. **For Individual Bidders**

1.1 Constitution or legal status of Bidder
[Attach copy]

Place of registration: _____

Principal place of business: _____

Power of attorney of signatory of Bid
[Attach]

1.2 Annual financial turnover achieved in the last five years.
(in Rs. Lakhs)

Sl.No.	Year	Financial turnover (Rs. in Lakhs) *	Page No. of Technical Bid
	2008-2009		
	2009-2010		
	2010-2011		
	2011-2012		
	2012-2013		

- *Attach a Certificate from Chartered Accountant.*

**Signature of the bidder with Seal
Name & Title of Signatory:**

IMPORTANT NOTE

Bidders are requested to furnish the above details separately giving reference to the page numbers of the credential enclosed to the Technical Bid.

1.3.1 Works performed by the Bidder works of a single Contract during the period from 1.4.2008 and upto the due date for submission of bids

Project Name	Name of the Employer*	Description of work	Contract No.	Value of contract (Rs. Lakhs)	Date of issue of work order	Stipulated period of completion	Actual date of completion *	Remarks explaining reasons for delay, if any and work completed

* Enclose certificate(s) from Engineer(s)- in- charge.

**Signature of the bidder with Seal
Name & Title of Signatory:**

IMPORTANT NOTE

Bidders are requested to furnish the Credentials in support of details of Qualification Information furnished above giving reference to the page numbers of the credentials enclosed to the Technical Bid.

The certificates / credentials not mentioned in the above statement will not be considered for evaluation towards satisfying the qualification criteria

1.3.2 Works performed by the Bidder works of a single Contract during the period from 1.4.2008 and upto the due date for submission of bids

Year	Name of work	Name of Employer*	Quantity of work performed	Remarks (Indicate contract Ref.) *
2008-09				
2009-10				
2010-11				
2011-12				
2012-13**				

** upto the due date for submission of bids

@ The item of Work for which data is requested should fully satisfy with that specified in ITB clause 4.5

- Enclose certificate(s) from Engineer(s) - in -charge.

1.4 B) Works for which Bids already submitted

Description of work	Place and State	Name & Address of Employer	Estimated Value of works (Rs. Lakhs)	Stipulated period of completion	Date when decision is expected	Remarks if any
(1)	(2)	(3)	(4)	(5)	(6)	(7)

1.5 The following items of Contractor's Equipment are essential for carrying out the Works. The Bidder should list all the information requested below. Refer also to sub -clause 4.3 (d) of the Instruction to Bidders.

Item of equipment	Requirement		Availability Proposals			Remarks regarding condition and from whom to be purchased/ or leased
			Owned / leased / to be procured	Nos. / Capacity	Age/ Condition	
	Nos.	Capacity				
Pipe tapping equipment	1	50- 100 mm				
Multimeter	1	0-500 V AC				
Set of Crimping Tool for all sizes of Cables (Copper & Aluminium)	1					
Tester	1	2 KV HV				
Clip on type Ammeter	1	0-500 A				

- 1.6 Qualification and experience of key personnel proposed for administration and execution of the Contract. Attach biographical data. Refer also to sub-clause 4.3 (e) and 4.5 (B) (b) of Instructions to Bidders and sub clause 9.1 of Conditions of Contract.

Position	Name	Qualifications	Years of experience (general)	Years of experience in the proposed position
Project Manager				
Key Personnel				
1) Instrumentation /Electrical Engineer				
2) Electrical Engineer				

- 1.7 Proposed subcontracts and firms involved. (Refer ITB Clause 4.3 (j))

Sections of the works	Value of subcontract	Subcontractor (name and address)	Experience in similar work

- 1.8 Financial reports for the last five years; balance sheets, profit and loss statements, auditors' reports, (in case of companies/corporations) etc. List them below and attach copies of documents.
- 1.9 Evidence of access to financial resources to meet the qualification requirements: cash in hand, lines of credit, etc. List them below and attach copies of support documents. (*Sample format enclosed*)
- 1.10 Name, address and telephone, telex and fax numbers of the Bidders' bankers who may provide references if contacted by the Employer.
- 1.11 Information on litigation history in which the Bidder is involved.

Other Party(ies)	Employer	Cause of Dispute	Amount Involved	Remarks showing present status

- 1.12 **DELETED**

1.13 Proposed work method and schedule. The Bidder should attach descriptions, drawings and charts as necessary to comply with the requirements of the Bidding documents. (Refer ITB Clause 4.1 and 4.3(k).

2.0 CONSORTIUMS

2.1 The information listed in 1.1 to 1.11 above shall be provided for each partner of the Consortium

2.2 The information in 1.13 above shall be provided for Consortium

2.3 Attach the power of attorney of the signatory (ies) of the bid authorizing signature of the bid on behalf of the consortium

2.4 Attach the agreement among all partners of the consortium (and which is legally binding on all partners) which shows the requirements as indicated in sub-clause 4.4 of the instruction to bidders

2.5 Furnish details of participation in the consortium as below

DETAILS OF PARTICIPATION IN THE CONSORTIUM

PARTICIPATION DETAILS	FIRM 'A' (Lead Partner)	FIRM 'B'	FIRM 'C'
Financial			
Names of the Banker(s)			
Planning			
Equipments			
Key Personnel			

3.0 ADDITIONAL REQUIREMENTS

- 3.1 Bidders should provide any additional information required to fulfill the requirements of clause 4 of the Instruction to Bidders, if applicable.

IMPORTANT NOTE

Bidders are requested to furnish the **INFORMATION ON LITIGATION HISTORY IN WHICH THE BIDDER INVOLVED** and **DETAILS OF PARTICIPATION IN THE CONSORTIUM** in the format prescribed separately along with full signature and Seal.

**SAMPLE FORMAT FOR EVIDENCE OF ACCESS TO OR AVAILABILITY OF CREDIT
FACILITIES -
CLAUSE 4.5 (B) (c) OF ITB**

BANK CERTIFICATE

This is to certify that M/s is a reputed company with a good financial standing.

If the contract for the work, namely is awarded to the above firm, we shall be able to provide overdraft/credit facilities to the extent of Rs. to meet their working capital requirements for executing the above contract.

Sd/
Name of Bank
Senior Bank Manager
Address of the Bank

Issue of Notice to proceed with the work
(Letterhead of the Employer)

_____ (Date)

To

_____ (Name and address of the Contractor)

Dear Sirs:

Pursuant to your furnishing the requisite security as stipulated in ITB clause 34.1 and signing of the contract for _____ @ a Bid Price of Rs. _____, you are hereby instructed to proceed with the execution of the said works in accordance with the contract documents.

Yours faithfully,

(Signature, name and
title of signatory
authorized to sign on
behalf of Employer)

Agreement Form

This agreement, made the _____ day of _____ 2013,

between _____

_____ [name and address of Employer](hereinafter called "the Employer") and

_____ [name and address of contractor] (hereinafter called "the Contractor" of the other part).

Whereas the Employer is desirous that the Contractor execute

_____ [name and identification number of Contract] (hereinafter called "the Works") and the Employer has accepted the Bid by the Contractor for the execution and completion of such Works and the remedying of any defects therein, at a cost of Rs.....

NOW THIS AGREEMENT WITNESSETH as follows:

1. In this Agreement, words and expression shall have the same meanings as are respectively assigned to them in the Conditions of Contract hereinafter referred to, and they shall be deemed to form and be read and construed as part of this Agreement.
2. In consideration of the payments to be made by the Employer to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the Employer to execute and complete the Works and remedy any defects therein in conformity in all aspects with the provisions of the Contract.
3. The Employer hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying the defects wherein the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.
4. The following documents shall be deemed to form and be read and construed as part of this Agreement, viz.:
 - i) Instruction to Bidders
 - ii) Letter of Acceptance;
 - iii) Notice to proceed with the works;
 - iv) Contractor's Bid;
 - v) Contract Data;
 - vi) Conditions Of Contract (General and Special);
 - vii) Technical Specifications;
 - ix) Bill of Quantities;

- x) Any other document listed in the Contract Data, replies to queries, clarifications issued by the Department and such confirmation given by the Bidder which are accepted by the Board and all the Addendum issued as forming part of the contract.
- xi) Safety and preventive measures and digest of labour laws (CMWSSB)

In witness whereof the parties thereto have caused this Agreement to be executed the day and year first before written.

The Common Seal of

was hereunto affixed in the presence of:

Signed, Sealed and Delivered by the said

in the presence of:

Binding Signature of Employer

Binding Signature of Contractor

4. CONDITIONS OF CONTRACT

Conditions of Contract

Table of Contents

F. Special Conditions of Contract

A. General	Page No.	C. Quality Control	Page No.
1. Definitions	42	33. Identifying Defects	51
2. Interpretation	44	34. Tests	51
3. Language and Law	45	35. Correction of Defects	51
4. Engineer's Decisions	45	36. Uncorrected Defects	51
5. Delegation	45		
6. Communications	45		
7. Subcontracting	45	D. Cost Control	
8. Other Contractors	45		
9. Personnel	45	37. Bill of Quantities	52
10. Employer's & Contractors' Risks	46	38. Changes in the Quantities	52
11. Employers' Risks	46	39. Variations	52
12. Contractors' Risks	46	40. Payments for Variations	52
13. Insurance	46	41. Cash Flow forecasts	52
14. Site Investigation Reports	47	42. Payment Certificates	52
15. Queries about the Contract Data	47	43. Payments	53
16. Contractor to Construction the Works	47	44. DELETED	53
17. The works to be completed by the Intended Completion Date	47	45. Tax	54
18. Approval by the Engineer	47	46. Currencies	54
19. Safety	47	47. Price adjustment	54
20. Discoveries	47	48. Retention	54
21. Possession of the Site	48	49. Liquidated Damages	54
22. Access to site	48	50. Bonus for advance completion of work.	54
23. Instructions	48	51. Advance Payment	55
24. Disputes	48	52. Securities	55
25. Procedure for Disputes	48	53. DELETED	55
26. Replacement of Adjudicator	49	54. Cost of Repairs	55
		E. Finishing the Contract	
B. Time Control			
27. Program	49	55. Completion	56
28. Extension of the Intended Completion Date	50	56. Taking Over	56
29. Acceleration	50	57. Final Account	56
30. Delays Ordered by the Engineer	50	58. Operating and Maintenance Manuals	56
31. Management Meetings	50	59. Termination	56
32. Early Warning	51	60. Payment upon Termination	58
		61. Property	58
		62. Release from Performance	58

Conditions of Contract

A. General

1. Definitions

- 1.1 Terms, which are defined in the Contract Data, and not also defined in the Conditions of Contract but keep their defined meanings. Capital initials are used to identify defined terms.

The **Adjudicator** is the person appointed jointly by the Employer and the Contractor to resolve disputes in the first instance, as provided for in Clauses 24 and 25. The name of the Adjudicator is defined in the Contract Data.

Bill of Quantities means the priced and completed Bill of Quantities to be submitted by the Bidder.

The **Completion Date** is the date of completion of the Works as certified by the Engineer in accordance with Sub Clause 55.1.

The **Contract** is the contract between the Employer and the Contractor to execute, complete and maintain the Works. It consists of the documents listed in Clause 2.3 below.

The **Contract Data** defines the documents and other information, which comprise the Contract.

The **Contractor** is a person or corporate body whose Bid to carry out the Works has been accepted by the Employer.

The **Contractor's Bid** is the completed Bidding document submitted by the Contractor to the Employer.

The **Contract Price** is the price stated in the Letter of Acceptance and thereafter as adjusted in accordance with the provisions of the Contract.

Days are calendar days; **months** are calendar months.

A **Defect** is any part of the Works not completed in accordance with the Contract.

The **Defects Liability Period** is the period named in the Contract Data and calculated from the Completion Date.

The **Employer** is the party who will employ the Contractor to carry out the Works.

The **Engineer** is the person named in the Contract Data (or any other competent person appointed and notified to the contractor to act in replacement of the Engineer) who is responsible for supervising the Contractor, administering the Contract, certifying payments due to the Contractor, issuing and valuing Variations to the Contract, awarding extensions of time, and valuing the Compensation Events.

Equipment is the Contractor's machinery and vehicles brought temporarily to the Site to construct the Works.

The **Initial Contract Price** is the Contract Price listed in the Employer's Letter of Acceptance.

The **Intended Completion Date** is the date on which it is intended that the Contractor shall complete the Works. The Intended Completion Date is specified in the Contract Data. The Intended Completion Date may be revised only by the Engineer by issuing an extension of time.

Materials are all supplies, including consumables, used by the contractor for incorporation in the Works.

Plant is any integral part of the Works, which is to have a mechanical, electrical, electronic, or chemical or biological function.

The **Site** is the area defined as such in the Contract Data.

Site Investigation Reports are those, which were included in the Bidding documents and are factual interpretative reports about the surface and sub-surface conditions at the site.

Specification means the Specification of the Works to be submitted by the Bidder and any modification or addition made or approved by the Engineer.

The **Start Date** is given in the Contract Data. It is the date when the Contractor shall commence execution of the works. It does not necessarily coincide with any of the Site Possession Dates.

A **Subcontractor** is a person or corporate body who has a Contract with the Contractor to carry out a part of the work in the Contract, which includes work on the Site.

Temporary Works are works designed, constructed, installed, and removed by the Contractor, which are needed for construction or installation of the Works.

A **Variation** is an instruction given by the Engineer, which varies the Works.

The **Works** are what the Contract requires the Contractor to construct, install, and turn over to the Employer, as defined in the Contract Data.

2. Interpretation

2.1 In interpreting these Conditions of Contract, singular also means plural, male also means female or neuter, and the other way around. Headings have no significance. Words have their normal meaning under the language of the Contract unless specifically defined. The Engineer will provide instructions clarifying queries about the Conditions of Contract.

2.2 If sectional completion is specified in the Contract Data, references in the Conditions of Contract to the Works, the Completion Date, and the Intended Completion Date apply to any Section of the Works (other than references to the Completion Date and Intended Completion date for the whole of the Works).

2.3 The documents forming the Contract shall be interpreted in the following order of priority:

- (1) Agreement
- (2) Letter of Acceptance, Notice to proceed with the works
- (3) Contractor's Bid
- (4) Contract Data
- (5) Conditions of Contract (General and Special)
- (6) Technical Specifications
- (7) Bill of Quantities
- (8) any other document listed in the Contract Data and all the Addendum issued as forming part of the Contract.

3. Language and Law

3.1 The language of the Contract and the law governing the Contract are stated in the Contract Data.

4. Engineer's Decisions

4.1 Except where otherwise specifically stated the Engineer will decide contractual matters between the Employer and the Contractor in the role representing the Employer.

5. Delegation

5.1 The Engineer may delegate any of his duties and responsibilities to other people except to the Adjudicator after notifying the Contractor and may cancel any delegation after notifying the Contractor.

6. Communications

6.1 Communications between parties which are referred to in the conditions are effective only when in writing. A notice shall be effective only when it is delivered (in terms of Indian Contract Act).

7. Subcontracting

7.1 The Contractor may subcontract with the approval of the Engineer but shall not assign the Contract without the approval of the Employer in writing. Subcontracting does not alter the Contractor's obligations.

8. Other Contractors

8.1 The Contractor shall cooperate and share the Site with other contractors, public authorities, utilities, and the Employer between the dates given in the Schedule of Other Contractors. The Contractor shall as referred to in the Contract Data, also provide facilities and services for them as described in the Schedule. The Employer may modify the schedule of other Contractors and shall notify the Contractor of any such modification.

9. Personnel

9.1 The Contractor shall employ the key personnel named in the Schedule of Key Personnel as referred to in the Contract Data to carry out the functions stated in the Schedule or other personnel approved by the Engineer. The Engineer will approve any proposed replacement of key personnel only if their qualifications, abilities, and relevant experience are substantially equal to or better than those of the personnel listed in the Schedule.

9.2 If the Engineer asks the Contractor to remove a person who is a member of the Contractor's staff or his work force stating the reasons the Contractor shall ensure that the person leaves the Site within seven days and has no further connection with the work in the Contract.

9.3 Non-employment of Project Manager and other Key Personnel shall be liable for a fine as specified in Contract Data.

10. Employer's and Contractor's Risks

10.1 The Employer carries the risks which this Contract states are Employer's risks, and the Contractor carries the risks which this Contract states are Contractor's risks.

11. Employer's Risks

11.1 The Employer is responsible for the excepted risks which are (a) in so far as they directly affect the execution of the Works in the Employer's country, the risks of war, hostilities, invasion, act of foreign enemies, rebellion, revolution, insurrection or military or usurped power, civil war, riot commotion or disorder (unless restricted to the Contractor's employees), and contamination from any nuclear fuel or nuclear waste or radioactive toxic explosive, or (b) a cause due solely to the design of the Works, other than the Contractor's design.

12. Contractor's Risks

12.1 All risks of loss of or damage to physical property and of personal injury and death, which arise during and in consequence of the performance of the Contract other than the excepted risks, are the responsibilities of the Contractor.

13. Insurance

13.1 The Contractor shall provide, in the joint names of the Employer and the Contractor, insurance cover from the Start Date to the end of the Defects Liability Period, in the amounts and deductibles stated in the Contract Data for the following events which are due to the Contractor's risks:

- (a) loss of or damage to the Works, Plant and Materials;
- (b) loss of or damage to Equipment;
- (c) loss of or damage of property (except the Works, Plant, Materials and Equipment) in connection with the Contract; and
- (d) personal injury or death.

13.2 Policies and certificates for insurance shall be delivered by the Contractor to the Engineer for the Engineer's approval before the Start Date. All such insurance shall provide for compensation to be payable in the types and proportions of currencies required to rectify the loss or damage incurred.

13.3 If the Contractor does not provide any of the policies and certificates required, the Employer may effect the insurance which the Contractor should have provided and recover the premiums the Employer has paid from payments otherwise due to the Contractor or, if no payment is due, the payment of the premiums shall be a debt due.

13.4 Alterations to the terms of insurance shall not be made without the approval of the Engineer.

13.5 Both parties shall comply with any conditions of the insurance policies.

14. Site Investigation Reports

- 14.1 The Contractor, in preparing the Bid, shall rely on any site Investigation Reports referred to in the Contract Data, supplemented by any information available to the Bidder.

15. Queries about the Contract Data

- 15.1 The Engineer will clarify queries on the Contract Data.

16. Contractor to Construct the Works

- 16.1 The Contractor shall construct and install the Works in accordance with the Specification and Drawings.
- 16.2 The basic centerlines, reference points and benchmarks will be fixed by Employer.
- 16.3 The Contractor shall establish at his cost, at suitable points, additional reference lines, benchmarks as may be necessary. The Contractor shall remain responsible for the sufficiency and accuracy of all his benchmarks and reference lines. He shall take precautions to see that the lines, points and benchmarks fixed by Employer are not disturbed by his work and shall make good any such damage.

17. The Works to Be Completed by the Intended Completion Date

- 17.1 The Contractor may commence execution of the Works on the Start Date and shall carry out the Works in accordance with the program submitted by the Contractor, as updated with the approval of the Engineer, and complete them by the Intended Completion Date.

18. Approval by the Engineer

- 18.1 The Contractor shall submit Specifications and Drawings showing the proposed Temporary Works to the Engineer, who is to approve them if they comply with the Specifications and Drawings.
- 18.2 The Contractor shall be responsible for design of Temporary Works.
- 18.3 The Engineer's approval shall not alter the Contractor's responsibility for design of the Temporary Works.
- 18.4 The Contractor shall obtain approval of third parties to the design of the Temporary Works where required.
- 18.5 All Drawings prepared by the Contractor for the execution of the temporary or permanent Works, are subject to prior approval by the Engineer before their use.

19. Safety

- 19.1 The Contractor shall be responsible for the safety of all activities on the Site.

20 Discoveries

- 20.1 Anything of historical or other interest or of significant value unexpectedly discovered on the Site is the property of the Employer. The Contractor is to notify the Engineer of such discoveries and carry out the Engineer's instructions for dealing with them.

21. Possession of the Site

21.1 The Employer will give possession of all parts of the Site to the Contractor. However, if possession of a part is not given by the date stated in the Contract Data it cannot be taken as a reason for delay in start of the relevant activities and it will not be considered a Compensation Event.

22. Access to the Site

22.1 The Contractor shall allow the Engineer and any person authorized by the Engineer access to the Site, to any place where work in connection with the Contract is being carried out or is intended to be carried out and to any place where materials or plant are being manufactured / fabricated / assembled for the works.

23. Instructions

23.1 The Contractor shall carry out all instructions of the Engineer, which comply with the applicable laws where the Site is located.

23.2 The contractor shall permit the employer to inspect the Contractors accounts and records relating to the performance of the Contractor and to have them audited by auditors appointed by the employer if so required by the employer

24. Disputes

24.1 If the Contractor believes that a decision taken by the Engineer was either outside the authority given to the Engineer by the Contract or that the decision was wrongly taken, the decision shall be referred to the Adjudicator within 14 days of the notification of the Engineer's decision.

25. Procedure for Disputes

25.1 The Adjudicator shall give a decision in writing within 28 days of receipt of a notification of a dispute.

25.2 The Adjudicator shall be paid daily at the rate specified in the Contract Data together with reimbursable expenses of the types specified in the Contract Data and the cost

shall be divided equally between the Employer and the Contractor, whatever decision is reached by the Adjudicator. Either party may refer a decision of the Adjudicator to an Arbitrator within 28 days of the Adjudicator's written decision. If neither party refers the dispute to arbitration within the above 28 days, the Adjudicator's decision will be final and binding.

- 25.3** The arbitration shall be conducted in accordance with the arbitration procedure stated in the Special Conditions of the Contract.

26. Replacement of Adjudicator

- 26.1** Should the Adjudicator resign or die, or should the Employer and the Contractor agree that the Adjudicator is not fulfilling his functions in accordance with the provisions of the Contract, a new Adjudicator will be jointly appointed by the Employer and the Contractor. In case of disagreement between the Employer and the Contractor, within 30 days, the Adjudicator shall be designated by the Appointing Authority designated in the Contract Data at the request of either party, within 14 days of receipt of such request.

B. Time Control

27. Program

- 27.1** Within the time stated in the Contract Data the Contractor shall submit to the Engineer for approval a Program showing the general methods, arrangements, order, and timing for all the activities in the Works along with monthly cash flow forecast.
- 27.2** An update of the Program shall be a program showing the actual progress achieved on each activity and the effect of the progress achieved on the timing of the remaining work including any changes to the sequence of the activities.
- 27.3** The Contractor shall submit to the Engineer, for approval, an updated Program at intervals no longer than the period stated in the Contract Data. If the Contractor does not submit an updated Program within this period, the Engineer may withhold the amount stated in the Contract Data from the next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue Program has been submitted.
- 27.4** The Engineer's approval of the Program shall not alter the Contractor's obligations. The Contractor may revise the Program and submit it to the Engineer again at any time. A revised Program is to show the effect of Variations.

28. Extension of the Intended Completion Date

28.1 The Engineer shall extend the Intended Completion Date if a Variation is issued which makes it impossible for Completion to be achieved by the Intended Completion Date without the Contractor taking steps to accelerate the remaining work .

28.2 The Engineer shall decide whether and by how much to extend the Intended Completion Date within 21 days of the Contractor asking the Engineer for a decision upon the effect of a Variation and submitting full supporting information. If the Contractor has failed to give early warning of a delay or has failed to cooperate in dealing with a delay, the delay by this failure shall not be considered in assessing the new Intended Completion Date.

29. DELETED

30. Delays Ordered by the Engineer

30.1 The Engineer may instruct the Contractor to delay the start or progress of any activity within the Works.

31. Management Meetings

31.1 Either the Engineer or the Contractor may require the other to attend a management meeting. The business of a management meeting shall be to review the plans for remaining work and to deal with matters raised in accordance with the early warning procedure.

31.2 The Engineer shall record the business of management meetings and is to provide copies of his record to those attending the meeting and to the Employer. The responsibility of the parties for actions to be taken is to be decided by the Engineer either at the management meeting or after the management meeting and stated in writing to all who attended the meeting.

32. Early Warning

- 32.1** The Contractor is to warn the Engineer at the earliest opportunity of specific likely future events or circumstances that may adversely affect the quality of the work increase the Contract Price or delay in the execution of works. The Engineer may require the Contractor to provide an estimate of the expected effect of the future event or circumstance on the Contract Price and Completion Date. The estimate is to be provided by the Contractor as soon as reasonably possible.
- 32.2** The Contractor shall cooperate with the Engineer in making and considering proposals for how the effect of such an event or circumstance can be avoided or reduced by anyone involved in the work and in carrying out any resulting instruction of the Engineer.

C. Quality Control

33. Identifying Defects

- 33.1** The Engineer shall check the Contractor's work and notify the Contractor of any Defects that are found. Such checking shall not affect the Contractor's responsibilities. The Engineer may instruct the Contractor to search for a Defect and to uncover and test any work that the Engineer considers may have a Defect

34. Tests

- 34.1** If the Engineer instructs the Contractor to carry out a test not specified in the Specification to check whether any work has a Defect and the test shows that it does, the Contractor shall pay for the test and any samples.
- 34.2** All pipes, specials, electrical and mechanical items shall be subjected to Third Party inspection at the cost of Employer. The Contractor shall provide all necessary details such as manufacturer's/supplier's address and location of the manufacturing site well in advance to the Employer for such purpose.

35. Correction of Defects

- 35.1** The Engineer shall give notice to the Contractor of any Defects before the end of the Defects Liability Period, which begins at Completion and is defined in the Contract Data. The Defects Liability Period shall be extended for as long as Defects remain to be corrected.
- 35.2** Every time, notice of a Defect is given, the Contractor shall correct the notified Defect within the length of time specified by the Engineer's notice.

36. Uncorrected Defects

- 36.1** If the Contractor has not corrected a Defect within the time specified in the Engineer's notice, the Engineer will correct the defect, assess the cost of having the Defect corrected and the Contractor will pay this amount.

D. Cost Control

37. Bill of Quantities

37.1 The Bill of Quantities shall contain items for the construction, installation, testing, and commissioning work to be done by the Contractor.

38. Changes in the Quantities

38.1 If the final quantity of the work done, differs from the quantity in the Bill of Quantities for the particular item the payment will be made as per actual quantity executed.

38.2 DELETED.

38.3 DELETED.

39. Variations

39.1 All Variations shall be included in updated Programs produced by the Contractor.

40. Payments for Variations

40.1 The Contractor shall provide the Engineer with a quotation for carrying out the Variation when requested to do so by the Engineer. The Engineer shall assess the quotation, which shall be given within seven days of the request or within any longer period stated by the Engineer and before the Variation is ordered.

40.2 DELETED.

40.3 DELETED.

40.4 DELETED.

40.5 The Contractor shall not be entitled to additional payment for costs, which could have been avoided by giving early warning.

41. Cash flow forecasts

41.1 When the Program is updated, the contractor is to provide the Engineer with an updated cash flow forecast.

42. Payment Certificates

42.1 The Contractor shall submit to the Engineer monthly statements of the estimated value of the work completed less the cumulative amount certified previously.

42.2 Payments will be made to the Contractor under the certificates to be issued at reasonably frequent intervals by the Engineer. Based on the certificate of the Engineer, an intermediate payment will be made by the Engineer of a sum equal to 95 percent of the value of work subject to the conditions deducting all dues towards recovery of advances, interests, fines etc., as per terms of contract and for the cost of materials, if issued, at the term stipulated in the agreement. The balance of 5 percent will be withheld and retained as a security for the due fulfillment of the contract. Under the certificate to be issued by the Engineer on the completion of the entire works, the Contractor will receive the final payment of all the moneys due or payable to him under or by virtue of the Contract except performance security and a sum equal to 2.5% of the total value of the work done provided there is no recovery or forfeiture. No certificate of the Engineer shall be considered conclusive evidence as to

the sufficiency of any work or materials or correctness of measurements to which it relates, nor shall it relieve the Contractor from his liability to make good defects as provided by the contract. The Contractor when applying for a certificate shall prepare a sufficiently detailed bill based on the original figures or quantities and rates in the Bill of Quantities to the satisfaction of the Engineer to check the claim and issue the certificate. The certificates as such of the claims mentioned in the application as are allowed by the Engineer shall be issued within fourteen days of the applications. No application for a certificate shall be made within fourteen days of a previous application.

- 42.3** The Engineer shall determine the value of work executed.
- 42.4** The value of work executed shall comprise the value of the quantities of the items in the Bill of Quantities completed.
- 42.5** The value of work executed shall include the valuation of Variation.
- 42.6** The Engineer may exclude any item certified in a previous certificate or reduce the proportion of any item previously certified in any certificate in the light of later information.
- 42.7** If for any reason, the Contractor or his authorised agent is not available and/or the work is suspended by Employer, recording of measurements will be done by Employer without the presence of the Contractor or his authorised representatives and the Employer shall not entertain any claim from the Contractor for any loss on this account. If the Contractor or his authorised agent or representative does not remain present at the time of such measurements, after the Contractor has been given a three day notice in writing, such measurements may be taken in his absence and shall be deemed to be accepted by the Contractor.
- 42.8** Payment for the work done by the Contractor will be based on measurements recorded at various stages of the Work. The Contractor or his authorised agent, or representative shall be present at the time of recording of each set of measurements and sign the measurement book or level/field book in token of their acceptance.

43. Payments

- 43.1** Payments shall be adjusted for deductions for advance payments, retention and other recoveries in terms of the contract and deduction at source of taxes as applicable under the law. The Employer shall pay the Contractor the amounts certified by the Engineer.
- 43.2** **DELETED**
- 43.3** Items of the Works for which no rate or price has been entered in the contract, will not be paid for by the Employer and shall be deemed to have covered by other rates and prices in the Contract.
- 43.4** Payment will be made by the Employer as indicated in the Contract Data

44. DELETED.

45. Tax

- 45.1** The rates quoted by the Contractor shall be deemed to be inclusive of the sales, service and other taxes and duties that the Contractor will have to pay for the performance of this Contract. The Employer will perform such duties in regard to the deduction of such taxes at source as per applicable law.
- 45.2** If any refund is received by the contractor in respect of duties on taxes with regard to this work (for materials and services) such refund should be passed or fully to CMWSSB. To this effect, the contractor shall furnish a certificate along with each bill.

46. Currencies

- 46.1** All payments shall be made in Indian Rupees.

47. Price Adjustment number not used

48. Retention

- 48.1** The Employer shall retain from each payment due to the Contractor the proportion stated in the Contract Data until Completion of the whole of the Works.
- 48.2** On Completion of the whole of the Works, half the total amount retained is repaid to the Contractor and half when the Defects Liability Period has passed and the Engineer has certified that all Defects notified by the Engineer to the Contractor before the end of this period have been corrected.
- 48.3** 2.50 % of the total value of the Works executed by the Contractor less deduction if any will be paid to the Contractor along with the final bill. The balance amount of 2.50 % of the total value of the Works will be retained for a period of two years reckoned from the date of completion without interest and this amount will be paid to the Contractor after obtaining an irrevocable Bank Guarantee for a further period of three years.
- 48.4** Any recovery advised by the Employer shall be recovered from any bill or money retained from this Contract.

49. Liquidated Damages

- 49.1** The Contractor shall pay liquidated damages to the Employer at the rate per day stated in the Contract Data for each day that the Completion Date is later than the Intended Completion Date (for the whole of the works or the milestone as stated in the contract data). The total amount of liquidated damages shall not exceed the amount defined in the Contract Data. The Employer may deduct liquidated damages from payments due to the Contractor. Payment of liquidated damages does not affect the Contractor's liabilities.
- 49.2** If the Intended Completion Date is extended after liquidated damages have been paid, the Engineer shall correct any overpayment of liquidated damages by the Contractor by adjusting the next payment certificate.

50. Bonus for advance completion of work.

Any work completed in advance by not less than 10% of agreement period can be considered and Bonus of 1% on the value of the actual quantities of work executed at tendered rate may be paid

51 Advance Payment

- 51.1 The Employer shall make advance payment to the Contractor of the amounts stated in the Contract Data by the date stated in the Contract Data, against provision by the Contractor of an irrevocable Bank Guarantee in a form and by a bank acceptable to the Employer in amounts and currencies equal to the advance payment. The guarantee shall remain effective until the advance payment has been repaid, but the amount of the guarantee shall be progressively reduced by the amounts repaid by the Contractor. Interest will be charged on the advance payment at the rate of 13.5%. The advance payment shall be governed by Tamil Nadu Transparency in Tenders Act 1998 and Rules 2000. The bank guarantee shall be in the name of consortium. The Bank Guarantee shall be in the name of the successful bidder which has been obtained on the application made by the bidder to the banks. The Bank Guarantee in the name of successful bidder obtained by any other individual /Agency/Companies for the bidder will not be accepted.
- 51.2 The Contractor is to use the advance payment only to pay for Equipment, Plant and Mobilization expenses required specifically for execution of the Works. The Contractor shall demonstrate that advance payment has been used in this way by supplying copies of invoices or other documents to the Engineer.
- 51.3 The advance payment shall be repaid by deducting proportionate amounts from payments otherwise due to the Contractor, following the schedule of completed percentages of the Works on a payment basis. No account shall be taken of the advance payment or its repayment in assessing valuations of work done, Variations, Compensation Events, or Liquidated Damages.

52. Securities

- 52.1 The Performance Security (including additional security for unbalanced bids) shall be provided to the Employer not later than the date specified and shall be issued in the amount and form and by a bank or surety acceptable to the Employer, and denominated in Indian Rupees. The Performance Security for construction activities shall be valid until seven calendar months from the date of issue of Certificate of Completion and the additional security for unbalanced bids shall be valid until a date 28 days from the date of issue of the certificate of completion. The bank guarantee of a consortium bidder shall be in the name of consortium.

53. DELETED

54. Cost of Repairs

- 54.1 Loss or damage to the Works or Materials to be incorporated in the Works between the Start Date and the end of the Defects Correction periods shall be remedied by the Contractor at the Contractor's cost if the loss or damage arises from the Contractor's act or omissions. Contractor shall attend to the defect in the work noticed during defects correction period within 3 days from the date of issue of notice to attend to the defects, failing which the defect will be remedied by engaging other Contractors at any cost and that cost will be recovered from the Contractor's money available with the Employer and balance alone will be paid when it is due.

E. Finishing the Contract

55. Completion

55.1 The Contractor shall request the Engineer to issue a Certificate of Completion of the Works and the Engineer will do so upon deciding that the Work is completed.

56. Taking Over

56.1 The Employer shall take over the Site and the Works within seven days of the Engineer issuing a certificate of Completion.

57. Final Account

57.1 The Contractor shall supply to the Engineer a detailed account of the total amount that the Contractor considers payable under the Contract before the end of the Defects Liability Period. The Engineer shall issue a Defect Liability Certificate and certify any final payment that is due to the Contractor within 56 days of receiving the Contractor's account if it is correct and complete. If it is not, the Engineer shall issue within 56 days a schedule that states the scope of the corrections or additions that are necessary. If the Final Account is still unsatisfactory after it has been resubmitted, the Engineer shall decide on the amount payable to the Contractor and issue a payment certificate, within 56 days of receiving the Contractor's revised account.

58. 'As Built' Drawings / O&M Manuals

58.1 If "As Built" drawings and/or O&M Manuals are required, the Contractor shall supply them by the dates stated in the Contract Data.

58.2 If the Contractor does not supply the Drawings and/or manuals by the dates stated in the Contract Data, or they do not receive the Engineer's approval, the Engineer shall withhold the amount stated in the Contract Data from payments due to the Contractor.

59. Termination

59.1 The Employer or the Contractor may terminate the Contract if the other party causes a fundamental breach of the Contract by giving seven days notice.

59.2 Fundamental breaches of Contract include, but shall not be limited to the following:

- (a) the Employer or the Contractor is made bankrupt or goes into liquidation other than for a reconstruction or amalgamation;
- (b) the Engineer gives Notice that failure to correct a particular Defect is a fundamental breach of Contract and the Contractor fails to correct it within a reasonable period of time determined by the Engineer;
- (c) the Contractor does not maintain a security which is required;
- (d) the Contractor has delayed the completion of works by the number of days for which the maximum amount of liquidated damages can be paid as defined in the Contract data; and
- (e) if the Contractor, in the judgment of the Employer has engaged in corrupt or fraudulent practices in competing for or in executing the Contract.
- (f) The Contractor (in case of Joint venture) has modified the composition of the Joint Venture and /other responsibility of each member of the Joint Venture from what is stated in Joint Venture agreement without prior approval of the Employer.
- (g) Failure of the contractor to achieve two successive milestones.

For the purpose of this paragraph: "corrupt practice" means the offering, giving, receiving or soliciting of any thing of value to influence the action of a public official in the evaluation process or in contract execution. "Fraudulent practice" means a misrepresentation of facts in order to influence a evaluation process or the execution of a contract to the detriment of the Employer, and includes collusive practice among Bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the Employer of the benefits of free and open competition."

59.3 When either party to the Contract gives notice of a breach of contract to the Engineer for a cause other than those listed under Sub Clause 59.2 above, the Engineer shall decide whether the breach is fundamental or not.

- 59.4 Notwithstanding the above, the Employer may terminate the Contract for convenience.
- 59.5 If the Contract is terminated the Contractor shall stop work immediately, make the Site safe and secure and leave the Site as soon as reasonably possible.

60. Payment upon Termination

- 60.1 If the Contract is terminated because of a fundamental breach of Contract by the Contractor, the work will be completed by the employer at the risk & cost of the contractor.
- 60.2. If the Contract is terminated because of a fundamental breach of Contract by the Contractor, the Engineer shall issue a certificate for the value of the work done less advance payments received up to the date of the issue of the certificate, less other recoveries due in terms of the contract, less taxes due to be deducted at source as per applicable law and less the percentage to apply to the work not completed as indicated in the Contract Data. Additional Liquidated Damages shall not apply. If the total amount due to the Employer exceeds any payment due to the Contractor the difference shall be a debt payable to the Employer.
- 60.3 If the Contract is terminated at the Employer's convenience or because of a fundamental breach of Contract by the Employer, the Engineer shall issue a certificate for the value of the work done, the reasonable cost of removal of Equipment, repatriation of the Contractor's personnel employed solely on the Works, and the Contractor's costs of protecting and securing the Works and less advance payments received up to the date of the certificate, less other recoveries due in terms of the contract and less taxes due to be deducted at source as per applicable law.

61. Property

- 61.1 All materials on the Site, Plant, Equipment, Temporary Works and Works are deemed to be the property of the Employer, if the Contract is terminated because of a Contractor's default.

62. Release from Performance

- 62.1 If the Contract is frustrated by the outbreak of war or by any other event entirely outside the control of either the Employer or the Contractor the Engineer shall certify that the Contract has been frustrated. The Contractor shall make the Site safe and stop work as quickly as possible after receiving this certificate and shall be paid for all work carried out before receiving it and for any work carried out afterwards to which commitment was made.

**F. Special Conditions of Contract
Part I**

1. LABOUR:

The Contractor shall, unless otherwise provided in the Contract, make his own arrangements for the engagement of all staff and labour, local or other, and for their payment, housing, feeding and transport.

The Contractor shall, if required by the Engineer, deliver to the Engineer a return in detail, in such form and at such intervals as the Engineer may prescribe, showing the staff and the numbers of the several classes of labour from time to time employed by the Contractor on the Site and such other information as the Engineer may require.

2. COMPLIANCE WITH LABOUR REGULATIONS:

During continuance of the contract, the Contractor and his sub contractors shall abide at all times by all existing labour enactment's and rules made there under, regulations, notifications and bye laws of the State or Central Government or local authority and any other labour law (including rules), regulations, bye laws that may be passed or notification that may be issued under any labour law in future either by the State or the Central Government or the local authority. Salient features of some of the major labour laws that are applicable to construction industry are given below. The Contractor shall keep the Employer indemnified in case any action is taken against the Employer by the competent authority on account of contravention of any of the provisions of any Act or rules made there under, regulations or notifications including amendments. If the Employer is caused to pay or reimburse, such amounts as may be necessary to cause or observe, or for non-observance of the provisions stipulated in the notifications/bye laws/Acts/Rules/regulations including amendments, if any, on the part of the Contractor, the Engineer/Employer shall have the right to deduct any money due to the Contractor including his amount of performance security. The Employer/Engineer shall also have right to recover from the Contractor any sum required or estimated to be required for making good the loss or damage suffered by the Employer.

The employees of the Contractor and the Sub-Contractor in no case shall be treated as the employees of the Employer at any point of time

Further, the contractor has to give a declaration for the following provisions :

- i) That in the capacity of Contractor, the contractor has to comply with the provisions of Contract Labour (Regulations & Abolition) Act, 1970 by obtaining a valid license under the Act and the Rules thereto and similarly under Factories Act wherever applicable.
- ii) The contractor has to pay the wages in accordance with the Minimum Wages Act to all his / their employees.
- iii) That the contractor has to abide to recover the Employees Provident Fund and the Employees' Insurance contributions (both Employees and employers contribution) from the payment of bills every month.
- iv) The contractor's Code Nos. for E.S.I. and E.P.F. are & and both the Employees, Employers contributions will be remitted by the contractor in his / their code numbers and copy of the remittance challans will be produced. In case, if the contractor is failing to remit, he / they will inform wage rates of employees to the Principal employer so that they can remit Employees' State Insurance Contribution & Employees Provident Fund contribution (both for employer and employee) and authorize them to make deductions from the payment of bills.

- v) That the contractor has to authorize to recover the contributions towards Tamil Nadu Manual Workers (Regulations of Employment and Conditions of work) Act, 1982 fund at the percentage prescribed by the Government from time to time.
- vi) That the contractor has to further declare and undertake that in case of any liability pertaining to his / their employees is to be discharged by the Principal Employer for his / their lapse, the contractor undertake to reimburse the same or the Principal Employer is authorised to deduct the same from the contractor's dues as payable.
- vii) That the contractor will maintain the Registers and records about the Contract Labour employed under Section 29 of Labour (Regulation & Abolition) Act wherever applicable.
- viii) That the contractor will take insurance policy under Workmen Compensation Act to meet out any untoward incident until the contract labourers are issued with ESI card.
- ix) (1) That no Child Labour shall be employed in a house / work site / Establishment / Other places.
(2) As per the Section 2(ii) of the Child Labour (Prohibition and Regulation) Act 1986.
"Child" means, a person who has not completed his fourteenth years of age.

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

- a) Workmen Compensation Act 1923: - The Act provides for compensation in case of injury by accident arising out of and during the course of employment.
- b) Payment of Gratuity Act 1972: - Gratuity is payable to an employee under the Act on satisfaction of certain conditions on separation if an employee has completed 5 years service or more or on death the rate of 15 days wages for every completed year of service. The Act is applicable to all establishments employing 10 or more employees.
- c) Employees P.F. and Miscellaneous Provision Act 1952: The Act Provides for monthly contributions by the employer plus workers @ 10% or 8.33%. The benefits payable under the Act are: (i) Pension or family pension on retirement or death, as the case may be.
(ii) Deposit linked insurance on the death in harness of the worker.
(iii) Payment of P.F. accumulation on retirement/death etc.
- d) Maternity Benefit Act 1951: - The Act provides for leave and some other benefits to women employees in case of confinement or miscarriage etc.
- e) Contract Labour (Regulation & Abolition) Act 1970:- The Act provides for certain welfare measures to be provided by the Contractor to contract labour and in case the Contractor fails to provide, the same are required to be provided, by the Principal Employer by Law. The Principal Employer is required to take Certificate of Registration and the Contractor is required to take license from the designated Officer. The Act is applicable to the establishments or Contractor of Principal Employer if they employ 20 or more contract labour.
- f) Minimum Wages Act 1948: - The Employer is supposed to pay not less than the Minimum Wages fixed by appropriate Government as per provisions of the Act if the employment is a scheduled employment. Construction of Buildings, Roads, and Runways are scheduled employment.
- g) Payment of Wages Act 1936: - It lays down as to by what date the wages are to be paid, when it will be paid and what deductions can be made from the wages of the workers.

- h) Equal Remuneration Act 1979 :- The Act provides for payment of equal wages for work of equal nature to Male and Female workers and for not making discrimination against Female employees in the matters of transfers, training and promotions etc.
- i) Payment of Bonus Act 1965: - The Act is applicable to all establishments employing 20 or more employees. The Act provides for payments of annual bonus subject to a minimum of 8.33% of wages and maximum of 20% of wages to employees drawing Rs.3500/-per month or less. The bonus to be paid to employees getting Rs.2500/- per month or above upto Rs.3500/- per month shall be worked out by taking wages as Rs.2500/-per month only. The Act does not apply to certain establishments. The newly set-up establishments are exempted for five years in certain circumstances. Some of the State Governments have reduced the employment size from 20 to 10 for the purpose of applicability of this Act.
- j) Industrial Disputes Act 1947: - The Act lays down the machinery and procedure for resolution of Industrial disputes, in what situations a strike or lock-out becomes illegal and what are the requirements for laying off or retrenching the employees or closing down the establishment.
- k) Industrial Employment (Standing Orders) Act 1946: - It is applicable to all establishments employing 100 or more workmen (employment size reduced by some of the States and Central Government to 50). The Act provides for laying down rules governing the conditions of employment by the Employer on matters provided in the Act and get the same certified by the designated Authority.
- l) Trade Unions Act 1926: - The Act lays down the procedure for registration of trade unions of workmen and employers. The Trade Unions registered under the Act have been given certain immunities from civil and criminal liabilities.
- m) Child Labour (Prohibition & Regulation) Act 1986: - The Act prohibits employment of children below 14 years of age in certain occupations and processes and provides for regulation of employment of children in all other occupations and processes. Employment of Child Labour is prohibited in Building and Construction Industry.
- n) Inter-State Migrant workmen's (Regulation of Employment & Conditions of Service) Act 1979: - The Act is applicable to an establishment which employs 5 or more inter-state migrant workmen through an intermediary (who has recruited workmen in one state for employment in the establishment situated in another state). The Inter-State migrant workmen, in an establishment to which this Act becomes applicable, are required to be provided certain facilities such as housing, medical aid, travelling expenses from home upto the establishment and back, etc.
- o) The Building and Other Construction workers (Regulation of Employment and Conditions of Service) Act 1996 and the Cess Act of 1996: - All the establishments who carry on any building or other construction work and employs 10 or more workers are covered under this Act. All such establishments are required to pay cess at the rate not exceeding 2% of the cost of construction as may be modified by the Government. The Employer of the establishment is required to provide safety measures at the Building or construction work and other welfare measures, such as Canteens, First-Aid facilities, Ambulance, Housing accommodations for workers near the work place etc. The Employer to whom the Act applies has to obtain a registration certificate from the Registering Officer appointed by the Government.
- p) Factories Act 1948: - The Act lays down the procedure for approval at plans before setting up a factory, health and safety provisions, welfare provisions, working hours, annual earned leave and rendering information regarding accidents or dangerous occurrences to designated authorities. It is applicable to premises employing 10 persons or more with aid

of power or 20 or more persons without the aid of power engaged in manufacturing process.

q) Employers State Insurance Act, 1948

r) The Tamil Nadu Manual Workers (Regulation of Employment and Conditions of Work) Act, 1982.

Every Employer other than an Employer operating a motor transport for carrying passengers or goods by roads, employing manual worker in any scheduled employment, shall be liable to pay, within such time as may be prescribed, to the Board established under section 6, for the scheduled employments, other than the scheduled employment in construction or maintenance of dams, bridges, roads or in any building operations, every month a sum at such rate not exceeding three percent of the wages payable by him to such manual worker, as may be fixed by the Government by notification;

s) The Bonded Labour System (Abolition) Act, 1976

t) The Employer's Liability Act, 1938.

3. ARBITRATION

The procedure for arbitration will be as follows:

(a) In case of Dispute or difference arising between the Employer and Contractor relating to any matter arising out of or connected with this agreement, such disputes or difference shall be settled in accordance with the Arbitration and Conciliation Act, 1996. The arbitral tribunal shall consist of 3 arbitrators one each to be appointed by the Employer and the Contractor. The third arbitrator shall be chosen by the two arbitrators so appointed by the parties and shall act as presiding arbitrator. In case of failure of the two arbitrators appointed by the parties to reach upon a consensus within a period of 30 days from the appointment of the arbitrator appointed subsequently, presiding arbitrator shall be appointed in accordance with the Arbitration and Conciliation Act, 1996.

(b) **DELETED**

(c) If one of the parties fails to appoint its arbitrator in pursuance of sub-clause (a) above within 30 days after receipt of the notice of the appointment of its arbitrator by the other party, then the arbitrator shall be appointed in accordance with the Arbitration and Conciliation Act, 1996.

(d) Arbitration proceedings shall be held at Chennai, (India) and the languages of the arbitration proceedings and that of all documents and communications between the parties shall be English.

(e) The decision of the majority of arbitrators shall be final and binding upon both parties. The cost and expense of Arbitration proceedings will be paid as determined by the arbitral tribunal. However, the Expenses incurred by each party in connection with the preparation, presentation, etc. of its proceedings as also the fees and expenses paid to the arbitrator appointed by such party or on its behalf shall be born by each party itself.

(f) **DELETED**

(g) Performance under the contract shall continue during the arbitration proceedings and payments due to the Contractor by the Employer shall not be withheld, unless they are the subject matter of the arbitration proceedings.

**Special Conditions of Contract
Part - 2**

1. Contractor's Responsibility

The information given hereunder and provided elsewhere is given in good faith but the Contractor shall satisfy himself regarding all aspects of site conditions and no claim whatsoever will be entertained on the plea that information supplied by the Engineers is erroneous or insufficient.

2. Construction Water

The Contractor shall make his own arrangement for the fresh water required for the manufacturing of the pipes, construction of civil works and testing of pipeline as well as for the potable water required for his factory & labour camps.

3. Construction Power

The Contractor shall make his own arrangement for supply electrical energy required at his sites and the works from the Tamilnadu Electricity Board.

The Contractor is forewarned that there can be interruptions in power supply for reasons beyond the control of the Tamil Nadu Electricity Board and therefore the Contractor is advised to make his standby arrangement to provide and maintain all essential power supply for his work area at his expense. The Contractor shall not be entitled to any compensation for any loss or damage to his machinery or any equipment or any consequential loss in progress of work and idle labour.

4. Survey

The Contractor shall, at his own expense provide and maintain survey stations which he may require to carry out the works and shall remove the same on completion of the works. The Contractor shall, at his own expense, carry out all the necessary surveys, measurements and setting out of the works and shall for this purpose engage qualified and competent engineering surveyors whose names and qualifications shall be submitted to the Engineer for his approval.

The Contractor shall for the purpose of checking the survey and setting out, provide to the Engineer all the assistance, which he may require. The surveyor shall be selected having appropriate experience and as far as possible, the same surveyor shall be provided throughout the contract period. Before commencing any work at any locations, the Contractor shall give the Engineer not less than two days notice of his intention to set out or give levels for any part of the work in order that arrangements may be made for inspection. The Contractor shall provide for the sole use of the Engineer and his staff, all necessary survey instruments and other equipment and all technicians, labour and attendants which the Engineer may require for checking the setting out and marking of the works. The Contractor shall maintain in good working order at all time during the period of contract the instruments provided by him, for the proper setting out of the works. The Contractor shall make available at his own expense, any poles, staging templates.

5. Temporary Fencing

The Contractor shall, at his own expense, erect and maintain in good condition temporary fences and gates along the boundaries of the areas assigned, if any, to him by the Employer for the purpose of the execution of the works.

The Contractor shall, except when authorised by the Engineer, confine his men, materials and plant within the site of which he is given possession. The Contractor shall not use any part of the site for purposes not connected with the works unless prior written consent of

the Engineer has been obtained. Access shall be made to such areas only by way of approved gateways.

6. Return of Labour and Plant

The Contractor shall supply to the Engineer by 9 a.m. every working day a return of the men employed by him and his sub-contractors on the previous working day and all of the work on which they were engaged specifying also the number employed in each trade. He shall also supply monthly any other returns which may be required as to the number of men and constructional plant employed and the nature and type of the work done.

7. Sanitary Facilities

The Contractor shall provide and maintain in a clean and sanitary condition adequate W.C.'s and wash places which may be required on the various parts of the site for use of his employees, to the satisfaction of the Engineer. The Contractor shall make all arrangements for the disposal of sewage or drainage in accordance with the directions of the Engineer.

8. Restricted Entry to Site

The Contractor shall get the prior permission of the Engineer before any person not directly connected with the works visits the site.

9. Existing Services

Drains, pipes, cables, overhead electric wires and similar services encountered in the course of the works shall be guarded from injury by the Contractor at his own cost, so that they may continue in full and uninterrupted use to the satisfaction of the Employer and the Contractor shall not store materials or otherwise occupy any part of the 'site' in a manner likely to hinder the operation of such services. Should any damage be done by the Contractor on any mains, pipes, cables or lines (whether above or below ground), whether or not shown on the drawings, the Contractor must make good or bear the cost of making good the same without delay to the satisfaction of the Engineer and of the Employer.

10. Local Roads and Haul Roads

The approach roads and other public roads in the state may be used by the Contractor to haul construction materials and equipment subject to restriction of load carrying capacity on the roads in particular over bridges and culverts. However, the Contractor will have to pay customary vehicles license and permit fees for use of public roads.

The Contractor shall plan transportation of construction materials to site in such a way that road accidents are avoided.

11. Permission for Road Cuts

Wherever the Contractor considers that it is necessary to cut through an existing road or track he shall submit details to the Engineer for approval, a minimum of seven days before such work commences.

In the event of cutting a road by the Contractor without permission from the Engineer the Contractor shall pay compensation as claimed by the owner of the road until it is restored at the cost of the erring Contractor.

Trench Digging:

Digging of trench by the Contractor beyond the length than that is specified by the Engineer shall invite a fine of Rs.500/- per day till such time the damage is restored.

12. Temporary Diversion of Roads

During the execution of the works the Contractor shall make at his cost all necessary provision for the temporary diversion of roads, cart-tracks, footpaths, drains, water courses, channels etc., Should he fail to do so, the same shall be done by the Engineer and the cost thereof will be recovered from the Contractor.

13. Notice to Telephone, Railways & Electricity Supply Under Takings / Depts., etc.

The Employer shall deposit an amount to the respective local bodies/Highways department for restoration of road surface after completion of pipe laying work. The Employer shall obtain general permission to cut the road.

Before commencing operations the Contractor has to obtain specific permission from local bodies/Highways Department when he wants to cut any section of the road. Where operations involve cutting of roads, shifting utilities etc. during the process of work, the Contractor shall also give notice to the concerned authorities viz. the panchayats/the Municipalities, the Railway department, the Electricity Board, Telegraphs department, the Traffic department attached to the police and other departments or companies as may be affected by the work. The notice should identify the specific details so that the necessary diversion of traffic may be arranged and permissions obtained. The Contractor shall co-operate with the department concerned and provide for necessary barricading of roads, protection to existing underground cables etc. met with during the excavation of trenches. The Contractor shall provide at his own expenses watching and lighting arrangements during day and night and erect required notice board such as "Caution Road closed for Traffic" etc. He should also provide and maintain at his own cost the necessary supports for underground cables etc. to afford best protection to them in consultation with the authorities in-charge of the properties and to their best satisfaction. The Contractor has to make necessary arrangements to get supply of electricity from TNEB for operating the machinery and equipments. The Employer will pay the necessary service connection and S.D. charges. The Contractor should obtain all approvals for the installation and commissioning of machinery and accessories offered by them from the respective inspecting authorities such as CEIG or CIFG etc., Fees if any, to be paid to the inspecting authorities will be reimbursed by the Employer.

14. Barricading

The pit / trench shall be barricaded on all four sides. The Contractor who has dug up the trench shall be responsible for any mishap, which may occur. Non-barricading of trenches by the Contractor shall be liable for a fine of Rs.500/- per day.

15. Length of Trench Open at One Time

The Pipe line shall be excavated in such length as may be ordered by the Engineer depending on the nature of the ground, the depth from the surface and the risk of damage to the adjoining property. The pipes shall not be covered until they may have been tested to the satisfaction of the Engineer. But in bad ground in close proximity to buildings or in other places where the Engineer shall consider necessary he may limit the length of trench so that there shall not be more than three pipes lengths from the refilled trench to the unbroken ground ahead.

16. Watching and Lighting

The Contractor shall at his expense provide at the site of work sufficient lighting and watching and fencing by night and by day and shall in every respect conform to the police regulations in these matters and he shall free and relieve the Employer, Should he neglect to do so, the same shall be provided by the Engineer and the cost thereof will be recovered from the Contractor.

17. Filling In Holes and Trenches Etc.

The Contractor immediately upon completion of the Works shall fill up holes and trenches which may have been made or dug, level the mounds, or heaps or earth that may have been raised or made, and clear away all rubbish which may have become superfluous or have been occasioned or made in the execution of the works, and the Contractor shall bear and pay all costs, charges etc. Failure to carry out the work within two days will attract a fine of Rs 500/- per day.

18. Power to Vary Work

The description of work required to be executed by the Contractor are set forth in the specification, schedules and in the drawings, but the Engineer reserves the power to vary, extend or diminish the quantities of Work, to alter the line, level, or position of any work to increase, change or decrease the size, quantity, description, character or kind of any Work, to order the Contractor to execute the Works or any part thereof, by day or night Work, or to add or to take from the Work included in the contract as he may think proper without violating the contract and the Contractor shall not have any claim upon the Employer for any such variation, extension, diminution, alteration, increase, change or decrease other than for the Work actually done, calculated according to the prices tendered and accepted in this contract.

19. Extra or Varied Work

If the Engineer uses the power reserved to him under Clause 18 above an order in writing signed by the Engineer, shall be given to the Contractor to that effect and any Work executed under such order shall be paid for at the rates set forth in the Schedule of Prices prevailing at the time of execution where such rates in the opinion of the Engineer apply. This shall apply to unforeseen items of work, which are not found in the Bill of Quantities. If the rates are not available in the Schedule of Prices, a rate or price shall be agreed upon between the Engineer and the Contractor in writing and failing their agreement the Contractor shall forthwith execute such order and the Engineer shall determine the rates or prices at which the work shall be paid of.

20. Free Flow of traffic

While executing the work, as soon as possible, the Contractor should allow as much traffic as possible on the roads/streets, by refilling the trenches cut across.

21. Tools and Plants

All tools and plants required for the work including sheet piles and timber for shoring and strutting pump sets etc. shall be supplied by the Contractor at his own cost. The rate for the relevant items of work are inclusive of all such tools and plants and apparatus required for the execution of the work.

22. Excess Materials

The Contractor shall be responsible for the procurement of required quantity of materials like pipes, specials, machinery, electrical items etc. Any materials procured for the work even though as per Bill of Quantities, if found excess due to any reasons after completion of the works, shall be taken back by the Contractor and the Employer / Engineer shall not be responsible for such excess materials. Amount paid if any for such excess materials shall be deducted from any bills payable to the Contractor.

23. Deleted

24. Commissioning of Works

The Contractor shall be responsible for successful commissioning of the Automation of 37 sewage pumping stations in CMWSS Board – Package – 2 and followed by O&M of the project for 3 years

Special Conditions of Contract

Part - 3

RULES FOR THE PROVISION OF HEALTH AND SANITARY ARRANGEMENTS FOR WORKERS EMPLOYED BY THE GOVERNMENT DEPARTMENTS AND OTHER CONTRACTORS

1. The contractor's special attention is invited to relevant clauses of the 'General Conditions of Contract' in the Tamil Nadu Building Practice and he is requested to provide at his own expense the amenities mentioned herein to the satisfaction of the Engineer.

2. Application

These rules shall apply to all building, pipe laying and construction works.

3. Definition

a) "Work Place" means a place at which on an average fifty or more workers are employed in connection with construction work.

b) "Large Work Place" means a place at which on an average 500 or more workers are employed in connection with construction work.

**Special Conditions of Contract
Part - 4**

1. General

Before submitting the bids, the bidder should carefully go through all the bid documents, drawings and also inspect the place of work so as to get full and first hand knowledge of the site conditions based on which he has to quote his rate.

2. Accidents

It shall be the duty of the Contractor to arrange for the execution of the works in such a manner as to avoid the possibility of the accidents to persons or damage to the properties at any stage of the progress of work. Nevertheless he shall be held wholly responsible for any injury or damage to persons and properties, which may occur irrespective of any precautions he may take during the execution of the works. The Contractor shall make good all claims and loss arising out of such accidents and indemnify the Employer from all such claims and expenses on account thereof.

3. Flood Damages etc.

The Contractor may take risk insurance at his cost against losses due to unprecedented floods and other acts of God. No claim shall be entertained on this account and paid for.

4. Water and Lighting

The Contractor shall pay all fees and provide water and light as required from Municipal mains or other sources and shall pay all charges, therefore (including storage tanks, meters etc.) for the use of the works and workmen, unless otherwise arranged and decided on by writing with Engineer. The water used for the works shall be free from earthy vegetable or organic matter and from salts or other substances likely to interfere with the setting of mortar or otherwise prove harmful to the work and conform to relevant standards.

5. Rates

The Contractor shall particularly note that the accepted rates of the various items shall be inclusive of all incidental charges such as bailing by manual labour, dewatering, shoring etc. if found necessary during the execution and no extra shall be due therefore on any account during the currency of the contract, unless stated other wise.

6. Royalty Charges

The Royalty will be charged for the materials obtained from P.W.Department, or other Government quarries. Assistance as necessary will be given to the Contractor by the Engineer. No plot rent shall be charged for materials stacked on Employer's lands during the course of construction provided all such materials are removed within one month after the work is completed. Royalty or charges due in the case of private quarries and private bodies shall be paid by the Contractor.

7. Payment to Labourer

The Contractor should note, that in the event of emergency, he shall pay all Labourer every day and if this is not done, the Employer shall make requisite payment and recover the cost from the Contractor. The Contractor shall not employ any labourer below the age of 15 years.

1. Night Works

If night work is required to fulfill the agreed rate of progress and to complete the work within the period stipulated, prior written approval is necessary and all arrangement shall be made by the Contractor including lighting without any claim for extra rate.

9. Errors, Omissions and Discrepancies

In the case of errors, omissions, and/or disagreement between the written and the scaled dimensions on the drawings or between the drawings and the specifications, the following order of precedence shall apply;

- i) In case of discrepancies in dimensions of any item of work as described between the descriptive specifications and detailed working drawings, the dimensions given in the detailed working drawings shall apply.
- ii) In case of discrepancies in description of scope of work between what is indicated in the item of work given in Bill of Quantities and the corresponding detailed technical specifications, the latter shall apply.
- iii) Figured dimensions shall supersede scaled dimensions. The drawings on a large scale shall take precedence over those on a smaller scale.
- iv) Drawing issued as construction drawings from time to time shall supersede the corresponding drawings previously issued.

10. Equivalence of Standards and Codes

Whenever reference is made in the contract to the respective standards and codes in accordance with which plant, equipment or materials are to be furnished and work is to be performed or tested the provisions of the latest current edition or revision of the relevant standards and codes in effect shall apply, unless otherwise expressly set forth in the contract. Where such standards and codes are national in character, or relate to a particular country or region, other authoritative standards which ensure equal or higher quality than the standards and codes specified will be accepted subject to the prior review and written approval by the Engineer. Difference between the standards specified and the proposed authoritative standards must be fully described in writing by the Contractor and submitted to the Engineer well in advance for approval. If on the prior review, the Engineer determines that such proposed deviations do not ensure equal or higher quality, the Contractor shall comply with the standards set forth in the contract document.

11. Bidder to Satisfy Himself

It will be the Contractor's responsibility to satisfy himself from the inspection of the site that sufficient quantities of construction materials required for the works exist in the designated borrow areas and quarry sites.

Failure by the Contractor to have done all the things, which in accordance with this condition he is deemed to have done shall not relieve him of the responsibility for satisfactorily completing the work as required.

12. Employment of Scarcity Labour

If Government of Tamil Nadu declares a state of scarcity or famine to exist within 16 kms. of the project site, the Contractor shall be required to employ in his works for which he will need unskilled labour and to the extent his works can accommodate any person or persons certified to him by the Engineer to be in need of relief and the Contractor shall pay to such persons wages not below the minimum wage which the Government may fix in this behalf from time to time.

13. All labourers and other employees of the Contractor should be covered by a suitable accident insurance policy to cover liabilities under the Workmans Compensation Act.
14. **Electricity Tariff**
The unit rates and prices quoted by the Bidder in the Bill of Quantities shall include the cost of electric energy required for construction at the rates fixed by the Tamil Nadu Electricity Board.

**Special conditions Of Contract
Part - 5**

SAFETY PROVISION

1. Suitable scaffolds shall be provided for workers for all that cannot safely be done from the ground or from solid construction, except such short period work, as can be done safely from ladders. When a ladder is used, an extra mazdoor shall be engaged for holding the ladder and if the ladder is used for carrying materials as well , suitable footholds and handholds shall be provided on the ladder and the ladder shall be given an inclination no steeper than 1\4 to 1 (1\4 horizontal to 1 vertical) . Site code for scaffolding and ladders I.S 3696 -1996 Part -I and Part II and latest revisions to be followed.
2. Scaffolding or staging more than 3.25 meters above the ground or floor swung or suspended from an overhead support or erection with stationary support, shall have guard rail properly attached bolted, braced and otherwise secured atleast 1 metre high above the floor or platform of such scaffolding or staging and extending along the entire length of the outside and ends thereof with only such openings as may be necessary for the delivery of materials. Such scaffolding or staging shall be so fastened as to prevent it from swaying from the building or the structure.
3. Working platform, gangways and stairways shall be so constructed that they do not sag unduly or unequally, and if height of a platform or gangways or stairway is more than 3.25 metres above ground level, it shall be closely boarded, have adequate width and be suitably fenced, as described in 2 above. Every opening in floor of a building or in a working platform shall be provided with suitable means to prevent fall of persons or materials by providing suitable fencing or railing with a minimum height of 1 meter. Safe means of access shall be provided to all working platforms and other working places. Every ladder shall be securely fixed. No portable single ladder shall be over 7 metres in length. Width between side rails in a rung ladder shall in no case be less than 30 cm, for ladders, this width shall be increased by atleast 6mm for each additional 30cm length. Uniform steps spacing shall not exceed 30cm.
4. Adequate precautions shall be taken to prevent danger from electrical equipment. No material on any of the sites shall be so stocked or placed as to cause danger or inconvenience to any person or to the public. The Contractor shall provide all necessary fencing and lights to protect public from accidents and shall be bound to bear expenses of defence of every suit, action or proceedings at law that may be brought by any person for injury sustaining, owing to neglect of the above precautions and to any such suit, action or proceedings to any such person or which may with the consent of the Contractor be paid to compromise any claim by any such person.
5. All necessary personal safety equipment as considered adequate by the Engineer shall be available for use of persons employed on the site and maintained in a condition suitable for immediate use and the Contractor shall take adequate steps to ensure proper use of equipment by those concerned
 - a) Workers employed on mixing asphalt materials, cement and lime mortars /concrete shall be provided with protective footwear, hand gloves and goggles.
 - b) Those engaged in handling any materials, which is injurious to eyes, shall be provided with protective goggles.
 - c) Stonebreakers shall be provided with protective goggles and protective clothing.
 - d) When workers are employed in sewers and manholes, which are in use, the Contractor shall ensure that manhole covers are opened and manholes are ventilated atleast for an hour before workers are allowed to get into them.

- Manholes so opened shall be cordoned-off with suitable railing and warning signals or boards provided to prevent accident to public.
- e) The Contractor shall not employ men below the age of 15 and women on the work of painting with products containing lead in any form. Whenever men above the age of 18 are employed on the work of lead painting the following precautions shall be taken:
- i) No paint containing lead or lead products shall be used except in the form of paste of ready-made paint.
 - ii) Suitable face masks shall be supplied for use by workers when paint is applied in the form of spray or a surface having lead paint dry rubbed and scraped.
 - iii) Overalls shall be supplied by the Contractor to workmen and adequate facilities shall be provided to enable working painters to wash during and on cessation of works.
6. When the work is done near any place where there is risk of drowning, all necessary equipment shall be provided and kept ready for use and all necessary steps taken for prompt rescue of any person in danger and adequate provisions made for prompt first aid treatment of all injuries likely to be sustained during the course of the work.
7. Use of hoisting machines and tacks including their attachments, anchorage and supports shall conform to the following:
- a)
 - i) These shall be of good mechanical construction, sound material and adequate strength and free from patent defects and shall be kept in good repair and in good working order.
 - ii) Every rope used in hoisting or lowering materials or as a means of suspension shall be of durable quality and adequate strength, and free from patent defects.
 - b) Every crane driver or hoisting appliance operator shall be properly qualified and no person under the age of 21 years shall be in-charge of an hoisting machine, including any scaffold winch or give signals to operator.
 - c) In case of every hoisting machine and of every chain ring hook, shackle, swivel and pulley block used in hoisting machine or lowering or as means of suspension, safe working load shall be ascertained by adequate means. Every hoisting machine and all gear referred to above shall be plainly marked with safe working load. In case of hoisting machine having a variable safe working load and the conditions under which it is applicable shall be clearly indicated. No part of any machine or of any gear referred to above in this paragraph shall be loaded beyond safe working load except for the purpose of testing.
 - d) In case of departmental machine, safe working load shall be notified by the Engineer. As regards Contractor's machine, the Contractor shall notify safe working load of each machine to the Engineer whenever he brings to the site of work and gets it verified by the Engineer.
8. Motors, gearing, transmission, electrical wiring and other dangerous parts or hoisting appliance shall be provided with such means as will reduce to the minimum risk and accidental descending of load; adequate precautions shall be taken to reduce to the minimum risk of any part of a suspended load becoming accidentally displaced. When workers are employed on electrical installations, which are already energised, insulating

- mats, wearing apparel such as gloves, sleeves and boots, as may be necessary shall be provided. Workers shall not wear any rings, watches and carry keys or other materials, which are good conductors of electricity.
9. All scaffolds, ladders and other safety devices mentioned or described herein shall be maintained in a safe condition and no scaffold ladder or equipment shall be altered or removed, while it is in use. Adequate washing facilities shall be provided at or near place of work.
 10. The safety provision shall be brought to the notice of all concerned by displaying on a notice board at a prominent place at the work spot, persons responsible for ensuring compliance with the safety provision shall be named therein by the Contractor.
 11. To ensure effective enforcement of the rules and regulations relating to safety precautions, arrangements made by the Contractor shall be open to inspection by the Engineer or his representative and the inspecting Officer.
 12. The Contractor shall obtain previous permission of the competent authority such as Chief of Fire services for the site, manner and method of storing explosives near the site of work. All handling of explosives including storage, transport shall be carried out under the rules approved by the "Explosive Department of the Government".
 13. The Contractor shall at his own cost provide and maintain at the sites of works, standard first aid box as directed and approved by the Engineer, for the use of his own as well as the Employer's staff on site.
 14. Notwithstanding the above provision 1 to 15 Contractor is not exempted from the operation of any other Act or rules in force relating to safety provisions.

15 Environmental Protection Work

- 15.1 The Contractor shall have to take following measures during construction and commissioning of works for protection of environment as under to avoid environmental impacts on air, water and land.

15.2 Site Clearance

The site clearance shall be done with minimum damage to existing structures flora and fauna, electricity and telephone lines and other infrastructure service.

15.3 Earth Work and Excavation

The Contractor shall inform the local authorities / government if any fossils, coins artifacts of value or antiquity, structures and other remains of geological or archaeological interests and excavation shall be stopped until identification of cultural relics by the authorised institution is completed.

The Contractor shall dispose off surplus / waste material at identified sites approved by the Engineer. The Contractor shall ensure that there is minimum hindrance to normal activities and business. The Contractor shall avoid damage to permanent structures and shall avoid loss of standing crops along the road.

15.4 Re-plantation

The Contractor shall carry out Re-plantation on areas / on the periphery of construction sites to minimise visual impact and soil erosion. The Contractor shall pay special attention to the type of trees to be replanted to prevent fouling of water through falling leaves and bird droppings. A list showing the type of trees to be replanted will be got approved before replanting any trees.

15.5 Soil Erosion and Water Quality

The Contractor shall ensure that earth and stone do not silt up existing irrigation /drainage systems.

The Contractor shall take suitable measures to prevent direct discharge of polluted waters form construction activity into lakes/rivers/irrigation channels.

The Contractor shall minimise exposure of soil types susceptible to wind and water erosion.

The Contractor shall control run-off and erosion through proper drainage channels and structures.

15.6 Soil Compaction

The Contractor shall restrict traffic movements and use low ground pressure machines.

The Contractor shall preserve topsoil to be replaced after completion of construction activity.

The Contractor shall avoid wet soils.

15.7 Social Disruption

The Contractor shall minimise interruptions to utility services through proper planning and scheduling of activities.

The Contractor shall provide temporary roads and diversions as may be necessary for smooth flow of traffic.

The Contractor shall preferably use local labour / Skilled persons during construction.

15.8 Dust / Air Pollution

The Contractor shall provide effective dust control through sprinkling / washing of construction sites and access roads.

The Contractor shall cover / water stockpiles and storage areas to prevent dust pollution.

The Contractor shall cover trucks transporting construction materials to minimise spills.

The Contractor shall have a preventive maintenance program for construction equipment and vehicles to meet emission standards.

15.9 Noise Pollution

The Contractor shall normally undertake construction work during daytime only (between 7.30 to 18.00 hrs) and when authorised to work beyond these hours adopt suitable noise control methods during such works.

The Contractor shall maintain machines and trucks to keep them with low noise.

The Contractor shall install sound barriers and plant tree as appropriate during construction.

15.10 Construction Camps

The Contractor shall take adequate measures such as provision of septic tank/pit latrines at construction site / camps.

The Contractor shall provide crèches to working women labour.

The Contractor shall provide drinking water conforming to IS: 10500

The Contractor shall provide garbage cans at suitable fixed place and have the garbage disposed off regularly.

15.11 Aesthetic Improvement

The Contractor shall through proper house keeping enhance aesthetic appearance of construction sites.

The Contractor shall dispose-off construction wastes at approved disposal sites.

The Contractor shall repair pavements immediately following construction pipeline and appurtenant structures.

The Contractor shall remove after completion of construction, all temporary structures and restore the project and surrounding areas nearest possible to the pre construction condition.

15.12 Conservation of Ecological Resources

The Contractor shall not use farmland and forest belts as materials borrow sites.

The Contractor shall not select arable land as material borrows site. In case excavation in arable land is unavoidable, topsoil layer (30 cms. depth) shall be saved and returned after construction work is completed so as to minimise impacts on ecosystem, agriculture and animal husbandry.

The Contractor shall educate construction workers to protect natural resources, wild plants and animals.

15.13 Risk Of Accidents

The Contractor shall provide efficient lighting equipment and safety signs on temporary roads during construction and shall adopt and implement adequate traffic regulation.

The Contractor shall take effective safety and warning measures to reduce accidents.

The Contractor shall provide suitable temporary crossings to facilitate normal life and business.

15.14 Responsibility For Accidents, Damages Etc.

The care of the whole of the permanent work until their completion as defined in Clause 49 and for the period prescribed in Clause 58 and of the whole of the temporary work until their removal shall remain with the Contractor who shall be responsible for all accidents or damages from whatever cause arising and chargeable for anything that may be stolen, removed, destroyed or damaged to whomsoever belonging and also for making good all defects and damages to the said Works or to any property adjoining or any cause whatever, whether such damage or defects were occasioned by the negligence of the Contractor or not or may be or might have been discovered during the progress of the works or in consequence thereof, or shall appear to be known after the completion

whereof or whether payment may wholly or partially have been made or the Works approved as supposed to have been properly done, and no certificate or approval of any works by any officers or members of the Employer shall effect

15.15 Noise Monitoring

I. Monitoring Frequency:

- a) During construction period: 12 times a year each time including day and night.
- b) During Commissioning period: 4 times ad hoc monitoring will be taken.

II. Monitoring points:

During construction period: Near construction sites, factory sites and sensitive areas.

5. CONTRACT DATA

CONTRACT DATA

Items marked "N/A" do not apply in this Contract.

The following documents are also part of the Contract:

Clause Reference

"As Built" drawings ,O&M Manuals, Licence Key,source codes (Within 28 days from the date of completion)	[58]
· The Schedule of Other Contractors	[8]
· The Schedule of Key Personnel for construction activities	[9]
1. Project Manager	B.E. (Electrical/ Instrumentation) with min. of 10 years experience or Diploma in elect Engg with 20yrs exp and should have been Project Manager for at least one Project/Work similar to the present contract
2. Key Personnel	
i. Instrumentation Engineer	B.E. (Electrical/ Instrumentation)with minimum of 3 years experience or Diploma (Electrical eng) with a minimum of 6yrs experience of which a min. of 1year for B.E and 2yrs for Diploma holder of specific experience should be in similar projects
ii) Electrical Engineer	Degree or Diploma .(Electrical) with minimum of 3 years experience

Penalty for not employing Project Manager and other Key Personnel till the date of employment of the personnel [9.3]

Project Manager	Rs.25, 000/ month
Other Key Personnel	Rs.15, 000/ month/ each

The Employer is

Name : Chennai Metropolitan Water Supply & Sewerage Board. (1.1)

Address: No.1, Pumping Station Road, Chintadripet, Chennai-600 002

The Engineer is : Chief Engineer (1.1)

Name of Authorized Representative: Superintending Engineer/Executive Engineer

The Adjudicator appointed jointly by the Employer and Contractor is:

Name : Thiru S.V.Pandiarajan (1.1)

The name and identification number of the Contract is:

Name of Work: Automation of 37 sewage pumping stations in CMWSS Board – Package - 2

CONTRACT NO : CNT/ /NCB/SEW/GOTN/ PART- II/ 2396 /2013-14

The sewage generated from Chennai city, is collected through the collection system and is transferred to the nearest Sewage Pumping Stations. These sewage pumping stations are provided with, Submersible / Centrifugal pumps which are used to pump the sewage to the designated Sewage Treatment plants.

At present all the machineries are operated manually by field staff who operate the pumps by manual switching ON and switching OFF the controls based on the level of sewage in the collection wells. In order to ensure that the pumping stations are operated efficiently without stagnation in the collection system, It is proposed to provide total automation of the pumping machineries in 187 sewage pumping stations in CMWSS Board . The automation would have the capability of remote operation and manual override facility.

The System configuration is as follows,

1. PLC based Control system
2. Ultrasonic based Level transmitter
3. GSM/GPRS Modem for data connectivity
4. Automatic Power factor correction Panel.

The system works as follows,

- The high level of sewage and low level of sewage in the collection well within which the Pumps have to be operated is programmed in the PLC system.
- Pump selection – Active Pump selection is made in the PLC control panel.
- On reaching the High sewage level, the active pump is switched ON automatically by the Control System.
- Similarly on reaching the set Low sewage level , the control system automatically Switches OFF the running Pumps and the Pumps are restarted only on reaching the set High Level of sewage.
- capacitor bank should switched ON automatically based on the load of the Working Pumps.

- The Other features include, Starting/stopping of Pumps using Mobile Phone SMS.
- Information of sewage Level in Collection well can be obtained through Mobile Phone via SMS.

The automation would have the capability of operations from remote locations as well as from the installed stations.

1.3 System Components:

Scope of work shall comprise of:

- Supply, Delivery, installation, commissioning, and performance based Operation and maintenance contract of the Sewage Pumping station for a period of five years .
- Supply, Delivery, installation and commissioning of Ultra sonic /radar type level transmitters as per the detailed specifications of the instruments should be installed in suction wells at various sewage pumping stations. Necessary power and data cables shall be provided and data shall be transferred to the logic controllers.

Supply, Delivery, installation and commissioning of Programmable Logic controller/Remote terminal unit (PLC/RTU) with control panel, Automatic power factor control system, Uninterrupted Power Supply (UPS) with battery backup for 2 hours / necessary Battery charger of equivalent value, in the event of power failure. System should be capable of interfacing a maximum 6 pumps with required hardware and interfacing cables. All pumping stations should be provided with contactors required for the interface. Depending on the power condition the system should have necessary controller / built in controller for switching capacitor bank Automatic Mains Failure panel (AMF) or Auto Change Over panel available in the pumping stations. The details of standby generation facility available in each sewage pumping station is listed . Interfacing the DG power source with the system and monitoring of main EB power source and DG power source is in the scope of the vendor. All improvements, repairs or installation of AMF panels or other Auto change over or Auto transformer starter units will be provided by the Department.

The system should have provision to display critical data with MMI and should be able to display messages. The system should have connectivity to interface with GSM/GPRS modem and upload the data to the cloud system / third party open cloud system at a later stage. The vendor should demonstrate this feature during commissioning of the system using a stand alone operation at 10 randomly chosen location as per Metro Water requirement.

- The system should upload the data to the cloud at a set periodic interval that is variable by Metro water as per requirement. The system should interface GSM / GPRS system through RS 232 interface and with Ethernet interface capability of the main controller. The system should have provision for communication of DNP 3.0 protocol. The program software should be provided to Metro water for correction / modification at a later stage. The software should follow general Ladder programming and open programming standards. The system should have provision for expansion of IO's. During installation and maintenance period all required software correction support to be provided by the vendor.

- The vendor should provide all accessories like cables, laying of cables, cable supports, for level sensor, PLC/RTU controller, MCC interface, Capacitor bank interface and Main power source required for the system.
- All required manpower and necessary minor civil work as required for the successful installation of the contract is in the scope of the vendor.

Performance based Operation and Maintenance contract as detailed in the annexure would include GSM/GPRS connectivity and all related charges for 3 years along with comprehensive maintenance of all equipments inclusive of repair/replacement of defective components during the first year warranty period and subsequent two years after the expiry off first year warranty period .During this period of three years, one resident Engineer (Degree in Instrumentation/electrical engineering) should be posted permanently by the contractor at Head office to monitor the proper functioning of the entire project and other technically qualified staff and field workers as listed the Annexure for Operation and maintenance contract in Volume –I of this tender to ensure continuous operation of all equipments at all locations. If required, breakdown maintenance may be carried out with additional support by the contractor for which no separate payment will be made. The contractor shall ensure that an office shall be set up at Chennai with all the required staff functioning from the same office to enable proper support to CMWSSB.

The cost of training programme ,to be conducted for designated Board personnel , covering, operation and maintenance of the system and SCADA programming shall be included in the contract.

The start shall be within 7 days from the date of issue of Notice to proceed with the work.

The Intended Completion Date for the whole of the Works is six months for supply and installation and 3 years performance based Operation and Maintenance Contract after commissioning of the project.

Description of Milestones (physical implementation of this contract)

Sl.No.	Description of Works	Mile stone		
		1	2	3
		Four months	Five months	Six months
1	Supply and delivery of Field Instruments – Ultrasonic / Radar Level transmitters,	50%	100%	100%
2	Erecting, testing and commissioning of Field Instruments	-	90%	100%
3	Supplying and delivery of PLC/RTU's MCC interface, UPS and other related items and software	-	90%	100%
4	Erection/Installation, programming, testing and commissioning of PLC/ RTU's,,UPS and other related items	-	90%	100%
5	Testing and commissioning of the entire GSM/GPRS connectivity	-	-	100%

4.TheContractor shall submit a revised program for the works within 7 days of delivery of Letter of Acceptance. [27]

5.The Site possession date shall be 7 days from the issue of notice to proceed with the works [21]

The site location and allotted groups are listed below:

DETAILS OF SEWAGE PUMPING STATION IN CMWSSB					
Sl. No.	Area	Name of Pumping station	HT/LT	Pumpsets	DG Set
PACKAGE - 1					
1	I	Westmada street	LT/3Shifts	7.5H.P x3Nos 25H.P x 2Nos 30H.P x 1No	50kV.A
2		North mada street	LT/3Shifts	7.5H.P x3Nos 15H.P x 2Nos	30KV.A
3	II	Depot - 15, Manali New Town	LT/3Shifts	Submersible Pumpsets 15 HP - 1 No - 20 HP - 1 No -	63 KVA
4		Depot - 19, Mathur	LT/3Shifts	Centrifugal Pumpsets 50 HP - 1 No- 20 HP - 1 No- 20 HP - 1 No- 10 HP - 1 No-	50 KVA
5	IV	Tondiarpet 'F' old	LT/3Shifts	7 HP (s) 2 nos. - 10 HP (s) - 1 no. 30 HP (s) - 1+1	supply feed from Tondiarpet 'F' PS (HT Relay)
6		Ranganatha puram	LT/3Shifts	7 HP (s) 1 no. - 4.6 HP (s) - 1 No 5 HP C - 1 no.	6.5 HP diesel engine
7		Veerakutty street	LT/2Shifts	4.6 HP (s) - 2 Nos.	
8		Seniamman koil	LT/2Shifts	10 HP (s) - 1 no. 5 HP C - 1 no. 12.5 HP C - 1 no.	25 KVA
9		Singaravelan nagar	LT/2Shifts	10 HP (s) - 2 nos	35 KVA
10		Vinaayakapuram	LT/2Shifts	4.6 HP (s) - 1 no. 2 HP (s) - 2 nos	12.5 KVA
11		DBK street	LT/3Shifts	32.5 HP (s) - 1 no. 20 HP (s) - 1 no. 10 HP (s) - 2 nos	25 KVA
12		Kasimedu	LT/3Shifts	60 HP (s) - 2+1 nos	100 KVA
13		Tondiarpet 'A'	HT/3Shifts	70 HP (s) - 4 nos- .	100 KVA

Sl. No.	Area	Name of Pumping station	HT/LT	Pumpsets	DG Set
14		Tondiarpet 'D'	HT/3Shifts	30 HP (s) - 1 no. 40 HP (c) - 1 no. 10/20 (c) - 1 no.	63 KVA
15		Tondiarpet 'E'	HT/3Shifts	40 HP (s) - 2+1	160 KVA
16		Tondiarpet 'F'(NEW)	HT/3Shifts	270 HP (c) - 6 nos. -	1250 KVA
17		R.K. nagar (south)	HT/3Shifts	20 HP (s) - 3 nos	75 KVA
18		Thendral nagar	LT/ 3Shifts	20 HP (s) - 2 nos - 1 no.	40 KVA
19		Krishnamoorthy Ngr.	LT/2Shifts	15 HP (s) - 2 nos.	
20		R.R. Ngar	LT/2Shifts	15 HP (s) - 2 nos.	
21		Bharathi nagar	LT/2Shifts	10 HP (s) - 2 nos.	
22		Kadumbadi amman koil street	LT/3Shifts	60 HP (s) - 2 nos. 50 HP (s) - 1 no.	100 KVA
23		Thiruvalluvar nagar	LT/3Shifts	50 HP (s) - 2 nos.	100 KVA
24		R.K. nagar (North)	HT/ 3Shifts	75 HP (s) - 2 nos. 50 HP (s) 1 - 2 nos.	100 KVA
25		C.B. Road	HT/ 3Shifts	60 HP (s) - 1 no. 20 HP (s) - 1+1 7 HP(s) - 1 no.	63 KVA
26		Kannadasan nagar	HT/ 3Shifts	215 HP (s) - 2 nos. - 50 HP (s) - 1 no. 60 HP -1 No	250 KVA
27		Muthamil nagar	HT/ 3Shifts	4.6 HP submersible - 2Nos. 2 HP submersible - 2 Nos.	7.5 KVA -
28		M.K.B. nagar	LT/ 3Shifts	60 HP (s) - 2 nos 20 HP (s) - 1 no	75 KVA -
29		Damodhar nagar	LT/ 3Shifts	7 HP (s) - 1 no. 20 HP (s) - 1 no	
30		Nehru nagar	LT/3Shifts	30 HP (s) - 2 nos	50 KVA
31		KB 4	LT/3Shifts	20 HP (s) - 2 nos.	63 KVA
32		Kamarajar salai	LT/3Shifts	20 HP (s) - 1 no. 12 HP (s) - 1+1	30 KVA
33		Poongavanam nagar	LT/ 3Shifts	30 HP (s) - 2 nos	63 KVA
34		Vyasarjadi	LT/ 3Shifts	20 HP (s) - 1 no. 40 HP (s) - 1 no. 7 HP (s) - 1 no.	50 KVA
35		Vyasarjadi lake area	LT/ 3Shifts	80 HP (s) - 1 no. 30 HP (s) - 1 no.	110 KVA
36		Melpattadai	LT/ 3Shifts	75 HP (s) - 2 nos. 75 HP (C) - 1 no.	100 KVA
37		Erukanchery	HT (Relay	150 HP (c) - 4 nos. - 1 no. 80 HP (s) -1 no.	320 KVA

Sl. No.	Area	Name of Pumping station	HT/LT	Pumpsets	DG Set
		Package -2			
38	V	Royapuram	HT/3Shifts	220 hp Submersible PS	320 KVA -
39		Chetty thottam	LT/2Shifts	25 HP submersible - 1 No 7 HP - Submersible - 1 No.	30 KVA -
40		Tondiar pet 'B'	HT/3Shifts	90 HP - 3 Nos. 70 HP - 1 No. 50 HP - 1 No.	125 KVA -
41		Stanley	LT/2Shifts	10 HP submersible - 2 Nos. 7 HP submersible - 1 No.	30 KVA -
42		North wall road	LT/3Shifts	70 HP submersible - 3 Nos. 40 HP submersible - 1 No.	110 KVA
43		Kaathbaada	LT/2Shifts	7.5 HP submersible - 1No. 12.5 HP submersible - 1No.	Nil
44		Tondiar pet 'C'	LT/3Shifts	25 HP submersible - 4 Nos 15 HP - Submersible - 1 No.	45 KVA
45		Muthamizh nagar	LT/2Shifts	4.6 HP submersible - 2Nos. 2 HP submersible - 2 Nos.	7.5 KVA
46		Cemetery road	LT/2Shifts	7 HP submersible - 1No. 4.6 HP submersible - 1 No.	Nil
47		Bojarajan nagar	LT/3Shifts	20 HP submersible - 1No. 15 HP submersible - 1 No.	Nil
48		Law college	HT/3Shifts	20 HP Centrigual - 1No. 40/90 HP Centrifugal - 1 No. 60/135 Centrifugal - 1 No.	70 KVA
49		Wall tax road	HT/3Shifts	90 HP Centrifugal - 1No. 50 HP Centrigual - 1 No. 50 HP submersible - 1 No.	70 KVA
50		Napier park	HT/3Shifts	75 HP - 1No. 40/90 - Centrifugal - 1 No. 65/160 - Centrifugal - 1 No. 135/400 Centrifugal - 1 No.	200 KVA
51		Reserve bank	LT/2Shifts	7.5 HP Centrifugal - 1 No. 10 HP submersible - 1 No.	Nil
52		M S nagar	LT/2Shifts	5 HP submersible - 2 Nos.	Nil
53		Sydenhams road	LT/3Shifts	40 HP submersible - 3 Nos. 40 HP centrifugal - 1 No.	62.5 KVA
54		Langs garden	LT/3Shifts	60 HP submersible - 3 No.s 30 HP Centrifugal - 1 No.	110 KVA
55		Sathyawani muthu Ngr	LT/2Shifts	5 HP submersible - 2 Nos.	Nil
56		Border thottam	LT/2Shifts	10 HP submersible - 1 No. 20 HP submersible - 1 No.	40 KVA
57		Naavalur nagar	LT/2Shifts	7 HP submersible - 2 Nos. 5 HP submersible - 1 No.	Nil
58		Malayappan street Newly constructed	LT/2Shifts	12 HP submersible - 2 No. 20 HP submersible - 1 No.	30 KVA -

Sl. No.	Area	Name of Pumping station	HT/LT	Pumpsets	DG Set
59	VI	Perambur	HT (R)	60 - 4 nos, 40 S - 3 nos 80 S - 1 no & 30 S - 1 no	250 kva
60		Venkatesapuram	LT/3 Shifts	25 (1no) 7.5 (s) (1no) 20(s)	45 KVA -
61		Ekgangipuram	LT/3Shifts	50 (1 no) 25 (1 no) 20(s) (1 no)	60 KVA -
62		K.P.Park	LT/3Shifts	40(s) (1 no) 20(s) (2 nos)	62.5 KVA -
63		Nammalwarpet	HT/3Shifts	50/150 (1 no) 40(s) (1 no) 15(s) (1 no) 12.5 (1 no)	60 KVA -
64		Sathyavanimuthu Ngr	LT/RS	5(s) (2 nos)	
65		Purasawalkam	HT/Relay	670(s) (3 nos)	800 KVA -
66		Kolathur	HT/3Shifts	60(s) 50 70	110 KVA -
67		Villivakkam Sector A	HT/3Shifts	180(s) (2 nos) 70(s) (1 no)	250 KVA -
68		Dimmasamy Durga	LT/2Shifts	40(s) (1no) 20 (2nos)	
69		Sembiyum	LT/3Shifts	50(s) (2 nos)	100 KVA -
70		Periyar Nagar	LT/3Shifts	120(s) (2 nos)	100 KVA -
71		Jawahar Nagar	LT/3Shifts	60(s) (1 no)	100 KVA -
72		Kennedy Square	LT/2Shifts	50 (1 no) 30(s) (1 no) 60(s) (1no)	110 KVA -
73		Sivananda nagar	LT/2Shifts	15(s) (2 nos)	20 KVA -
74		Murugan Nagar	LT/RS	10(s) (2 nos)	
		Package - 3			
81	VIII	Arumbakkam East	HT /3Shifts	485 (s) 280 (s)	500KVA
82		Anna Nagar "A"	HT /3Shifts	150 (s)	250KVA
83		Anna Nagar "B"	HT / 3Shifts	630(s)	750KVA
84		Anna Nagar "C"	HT / 3Shifts	215(s)	300KVA
85		Villivakkam Phase I	HT/3 Shift	100, 40, 50 & 30 (S)	62.5KVA
86		Ayanavaram	HT 3 shift	70 (s)	70KVA
87		Kilpauk	HT/3 Shift	90, 40 & 70 (s)	100KVA
88		Villivakkam Phase II	LT/3Shift	35, 20 (s) & 7.5	30KVA
89		Villivakkam sector B	LT /3 Shift	60 (s)	75KVA
90		Thiruvalluvar Nagar	LT /3 Shift	12.5 (S)	15KVA
91		North Jaganatha nagar	LT /3 Shift	25 (S) & 12.5 (S)	30KVA
92		Pachaikkal veerasamy	Road Side	5 & 7.5	5HP DEng
93		Periyar salai	LT/Rd.s	5 (s) 2 Nos	----
94		Shenoy Nagar	LT/3Shift	50, 30 & 40(s)	62.5KVA
95		Padmanabha Nagar	LT/3Shift	15 (s) & 20 (S)	25KVA

Sl. No.	Area	Name of Pumping station	HT/LT	Pumpsets	DG Set
96		Chetpet	LT /3 Shift	20, 30; 50 & 30 (S)	63KVA
97		Osankulam	LT/2Shift	5(s) & 7.5(s)	10KVA
98		N.S.K. Nagar	LT/2Shift	20(s) & 15(s)	—
99		R.V. Nagar	LT/2Shift	10 & 4(s)	5 HP D Eng
100		Halls Road	LT/2Shift	7(s)	---
101		Ambedkar Nagar	LT/2Shift	5(s)	---
102		Bharathipuram	LT/2Shift	20(s) & 15(s)	40KVA
103		P.P.Garden	LT/Rd.s	15(s)	---
104		Gandhi Nagar	Road Side	5	---
105	IX	Greems Road	HT/3 shift	75, 110 & 120 (C) - 1 Each & 60 (S) - 1 and 90 (S) - 2	160 KVA
106		Ice House	HT/ 3 shift	60, 100 & 170 (C) - 1 No. each; 60 & 90 (S) - 1 No. each and 320 (S) - 2 Nos.	350 KVA
107		Karneeswara Pakode	LT/ 3 shift	10 & 20 (S) - 1 No. each and 7.5 (S) - 2 Nos.	20 KVA
108		Nandanam	LT/ 3 shift	40 (S) - 2 Nis.	62.5 KVA
109		Seethammal Colony	LT/ 3 shift	30 & 50 (C) and 30 & 50 (S) - 1 No. each	50 KVA
110		Ayodhiakuppam	LT/ 2 shift	7 & 10 (S) - 1 No. each	
111		Lock Nagar	LT/ 2 shift	7 & 10 (S) - 1 No. each	
112		Ram Nagar	LT/ 2 shift	40(S)	
113		Kodambakkam	HT 3 shift	280 (S) - 3 Nos.	625KVA
114		North Mylapore	HT/3shift	60 & 200 (C) and 75 (S) - 2 each	320 KVA
115		South Mylapore	HT 3shift	20/75 & 75/220 (C) - 1 No. each 40 (S) - 2 Nos. 50, 60 & 90 (S) - 1No. Each	200 KVA
116		Thomas Road	LT 3 shift	30 (S) - 2 Nos.	62.5 KVA
117		Amudham Colony	LT 2 shift	25, 40 & 75 (S) - 1 No. each	63KVA
118		Giriappa Road	LT 2 shift	25 & 60 (S) - 1 No. each	
119		Namasivaya puram	LT/ 2 shift	5 & 7.5 (S) - 1 No. each	
120		Krishnammal RS	LT/ 2 shift	4(S)	
121		Kumarappa RS	LT/ 2 shift	4(S)	
122		G.N.Chetty Road	LT/ 2 shift	12.5(S)	
123		Vadagaram	LT/ 2 shift	5 (S) - 2 Nos.	
		Package - 4			
124	X	Nesapakkam	HT/ 3 Shifts (Relay)	430 - 2 Nos. & 120 - 1 Mo.	625KVA
125		Kodambakkam B	HT/ 3 shifts	100 S - 3 Nos.	160KVA
126		Saidapet-A	LT/ 3 shift	70 S - 3 Nos.	100KVA

Sl. No.	Area	Name of Pumping station	HT/LT	Pumpsets	DG Set
127		KK Nagar-B	LT/ 3 shift	50 S - 2 Nos.	62.5KVA
128		Ashok Nagar	LT/ 3 shift	12 S - 2 Nos.	30KVA
129		Sathiya Murthy Block	LT/ 2 Shifts	7 S - 2 Nos.	63KVA
130		Thiru Nagar	LT/ 2 Shifts	10 S - 2 Nos.	30KVA
131		Barathidasan nagar	LT/ 2 Shifts	7.5 & 10 S - 1 No. each	45KVA
132		Jai Balaji Nagar	LT/ 3 shift	20 S - 2 Nos. & 40 S - 1 No.	75KVA
133		T.Nagar	HT/ 3 shifts (Relay)	90, 100/200; 110 & 180 C - 1 No. each and 75 S - 3 Nos.	200KVA
134		CIT Nagar	HT/ 3 Shifts	215 S - 2 Nos.	300KVA
135		Saidapet-B	HT/ 3 Shifts	150 S - 2 Nos. & 75 S - 1 No.	160KVA
136		Jaffakanpet	LT/ 3 Shifts	70 & 120 S - 1 No. each	160KVA
137		Sarathy Nagar	LT/ 2 Shifts	30 S - 2 Nos.	35KVA
138		Kothamedu	LT/ 2 Shifts	15 S - 2 Nos.	25KVA
139		West Arumbakkam	HT/ 3 Shifts	50 & 90 C - 1 No. each	62.3KVA
140		Saligramam	LT/ 3 Shifts	30 C & 70 S - 1 No. each and 60 S - 2 Nos.	125KVA
141		Virugambakkam	LT/ 3 Shifts	40 & 75 C - 1 No. each	50KVA
142	XI	Nolambur - Phase - I	LT/ 3 Shifts	30HP - Non Clog Sewage Pump -2 nos	63KVA -
143		MMDA Colony	LT/ 3 Shifts	25HP S - 2Nos	45KV
144		Ganga Nagar	LT/ 3 Shifts	15HP - 2Nos	35KV
145		Ramakrishna Nagar	LT/ 3 Shifts	20 HP S - 3Nos	50KVA
146		Thiru Nagar	LT/ 3 Shifts	40HP S - 2 Nos 1 No -	75KVA
147		Meenakshi Nagar	LT/ 3 Shifts	10HP S - 3Nos	30KVA
148	XII	Nilamangai Nagar	HT/ Relay	100 HP - 2 No. 150 HP - 1 No. 50 HP - 2 Nos 40 HP - 1 No.	320 KVA
149		Kannan Colony	RS	7 HP - 2 No.	-
150		Velachery	HT/3 Shift	215 S - 2 Nos., 40/70 C, 20 & 60 S - 1 No. each	250 KVA

Sl. No.	Area	Name of Pumping station	HT/LT	Pumpsets	DG Set
151		Guindy	HT/3 Shift	12.5, 25 & 60 C and 50 & 150 S - 1 No. each	250 KVA
152		Taramani	LT/3 Shift	40 S - 2 Nos.	50 KVA
153		Seethabathi Nagar	LT/3 Shift	40 S - 2 Nos.	100 KVA
154		AG 's Colony	LT/3 Shift	60 S - 2 Nos.	70 KVA
155		Kanagam	LT/2 Shift	12.5 S - 2 Nos. & 5 C - 1 No.	5 HP Diesel Engine
156		Pallipattu	LT/2 Shift	15 S and 15 & 20 C - 1 No. each	40 KVA
		Package - 5			
75	VII	ANWE-I	LT/3 Shifts	50HP-2Nos, 30HP-1Nos & 40HP S-1No	110KVA-
76		ANWE-II	LT/3 Shifts	40 HP-2Nos, 30 HP-2Nos, (1No-Not working) 30 HP S-1No, & 25 HP S-1No	63KVA
77		Mogappair HT East	HT/3Shift	100 HP-1No, 75 HP-1No, 90HP-1No, 40HP S -1No, 30HP-1No	312KVA
78		Korattur sewage PS	HT/3Shift	75HP S - 4Nos	160KVA-
79		Five Star Apartments	LT/2Shifts	5HP-1No (Submersible)	
80		Mugappair Eri Scheme	LT/2Shifts	5HP- Centrifugal	
157	XIII	Adyar Old & New	HT/Relay	135/400 & 300 (C) - 2 Nos. each, 270 S - 5 Nos; 20 & 30 S - 1 No. each and 10 S - 2 Nos.	
158		Indira Nagar	HT/3 Shift	90 C - 1 No., 100 C - 2 Nos. & 60 & 80 S - 1 No. each	125 KVA
159		Gandhi Nagar	HT/3 Shift	70 (S) - 2 Nos.	125 KVA
160		Kottupuram	HT/3 Shift	100 C - 1 No., 35 C & 50 S - 2 Nos. each	62.5 KVA
161		B.V.Nagar	LT/3 Shift	40 C and 10, 25 & 30 S - 1 No. each	-
162		512 HIG	LT/3 Shift	10 & 15 S and 12.5 C - 1 No. each	20 KVA
163		P.T.C.Colony	LT/3 Shift	25 S - 2 Nos. & 40 S - 1 No.	-
164		Kalachetra Colony	LT/3 Shift	20 C - 2 Nos. and 7.5 & 15 C - 1 No. each	-
165		Besant Nagar - I	LT/3 Shift	25 C - 2 Nos	-
166		Besant Nagar - II	LT/3 Shift	30 & 40 C - 1 No. each and 40 S - 3 Nos.	63 KVA
167		RA Puram	LT/3 Shift	10 S - 2 Nos.	20 KVA
168		Bharathi Avenue	Road side	7 S - 2 Nos.	7.5 KVA

Sl. No.	Area	Name of Pumping station	HT/LT	Pumpsets	DG Set
169		Thiruvanmiyur	HT/3 Shift	70, 75 & 90 C and 40 & 60 S - 1 No, each and 30 S - 3 Nos.	125 KVA
170		Thiruvalluvar Nagar	LT/3 Shift	40 C - 2 Nos., 30 S & 20 C - 1 No. each	75 KVA
171		Thanthai periyar Nagar	LT/3 Shift	20 S - 1 No. & 10 S - 2 Nos.	63 KVA
172		Ekkattuthangal	HT/3Shift	50 S - 3 Nos. & 40 S - 1 No/	110 KVA
173		LIC Colony	HT/Relay	120 (S) - 2 Nos & 80 S - 1 No.	250 KVA
174		Saidapet 'D'	HT/3Shift	80 S - 2 Nos. & 40 S - 1 No.	160 KVA
175		Sector - V	LT/3 Shift	7.5, 15; 25 & 30 S - 1 No. each	75 KVA
176		Murughu Nagar	LT/3 Shift	40 S - 2 Nos.	55 KVA
177		Periyar Nagar	LT/3 Shift	25 & 30 S - 1 No. each	30 KVA
178		Orrandiamman Koil	LT/3 Shift	10, 15 & 20 S - 1 No. each	50 KVA
179		Saidapet - C	LT/3 Shift	30, 40 & 70 S - 1 No. each	100 KVA
180		Sidco Main	LT/3 Shift	35 S - 1 No. & 20 S - 2 Nos.	40 KVA
181		Nerruppumedu	Road side	7 S - 2 Nos.	--
182		Manjolai	Road side	5 & 7 S - 1 No. each	--
183		foreshore estate	LT/3Shift	10 S - 3 Nos. and 30 S & 20 & 30 C - 1 No. each	30 KVA
184		Sidco Lift	LT/2 Shift	10 S - 3 Nos.	15 KVA
185		Nagi Reddy Thottam	Road side	7 S - 2 Nos.	--
186	XIV	LB Road	HT/3 shift Relay	120 HP Submersible pumpset 2 Nos. 320 HP Submersible pumpset - 3 Nos. 150 HP Centrifugal pump set 1 No. 240 HP Centrifugal pump set 1 No. 280 HP Centrifugal pump set 1 No. 350 HP Centrifugal pump set 1 No.	750 KVA
187	XV	Perungudi	HT/3 shift	270 HP (S) - 6 nos	750 KVA

Note: C- Centrifugal pumps , S- submersible pumps

Note: Additional details regarding the Pumping stations are enclosed in volume I – Annexure -A - O&M of Sewage Pumping stations in CMWSSB

7. The Defects Liability Period is (a) For Civil Works : 5 years
 (b) For Electrical & Instrumentation Works : 3 years
 (c) For Pipeline Works : 3 years
 (d) Electronic and analytical Instruments : 3 years
8. The minimum insurance cover for loss of or damage to the works, plants, materials, equipments, physical property in connection with contract, personal injury or death is Rs.30 lakhs for occurrence with the no. of occurrences limited to four. After each occurrence, contractor will pay additional premium necessary to make insurance valid for four occurrences always [13}
9. The following events shall also be Compensation Events: [44]
 - Nil -
10. The period between Program updates shall be 30 days. [27]
11. The amount to be withheld for late submission of an updated Program shall be Rs. 10,000/- [27]
12. The language of the Contract documents is English [3]
13. The law, which applies to the Contract, is the law of Union of India, applicable to TamilNadu and the law of TamilNadu. [3]
14. The currency of the Contract is Indian Rupees [46]
15. Institution whose arbitration procedures shall be used INDIAN ARBITRATION AND CONCILIATION ACT 1996 [25]
16. Fees and types of reimbursable expenses to be paid to the Adjudicator is Rs.2000/- per day plus boarding, lodging , travelling and other charges as per actuals [25]
17. The formula(e) for adjustment of prices are: DELETED --
 This contract is not subjected to price adjustment
18. The proportion of payments retained (retention money) shall be 5% from each bill subject to a maximum of 5% of contract value [48]
19. The liquidated damage for the whole of the works is Rs.29000/- per day and that for the milestone are as under: [49]
- | | | |
|-----------------|-------------|---------|
| For milestone 1 | Rs. 8000/- | per day |
| For milestone 2 | Rs. 12000/- | per day |
| For milestone 3 | Rs. 9000/- | per day |

The maximum amount of liquidated damages for the whole of the Works is ten percent of final contract price. [49]

20. The amounts of the advance payment are: [51]

Nature of Advance	Amount (Rs.)	Conditions to be fulfilled
Mobilisation	up to a maximum 10% of the Contract value.	On submission of irrevocable Bank Guarantee (to be drawn within 20% of the contract period from the start date.)

21. Repayment of advance payment for mobilisation and equipment: [51]

The mobilisation advance shall be repaid with an interest of 13.5% per annum with percentage deductions from the interim payments certified by the Engineer under the Contract. Deductions shall commence in the next Interim Payment Certificate following that in which the total of all such payments to the Contractor has reached not less than 15 percent of the Contract Price or 1 month from the date of payment of first installment of advance, whichever period concludes earlier, and shall be made at the rate of 25 percent of the amounts of all Interim Payment Certificates until such time as the loan has been repaid, always provided that the loan shall be completely repaid prior to the expiry of the original time for completion pursuant to Clauses 17 and 28.

The Securities shall be for the following minimum amount equivalent as a percentage of the Contract Price [52]

Performance Security to be calculated as per Clause 34.5 of ITB plus an additional security in terms of ITB Clause 29.5.

The standard form of Performance Security acceptable to the Employer shall be as presented in clause 34.1 Instructions to Bidders.

The date by which "As-Built" drawings (in appropriate scale) in 5 sets both in 'Hard' and 'Soft' versions (digitised form - CD) are required within 28 days of issue of certificate of completion of whole or section of the work, as the case may be. [58]

The amount to be withheld for failing to supply "As Built" drawings , O&M Manuals, Licence Key by the date required is Rs.50,000/- [58]

The following events shall also be fundamental breach of contract [59.2]

1. The Contractor has contravened Sub-clause 7.1 and Clause 9.0 of GCC

The percentage to apply to the value of the work not completed representing the Employer's additional cost for completing the Works shall be 20 percent or as per actuals whichever is higher. [60]

22 Payment . All payments will be subjected to deduction of retention money as stated in Clause 48 of GCC

22.1 Payment towards supply and erection of electronic and analytical equipments and allied accessories

- a. 70% of the contract price on receipt of equipment at site against production of Bank Guarantee for the equivalent value.
- b. 20% of the contract price of each item on erection of equipments and allied accessories in final position
- c. 10% of the contract price of each item after successful commissioning of equipment and allied accessories and the Bank Guarantee for the corresponding amount will be released.

22.2 Payment for other item:

No separate payment for dewatering and civil works shall be made for executing any of the items of works and contractors shall quote accordingly. Payment for all other items will be made as defined in the bill of quantities as per the actual at the quoted rates.

ANNEX-A

OPERATION AND MAINTENANCE OF SEWAGE PUMPING STATIONS IN CMWSS Board

The performance based Operation and maintenance of 187 sewage pumping stations will commence after the completion and commissioning of the Automation of the sewage pumping stations and will be for a period of three years and payment for which payments will be made as per the tender conditions. However the existing system of maintenance will continue till the completion of the project.

The 187 sewage pumping in CMWSSB has been classified into five packages and each package has been further subdivided into smaller groups. Qualified field staff will be posted in each station as per the requirements mentioned below . The technical staff and silt removal and house keeping staff as required for each group will be provided with suitable transport facility (to be provided by the contractor) for effective operation of stations. The conditions of contract for the Operation and maintenance part is stated below.

STAFF REQUIRERMENT FOR AUTOMATION OF SEWAGE PUMPING STATIONS										
Area	Details of Pumping Stations	Total No. of Pumping Stations	Field staff		Technical Staff			Silt Removal and House Keeping staff.		
			Per station	Total staff	No. of Groups	Staff/ Group	Total staff	No. of Groups	Staff/ Groups	Total staff
	Package -1									
I	LT/3 shifts	2	3	6						
II	LT/3 shifts	2	3	6						
IV	HT/3 shifts+ 1 Rly	9	3	27	4	2	8	4	4	16
	LT/3 shifts	17	3	51						
	LT/2 shifts	7	2	14						
	Package -2									
V	HT/3 shifts	5	3	15	2	2	4	2	4	8
	LT/3 shifts	5	3	15						
	LT/2 shifts	11	2	22						
VI	HT/3 shifts+ 2 Relay	5	3	15	2	2	4	2	4	8
	LT/3 shifts	6	3	18						
	LT/2 shifts	3	2	6						
	Road side	2	1	2						
	Package- 3									
VIII	HT/3 shifts	7	3	21	2	2	4	2	4	8
	LT/3 shifts	7	3	21						
	LT/2 shifts	6	2	12						
	Road side	3	1	3						

IX	HT/3 shifts	5	3	15	2	2	4	2	4	8
	LT/3 shifts	4	3	12						
	LT/2 shifts	10	2	20						
	Package- 4									
X	HT/3 shifts+ 2 Relay	6	3	18	2	2	4	2	4	8
	LT/3 shifts	7	3	21						
	LT/2 shifts	5	2	10						
XI	LT/3 shifts	6	3	18	1	2	2	1	4	4
XII	HT/3 shifts+ 2 Relay	6	3	18	1	2	2	1	4	4
	LT/3 shifts	3	3	9						
	LT/2 shifts	2	2	4						
	Road side	1	1	1						
	Package- 5									
VII	HT/3 shifts	2	3	6	1	2	2	1	4	4
	LT/3 shifts	2	3	6						
	LT/2 shifts	2	2	4						
XIII	HT/3 shifts+ 2 Relay	8	3	24	3	2	6	3	4	12
	LT/3 shifts	15	3	45						
	Road side	4	1	4						
XIV	HT/3 shifts+ 1 Relay	2	3	6						
	TOTAL	187		495	20		40			80

DETAILS OF SEWAGE PUMPING STATION IN CMWSSB					
Sl. No.	Area	Name of Pumping station	HT/LT	Pumpsets	DG Set
		PACKAGE - 1			
1	I	Westmada street	LT/3Shifts	7.5H.P x3Nos 25H.P x 2Nos 30H.P x 1No	50kV.A
2		North mada street	LT/3Shifts	7.5H.P x3Nos 15H.P x 2Nos	30KV.A
3	II	Depot - 15, Manali New Town	LT/3Shifts	Submersible Pumpsets 15 HP - 1 No - 20 HP - 1 No -	63 KVA
4		Depot - 19, Mathur	LT/3Shifts	Centrifugal Pumpsets 50 HP - 1 No- 20 HP - 1 No- 20 HP - 1 No- 10 HP - 1 No-	50 KVA
5	IV	Tondiarpet 'F' old	LT/3Shifts	7 HP (s) 2 nos. - 10 HP (s) - 1 no. 30 HP (s) - 1+1	supply feed from Tondiarpet 'F' PS (HT Relay)
6		Ranganatha puram	LT/3Shifts	7 HP (s) 1 no. - 4.6 HP (s) - 1 No 5 HP C - 1 no.	6.5 HP diesel engine
7		Veerakutty street	LT/2Shifts	4.6 HP (s) - 2 Nos.	
8		Seniamman koil	LT/2Shifts	10 HP (s) - 1 no. 5 HP C - 1 no. 12.5 HP C - 1 no.	25 KVA
9		Singaravelan nagar	LT/2Shifts	10 HP (s) - 2 nos	35 KVA
10		Vinaayakapuram	LT/2Shifts	4.6 HP (s) - 1 no. 2 HP (s) - 2 nos	12.5 KVA
11		DBK street	LT/3Shifts	32.5 HP (s) - 1 no. 20 HP (s) - 1 no. 10 HP (s) - 2 nos	25 KVA
12		Kasimedu	LT/3Shifts	60 HP (s) - 2+1 nos	100 KVA
13		Tondiarpet 'A'	HT/3Shifts	70 HP (s) - 4 nos- .	100 KVA
Sl. No.	Area	Name of Pumping station	HT/LT	Pumpsets	DG Set
14		Tondiarpet 'D'	HT/3Shifts	30 HP (s) - 1 no. 40 HP (c) - 1 no. 10/20 (c) - 1 no.	63 KVA
15		Tondiarpet 'E'	HT/3Shifts	40 HP (s) - 2+1	160 KVA
16		Tondiarpet 'F'(NEW)	HT/3Shifts	270 HP (c) - 6 nos. -	1250 KVA
17		R.K. nagar (south)	HT/3Shifts	20 HP (s) - 3 nos	75 KVA

18		Thendral nagar	LT/ 3Shifts	20 HP (s) - 2 nos - 1 no.	40 KVA
19		Krishnamoorthy Ngr.	LT/2Shifts	15 HP (s) - 2 nos.	
20		R.R. Ngar	LT/2Shifts	15 HP (s) - 2 nos.	
21		Bharathi nagar	LT/2Shifts	10 HP (s) - 2 nos.	
22		Kadumbadi amman koil street	LT/3Shifts	60 HP (s) - 2 nos. 50 HP (s) - 1 no.	100 KVA
23		Thiruvalluvar nagar	LT/3Shifts	50 HP (s) - 2 nos.	100 KVA
24		R.K. nagar (North)	HT/ 3Shifts	75 HP (s) - 2 nos. 50 HP (s) 1 - 2 nos.	100 KVA
25		C.B. Road	HT/ 3Shifts	60 HP (s) - 1 no. 20 HP (s) - 1+1 7 HP(s) - 1 no.	63 KVA
26		Kannadasan nagar	HT/ 3Shifts	215 HP (s) - 2 nos. - 50 HP (s) - 1 no. 60 HP - 1 No	250 KVA
27		Muthamil nagar	HT/ 3Shifts	4.6 HP submersible - 2Nos. 2 HP submersible - 2 Nos.	7.5 KVA -
28		M.K.B. nagar	LT/ 3Shifts	60 HP (s) - 2 nos 20 HP (s) - 1 no	75 KVA -
29		Damodhar nagar	LT/ 3Shifts	7 HP (s) - 1 no. 20 HP (s) - 1 no	
30		Nehru nagar	LT/3Shifts	30 HP (s) - 2 nos	50 KVA
31		KB 4	LT/3Shifts	20 HP (s) - 2 nos.	63 KVA
32		Kamarajar salai	LT/3Shifts	20 HP (s) - 1 no. 12 HP (s) - 1+1	30 KVA
33		Poongavanam nagar	LT/ 3Shifts	30 HP (s) - 2 nos	63 KVA
34		Vyasarjadi	LT/ 3Shifts	20 HP (s) - 1 no. 40 HP (s) - 1 no. 7 HP (s) - 1 no.	50 KVA
35		Vyasarjadi lake area	LT/ 3Shifts	80 HP (s) - 1 no. 30 HP (s) - 1 no.	110 KVA
36		Melpattadai	LT/ 3Shifts	75 HP (s) - 2 nos. 75 HP (C) - 1 no.	100 KVA
37		Erukanchery	HT (Relay)	150 HP (c) - 4 nos. - 1 no. 80 HP (s) - 1 no.	320 KVA
Sl. No.	Area	Name of Pumping station	HT/LT	Pumpsets	DG Set
		Package -2			
38	V	Royapuram	HT/3Shifts	220 hp Submersible PS	320 KVA -
39		Chetty thottam	LT/2Shifts	25 HP submersible - 1 No 7 HP - Submersible - 1 No.	30 KVA -
40		Tondiar pet 'B'	HT/3Shifts	90 HP - 3 Nos. 70 HP - 1 No. 50 HP - 1 No.	125 KVA -

41		Stanley	LT/2Shifts	10 HP submersible - 2 Nos. 7 HP submersible - 1 No.	30 KVA -
42		North wall road	LT/3Shifts	70 HP submersible - 3 Nos. 40 HP submersible - 1 No.	110 KVA
43		Kaathbaada	LT/2Shifts	7.5 HP submersible - 1No. 12.5 HP submersible - 1No.	Nil
44		Tondiar pet 'C'	LT/3Shifts	25 HP submersible - 4 Nos 15 HP - Submersible - 1 No.	45 KVA
45		Muthamizh nagar	LT/2Shifts	4.6 HP submersible - 2Nos. 2 HP submersible - 2 Nos.	7.5 KVA
46		Cemetery road	LT/2Shifts	7 HP submersible - 1No. 4.6 HP submersible - 1 No.	Nil
47		Bojarajan nagar	LT/3Shifts	20 HP submersible - 1No. 15 HP submersible - 1 No.	Nil
48		Law college	HT/3Shifts	20 HP Centrigual - 1No. 40/90 HP Centrifugal - 1 No. 60/135 Centrifugal - 1 No.	70 KVA
49		Wall tax road	HT/3Shifts	90 HP Centrifugal - 1No. 50 HP Centrigual - 1 No. 50 HP submersible - 1 No.	70 KVA
50		Napier park	HT/3Shifts	75 HP - 1No. 40/90 - Centrifugal - 1 No. 65/160 - Centrifugal - 1 No. 135/400 Centrifugal - 1 No.	200 KVA
51		Reserve bank	LT/2Shifts	7.5 HP Centrifugal - 1 No. 10 HP submersible - 1 No.	Nil
52		M S nagar	LT/2Shifts	5 HP submersible - 2 Nos.	Nil
53		Sydenhams road	LT/3Shifts	40 HP submersible - 3 Nos. 40 HP centrifugal - 1 No.	62.5 KVA
54		Langs garden	LT/3Shifts	60 HP submersible - 3 No.s 30 HP Centrifugal - 1 No.	110 KVA
55		Sathyawani muthu Ngr	LT/2Shifts	5 HP submersible - 2 Nos.	Nil
56		Border thottam	LT/2Shifts	10 HP submersible - 1 No. 20 HP submersible - 1 No.	40 KVA
57		Naavalur nagar	LT/2Shifts	7 HP submersible - 2 Nos. 5 HP submersible - 1 No.	Nil
58		Malayappan street Newly constructed	LT/2Shifts	12 HP submersible - 2 No. 20 HP submersible - 1 No.	30 KVA -
Sl. No.	Area	Name of Pumping station	HT/LT	Pumpsets	DG Set
59	VI	Perambur	HT (R)	60 - 4 nos, 40 S - 3 nos 80 S - 1 no & 30 S - 1 no	250 kva
60		Venkatesapuram	LT/3 Shifts	25 (1no) 7.5 (s) (1no) 20(s)	45 KVA -
61		Ekangipuram	LT/3Shifts	50 (1 no) 25 (1 no) 20(s) (1 no)	60 KVA -
62		K.P.Park	LT/3Shifts	40(s) (1 no) 20(s) (2 nos)	62.5 KVA -
63		Nammalwarpet	HT/3Shifts	50/150 (1 no) 40(s) (1 no) 15(s) (1 no) 12.5 (1 no)	60 KVA -

64		Sathyavanimuthu Ngr	LT/RS	5(s) (2 nos)	
65		Purasawalkam	HT/Relay	670(s) (3 nos)	800 KVA -
66		Kolathur	HT/3Shifts	60(s) 50 70	110 KVA -
67		Villivakkam Sector A	HT/3Shifts	180(s) (2 nos) 70(s) (1 no)	250 KVA -
68		Dimmasamy Durga	LT/2Shifts	40(s) (1no) 20 (2nos)	
69		Sembiyum	LT/3Shifts	50(s) (2 nos)	100 KVA -
70		Periyar Nagar	LT/3Shifts	120(s) (2 nos)	100 KVA -
71		Jawahar Nagar	LT/3Shifts	60(s) (1 no)	100 KVA -
72		Kennedy Square	LT/2Shifts	50 (1 no) 30(s) (1 no) 60(s) (1no)	110 KVA -
73		Sivananda nagar	LT/2Shifts	15(s) (2 nos)	20 KVA -
74		Murugan Nagar	LT/RS	10(s) (2 nos)	
		Package - 3			
81	VIII	Arumbakkam East	HT /3Shifts	485 (s) 280 (s)	500KVA
82		Anna Nagar "A"	HT /3Shifts	150 (s)	250KVA
83		Anna Nagar "B"	HT / 3Shifts	630(s)	750KVA
84		Anna Nagar "C"	HT / 3Shifts	215(s)	300KVA
85		Villivakkam Phase I	HT/3 Shift	100, 40, 50 & 30 (S)	62.5KVA
86		Ayanavaram	HT 3 shift	70 (s)	70KVA
87		Kilpauk	HT/3 Shift	90, 40 & 70 (s)	100KVA
88		Villivakkam Phase II	LT/3Shift	35, 20 (s) & 7.5	30KVA
89		Villivakkam sector B	LT /3 Shift	60 (s)	75KVA
90		Thiruvalluvar Nagar	LT /3 Shift	12.5 (S)	15KVA
91		North Jaganatha nagar	LT /3 Shift	25 (S) & 12.5 (S)	30KVA
92		Pachaikkal veerasamy	Road Side	5 & 7.5	5HP DEng
93		Periyar salai	LT/Rd.s	5 (s) 2 Nos	----
94		Shenoy Nagar	LT/3Shift	50, 30 & 40(s)	62.5KVA
95		Padmanabha Nagar	LT/3Shift	15 (s) & 20 (S)	25KVA
Sl. No.	Area	Name of Pumping station	HT/LT	Pumpsets	DG Set
96		Chetpet	LT /3 Shift	20, 30; 50 & 30 (S)	63KVA
97		Osankulam	LT/2Shift	5(s) & 7.5(s)	10KVA
98		N.S.K. Nagar	LT/2Shift	20(s) & 15(s)	—
99		R.V. Nagar	LT/2Shift	10 & 4(s)	5 HP D Eng
100		Halls Road	LT/2Shift	7(s)	---
101		Ambedkar Nagar	LT/2Shift	5(s)	---
102		Bharathipuram	LT/2Shift	20(s) & 15(s)	40KVA
103		P.P.Garden	LT/Rd.s	15(s)	---

104		Gandhi Nagar	Road Side	5	---
105	IX	Greams Road	HT/3 shift	75, 110 & 120 (C) - 1 Each & 60 (S) - 1 and 90 (S) - 2	160 KVA
106		Ice House	HT/ 3 shift	60, 100 & 170 (C) - 1 No. each; 60 & 90 (S) - 1 No. each and 320 (S) - 2 Nos.	350 KVA
107		Karneeswara Pakode	LT/ 3 shift	10 & 20 (S) - 1 No. each and 7.5 (S) - 2 Nos.	20 KVA
108		Nandanam	LT/ 3 shift	40 (S) - 2 Nis.	62.5 KVA
109		Seethammal Colony	LT/ 3 shift	30 & 50 (C) and 30 & 50 (S) - 1 No. each	50 KVA
110		Ayodhiakuppam	LT/ 2 shift	7 & 10 (S) - 1 No. each	
111		Lock Nagar	LT/ 2 shift	7 & 10 (S) - 1 No. each	
112		Ram Nagar	LT/ 2 shift	40(S)	
113		Kodambakkam	HT 3 shift	280 (S) - 3 Nos.	625KVA
114		North Mylapore	HT/3shift	60 & 200 (C) and 75 (S) - 2 each	320 KVA
115		South Mylapore	HT 3shift	20/75 & 75/220 (C) - 1 No. each 40 (S) - 2 Nos. 50, 60 & 90 (S) - 1No. Each	200 KVA
116		Thomas Road	LT 3 shift	30 (S) - 2 Nos.	62.5 KVA
117		Amudham Colony	LT 2 shift	25, 40 & 75 (S) - 1 No. each	63KVA
118		Giriappa Road	LT 2 shift	25 & 60 (S) - 1 No. each	
119		Namasivaya puram	LT/ 2 shift	5 & 7.5 (S) - 1 No. each	
120		Krishnammal RS	LT/ 2 shift	4(S)	
121		Kumarappa RS	LT/ 2 shift	4(S)	
122		G.N.Chetty Road	LT/ 2 shift	12.5(S)	
123		Vadagaram	LT/ 2 shift	5 (S) - 2 Nos.	
		Package - 4			
124	X	Nesapakkam	HT/ 3 Shifts (Relay)	430 - 2 Nos. & 120 - 1 Mo.	625KVA
125		Kodambakkam B	HT/ 3 shifts	100 S - 3 Nos.	160KVA
126		Saidapet-A	LT/ 3 shift	70 S - 3 Nos.	100KVA
Sl. No.	Area	Name of Pumping station	HT/LT	Pumpsets	DG Set
127		KK Nagar-B	LT/ 3 shift	50 S - 2 Nos.	62.5KVA
128		Ashok Nagar	LT/ 3 shift	12 S - 2 Nos.	30KVA
129		Sathiya Murthy Block	LT/ 2 Shifts	7 S - 2 Nos.	63KVA
130		Thiru Nagar	LT/ 2 Shifts	10 S - 2 Nos.	30KVA
131		Barathidasan nagar	LT/ 2 Shifts	7.5 & 10 S - 1 No. each	45KVA

132		Jai Balaji Nagar	LT/ 3 shift	20 S - 2 Nos. & 40 S - 1 No.	75KVA
133		T.Nagar	HT/ 3 shifts (Relay)	90, 100/200; 110 & 180 C - 1 No. each and 75 S - 3 Nos.	200KVA
134		CIT Nagar	HT/ 3 Shifts	215 S - 2 Nos.	300KVA
135		Saidapet-B	HT/ 3 Shifts	150 S - 2 Nos. & 75 S - 1 No.	160KVA
136		Jaffakanpet	LT/ 3 Shifts	70 & 120 S - 1 No. each	160KVA
137		Sarathy Nagar	LT/ 2 Shifts	30 S - 2 Nos.	35KVA
138		Kothamedu	LT/ 2 Shifts	15 S - 2 Nos.	25KVA
139		West Arumbakkam	HT/ 3 Shifts	50 & 90 C - 1 No. each	62.3KVA
140		Saligramam	LT/ 3 Shifts	30 C & 70 S - 1 No. each and 60 S - 2 Nos.	125KVA
141		Virugambakkam	LT/ 3 Shifts	40 & 75 C - 1 No. each	50KVA
142	XI	Nolambur - Phase - I	LT/ 3 Shifts	30HP - Non Clog Sewage Pump -2 nos	63KVA -
143		MMDA Colony	LT/ 3 Shifts	25HP S - 2Nos	45KV
144		Ganga Nagar	LT/ 3 Shifts	15HP - 2Nos	35KV
145		Ramakrishna Nagar	LT/ 3 Shifts	20 HP S - 3Nos	50KVA
146		Thiru Nagar	LT/ 3 Shifts	40HP S - 2 Nos 1 No -	75KVA
147		Meenakshi Nagar	LT/ 3 Shifts	10HP S - 3Nos	30KVA
148	XII	Nilamangai Nagar	HT/ Relay	100 HP - 2 No. 150 HP - 1 No. 50 HP - 2 Nos 40 HP - 1 No.	320 KVA
149		Kannan Colony	RS	7 HP - 2 No.	-
150		Velachery	HT/3 Shift	215 S - 2 Nos., 40/70 C, 20 & 60 S - 1 No. each	250 KVA
Sl. No.	Area	Name of Pumping station	HT/LT	Pumpsets	DG Set
151		Guindy	HT/3 Shift	12.5, 25 & 60 C and 50 & 150 S - 1 No. each	250 KVA
152		Taramani	LT/3 Shift	40 S - 2 Nos.	50 KVA
153		Seethabathi Nagar	LT/3 Shift	40 S - 2 Nos.	100 KVA
154		AG 's Colony	LT/3 Shift	60 S - 2 Nos.	70 KVA
155		Kanagam	LT/2 Shift	12.5 S - 2 Nos. & 5 C - 1 No.	5 HP Diesel Engine

156		Pallipattu	LT/2 Shift	15 S and 15 & 20 C - 1 No. each	40 KVA
		Package - 5			
75	VII	ANWE-I	LT/3 Shifts	50HP-2Nos, 30HP-1Nos & 40HP S-1No	110KVA-
76		ANWE-II	LT/3 Shifts	40 HP-2Nos, 30 HP-2Nos, (1No-Not working) 30 HP S-1No, & 25 HP S-1No	63KVA
77		Mogappair HT East	HT/3Shift	100 HP-1No, 75 HP-1No, 90HP-1No, 40HP S -1No, 30HP-1No	312KVA
78		Korattur sewage PS	HT/3Shift	75HP S - 4Nos	160KVA-
79		Five Star Apartments	LT/2Shifts	5HP-1No (Submersible)	
80		Mugappair Eri Scheme	LT/2Shifts	5HP- Centrifugal	
157	XIII	Adyar Old & New	HT/Relay	135/400 & 300 (C) - 2 Nos. each, 270 S - 5 Nos; 20 & 30 S - 1 No. each and 10 S - 2 Nos.	
158		Indira Nagar	HT/3 Shift	90 C - 1 No., 100 C - 2 Nos. & 60 & 80 S - 1 No. each	125 KVA
159		Gandhi Nagar	HT/3 Shift	70 (S) - 2 Nos.	125 KVA
160		Kottupuram	HT/3 Shift	100 C - 1 No., 35 C & 50 S - 2 Nos. each	62.5 KVA
161		B.V.Nagar	LT/3 Shift	40 C and 10, 25 & 30 S - 1 No. each	-
162		512 HIG	LT/3 Shift	10 & 15 S and 12.5 C - 1 No. each	20 KVA
163		P.T.C.Colony	LT/3 Shift	25 S - 2 Nos. & 40 S - 1 No.	-
164		Kalachetra Colony	LT/3 Shift	20 C - 2 Nos. and 7.5 & 15 C - 1 No. each	-
165		Besant Nagar - I	LT/3 Shift	25 C - 2 Nos	-
166		Besant Nagar - II	LT/3 Shift	30 & 40 C - 1 No. each and 40 S - 3 Nos.	63 KVA
167		RA Puram	LT/3 Shift	10 S - 2 Nos.	20 KVA
168		Bharathi Avenue	Road side	7 S - 2 Nos.	7.5 KVA
Sl. No.	Area	Name of Pumping station	HT/LT	Pumpsets	DG Set
169		Thiruvanmiyur	HT/3 Shift	70, 75 & 90 C and 40 & 60 S - 1 No, each and 30 S - 3 Nos.	125 KVA
170		Thiruvalluvar Nagar	LT/3 Shift	40 C - 2 Nos., 30 S & 20 C - 1 No. each	75 KVA
171		Thanthai periyar Nagar	LT/3 Shift	20 S - 1 No. & 10 S - 2 Nos.	63 KVA
172		Ekkattuthangal	HT/3Shift	50 S - 3 Nos. & 40 S - 1 No/	110 KVA
173		LIC Colony	HT/Relay	120 (S) - 2 Nos & 80 S - 1	250 KVA

				No.	
174		Saidapet 'D'	HT/3Shift	80 S - 2 Nos. & 40 S - 1 No.	160 KVA
175		Sector - V	LT/3 Shift	7.5, 15; 25 & 30 S - 1 No. each	75 KVA
176		Murughu Nagar	LT/3 Shift	40 S - 2 Nos.	55 KVA
177		Periyar Nagar	LT/3 Shift	25 & 30 S - 1 No. each	30 KVA
178		Orrandiamman Koil	LT/3 Shift	10, 15 & 20 S - 1 No. each	50 KVA
179		Saidapet - C	LT/3 Shift	30, 40 & 70 S - 1 No. each	100 KVA
180		Sidco Main	LT/3 Shift	35 S - 1 No. & 20 S - 2 Nos.	40 KVA
181		Nerruppumedu	Road side	7 S - 2 Nos.	--
182		Manjolai	Road side	5 & 7 S - 1 No. each	--
183		foreshore estate	LT/3Shift	10 S - 3 Nos. and 30 S & 20 & 30 C - 1 No. each	30 KVA
184		Sidco Lift	LT/2 Shift	10 S - 3 Nos.	15 KVA
185		Nagi Reddy Thottam	Road side	7 S - 2 Nos.	--
186	XIV	LB Road	HT/3 shift Relay	120 HP Submersible pumpset 2 Nos. 320 HP Submersible pumpset - 3 Nos. 150 HP Centrifugal pump set 1 No. 240 HP Centrifugal pump set 1 No. 280 HP Centrifugal pump set 1 No. 350 HP Centrifugal pump set 1 No.	750 KVA
187	XV	Perungudi	HT/3 shift	270 HP (S) - 6 nos	750 KVA

O&M OF SEWAGE PUMPING STATIONS
QUALIFICATION CRITERIA FOR STAFF

Sl. No.	Category	Eligibility
	H.T/L.T/Road side Station	
1	H.T/ L.T. station Technical staff	Diploma in Electrical Engineering or those who are having valid certificate in Electrician / Wireman grade issued by any of the recognised ITI with 2 years experience or retired Electrical Engineer from Government or Public Service Departments
2	Field staff for H.T/L.T/Road side stations	Those who are having valid certificate in Electrician / Wireman grade issued by any of the recognised ITI.
3	Silt removal and House Keeping staff	Minimum of 2 yrs experience in silt removal operations preferably in sewage related works and House keeping works

OBLIGATION OF THE BOARD

1. Power Consumption charges will be paid by the Board directly to TNEB.
2. Supply of fresh, potable water within the premises
3. CMWSS Board will arrange to provide the Telephone connection in the premises and the entire telephone charges shall be paid by the contractor.
4. Ensuring that all equipments and accessories are in good working condition before handing over the pumping station. This could be decided by a joint inspection during handing over.
5. Ensuring that all major repairs are carried out swiftly and correctly.
6. To conduct surprise checks to ascertain the effective functioning of the pumping station. For this purpose, Board may nominate any of its officers for inspection of pumping operations without prior notice.
7. Payment will be made monthly on receipt of bills from the contractor following Board's Regulations.
8. Payment for attending minor repairs not exceeding the ceiling limits prescribed, will be made monthly on receipt of bills for the actual works carried out.
9. Prescribing of preventive maintenance schedule for adoption at different time intervals by the contractor.
10. Supply of Diesel and Engine Oil etc. for DG set.

MANDATORY DUTIES OF THE CONTRACTOR

I. GENERAL:

1. Operation of specified shifts / day and ensuring that back up teams would be available to take over during Sundays, Holidays and in the event of regular Operator / Labour absence including watch and ward.
2. Making sure that the levels are maintained between safe and low levels, as specified at all times ensuring that fall below the incoming sewer whenever possible
3. Ensuring that the wells are desilted daily of minimum once a day to handle morning peak flow.
4. Ensuring that the screens are cleaned daily in every shift at regular intervals to ensure free flow and to prevent pump failures.
5. Operate and maintain equipment with technical staff so as to safeguard the equipments against single phasing, earth fault, phase reverse etc. in power supply.
6. Maintaining all equipment within the station as recommended by the manufacturers, with proper Logs and Records of the work carried out, as prescribed by Metro Board.
7. Operate and maintain capacitor and allied switch gear so as to maintain a power factor of not less than 0.90 lag prescribed by TNEB.
8. The power factor will not decrease or increase suddenly and if the contractor observes daily and finds any decrease in the power factor, it should be informed to the Department Engineers (concerned Area Engineers). The Department Engineers will take immediate steps in rectifying this.
9. Test run of D.G. sets should be carried out for a minimum of 30 minutes per week in idle condition or as recommended by the manufacturer/ directed by Site Engineer. The required diesel/lube oil will be supplied by Board and the Contractor should make necessary arrangement for carting the same. However in case of emergency the Contractor may arrange to purchase the required diesel/lube oil as directed by the Engineer incharge and the related cost will be paid based on actuals on production of bills.
10. Keeping all wells, kiosk sheds free from dirt and dust.
11. Ensuring that premises are kept clean and tidy.
12. Inspection Register to be available at the Station.

13. Mandatory Regulations prescribed by CEIG and Inspector of Factories shall be followed without any lapse.
14. Carrying out all operations at intervals specified shown on attached sheets for each station
15. Any repair and replacement works of the HT system will be carried out by the board as per norms prescribed by CEIG.
16. Each station should be provided with complete set of tools and equipments required for maintaining the station.
17. The following regular equipment maintenance and general maintenance have to be carried out along with those as per preventive maintenance schedule.
 - a) De-weeding and cleaning the transformer yard.
 - b) Drying and refilling of silica jell in the breather of the transformer.
 - c) Regular watering of the earth pits in the transformer yard and maintaining proper earth resistance.
 - d) Check for any oil leak in the transformer and top up of oil (transformer oil will be supplied departmentally).
 - e) All electrical connections have to be checked.
 - f) Provide gland packing for the pumps, sluice valve etc. whenever required to avoid leakage of water. Rope has to be provided by the Contractor.
 - g) Greasing of bearings and lubricating all moving parts minimum once a week (grease has to be provided by the Contractor).
 - h) Check for tightness of coupling bolts-nuts and all other fasteners.
 - i) Check for functioning of vacuum pumps.
 - j) Cleaning of motors, L.T. panel etc. minimum once in a week using air blower.
 - k) Lubricating and test operating of the penstock valves for proper seating minimum once in week.
 - l) Watering of plants and trees.
 - m) Check for charging battery including the acidity in cells once in a week so as to start and operate the DG sets in any emergency requirements.
 - n) Replacement of the HG fuse if required.
 - o) Replacement of fused out bulbs, choke, starters etc.
18. Any minor repairs to electrical/mechanical/ civil works (repair/ additional) upto a limit of Rs.5000/ month has to be carried out urgently. Payment towards minor repairs will be paid separately on monthly basis, based on the actuals and production of

certificates and vouchers. The bidder need not include the cost of minor repairs in the tender.

19. The bidder should furnish his local office and residential address along with Telephone Nos.
20. Attendance should be maintained in all the locations maintained by the contractor and the employees sign it in every shift.
21. In the absence of regular staff it is the responsibility of the contractor to provide a suitable staff to work in a particular station when the person in that station goes on leave, The contractor has to fix leave regulation for the employees and submit a copy to Board.
22. In case of absence of the field staff, Technical staff or House keeping staff as envisaged the specified amount for that particular shift will be recovered in the monthly bill as per Annexure
23. The contractor has to provide decent uniform with name badge to their staff and if they fail to wear the uniform, penalty at the rate indicated in the Annexure-IV will be recovered from this monthly bill.
24. The contractor has to operate the machineries according to the operating schedule fixed for that particular station and to maintain low-level. The level should not be more or less than that of the operating level fixed during that time of inspecting officials prescribed in the operating schedule. However tolerance of +/-5% can be allowed. If there is vast difference, unless otherwise specific reasons are not given wages for that particular shift will be recovered as per Annexure-IV, if the reason given by the contractor is not acceptable by the inspecting authority.
25. Maintenance of plant and machineries should be as per the chart given.
26. Whenever an employee of the contractor leaves the job and new person with the same qualification is employed or transferred between stations maintained by the same contractor it should be informed in writing and with the approval of Engineer and also see that the new persons so employed also have insurance cover.
27. The maintenance gang should possess a register to record their activity in a particular station in a particular day and certified by the Board officials incharge of that particular station in that book.

28. The contractors are required to operate and maintain the sewage pumping stations continuously during the rainy season by providing additional shifts and man power for the pumping stations operated with single and two shifts during normal period.

II. ELEMINATION OF CHILD LABOUR

1. Attention of all contractor are invited to the Child Labour (Prohibition and Regulations) Act 1986, which prohibits employment of children below 14 years of age in certain occupations and process and provides for regulations of employment of children in all other occupations and progress. Employment of child labour is prohibited in building and construction industry.
2. Hence all the contractors are requested to adhere to the provisions in the above Act and see that engagement of child labour in the operational activities of the Board are completely prohibited. Any violation of the provision will lead to penal action and removing of the contractor from the list of registered contractors.

III. SAFETY MEASURES

1. All the work to be carried out in and around the pumping station, like electrical faults (or) attending to maintenance work in collection, suction and screen wells, it must be under the contractors supervision with their supervisor, at their own risk and cost.
2. The contractor should possess rubber gloves, gum boots, safety belt, helmet, rope, gas mask, torch light, emergency light etc. as safety equipments in good condition.
3. Each and every employee of the contractor should have insurance cover under workmen compensation act.
4. The contractor has to carryout any minor maintenance work only after informing and getting concurrence of the Board officials incharge of that particular pumping station.
5. Exhibit labels of "SAFETY FIRST".
6. Only experienced, skilled people have to be employed by the contractor.
7. All labour act provisions has to be met with.

IV. PROCEDURE FOR CARRYING OUT MINOR REPAIRS

Minor repairs noticed in the equipment should be reported in writing to A.E./DAE(Elect) incharge of the pumping station without any time lapse. The rectification work have to be carried out immediately as per the direction of the AE/DAE(Elect). Payment for repair works will be made on actuals. Necessary entry for the repairs carried out has to be made in the Log Book.

V. NON-COMPLIANCE TO SCHEDULE OF WORK / MANDATORY DUTIES

If the contractor fails to carry out any work or part of work/mandatory duties, the Board shall have the power to carry out such parts of work by engaging private agency and recover such amount including 5 (five) percent of the amount incurred from the progressive bills.

Photo Identify Cards have to be issued to the personnel and one set of these Identity Cards should be furnished to the Board and one set displayed in the Pumping station.

The responsibility of the contractor to take insurance policy under Workmen's Compensation Act 1923 for each labour and a copy of insurance policy should be

furnished to the Board. This policy should be kept alive till completion of the contract period.

The name and qualifications of the personnel engaged in each Sewage Pumping Station should be prominently displayed in the Pumping Station.

VI. DUTIES TO BE ATTENDED BY FIELD STAFF

- 1) Ensuring that the screen are cleaned daily in every shift at regular intervals to ensure free flow and to prevent pump failure.
- 2) Keeping of all wells, kiosk sheds free from dirt and dust
- 3) Ensuring that premises are kept clean and tidy
- 4) Ensuring that adequate man power is available round the clock to carryout out the above task and to prevent entry of unauthorized persons.
- 5) Provide gland packing for the pumps, sluice valve etc. whenever required to avoid leakage of water.
- 6) General cleaning of all equipments buildings and the yard
- 7) Watering of plant and trees
- 8) To assist the operators to carry out the breakdown maintenance to avoid dislocation of pumping operation.
- 9) Operating of sluice valves and penstock valves

VII. GENERAL MAINTENANCE TO BE DONE

- 1) Desilting of Wells
- 2) Lifting and lowering of submersible pump sets
- 3) Drying and refilling of silicon, oil in the breather of the transformer
- 4) Check for any oil leak in the transformer and top up oil if necessary
- 5) Greasing of bearings and lubricating all moving parts once in a week
- 6) Cleaning of motors and lubricating all moving parts once in a week by using air blower.
- 7) Regular watering of the earth pit in the transformer yard and maintaining proper earth resistance
- 8) All electrical connections have to be checked

- 9) Lubricating and test operating of the penstock valves for proper seating every week
- 10) Check conditions of cabling, motor and pumps etc.
- 11) De-weeding and clearing the transformer yard
- 12) Check for tightness of coupling, bolts and nuts and all other fasteners

RECOVERY TO BE MADE FOR DEFAULT

Sl. No.	Description	Amount
	For non engagement of	
1	Technical Staff	Rs.300 per day per each
2	Silt removal And House keeping staff	Rs.200 per day per each
3	Field Staff	Rs.100 per day per shift
	For non performance of	
4	Silt removal in the well once in a week	Rs.500 per occasion
5	Minor repairs	The repair should be done again
6	Cleaning of site	Rs.100 per day
7	Arranging sand bags	Rs.250 per occasion
8	Photo identity	Rs.100 per each
9	Not wearing uniform	Rs.50 per each
	For non stocking or non maintenance of	
10	Safety belt	Rs.500 per month
11	Gas Mask	Rs.500 per month
12	Loose tools	Rs.100 per month
13	Maintaining of registers	Rs.2,000 per month
14	Operational rules	Amount paid to the shift as per the agreement
15	Display of staff particulars	Rs.500 per month
16	Disobedience of any person	To be replaced immediately
17	Preventive maintenance not done	
	a) For daily maintenance items	Rs.100 per day
	b) For weekly maintenance items	Rs.200 per week
	c) For fortnightly maintenance items	Rs.500 per fortnight
	d) For monthly maintenance items	Rs.1000 per month
18	For not maintaining Diesel Generator batteries in good charge condition	Rs.50 per day
19	For not carting diesel / lube oil or purchase of required quantity of diesel / lube oil as directed by the Engineer incharge	Rs.100 per day

H.T. / L.T. SEWAGE PUMPING STATIONS
SCHEDULE OF MAINTENANCE

Item No.	Description of work	Daily	Weekly	Fort nightly	Monthly	Attended / Not attended / O.K.	If not attended, reason
1.0	Pump house						
1.1	Cleaning of site	*					
1.2	Cleaning of pump house	*					
1.3	Cleaning of Panel Room, D.G. room etc.	*					
1.4	Check pump is operational	*					
1.5	Change over of pumps	*					
1.6	Record hours run	*					
1.7	Check operation of air release pipe	*					
1.8	Clean windows	*					
1.9	Operate vertically hung door and lubricate	*					
1.10	Sweep and tidy up ground, roof, remove cob webs etc.	*					
2.0	H.T. structure, Transformer yard and transformers						
2.1	Cleaning of transformer yard, removal of grass and plants	*					
2.2	Check up and water the earth pits		*				
2.3	Megger the earth resistance in the earth pits				*		
2.4	Check and operate the AB switch in the structure for its smooth operation and replace contacts if necessary		*				
2.5	Check up dropout fuses and H.G. fuses and replace if necessary	*					
2.6	Check up insulators and lightning arrestor in the structure and replace if necessary			*			
2.7	Check the transformer for any leakage of oil and top up if necessary		*				
2.8	Check the temperature of transformer oil from dial thermometer and record			*			

Item No.	Description of work	Daily	Weekly	Fort nightly	Monthly	Attended / Not attended / O.K.	If not attended, reason
3.0	H.T. Panel						
3.1	Clean the panel externally and internally using blower	*					
3.2	Carryout visual check of observe over all condition of the breakers and clean the breakers thoroughly	*					
3.3	Grease / Oil joints and sliding surfaces			*			
3.4	Check the internal connections				*		
3.5	Check the operations of doors and conditions of door gasket			*			
3.6	Check Volt Meter Ammeter etc. in the panel for its working and replace if necessary	*					
3.7	Check all the indicator lamp and control fuses and replace if necessary	*					
3.8	Check the operation of relays				*		
4.0	L.T. Panel						
4.1	Clean the panel externally and internally using blower	*					
4.2	Check all the connections for tightness			*			
4.3	Check the contacts switches for tightness and apply petroleum jelly if necessary			*			
4.4	Check Volt Meter Ammeter and respective P.T. and CTS for its working and connection	*					
4.5	Check all the indicator lamp bulbs and fuses and replace if necessary		*				
4.6	Check operation of all switches and bush buttons		*				
5.0	CAPACITORS						
5.1	Check all the capacitors for oil leakage if any	*					
5.2	Clean the insulator with dry cloth and check the connections for tightness			*			
5.3	Check the fuses and meggar the units				*		

Item No.	Description of work	Daily	Weekly	Fort nightly	Monthly	Attended / Not attended / O.K.	If not attended, reason
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6.0	MOTORS						
6.1	Clean the motor terminal box, check the cable connection to tightness	*					
6.2	Check body of the motor for firm connection			*			
6.3	Check the foundation bolt and nut for tightness	*					
6.4	Check normal sound and vibration	*					
6.5	Check the bearing grease and replace if necessary			*			
6.6	Check air cooling fan for vibration and noise			*			
6.7	Check meggar test for windings and earth			*			
6.8	Cleaning of motor slip ring, carbon brush, contacts and replace if necessary		*				
7.0	STARTERS AND OCB						
7.1	Clean the starter and check up the cable connection	*					
7.2	Check contacts and replace if necessary	*					
7.3	Check for cable connection	*					
7.4	Check for OLR and No. volt coil	*					
7.5	Check the level of transformer oil in the OCB and top up if necessary			*			
8.0	MAIN PUMPS						
8.1	Outside Cleaning	*					
8.2	Check Bearing Temperature			*			
8.3	Check & Top up Bearing grease or replace grease			*			
8.4	Check gland for leak and add gland layer if required	*					
8.5	Replace gland packing completely			*			
8.6	Check foundation nuts and bolts for tightness and rusting		*				
8.7	Check inspection covers and check condition of impeller			*			

Item No.	Description of work	Daily	Weekly	Fort nightly	Monthly	Attended / Not attended / O.K.	If not attended, reason
8.8	Check the pressure and pressure gauges on suction and delivery side	*					
8.9	Clean the pump pit and pump floor	*					
8.10	Check for coupling Bolts and nuts, coupling tyre and replace the tyre if required			*			
8.11	Check for vibration and noise of the pump	*					
8.12	Pump out leak water from the pump pit	*					
8.13	Check the condition of bearing oil and replace if required.			*			
9.0	SUMP PUMP						
9.1	Check the pump for operation	*					
9.2	Check the coupling and replace if necessary			*			
9.3	Clean the starter panel externally and internally	*					
9.4	Check the fuses and contacts, apply petroleum jelly if necessary		*				
9.5	Check the foot valve and replace if necessary	*					
10.0	DIESEL GENERATOR SET, BATTERY AND EMERGENCY LIGHT						
10.1	Clean the battery, top up, distilled water in the battery if necessary	*					
10.2	Remove the connection of battery terminals, clean thoroughly and reconnect after applying petroleum jelly		*				
10.3	Clean the emergency lights internally and externally	*					

Item No.	Description of work	Daily	Weekly	Fort nightly	Monthly	Attended / Not attended / O.K.	If not attended, reason
10.4	Check the light, indicator lamp for its proper working and attend if necessary		*				
10.5	Check fuel level in the day tank of DG set and top up if necessary		*				
10.6	Check engine oil level in the D.G. set and add if necessary			*			
11.0	SUCTION & DELIVERY VALVES AND ACTUATOR						
11.1	Check the condition of gland packing and tighten or replace if necessary	*					
11.2	Check actuator gear box for leakage		*				
11.3	Check the condition of limit switches				*		
11.4	Check the condition of oil and grease, replace if necessary			*			
11.5	Check the bolts and nuts for tightness			*			

Item No.	Description of work	Daily	Weekly	Fort nightly	Monthly	Attended / Not attended / O.K.	If not attended, reason
11.6	Check cable terminals at motor terminal box of actuator				*		
11.7	Check clutch and gear arrangement for manual operation				*		
11.8	Apply grease to the spindle if necessary				*		
11.9	Check for free movement			*			
12.0	NRV (NON RETURN VALVE)						
12.1	Check the operation of non-return valve		*				
12.2	Check the disc for its smooth opening and closing operation		*				
13.0	SEWAGE WELLS						
13.1	Clean the suction, screen and collection	*					
13.2	Check up the operation of Penstock valves in the wells	*					
13.3	Apply grease to vertical shaft of penstock valve for smooth operation			*			
13.4	Rake the screen and disposal waste	*					
13.5	Desilt wells if equipment is available	*					
13.6	Manual desilt wells (no equipments)		*				

**I. LIST OF SAFETY EQUIPMENTS TO BE PROVIDED BY CONTRACTOR
IN EACH STATION**

Sl. No.	Name of Equipment	Existing for HT/LT/Road Side Pg. Stn.	Proposed		
			HT	LT	Road Side
1	Safety belt with rope	2 sets	2 nos.	1 no.	1 no.
2	Gas Mask	2 sets	1 no.	1 no.	1 no.
3	Shock proof hand gloves (11 KV grade gloves)	1 pair	1 pair	1 pair	1 pair
4	Disposable hand gloves	2 pairs	2 pairs	2 pairs	1 pair
5	Gum boot	2 pairs	2 pairs	2 pairs	1 pair
6	Electrical line tester	1 no.	1 no.	1 no.	1 no.
7	Earth discharge rod	1 no.	1 no.	-	-
8	First Aid Box	1 no.	1 no.	1 no.	1 no.
9	Emergency light	1 no.	1 no.	1 no.	-

Note: The above is only an illustrative minimum list. The contractor must note that it is their responsibility to ensure the lives and safety of the workers employed by them. Towards this end, all the equipments of appropriate specifications should be procured and made available to the workers in usable conditions throughout the period of contract. Responsibility for any health problem or death will solely rest with contractor.

**II. LIST OF LOOSE TOOLS AND EQUIPMENTS TO BE PROVIDED BY
THE CONTRACTOR IN EACH STATION**

Sl. No.	Description	Existing for HT/LT/Road Side Pg, Stn.	Proposed		
			HT	LT	Road Side
1	Double end spanner (6 mm to 32 mm)	1 set	1 set	1 set	1 set
2	Screw driver (6", 8", 12")	1 set	1 set	1 set	1 set
3	Pipe wrench (14", 18", 24")	1 set	1 set	1 set	1 set
4	Cutting pliers	1 set	1 no.	1 no.	1 no.
5	Long nose pliers	1 no.	1 no.	1 no.	1 no.
6	Hammer (2 Kgs)	1 no.	1 no.	1 no.	-
7	Test lamp with 15m wire	1 no.	1 no.	1 no.	1 no.
8	Megger (1000 V)	1 no.	1 no.	1 no.	-
9	Multimeter	1 no.	1 no.	1 no.	-
10	Tong tester	1 no.	1 no.	1 no.	-
11	Hacksaw frame with 3 nos. blade	1 no.	1 no.	1 no.	1 no.
12	Spade (Manwetty)	2 nos.	2 nos.	1 no	1 no
13	Crow bar	1 no.	1 no.	1 no.	1 no.
14	Shovel	2 nos.	1 no.	1 no.	-
15	Sickles	2 nos.	2 nos.	2 nos.	-
16	Ring spanner (6mm to 32mm)	1 set	1 set	1 set	-
17	Caution Board (Men working Board)	1 no.	1 no.	1 no.	-
18	Grass cutter	1 no.	1 no.	-	-
19	Country knife	2 nos.			
20	Iron chutty	2 nos.	2 nos.	2 nos.	1 no.
21	Grease gun	1 no.	1 no.	1 no.	-
22	2 ton pulley block	1 no.	1 no.	1 no.	-
23	Wheel barrow	2 nos.	1 no.	1 no.	-
24	Torch light with 3 cells	2 nos.	1 no.	1 no.	1 no.
25	Hand blower	2 nos.	-	-	-

UNDERTAKING

ADDITIONAL CONDITIONS FOR THE CLEANING AND MAINTENANCE OF SEWERAGE SYSTEM (INCLUDING SEPTIC TANKS)

I / We
aged about years, S/o
residing at

.....
I am / are aware of the direction of the Hon'ble High Court of Madras in its order dated 20.11.2008 in W.P. NO. 24403/2008 and the orders of the Government of Tamil Nadu in G.O.(Ms) No.293, M.A & W.S (MW) Department, dated 26.11.2010, regarding the ban on manual scavenging and on the entry of sanitary workers into the sewerage system of septic tank. I undertake to abide by the said directions of the High Court and Government Order in this regard. All cleaning and maintenance operations shall be done only through mechanical devices.

I / We shall not allow sanitary workers to enter into the sewerage system / septic tank for cleaning or maintenance operations except in the 4 circumstances permitted in the orders of the High Court in W.P. No. 24403, dated 20.11.2008. I am aware that even in these 4 circumstances, I should allow the workers to enter only with adequate safety gadgets and under the supervision of a qualified staff, and only after duly observing all safety precautions including testing for the presence of toxic gases.

I / We am/are aware that violation of the said directions of the Hon'ble High Court and the G.O. will attract punishment under section 14 of the Employment of Manual Scavengers and Construction of Dry Latrines (Prohibition) Act, 1993.

I / We shall not allow sanitary workers to enter into the sewerage system / septic tank for cleaning or maintenance operations except in the 4 circumstances permitted in the orders of the High Court in W.P. NO. 24403/2008, dated 20.11.2008 as follows:

- 1) For the removal of concrete / FRP manhole door which gets damaged due to the heavy vehicular traffic and often falls inside the manhole causing obstructions / blocks in the sewer and which results in the blockage of

sewerage system, and where mechanical equipments cannot be put into operation.

- 2) For the purpose of inter-linking the newly laid sewer main with the existing sewer main, where it will be wholly necessary to block the main sewer main in the servicing manhole. Entry of sanitary workers on such occasions has to be necessarily permitted, in as much as it is stated that large size sewer i.e. where the diameter is more than 300 mm, blocking the sewer main from the top of the manhole is not possible and only the sanitary worker has to enter the manhole and that too with necessary safety gadgets for blocking the sewer temporarily.
- 3) For the removal of submersible pump sets fixed at the bottom of the suction wells, which goes out of order, for which the sanitary worker has to enter the well again with necessary safety gadgets after emptying the sewage from the well in order to remove the pumpset. It is made clear that before allowing any sanitary worker to enter on such occasions, steps should be taken to see that the sewage is totally emptied and thereby further ensure that no poisonous gas remains in the sewage line.
- 4) For the reconstruction of the manhole or rectification of the sewer main due to any damage caused by sinking of man hole covers / sewer line when the sewage pipe line gets blocked or gets obstructed, which results in the system getting surcharged. Here again, before allowing any sanitary worker to enter the sewer line, it is essential that sewage line is emptied by blocking the manholes in the system on either side of the sinking manholes / damaged manholes.

Even in the above four instances, I / We will allow the workers to enter only with adequate safety gadgets and under the supervision of a qualified staff, and only after duly observing all safety precautions including testing for the presence of toxic gases with a gas detector. Naked flame method of testing the presence of poisonous gases is hazardous and should be strictly avoided.

- a. Even in the non-exceptional circumstances, consideration of safety of the workers shall be paramount and the contractor shall ensure the same.

- b. I / We will indemnify the employer for any loss or damage caused by his negligence or by his non-observance / violations of any labour laws.
- c. I / We will take out insurance policies under the Workmen's Compensation Act, 1923 for all the workers engaged by him and a photocopy of the insurance policy should be furnished to the employer. The policy should be kept alive till completion of the contract.
- d. I / We will impart safety education to all his workers and train them in the use of safety gadgets.

DECLARATION

- i) I s/o
..... Proprietor / Partner / Director of
..... Do hereby declare and undertake as under
:
- ii) That in the capacity of Contractor by M/s.
. I will comply with the provisions of Contract Labour (Regulations & Abolition) Act, 1970 by obtaining a valid license under the Act and the Rules thereto and similarly under Factories Act wherever applicable.
- iii) I will pay the wages in accordance with the Minimum Wages Act to all my employees.
- iv) The staffs who have been employed by me will also have ESI & EPF number in their names. I have to pay ESI & EPF contributions towards my staff every month. The copies of the remittance challans of the ESI & EPF contributions will be submitted along with the bill for claiming the subsequent monthly payment. Similarly, the contribution / premium / tax etc. payable to any other statutory authorities will be remitted by me directly, after registering with the respective departments.
- v) I authorize to recover the contributions towards Tamil Nadu Manual Workers (Regulations of Employment and Conditions of work) Act, 1982 fund at the percentage prescribed by the Government from time to time.
- vi) I further declare and undertake that in case of any liability pertaining to my employees is to be discharged by the Principal Employer for my lapse, I undertake to reimburse the same or the Principal Employer is authorised to deduct the same from my dues as payable.
- vii) I will maintain the Registers and records about the Contract Labour employed under Section 29 of Labour (Regulation & Abolition) Act wherever applicable.
- viii) I will take insurance policy under Workmen Compensation Act to meet out any untoward incident until the contract labourers are issued with ESI card.
- ix) I will not employ any child labour in a house / worksite / Establishment / other places as per the Section 2 (ii) of the Child Labour (Prohibition and Regulation) Act 1976 (Child means, a person who has not completed his fourteenth years of age).

SIGNATURE OF CONTRACTOR

6. FORMS OF SECURITIES

Forms of Securities

Acceptable forms of securities are annexed. Bidders should not complete the Performance and Advance Payment Security forms at this time. Only the successful Bidder will be required to provide Performance and Advance Payment Securities in accordance with one of the forms or in a similar form acceptable to the Employer.

Annex A:	DELETED
Annex B:	Performance Bank Guarantee
Annex C:	Deleted
Annex D:	Bank Guarantee for Advance Payment

PERFORMANCE BANK GUARANTEE

To: _____ [name of Employer]
 _____ [address of Employer]

WHEREAS _____ [name and address of Contractor] (hereinafter called "the Contractor") has undertaken, in pursuance of Contract No. _____ dated _____ to execute _____ [name of Contract and brief description of Works] (hereinafter called "the Contract");

AND WHEREAS it has been stipulated by you in the said Contract that the Contractor shall furnish you with a Bank Guarantee by a recognized bank for the sum specified therein as security for compliance with his obligations in accordance with the Contract;

AND WHEREAS we have agreed to give the Contractor such a Bank Guarantee;

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Contractor, up to a total of _____ [amount of guarantee]
¹ _____ [in words], such sum being payable in the types and proportions of currencies in which the Contract Price is payable, and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of _____ [amount of guarantee]¹ as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the Contractor before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the Contract or of the Works to be performed thereunder or of any of the Contract documents which may be made between you and the Contractor shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.

This guarantee shall be valid until 7 calendar months from the date of issue of certificate of completion.

Signature and seal of the guarantor _____
 Name of Bank _____
 Address _____
 Date _____

¹ An amount shall be inserted by the Guarantor, representing the percentage of the Contract Price specified in the Contract including additional security for unbalanced Bids, if any and denominated in Indian Rupees.

Annex D

BANK GUARANTEE FOR ADVANCE PAYMENT

To: _____ [name of Employer]
_____ [address of Employer]
_____ [name of Contract]

Gentlemen:

In accordance with the provisions of the Conditions of Contract, sub clause 51.1 ("Advance Payment") of the above-mentioned Contract, _____ [name and address of Contractor] (hereinafter called "the Contractor") shall deposit with _____ [name of Employer] a bank guarantee to guarantee his proper and faithful performance under the said Clause of the Contract in an amount of _____ [amount of guarantee] 1 _____ [in words].

We, the _____ [bank or financial institution], as instructed by the Contractor, agree irrevocably to guarantee as primary obligator and not as Surety merely, the payment to _____ [name of Employer] on his first demand without whatsoever right of objection on our part and without his first claim to the Contractor, in the amount not exceeding _____ [amount of guarantee]1 _____ [in words].

We further agree that no change or addition to or other modification of the terms of the Contract or of Works to be performed thereunder or of any of the Contract documents which may be made between _____ [name of Employer] and the Contractor, shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.

This guarantee shall remain valid and in full effect from the date of the advance payment under the Contract until _____ [name of Employer] receives full repayment of the same amount from the Contractor.

Yours truly,

Signature and seal: _____
Name of Bank/Financial Institution: _____
Address: _____
Date: _____

1 An amount shall be inserted by the bank or financial institution representing the amount of the Advance Payment and denominated in Indian Rupees.

7. TECHNICAL SPECIFICATIONS

(Refer Volume -II)

8. BILL OF QUANTITIES

(Refer Volume -III)

DECLARATION

- ix) I s/o
..... Proprietor / Partner / Director of
..... Do hereby declare and undertake as under
:
- x) That in the capacity of Contractor by M/s.
. I will comply with the provisions of Contract Labour (Regulations & Abolition) Act, 1970 by obtaining a valid license under the Act and the Rules thereto and similarly under Factories Act wherever applicable.
- xi) I will pay the wages in accordance with the Minimum Wages Act to all my employees.
- xii) The staffs who have been employed by me will also have ESI & EPF number in their names. I have to pay ESI & EPF contributions towards my staff every month. The copies of the remittance challans of the ESI & EPF contributions will be submitted along with the bill for claiming the subsequent monthly payment. Similarly, the contribution / premium / tax etc. payable to any other statutory authorities will be remitted by me directly, after registering with the respective departments.
- xiii) I authorize to recover the contributions towards Tamil Nadu Manual Workers (Regulations of Employment and Conditions of work) Act, 1982 fund at the percentage prescribed by the Government from time to time.
- xiv) I further declare and undertake that in case of any liability pertaining to my employees is to be discharged by the Principal Employer for my lapse, I undertake to reimburse the same or the Principal Employer is authorised to deduct the same from my dues as payable.
- xv) I will maintain the Registers and records about the Contract Labour employed under Section 29 of Labour (Regulation & Abolition) Act wherever applicable.
- xvi) I will take insurance policy under Workmen Compensation Act to meet out any untoward incident until the contract labourers are issued with ESI card.
- ix) I will not employ any child labour in a house / worksite / Establishment / other places as per the Section 2 (ii) of the Child Labour (Prohibition and Regulation) Act 1976 (Child means, a person who has not completed his fourteenth years of age).

SIGNATURE OF CONTRACTOR