



AHMEDABAD MUNICIPAL CORPORATION

Tender for Supply, Installation, Testing and Commissioning of Compressed Natural Gas (C.N.G) Cremation Furnace at Naroda Crematorium, Ahmedabad.

Tender No :- 3

Tender Notice No:-

**Part-I General
Part-II Technical Specification
Part-III Financial Bid.**

- | | |
|------------------------------------|----------------------------|
| (1) Last date of Tender Submission | 26-03-2010 upto 14:00 Hrs. |
| (2) Date of Tender Opening | 26-03-2010 at 16.00 Hrs |

Place of Tender Submission and Tender Opening

Tender officer, Central Record Office,
Ahmedabad Municipal Corporation
Sardar Patel Bhavan, Danapith,
Ahmedabad-380 001.
Gujarat, India

Tel:- +91 (079) 2534269

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e-mail:- streetlight@egovamc.com



AHMEDABAD MUNICIPAL CORPORATION

TENDER NOTICE

A. M. C. invites sealed and super scribed tenders **from Manufacturers** of Compressed Natural Gas(CNG) Cremation Furnace Manufacturing since last five years.

Sr. No.	Name of the work	Tender Fee in Rs.	EMD in Rs
1.	Supply, Installation, Testing & Commissioning work of Compressed Natural Gas(C.N.G) cremation Furnace complete with CNG gas detection system giving warning alarm and Auto shut off of main CNG gas supply valve at Naroda Crematorium, Ahmedabad	1,500/-	30,000/-

The set of tender document can be downloaded till last date of tender submission from our web site www.egovamc.com & tender fees and E.M.D must be paid separately along with submission of tender by D.D of any Nationalized Bank in favour of Municipal Commissioner.Ahmedabad.

Last date of tender submission: - **26/03/10 up to 2.00 PM**

The tenders shall be submitted to the office of **Tender Officer**, Central Record office, A.M.C., Sardar Patel Bhavan, Danapith , Ahmedabad – 380 001.

ELECTRICAL DEPARTMENT
(A.M.C.)

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SECTION : A

A:1 NOTICE INVITING TENDER

To,
Bidders

Sub : The scope of work includes Supply,Installation,Testing and Commissioning work of Compressed Natural Gas (CNG) Cremation Furnace complete (one no.)with CNG gas detection system giving warning alarm and Auto shut off of main CNG gas supply valve at Naroda Crematorium, in Ahmedabad.

Dear Sir,

- A.1.1 The Ahmedabad Municipal Corporation (A.M.C.) invites the item rate tenders **(Single- bid system)** from the Manufacturers who qualify the eligibility criteria, as mentioned in Section–A.5 of the tender document for the above mentioned work.
- A.1.2 Tender documents consisting of –
- Part – I : General– Tender Notice,General Conditions of Contract etc.
(Section – ‘A’, ‘B’, ‘C’)**
- Part – II : Technical Specification of Supply, Installation, Testing,
Commissioning of CNG Cremation Furnace.(Section 'D','E')**
- Part – III : Price Bid (Section – ‘F’)**
- A.1.3 A separate demand draft of **Rs.1,500/-** for Tender fee drawn on Nationalized Bank in favour of Municipal Commissioner, Ahmedabad. Shall be attached with the Tender offer,without tender fee tender will not be considered.
- A.1.4 A separate demand draft of **Rs.30,000/-** for E.M.D. drawn on Nationalized Bank in favour of Municipal Commissioner, Ahmedabad. Shall be attached with the Tender offer without E.M.D. tender will not be considered.
- A.1.5 The successful tenderer shall have to pay security deposit worth **5%** of the contract value in the form of Bank Guarantee from any Nationalized Bank. The security deposit shall be payable as under:
- Over and above, the contractor shall have to give Performance Guarantee worth **5%** of the Contract Value in form of Bank Guarantee from any Nationalized Bank as incorporated in the Tender Document.
- A.1.6 Two sets (One Original + One Xerox copy) of tender documents duly completed in all respects shall be submitted as described further, so as to reach at the following address on or before the last date and time mentioned in tender notice.
- Tender Officer, Central Record Officer,
Ahmedbad Municipal Corporation, Sardar
Patel Bhavan, Danapith, Ahmedabad - 380
001 Gujarat (INDIA)**
- A.1.7 Earnest Money Deposit and Tender Fee in the form of Demand Draft should be sealed in separate envelope and the same shall be enclosed along with Tender document (put original copy in original document envelop and one Xerox copy in Xerox copy document envelop).

- A.1.8 Municipal Commissioner reserves the right (i) to change, alter or to waive any technical or commercial terms, conditions and qualification (ii) to reject all the tenders or the lowest or any other tender in part or full without assigning any reason whatsoever (iii) for making changes / relaxation in eligibility criteria at any time (iv) to split the tender and award to more than one tenderer in the interest of public. The tenderers shall have no cause of action or claim against the corporation or its officers, employees, successors or assignee for rejection of his tender.**
- A.1.9 The Municipal Commissioner reserves the right to terminate the contract at any stage after award of the contract without giving any reasons.
- A.1.10 Both original and Xerox copy document envelope should be sealed in one large envelope. On this envelope, the Name of tenderer, Name of work as well as date of opening of the tender shall be written invariably.
- A.1.11 The tender submitted with any conditions will not be accepted and will be rejected outright.
- A.1.12 The tenderer shall quote item rate both in figures and words in tender document (Price Bid). The tenderer shall also work out the total tender amount and shall write this tender amount in words and figures as per the quoted rates.
- A.1.13 The tenderer shall have to attach the following documents in duplicate with the tender :
- i) Schedules 1 to 7 of Section B-3
 - ii) Other documents as per A.4.8, A.4.9, A 4.19 and A.4.20 of Section A-4
 - iii) Arbitration / Litigation history.
- A.1.14 Incomplete tender which does not fulfill any of the above conditions will be liable for rejection. Tender will also **be liable to be rejected** if-
- i) The tenderer proposes any alteration in the work specified or in the time allowed in carrying out the works or make corrections in Schedule of Quantities.
 - ii) Any of the page or pages in the tender is / are removed or replaced.
 - iii) The item rate amount as per quoted is not entered in ink, in figures and words in Price Bid. As also amount is not written in word and figure and signed.
 - iv) All corrections, additions or pasted slips are not initialed by the tenderer.
 - v) Any erasure is made in the tender.
 - vi) The tenderer or in the case of a firm, each partner or the person holding the power of attorney thereof does not sign or the signature(s) is (are) not attested by the witness, wherever it is required.
 - vii) Demand Drafts of Earnest money and Tender Fee for required amount are not submitted with the tender.
 - viii) The tenderer returns the tender document without signing relevant pages of the bid and amendments, if any.
 - ix) Information vide **Section B.3** must be furnished.
 - x) Technical Specification Data sheet by the bidder must be furnished.
- A.1.15 It must be clearly and distinctly understood that the conditions of contract and specifications shall be rigidly enforced and no relaxation on the grounds of customs prevailing shall be allowed.**

- A.1.16 The rates given in the Price Bid are Inclusive of all types of taxes like sales tax, vat tax and any other tax applicable, duties, octroi, etc. and no claim in this context shall be entertained. Contractor shall not be paid any extra due to increase in any type of Government Taxes including excise duty during implementation of contract. Any variations in taxes etc. shall be borne by the contractor.**
- A. 1.17 It is considered that the tenderer has visited the site of work, fully acquainted himself with the local situations regarding materials, labour and other factors pertaining to work and studied the plans and estimates before submitting the tender.
- A. 1.18 It will be the responsibility of the bidder to arrange for necessary import license and clearance of Govt. of India in time, if required, so that the imported plant or equipment could be utilized for the proposed work. The bidder has to assure AMC that he is in a position to import the plant or equipment at the time of commencement of proposed work.
- A.1.19 In the event of a discrepancy between description in words and figures in quoting percentage higher or below the estimated rates as well as the total offered amount by the tenderer, the description in words shall prevail.**
- A. 1.20 The tender for the work shall remain valid for a period of **120 days** from the last date of submission of the tender and the tenderer shall not be allowed to withdraw or modify the offer on his own and during this period any modifications or additions in terms and conditions of his tender not acceptable to the Ahmedabad Municipal Corporation(AMC). **The A.M.C reserves the rights to forfeit in full the said earnest money deposit absolutely.**
- A. 1.21 If the tenderer wishes to offer discount in the event of this entire work being awarded to him, he shall state so in the tender. **Tender documents are not transferable.**
- A.1.22 The tenderer shall strictly observe all the requirements laid down in the Contract Labor (Regulation and abolition) Act, 1970 and the Contract Labor (Regulation and Abolition) (Gujarat) Rules, 1972 and other acts as amended from time to time so far as applicable. The tenderer should obtain necessary permission, license and registration from the labor commissioner, as per labor law.
- A.1.23 The work is to be completed in all respects within **45 Days** inclusive of monsoon, reckoned from the date of Standing Committee Resolution/written order to be commence the work. Out of **45 Days** the contractor shall take approval of all documents & drawings and as per tender specification and refer to the approval given by AMC within **7 Days**.
- A.1.24 The tenderer is required to check the AMC website for **Addendum if any before 48 Hrs.** of last date and time of tender submission. The tenderer who quotes the tender without attaching the addendum will be rejected.

Signature of Contractor :

Name:-

Company's Seal:

Date:-

**Add. Chief Engineer
(Electrical)**

Ahmedabad Municipal Corporation

A- 2: MEMORANDUM OF WORK IN BRIEF

1. **Name of Work : The scope of work includes Supply,Installation,Testing and Commissioning work of Compressed Natural Gas (CNG) Cremation Furnace complete(one no) with CNG gas detection system giving warning alarm and Auto shut off of main CNG gas supply valve at Naroda Crematorium, in Ahmedabad.**
2. Earnest Money : Rs. 30,000/-
3. Validity Period : **120 Days** from the last date of submission of the tender
4. Security Deposit : Total 5% of the contract value in form of Bank guarantee from any Nationalized Bank
5. Performance Guarantee bond : 5 % of the contract value in form of Bank Guarantee for period of 36 months beyond time limit.
6. Time-Limit : **45 Days.**
Within 7 Days for documents, drawings approval.
7. i) Last date of submission of the tender : As mentioned in tender notice
ii) Mode of Sending : a) In sealed cover in (One Original + One Xerox copy) copies by Registered Post A.D. or Speed Post or Courier services or Hand delivery.
b) Tender sent by ordinary post will be rejected out right.
iii) Description essential to be made on sealed cover : a) Name of Work and Tender No.,
Name of Contractor
b) Last date of receiving tender by the AMC.
iv) Mode of quoting rates in Schedule of rates : Item Rates in figures as well as in words.

Signature of Contractor:-

Name :
Company's seal :
Date :

A-3 : SCOPE OF WORKS SECTION

Ahmedabad Municipal Corporation intends to installed New Compressed Natural Gas (C.N.G) Cremation Furnace (01 no.)at Naroda Crematorium,Ahmedabad.

- **The scope of work includes includes Supply,Installation,Testing and Commissioning work of Compressed Natural Gas (CNG) Cremation Furnace complete(one no) with CNG gas detection system giving warning alarm and Auto shut off of main CNG gas supply valve at Naroda Crematorium,Ahmedabad..**
- The design of CNG Cremation Furnace Should be based on factors like quality, economy, pollution control, effective time saving, space requirement and above all complete cremation & satisfaction to the mourners with least electrical power consumption.
- All written and unwritten laws of ethics, religion, and hygiene are strictly adhered to cremation process.
- Cremation should be complete, smokeless and as rapid as possible.
- There should be manual intervention in the entire process of cremation till the removal of ashes.
- The design of CNG Cremation Furnaces must be in accordance with local air pollution control board's rules and regulations (Government of Gujarat , India) & successful bidder has to submit the clearance certificate from the above said statutory authority (G.P.C.B).

Contractor Name, Stamp and Signature

Add. Chief Engineer(Electrical)

A-4 : INSTRUCTIONS TO TENDERERS

4.1 Note

A.4.1.1 These instructions are provided to assist tenderers while preparing their tenders. They do not form part of the Contract and they shall not be taken into consideration in interpreting or construing the Contract.

A.4.2 Invitation to Tender

A.4.2.1 The Electrical Department, AMC for and on behalf of the Ahmedabad Municipal Corporation, Ahmedabad, hereinafter referred to as the AMC, will receive tenders for the Supply, Installation, Testing, Commissioning of New CNG Cremation Furnace complete & other accessories for connecting various part of the furnace as per the technical specifications with **CNG gas detection system giving warning alarm and Auto shut off of main CNG gas supply valve at Naroda Crematorium, Ahmedabad.** Tenders will not be accepted after the hour and date fixed for receiving of tenders. Telegraphic tenders will not be accepted under any circumstance. Tenders received after the hour and date so fixed will not be considered. Tenders will be received by RPAD / speed post on or **before due date and time as mentioned in tender notice.** Tenderer's authorized representatives may attend the tender opening. The tenders shall be **opened at the date and time as mentioned in tender notice.**

A.4.2.2 However, the AMC reserves the right to reject all the tenders or the lowest or any other tender which in the judgment of the AMC does not appear to be in its best interest, and the tenderer shall have no cause of action or claim against the AMC or its officers, employees, successors or assignee for rejection of its tender.

A.4.2.3 The A.M.C. does not bind himself to accept the lowest or any tender. If the tenderer wishes to offer discount in the event of the entire work he shall state so in the tender.

A.4.2.4 Tender documents are not **transferable.**

A.4.3 Tender Validity Period

A.4.3.1 The tender shall be kept valid for acceptance for a period of **(120) one twenty** calendar days from the last date of submission of the tender.

A.4.4 Language of Tender

A.4.4.1 Tenders shall be submitted in English, and all information in the tender shall be in English. Information in any other language shall be accompanied by its translation in English. Failure to comply with this may disqualify a tender. Only English text shall be governing.

A.4.5 Documents

A.4.5.1 **One Original + One Xerox copy of tender documents** comprehensively referred to as Tender Document, are issued to every tenderer. The details of the Tender Document referred above are as follows:

(1) Part-1 (General)

Section : A - Notice Inviting Tender, Scope of Work, Instructions to Tenderers etc.

Section : B - General Conditions of Contract, Schedules etc.

Section : C - Specifications: Non-Technical, Safety Provisions etc.

(2) Part - II (Technical Specifications and Drawings)

Section : D . Technical Specifications

Section : E . Technical Specifications data sheet

(3) Part - III (Price Bid)

Section : F Price Bid for of CNG Cremation Furnace

A.4.6 Earnest Money Deposit

A.4.6.1 Each tender must be accompanied by a receipt for the payment of deposit as Earnest Money by Bank guarantee / Demand Draft of Nationalized bank.

A.4.6.2 **Tender not accompanied by Earnest Money Deposit and Tender FEE as required shall be rejected as non-responsive.**

A.4.6.3 If during the tender validity period, the tenderer withdraws his tender or the successful tenderer fails to accept the contract within 15 calendar days after receiving notice of the award of contract and fails to submit security deposit, **the earnest money shall be forfeited and the tenderer may be disqualified from tendering for further works with the Ahmedabad Municipal Corporation.**

A.4.6.4 After the awarding of contract has been finalized, the Earnest Money will be returned to the respective tenderers, with the exception of the successful tenderer.

A.4.6.5 The successful tenderer's earnest money will be retained as security after signing the contract and for making of the contract deposit.

A.4.6.6 No interest will be paid on any tender deposit.

A.4.7 Submission of Tenders

A.4.7.1 Tenders shall be submitted together with the other documents that form the tender. In the event of a Contract, the tender and the documents attached thereto shall be considered as forming part of the Contract Documents.

A.4.7.2 **One Original + One Xerox copy** of tender documents duly completed in all respects shall be submitted as described in notice inviting tender in a sealed envelope so as to reach by at the following address on or before the date and time as mentioned in tender notice.

**Tender Officer, Central Record Office
Sardar Patel Bhavan,
Danapith, Ahmedabad- 380 001
Gujarat (INDIA)**

A.4.7.3 **Tenderers are requested to submit the tenders well in time before stipulated date and time of receipt so as to avoid rush at the closing hours.**

A.4.7.4 **Envelope** of the tender document shall be accompanied by the following documents in duplicate :

(a) **Tender with duly signed.**

(b) **Tenderer's programme for the execution of the works.**

(c) **Details of schedule B.3.1 to B.3.7 of section B-3, In case of work completed by tenderer during last 5 years, he should submit completion certificate from the owner.**

(d) **A covering letter (in duplicate) stating any other matter in relation to this tender which the tenderer considers should be drawn to the particular notice of the AMC or Consulting Engineers if any.**

In addition, the original tender shall be accompanied by :

(e) **A certificate of registration in appropriate class as approved Contractor should be attached with the tender.**

A.4.7.5 **Erasures and other changes shall be noted over by the initials of the person signing the tender.**

A.4.8 General Performance Data

A.4.8.1 Tenderers shall submit the following information along with their tenders in duplicate:

- (a) Evidence of financial capacity to execute a contract of this magnitude in terms of solvency certificate, annual turnover and price of biggest job carried out.**
- (b) The bidders are requested to furnish requisite information as described in Section : A-5 so as to enable the competent authority to decide the technical and financial capability of the bidder, based on which, the bidder shall be evaluated.**
- (c) Experience of similar works with names of authorities for which the works were executed along with completion / performance certificate from the owner with specific mention that work is completed in time and it is completed satisfactorily.**
- (d) List of current jobs of comparable nature along with starting date and likely completion dates with their contract values.**
- (e) The extent of responsibilities carried by Contractors associated with the tenderer.**
- (f) General detail of tenderers' organization, management, staff and personnel, Facilities for design and execution.**

A.4.8.2 Tenders will not be considered if the above information is not provided or is considered to be unsatisfactory.

A.4.9 Signing of Tender Document

A.4.9.1 Tenderers are requested to quote the item rates and their total offered amount of the work and also sign (Price Bid). after making appropriate inquiries wherever necessary.

A.4.9.2 If the tender is made by an individual, it shall be signed with his full name above his current address.

A.4.9.3 If the tender is submitted by a proprietary firm, it shall be signed by the proprietor above his name and the name of his firm with its current address.

A.4.9.4 If the tender is made by a firm in partnership, it shall be signed by all the partners of the firm above their full names and current addresses, or by a partner holding the power of attorney for the firm signing the tender in which case a certified copy of the power of attorney shall accompany the tender. A certified copy of the partnership deed, current address of the firm and the full name and the current address of all the partners of the firm shall also accompany the tender. In event of the absence of any partner it shall be signed on his behalf of person holding a power of attorney authorizing him to do so. Details of each partner will be furnished in Annexure-1 along with the copy of partnership deed.

A.4.9.5 If the tender is made by a limited company or a limited Corporation, it shall be signed by a duly authorized person holding the power of attorney for signing the tender, in which case, a certified copy of the power of attorney shall accompany the tender. Such limited Company or Corporation may be required to furnish satisfactory evidence of its existence before the contract is awarded.

A.4.9.6 If the tender is made by a Joint Venture, the sponsoring Firm shall submit complete information pertaining to each firm in the group and state along with the bid as to which of the firms shall have the responsibility for tendering and for completion of the contract documents and furnish evidences admissible in law in respect of the authority to such firm on behalf of the joint venture for tendering and for completion of the contract documents. The full information and satisfactory evidence pertaining to the participation of each member of the joint venture for the tender shall be furnished along with the tender.

A.4.9.7 All witnesses and sureties shall be persons of status and probity and their full names, occupations and addresses shall be stated below their signatures.

A.4.9.8 All signatures in the tender documents shall be dated.

A.4.10 Interpretation of Documents

A.4.10.1 Tenderers shall carefully examine the Tender Documents and fully inform themselves as to all the conditions and matters, which may in any way affect the work or the cost thereof. Should a tenderer find discrepancies in or omission from the specification or other documents, or should be in doubt as to their meaning, he should at once address a query to the Electrical Department, AMC. Any resulting interpretation of the Tender Documents will be issued to all tenderers as an Addendum. Verbal clarification and/or information given by the Electrical Department , AMC shall not be binding on the AMC.

A.4.11 Errors and Discrepancies in Tenders

A.4.11.1 Should the Schedule of quantities and Rates (Financial Bid) submitted with the tender be found to contain errors, or discrepancies, the owner / engineer will not permit any bidder to change the substance or price of his bid after the bid opening. In case of discrepancy in the quoted rate and the corresponding amount the rate quoted in words in all cases shall govern. Also the bidder will not be permitted to correct or withdraw material deviations or reservations once bids have been opened.

A.4.12 Modification of Documents

A.4.12.1 Modifications of specifications and extension of the closing date of the tender, if required, will be made by an Addendum and/or press note. The tenderer is required to check the AMC website for **Addendum if any before 48 Hrs.** of tender submission last date and time. The tenderer who quotes the tender without attaching the addendum will be rejected. **Addendum shall be signed by tenderer.**

A.4.12.2 The tenderer shall not add to or amend the text of any of the documents except in so far as may be necessary to comply with the Addenda.

A.4.13 Evaluation of Tenders

A.4.13.1 For evaluation and comparison of bids, **the following factors shall be considered in addition to the points mentioned in Clause A.4.20.1 of Section : A-4**

- i) The costs of procurement of principal element of the work of similar magnitude executed earlier.**
- ii) The time of completion of job.**
- iii) The reliability of the proposed execution of electrical and mechanical work.**
- iv) Deviations, if any.**
- v) Technical competence.**
- vi) Relative quality of previous jobs.**
- vii) Organization set up.**
- viii) Financial Capability.**
- ix) In case of joint venture, financial capacity of each partner.**

A.4.14 Policy for tenders under consideration

A.4.14.1 Tenders shall be deemed to be under consideration from the opening of tenders, until such time as an official announcement of award is made.

A.4.14.2 While tenders are under consideration, tenderers and their representatives, or other interested parties, are advised to **refrain from contacting by any means any AMC personnel or representatives on matters relative to the tenders under study.**

The Engineer's Representative, if necessary, will obtain clarification of tenders by requesting such information from any or all the tenderers either in writing or through personal contact, as may be necessary. **The tenderer will not be permitted to change the substance of his tender after tenders have been opened. This includes any post tender price revision or major modification as defined in Clause No. A.4.13. Non-compliance with this provision is a cause for disqualification.**

A.4.15 Cost of Tendering

The AMC will not defray the expenses incurred by tenderers in tendering and will not be bound to accept the lowest or any tender.

A.4.16 Award of Contract

A.4.16.1 Notification of award will be made in writing to the successful tenderer.

A.4.16.2 The contract will be awarded to the technically and financially qualified and responsive tenderer offering the lowest overall evaluated tender or tenders in conformance with specifications subject to the provisions in Clause No. A.4.13 and A.4.14 i.e. Evaluation of tenders and policy for tenders under considerations, mentioned earlier.

A.4.16.3 A responsive tender is one which accepts all the terms and conditions of the Tender Documents without any major modifications. A major modification is one which affects in any way the price, quality, quantity or completion of works or which limits in any way, any responsibilities or liabilities of the tenderer or any rights of the AMC, as specified in the Tender Documents. The AMC may waive any minor informality in a tender which does not constitute a major modification. **However, the failure of successful bidder to pay 'Security Deposit' and signing the contract shall constitute sufficient grounds for annulment of the award of contract and forfeiture of the earnest money deposit, in which case the AMC may award the contract to the next lowest evaluated responsive bidder. In the event of not finding any such bidders, the employer is empowered to call for new bids.**

A.4.17 Signing of Contract

A.4.17.1 The successful tenderer shall be required to execute the Contract within **15 days** of receipt of intimation to execute the Contract. If the contractor does not pay security deposit and does not sign agreement within **15 days** after issuing the first letter from the authority of AMC, his EMD shall be forfeited and such tenderer shall be disqualified for getting further any work in AMC. Also their registration will be kept in abeyance for three years.

A.4.17.2 The person to sign the contract documents shall be the persons as detailed in Clause No. A.4.9 i.e. signing of tender documents.

A.4.18 Stamp Duty and Legal Charges

It shall be incumbent on the successful tenderer to pay stamp duty on the contract and legal charges for preparation of the contract agreement.

A.4.19 Solvency Certificate.

Every tenderer shall produce along with their tender, a **solvency certificate** (of an amount upto **20%** of the tendered cost plus the amount of Works on hand, still to be executed) of his financial stability from the collector of the district within which he resides or a Banker's Certificate. **If he fails to produce such a certificate, his tender will not be considered. This certificate shall be enclosed in the Envelope**

A.4.20 Documents / Information to be submitted along with Tender

A.4.20.1 The following documents/information must be submitted by the tenderer in duplicate along with the tender.

- i. If the tender is not submitted by an individual, the necessary certified copy of the power of attorney, a certified copy of the partnership deed and other relevant information in this connection as detailed in Clauses A.4.9.3 to A.4.9.7 of Instruction to Tenders.**
- ii. A solvency certificate as detailed in Clause A.4.19 above.**
- iii. General details of tenderer's organization, management, staff and personnel, facilities for design and execution.**
- iv. Details of the work of similar type and magnitude carried out by the tenderer including names of the authorities for which works were executed, as per Schedule-B.3.1 of Section B-3 along with certificate of timely completion of work by owner.**
- v. Details of works in hand and works tendered for as on the date of submission of the tender, as per schedule-B.3.2 of Section B-3 .**
- vi. Details of technical personnel with tenderer who are proposed for this contract as per Schedule-B.3.3 of Section B-3 .**
- vii. Information regarding financial capacity of the tenderer to execute the works of this magnitude as per Schedule-B.3.4 of Section-B-3 .**
- viii. Details of the equipment (plant and machinery) in good working order, which is in possession of the Contractor and the equipment he proposes to bring to the site, as per schedule-B.3.5 of Section B-3.**
- ix. Details of Contractor's schedule for execution of works, as per Schedule-B.3.6 of Section B-3 .**
- x. Details of structure and organization of the contractor as per Schedule B.3.7 of Schedule – B-3 .**
- xi. Data asked wide blank data sheet shall be furnished in the given formats.**

A.4.21 Bidders not submitting the above mentioned information along with their tenders as per clause No. A.4.20.1 above, the tender will not be considered for evaluation and the bid will be outright rejected.

A.4.22 PANELTY CLAUSE :

1/4 % of value of balance work per week for the delayed period. The maximum amount recoverable as penalty will be 10% of value of sub-order as on the last date of stipulated time limit.

PERFORMANCE BOND

(The date of this bond must not be prior to the date of the instrument in connection w which it to given)

Principal (Contractor)

Surety (Bank)

Sub of bond (Express in words and figures)

Contract No.

and date of Contract

**KNOW ALL MEN BY THESE PRESENTS, THAT WE,
THE PRINCIPALS AND SURETY**

above mentioned are held and firmly bound unto the Electrical Department , AMC, owner of the work of Supply,Installation,Testing and Commissioning work of Compressed Natural Gas (CNG) Cremation Furnace complete with CNG gas detection system with warning alarm and Auto shut off of main CNG supply valve at Naroda Crematorium,Ahmedabad. Hereinafter called the "employer" in the amount stated for payment of which sum, well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors jointly and severally, firmly by these presents subject to the provisions of which the aforesaid contract on demand and without demand on a claim being made by the "employer".

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the principals herein after called contractor viz. have entered into a contract with the Employer numbered and dates as shown above and hereto attached for the execution of work.

NOW THEREFORE, if the principal shall well and truly perform and fulfil all the under takings, covenants, terms, conditions and agreements, of said contract during the original terms of the said contract and any extensions thereof, they may be granted by the employer with or without notice to the surety and during the lift of any guarantee required under the contract and shall also well and truly perform, and fulfil all the undertakings, contract, terms, conditions and agreements of any and all duly authorized modifications of said contract that may hereafter be made, notice of which modifications to the surety being hereby waived or shall pay over, make good and reimburse to the employer all losses and damages which the employer may sustain by reason of failure or default on the part of said principal so to do.

We _____ further agree that guarantee herein contained shall remain in full force and affect during the period that would be taken for the validity _____ of the said contract and that it shall continue to be enforceable till all the dues of the employer under or by virtue of the contract have been fully paid and its claims satisfied or discharged or till the Employer certifies that the terms and conditions of the contract have been fully and properly carried out by the said contractor and accordingly discharges the guarantee. Unless a demand or claim under this guarantee is made on us in writing on or before the

_____ we shall be discharged from all liability under this guarantee thereafter.

IN WITNESS WHEREOF the above bounded parties have executed this instrument under their several on the date indicated above the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

In the presence of witness		Individual	Principal
1.	As to		(Seal)
2.	As to		(Seal)
3.	As to		(Seal)
4.	As to		(Seal)

Affix

By _____ Corporate Seal

Attested _____ Corporate Surety

Business Address _____

Affix

By _____ Corporate Seal

Title _____ For and on behalf of the employer

A-5 : QUALIFYING CRITERIA FOR TENDERERS SECTION

A.5.1 Eligibility Criteria

A.5.1.1

The bidder should be manufacturer of Compressed Natural Gas (C.N.G) Cremation Furnace Manufacturing since last FIVE years.

- The bidder should submit, at least, five-performance certificate of Compressed Natural Gas Cremation Furnaces supplied by them.
- The bidder must possess proven track record of manufacturing & installing such a big size C.N.G cremation furnaces.
- The bidder who have financial capability and having a Rs.30.00(Thirty)Lacs average annual turn over for last two years **in the field of CNG cremation furnace.**
- The bidders should have a local office in Gujarat state.

A.5.2 General Experience

A.5.2.1 The bidder shall meet the following minimum criteria :

- (1)The bidders shall have **financial capability and having annual average turnover minimum Rs. 30.00(Thirty) Lacs for last two years and execution of at least five similar types works satisfactory operation.**

A.5.3 Financial Position

A.5.3.1 The audited balance sheets for the last two years should be submitted and must demonstrate the soundness of the bidder's financial position, showing long-term profitability. Where necessary, the Employer will make enquiries with the bidder's bankers.

A.5.4 Litigation History

A.5.4.1 The bidder should provide **accurate information on any litigation history or arbitration resulting from contracts completed or under execution by him over the last ten years.** This should also include such cases, which are in process/progress. A consistent history of awards against the bidder or any partner of a joint venture may result in failure of the bid. In case the bidder has not provided such information and has come to the notice of the Authority, the **tender will be rejected at whatsoever stage and in such case all the losses that will arise out of this issue will be recovered from the tenderer/contractor and he will not have any defense for the same.**

A.5.5 Solvency Certificate

A.5.5.1 The tenderer shall produce along with their tender a solvency certificate of an amount equal to 20% of amount of the tender cost to be executed by him of his financial stability from the collector of the District within which he resides or a Banker's certificate. This certificate shall be enclosed with Envelope **If he fails to produce such certificate his tender will not be considered.**

A.5.6 Joint Ventures

A.5.6.1 Joint ventures must comply with the following requirements :

- a) Following are the minimum qualification requirements :
 - i. The lead partner shall necessarily have experience in the supply, erection and commissioning of mechanical & electrical work (Refer para A.5.2) and shall meet not less than 60 per cent of all the qualifying criteria given in paras A.5.2 and A.5.3 above.
 - ii. The other partners shall meet not less than 40 per cent of all the qualifying criteria given in paras A.5.2 and A.5.3 above and
 - iii. The figures for each of the partners of a joint venture shall be added together in proportion to their participation in the joint venture to determine applicant's compliance with the criteria stated in paras A.5.2 and A.5.3 (The addition in proportion as indicated above is not applicable to capacities of pump sets and transformers).
 - iv. Individual members must furnish details regarding the litigation history as per para A.5.4 above.
 - v. The joint venture shall **not have more than two members.**
- b) The formation of a joint venture after award, and any change in their joint venture, will be subject to the written approval of the Employer prior to the deadline for submission of bids. Such approval may be denied if
 - i. partner(s) withdraw from a joint venture and the remaining partners do not meet the qualifying requirements.
 - ii. the new partner(s) to a joint venture are not qualified, individually or as another joint venture; and
 - iii. in the opinion of the Employer, a substantial reduction in competition may result.
- c) Any bid shall be signed so as to legally bind all partners, jointly and severally, and any bid shall be submitted with a copy of the joint venture legal agreement (duly signed by the Notary) providing the joint and several liability with respect to the contract.

A.5.6.2 The post eligibility of a joint venture does not necessarily qualify any of its partners, individually, or as a partner in any other joint venture or association. In case of dissolution of a joint venture, each one of the constituent firms may qualify if they meet all the qualification requirements, subject to the written approval of the Employer.

A.5.6.3 Schedules B.3.1 to B.3.7 given in Section B-3), shall be duly filled in & signed by all the firms of joint venture.

A.5.7 Table format applicable for Joint Venture

Sr. no.	Item	Capacity	Joint Venture Capacity
1.	Turn Over In Rs.	as per clause 5.1.1	Min. 40%
2.	Mfg. activity	Min. Five Years	
3.	Performance	Five Completion Certificate	
4.	Solvency	As per clause A.5.5	As high as possible

Tendere's Name,Stamp and Signature

Add.Chief Engineer(Electrical)

SECTION B

B-1: SPECIAL INSTRUCTIONS TO TENDERERS

B.1.1 SPECIAL INSTRUCTIONS

1. Submission of a tender by a tenderer implies that he has read this notice and all other contract documents and has made himself aware of the scope and specification of the work to be done and of conditions and rates at which stores, tools and plant etc., will be issued to him by Government and local conditions and other factors bearing on the execution of the works.
2. A tenderer should quote in figures as well as in words. The amount for each item should be worked out and the requisite total given. Special care shall be taken to write in figures as well as in words and the amounts in figures only and in such a way that interpolation is not possible. The total amount shall be written both in figures and in words. In case of figures the words Rs. should be written before the figure of rupees and the words 'paisa' after the decimal figure e.g. Rs. 2.15 p. and in case of words the words 'Rupees' should proceed and the words 'paisa' should be written at the end. Unless the rate is in whole rupees and followed by the word 'only', it should invariably be upto two places of decimal.
3. All rates shall be quoted on the tender form.
4. A tenderer shall submit the tender which satisfies each and every condition laid down in this notice and tender documents, failing which, the tender will be liable to be rejected.

B.1.2 ADDITIONAL INSTRUCTIONS TO PERSONS TENDERING

1 Competency of Tenderer

- 1.0 No contract will be awarded except to responsible bidders capable of performing the class of work contemplated. Before the award of the contract, any bidder may be required to show that he has the necessary facilities, experience, ability and financial resources to perform the work in satisfactory manner within the time stipulated. Contractor may be asked to present the original documents regarding their experience, financial status and other necessary tender related documents to the competent authority of Municipal Corporation, Ahmedabad.
- 1.1 Tenderer will be deemed to have inspected the site and to have satisfied himself as to the nature of all works, all roads, water-way and other means of communication and access to and from the site and work and the building that may be required for temporary purpose in connection with the construction, & completion of the works and must make his own enquiries as to work, yard sites and depot, and dumps and as to acquisition of such additional sites and areas as may be necessary for temporary purpose for constructing, completing and maintaining the works.
- 1.2 The tender will not be adopted under the following circumstances when delivered by Registered A.D./Speed post/Courier/in Person
 - (i) Late tenders (i.e. tender delivered after the specified date and time of opening), delayed tenders (i.e. tenders delivered before the time of opening but after due date and time of receipt of tenders) and post tender offers shall not be opened and considered at all.
 - (ii) The tenders delivered after the date and time specified in the tender notice shall not be received by the concerned office from the postmen/courier men/in person for which date and time may be recorded on the cover of the tender so for the justification to tenderer as to why tender was refused by the Electrical Department or Administrative Head or any other person in charge.
 - (iii) Necessary records should be maintained for refusal of such tenders in the registers for receiving tenders and should be initialed by the concerned person of Electrical Department or Administrative head.

2. Payment -

The tenderer must understand clearly that the rates quoted are for completed works and include all costs due to labour, scaffolding plant, supervision, service work, power, royalties and octroi etc. and to include all extras to cover the cost of night work if and when required and no claim for additional payment beyond the price or rates quoted will be entertained and the tenderers will not be entitled subsequently to make any claim on the ground of misrepresentation or on the ground that he was supplied with information given by any person (whether the member is the employee of Ahmedabad Municipal Corporation or not). Any failure on his part to obtain all necessary information for the purpose of making his tender and filling the several prices and rates therein shall not relieve him from any risks or liabilities arising out of or consequent upon the submission of the tender.

3. Tender Forms

Every 'blank' in the form of tender and in the schedule must be filled up by the tenderer and must return the document sent herewith.

4. Erasures

Persons tendering are informed that no erasures or alterations by them in the text of the document sent herewith will be allowed and any such erasures or alterations will be disregarded. If there is any error in writing, no overwriting should be done, the wrong word or a figure should be struck out and the correct one written above or near it in unambiguous way. Each correction should be initialed.

B.1.3 DECLARATION FORM

- (i) I / We hereby declare that I / We have visited the site and fully acquainted myself / ourselves with the local situations regarding materials, labour and other factors pertaining to the work before submitting this tender.
- (ii) I / We hereby declare that I / We carefully studied the conditions of contract, specifications and other documents of this work and agree to execute the same accordingly.

Declaration Certificate

- (iii) I / We hereby declare that my / our near relatives are not working in Ahmedabad Municipal Corporation in any capacity as on today. (As an Concerned Dy. Municipal Commissioner, Additional City Engineer, Dy. City Engineer, Assistant City Engineer, Assistant Engineer, Additional Assistant Engineer, Supervisor, Overseer, Divisional Accountant, Store Keeper, Manager etc.)

B.1.4 GENERAL RULES AND DIRECTIONS FOR THE GUIDANCE OF CONTRACTORS

- 1.0 All works proposed to be executed by the contractor has been indicated to the Bid documents tender.

This form will state work to be carried out as well as the date of submitting and opening tenders and the time allowed for carrying out the work also the amount of earnest money to be deposited with the tender and the amount of the security deposit to be paid by the successful tenderer and percentage, if any, to be deducted from bill. It will also state whether a refund of quarry fees, royalties, octroi dues and ground rents will be granted. Copies of the specifications, designs and drawings and estimated rates, and any other documents required in connection with work which shall be signed by the Concerned authority of Electrical Department for the purpose of identification, shall also be open for inspection by contractors at the office of the Concerned authority of Electrical Department during office hours.

Where the works are proposed to be executed according to the specifications recommended by a contractor and approved by a competent authority on behalf of the Ahmedabad Municipal Corporation, such specifications with designs and drawings shall form part of the accepted tender.

- 2.0 Receipts for payment made on account of any work, when executed by a firm, shall also be signed by all the partners except where the contractors are described in their tender as a firm in which case the receipts shall be signed in the name of the firm by one of the partners or by some other person having authority to give effectual receipts for the firm.
- 3.0 Any person who submits a tender shall fill up the usual printed form of Price bid he is willing to undertake the work. Tenderer who proposes any alternation in works specified in the said form of invitation to tender or in the time allowed for carrying out the work or which contain any other condition of any sort, will be liable to rejection.
- 4.0 The Concerned authority of Electrical Department or his duly authorized. Assistant shall open tenders in the presence of any intending contractors who have submitted tenders or their representatives who may be present at the time of opening and he will also enter the amounts of the several tenders in a comparative statement in a suitable form.
- 5.0 No receipt for any payment alleged to have been made by a contractor in regard to any matter relating to this tender of the contract shall be valid and binding on Corporation unless it is signed by the Concerned authority of Electrical Department.
- 6.0 All works shall be measured net by standard measure and according to the rules and customs of the Ahmedabad Municipal Corporation without reference to any local custom. and no proposals to adopt alternative methods will be accepted. The Concerned authority of Electrical Department's decision as to what is 'the usual method in use in the Ahmedabad Municipal Corporation' will be final.
- 7.0 The Insurance Company's bond will not be accepted against the security deposit.
- 8.0 No foreign exchange will be released by the Corporation for the purpose of plant and machinery required for the execution of the work contracted for.
- 9.0 Controlled materials (Essentiality Certificate)
 - (i) As regards controlled materials, the Ahmedabad Municipal Corporation will help to arrange for the permit as far as possible and help the Contractor in securing the same. All incidental charges met with in procuring these materials shall be borne by the Contractor himself. Though the Ahmedabad Municipal Corporation will help to arrange for the permit as far as possible and help the Contractor in obtaining the materials, it shall not accept any responsibility for any delay or loss on account of delay caused to the Contractor while obtaining the same.
 - (ii) The contractor shall submit to the concerned authority of Electrical Department on close of every calendar month, the monthly returns in the prescribed forms as to the receipts and actual use of the controlled materials during the month.

- 10.0 The tender for the work shall remain open for a period of 120 days from the date of opening of bid for this work and that the tenderer shall not be allowed to withdraw or modify the offer on his own after handing over the tender to the postal authorities for dispatch during this period. If any tenderer withdraws or makes any modifications, or additions in the terms and conditions of this tender not acceptable to the Ahmedabad Municipal Corporation then the Corporation shall, without prejudice to any right remedy, be at liberty to forfeit in full the said earnest money absolutely. In this connection G. R. R. and BD No. TNC-IIB-22-(10)-C dated 14-8-90 should be referred to.
- 11.0 The buildings under the contract will not be occupied by the contractor for use of the laborers, staff or for any other purpose. In case of breach of this condition market rent will be recovered for the area unauthorized occupied.

B.1.5 TENDER FOR WORKS

I/We hereby tender for the execution for the Ahmedabad Municipal Corporation (hereinbefore and hereinafter referred to as Corporation) of the work specified in the under written memorandum within the time specified in such memorandum at tendered amount (memorandum showing item of works to be carried out) and in accordance in all respects with the specifications, designs, drawings and instructions in writing referred to in this tender.

Tenderer's Signature and Seal

Add.Chief Engineer(Electrical)

SECTION B-2 : GENERAL CONDITIONS OF TERMS & CONDITIONS OF CONTRACT

B.2.1 Clause - 1 : Security Deposit

The person / persons whose tender is accepted (herein after called the “Contractor” which expression shall, unless excluded by, or repugnant to the context include his legal heirs, executors, administrators and assigns shall be

- (a) Security deposits as specified in this tender form must be deposit with the A.M.C, by Bank Guarantee or Demand Draft within a period of **15 days** from the date of receipt of notification of acceptance of his tender and also sign the agreement. If the security deposit is not paid within the above specified time, work order will not be issued till the issue about delay is finally decided by the competent authority. Over and above contractor shall furnish performance bond in form of Bank Guarantee of Nationalized Bank equal to the **5%** of contract values before signing the agreement.

B.2.2 Clause - 2 : Liquidated damages for delay

- (i) If the Contractor fails to complete the work under contract by the stipulated date, he shall pay liquidated damages of 0.1 percentage of the contract value per day from the date of delaying the said work up to the date of completion and handing over to the Ahmedabad Municipal Corporation.
- (ii) However also if the Contractor fails to complete any part of the work as designated in schedule (c) by the time indicated against such parts, he shall pay Liquidated damages per day from the date of delaying the said part of the work up to the date of completion of the said designated part at the rates shown in the said schedule of the contract value of such part for such failure till the said designated part is completed.
- (iii) The aggregate maximum of liquidated damages payable under clause No. 2 shall not exceed Rs. 0.1 percentage of contract value per day and shall be subject to the maximum amount of five percentage of the order value amount put to tender.
- (iv) Delays for requiring payment of 5 % five percentage liquidated damages of the amount put to tender for performance shall be sufficient causes for termination of contract and forfeiture of security deposit including amount of performance bond in respect of works estimated to cost more than Rs. 15 lacs of performance and registration of the contractor shall also be kept in abeyance for three years from the date as fixed on all cases.

B.2.3 Clause - 3 : Default by Contractor

If the Contractor shall neglect or fails to proceed with the work with due diligence or if he violates any of the provision of the Contract, the Engineer-in-Charge shall give the Contractor a notice, identifying deficiencies in performance and demanding corrective action. Such notice shall clearly state that it is given under the provision of this clause. After service of such notice, the Contractor shall not remove any plant, equipment and material from the site. The Ahmedabad Municipal Corporation shall have a lien on all such plant, equipment and material from the date of such notice till the said deficiencies have been corrected as mentioned in the said notice.

If the Contractor fails to take satisfactory corrective action within ten days after receipt of such notice, the Engineer-in-charge on behalf of Ahmedabad Municipal Corporation shall terminate the contract in whole. In case, the entire contract is terminated, the amount of security deposit and performance bond if any together

with the value of the work done but not paid for, shall stand forfeited to the Ahmedabad Municipal Corporation. The plants equipment and material held under this clause shall then be at the disposal of the Ahmedabad Municipal Corporation to recover the amount equivalent to the liquidated damages and registration of the Contractor shall be kept in abeyance for three years from the date as fixed in all such cases.

The Engineer-in-Charge if necessary shall direct that a part or the whole of such plant, equipment and material be removed from the site within a stipulated period. If the Contractor fails to do so, the Engineer-in-Charge shall cause them or any part of them to be sold holding the net proceeds of such sale to the credit of the Contractor. After settlement of accounts, the lien by the Ahmedabad Municipal Corporation on the Contractors remaining plant equipment and balances of materials shall be released.

Termination of the contract in whole shall be adequate authority for the Engineer-in-Charge to demand discharge of the obligations from the guarantors of the security for the performance.

B.2.4 Clause- 4 : If the progress of any particular portion of the work under Contract is unsatisfactory, the Engineer-in-Charge shall, notwithstanding that the general progress of the work is satisfactory, in accordance with clause 2, be entitled to take necessary action under Clause 3, after giving the Contractor ten day's notice in writing and the Contractor shall have no claim whatsoever for any compensation for any loss caused to him due to such action.

B.2.5 Clause - 5 : In the event of the Engineer-in-Charge taking action under Clause 3, he may, if he so desires, take possession of all or any tools, plants, machineries, materials and stores in or upon the work or the site thereof or belonging to the Contractor or procured by him and intended to be used for the execution of the work or any part thereof, by paying or allowing for the same in account at the contract rate or in case of contract rates not being applicable at such reasonable rates, as may be comparable to current market rates where ascertainable of similar articles and comparable condition, to be certified by the Engineer-in-Charge. In the alternative the Engineer-in-Charge may by notice in writing to the Contractor or his clerk of the works, foreman or other authorized agent, require him to remove such tools, plants, machineries, materials or stores from the premises within a time to be specified in such notice and in the event of the Contractor failing to comply with any such requisition, the Engineer-in-Charge may remove them at the Contractor's expense or shall remove them by auction or private sale at the risk and cost of the Contractor in all respect, and the certificate of the Engineer-in-Charge as to the expenses of any such removal and the amount of the proceeds and expenses of any such removal shall be final and conclusive against the Contractor.

B.2.6 Clause - 6 : Extension of time : If the Contractor shall desire an extension of the time for completion of the work on the ground of his having been unavoidably hindered in its execution or any other ground, he shall apply in writing to the Electrical Department, AMC before the expiration of the period stipulated in the tender or before the expiration of 30 days from the date of which he was hindered whichever is earlier and the Electrical Department, AMC may, in his opinion, believe that there are reasonable grounds for granting an extension, grant such extension, as he thinks necessary or proper. The decision of the Electrical Department, AMC in this matter shall be final.

B.2.7 **Clause – 7 :** The Contractor shall submit all the bills on the printed forms to be had on application at the office of the Engineer-in-Charge. The charges to be made in the bills shall always be entered at the rates specified in the agreement or at the part/reduced rates subject to the approval by the Engineer-in-Charge in the case of items not completed/executed as per agreements or in the case of any extra work ordered in pursuance of these conditions and not mentioned or provided for in the tender, at the rate hereinafter provided for such work.

B.2.8 **Clause – 8 :** If the specification of the work provides for the use of any special description of materials to be supplied from the Departmental Store of Ahmedabad Municipal Corporation or if it is required that the Contractor shall use certain stores to be provided by the Engineer-in-Charge (such materials and stores and the prices to be charged therefore as hereinafter mentioned being so far as practicable for the convenience of the Contractor but not so as in any way to control the meaning or effect of this contract specified in the schedule or memorandum herein annexed) the Contractor shall be supplied with materials and stores as may be required from time to time to be used by him for the purpose of the contract only, and the value of the full quantity of materials and stores so supplied shall be set off or deducted from any sum then deposit, or thereafter to become due to the Contractor under the contract, or otherwise, or from the security deposit, or the proceeds of sale thereof; if the deposit is held in Ahmedabad Municipal Corporation securities/Bank Guarantee/ Bank Draft the same or a sufficient portion thereof, shall, in that case be sold for the purpose. All materials supplied to the Contractor shall remain the absolute property of Ahmedabad Municipal Corporation and shall, on no account, be removed from the site of the work, and shall at all time, be open to inspection by the Engineer-in-Charge. Any such materials, unused and in perfectly good condition at the time of completion or termination of the contract, shall be returned to the Departmental store if the Engineer-in-Charge so requires by a notice in writing given under his hand, but the Contractor shall not be entitled to return any such materials except with the consent in writing of the Engineer-in-Charge and he shall have no claim for compensation on account of any such material supplied to him as aforesaid but remaining unused by him or for any wastage in or damage thereto.

B.2.9 **Clause - 9 :** The Contractor shall be entitled to use the materials supplied by the AMC only to the extent of quantities of such materials required for execution of the work as per theoretical calculations. The Engineer-in-Charge may, however, on being satisfied that a large quantity of such materials is required for the execution of the work, permit the Contractor to use such larger quantity of the materials. Such permission shall be given in writing.

The Contractor is bound to return in good condition such materials issued in excess of the requirements so worked out or in excess of the quantities so permitted to be used by the Engineer-in-Charge. If the Contractor fails to return such extra materials within a period of 15 days from the date of demand in writing of such materials being made by the Engineer-in-Charge, he shall be charged for the excess materials at double the issue rate for such materials specified in Contract Agreement.

B.2.10 **Clause-10:**

- (1) The Contractor shall execute the whole and every part of the work in the most substantial and workman-like manner and both as regards materials and in other respect in strict accordance with specifications.

The Contractor shall also conform exactly, fully and faithfully to the designs, drawings and instructions in writing to the work signed by the Engineer-in-Charge. The design and the drawings shall be lodged in the office of the Engineer-in-Charge to which the Contractor shall be entitled to have access for the purpose of inspection at such office during office hours.

Where the instructions referred to above are not contained in separate letters addressed to the Contractor the same shall be recorded in the work order book, which shall be maintained and kept on the site of the work. The Contractor shall be required to sign such entries in the work-order book in token of having noted the instructions. However, if the Contractor fails to sign the work-order book for any reason whatsoever, the entry of the instructions in the work-order book shall be deemed to be due notice to him of the said instructions. The work-order book shall be open for inspection to the Contractor on the site of the work during office hours.

(2) The Contractor will be entitled to receive one certified copy of the accepted tender along with the work order free of cost and will also be entitled to receive, on request, two sets of contract and working drawings according to the progress of work, as and when needed, free of cost.

B.2.11 Clause – 11 : The Engineer in charge shall have power to make any alterations in or addition to the original specifications, drawings, designs and instructions that may appear to him to be necessary or advisable during the progress of the work and the Contractor shall be bound to carry out the work in accordance with any instructions in this connection which may be given to him in writing signed by the Engineer-in-Charge and such alteration shall not invalidate the contract and additional work which the Contractor may be directed to do in the manner above specified as part of the work shall be carried out by the Contractor on the same conditions in all respect on which he agreed to do the main work at the rates specified in the tender.

B.2.12 Clause – 12 : If the additional or alternation work includes any class of work for which no rate is specified in this contract when such class of work shall be carried out at the rate entered in the Schedule of Rates of the Department or, at the rates mutually agreed upon between the Engineer-in-Charge and Contractor, whichever are lower. If the additional or altered work, for which no rate is entered in the Schedule of Rates of Department is ordered to be carried out before the rates are agreed upon, then the contractor shall within seven days of the date of receipt by him of the order to carry out the work, inform the Engineer-in-Charge of the rate, he shall by notice in writing. The Engineer-in-charge has be at liberty to cancel his order to carryout such class of work and arrange to carry it out in such manner as he may consider advisable, provided always that if the contractor shall commence work or incur any expenditure in regard thereto before the rates shall have been determined i.e. before mentioned, then in such case, he shall only be entitled to be paid in respect of the work carried out or expenditure incurred by him prior to the date of the determination of the rate as aforesaid according to such rate or rate as shall be fixed by the Engineer-in-Charge. In the event of a dispute, the decision of the Electrical Department of the Ahmedabad Municipal Corporation shall be final.

Where, however, the work is to be executed according to the designs, drawings and specifications recommended by the Contractor and accepted by the competent authority, the alterations above referred to shall be within the scope of such designs

and specifications appended to the tenders.

The time limit for the completion of the work shall be extended in the proportion that the increase in the cost occasioned by alteration bears to the cost of the original contract work, and the certificate of the Engineer-in-charges as to such proportion shall be final and conclusive.

- B.2.13 Clause -13 : No claim to any payment or compensation or for restriction of work :** If any time after the execution of the contract documents the Engineer-in-charge shall for any reason whatsoever, require the whole or part of the work, as specified in the tender, be stopped for any period or shall not require the whole or part of the work to be carried out at all or to be carried out by the Contractor, he shall give notice in writing, stating the fact to the Contractor who shall thereupon suspend or stop the work totally or partially, as the case may be. In any such case, except as provided hereunder, the Contractor shall have no claim to any payment or compensation whatsoever except as provided hereunder on account of any profit or advantage which he might have derived from the execution of the work in full but which he did not so derive in consequence of the full amount of the work not having been carried out, or on account of any loss that he may be put to on account of materials purchased or agreed to be purchased or for unemployment of labor required by him. He shall not have also any claim for compensation by reason of any alterations having been made in the original specifications, drawings, designs and instructions which may involve any curtailment of the work as originally contemplated.
- B.2.14 Clause – 14 : Time-Limit for unforeseen claims :** The Contractor shall not be entitled to any compensation from Ahmedabad Municipal Corporation on any account unless where allowed by the conditions of this contract. In such case, the Contractor shall have to submit a claim in writing to the Engineer-in-charge within one month of the cause of such claim occurring.
- B.2.15 Clause – 15 : Action and compensation in case of bad work :** If, at any time before the expiry of defects Liability, period, as detailed in Clause 16, it shall appear to the Engineer-in-charge or his sub-ordinate in charge of the work, that any work has been executed with unsound, imperfect or unskilled workmanship or with materials or inferior quality or that any materials or articles provided by him for the execution of the work are unsound, or of a quality inferior to that contracted for or are otherwise not in accordance with the contract, it shall be lawful for the Engineer-in-Charge to intimate this fact in writing to the Contractor and then notwithstanding the fact that the work, materials or articles complained of, may have been passed, certified and paid for, the Contractor shall be bound forthwith to rectify, or remove and reconstruct the work so specified in whole or in part as the case may require, or if so required shall remove the materials or articles so specified in whole or in part and provide other proper and suitable materials or articles at his own charge and cost, and in the event of his failing to do so within a period to be specified by the Engineer-in-charge in the written intimation aforesaid, the Contractor shall be liable to pay compensation at the rate of one percent on the amount of the estimate of the rectification for every day not exceeding ten days during which the failure so continues, and in the event of any such failure as aforesaid continuing beyond ten days, the Engineer-in-charge may rectify or remove, and re-execute the work or remove and replace the materials complained of, as the case may be at the risk and

expense in all respects of the Contractor .If the Engineer-in-charge consider that any such inferior work of materials as described above may be accepted or made use of, it shall be within his discretion to accept the same at such reduced rates as he may fix therefore,

However, the contractor shall be responsible for normal Comprehensive maintenance of the work till the final bill for the work is prepared by the AMC officer.

- B.2.16 Clause – 16 : Defect Liability Period :** The Contractor shall be responsible to make good and remedy at his own expense any defect which may develop or may be noticed before the period mentioned hereunder from the certified date of completion. The Engineer-in-charge shall give the Contractor a notice in writing about the defects and the Contractor shall make good the same within 7 days of receipt of the notice. In the case of failure on the part of the Contractor, the Engineer-in-charge may rectify or remove or re-execute the work at the risk & cost of the Contractor. The Engineer-in-charge shall be entitled to appropriate the whole or any part of the amount of the security deposit towards the expenses, if any, incurred by him in rectification, removal or re-execution. The Defects Liability period shall be as under :-
(a) The period shall be 24 months from the date of commissioning.
- B.2.17 Clause - 17 : Work to be open to inspection Contractor or responsible agent to be present :** All works under or in course of execution or executed in pursuance of the contract shall at all times, be open to the inspection and supervision of the Engineer-in-charge and his subordinate and the Contractor shall, at all times during the usual working hours, and at all other times at which reasonable notice of the intimation of the Engineer-in-charge or his subordinate to visit the works shall have been given to the Contractor, either himself be present to receive orders and instructions or have a responsible agent duly accredited in writing present for that purpose. Orders given to the Contractor's duly authorized agent shall be considered to have the same force and effect as if they had been given to the Contractor himself.
- B.2.18 Clause - 18 : Notice to be given before work is covered up :** The Contractor shall give not less than five day's notice in writing to the Engineer-in-charge or his subordinate in charge of the work before covering up or otherwise placing beyond the reach of measurement any work, in order that the same may be measured and correct dimensions thereof taken before the same is so covered up or placed beyond the reach of measurement and shall not cover up or place beyond the reach of measurement any work without the consent in writing of the Engineer-in-charge or his subordinate in charge of the work and if any work shall be covered up or placed beyond the reach of measurement without such notice having been given or consent obtained, the same shall be uncovered at the Contractor's expense and in default thereof, no payment or allowance shall be made for such work or for the materials with which the same was executed.
- B.2.19 Clause - 19 :** If the Contractor or his workmen, or servants shall break, deface injure or destroy any part of the building or work in question or work in question in/on which they may be working or any building, road, fence, enclosure or grassland or cultivated ground contiguous to the premises on which the work or any part-thereof is being executed or if any damage shall be done to the work from any cause whatever before completion of the work or before the completion of the Comprehensive maintenance period whichever is later or any damage occurred /

caused due to normal flood or rain or if any imperfections become apparent in it within three months from the grant of a certificate of completion, final or otherwise by the Engineer-in-charge the Contractor shall make good the same at own expenses or in default, the Engineer-in-charge may cause the same to be made good by other contractor and deduct the expenses (of which the certificate of the Engineer-in-charge shall be final) from any sums that may thereafter become due to the contractor or from his security deposit or the proceeds of sale thereof or a sufficient portion thereof.

Clause – 19 A : Force Measures : Neither party shall be liable to the other for any loss or damage occasioned by or arising out of acts of God, and in particular, unprecedented Floods, volcanic eruption, earth quake or other convulsion of nature, and other acts such as but not restricted to general strike, invasion, the act of foreign countries, hostilities or war like operations before or after declaration of war, rebellion, military or usurped power which prevent performance of the contract and which could not have been foreseen or avoided by a prudent person.

B.2.20 Clause – 20 : Contractor to supply plant, ladders, scaffolding etc., and is liable for damage arising from non-provision of lights, fencing etc., : The Contractor shall supply at his own cost all materials (except such special materials if any, as may, in accordance with the contract be supplied from the Public Works Corporation Stores), plant, tools, appliances, implements, ladders, cordage, tackle, scaffolding and any temporary works which may be required for the proper execution of the work whether in the original, altered or substituted form and whether included in the specifications, or other documents forming part of the contract or referred to in these conditions or not and which may be necessary for the purpose of satisfying or complying with requirements of the Engineer-in-charge as to any matter or to which under these conditions he is entitled to be satisfied or which he is entitled to require together with carriage therefore to and from the work. The Contractor shall also supply without charge the requisite number of persons with the means and material necessary for the purpose of setting out works and counting, weighing and assisting in the measurement or examination at any time and from time to time, of the work or the materials. Failing this, the same may be provided by the Engineer-in-Charge at the expense of the Contractor and the expenses may be deducted from any money due to the Contractor under the contract or from his security deposit, or proceeds of sale thereof, or of a sufficient portion thereof. The contractor shall provide all necessary fencing and lights required to protect the public from accident and shall also be bound to bear expenses of defense of every suit, action or other legal proceeding at law that may be brought by any person for injury sustained owing to neglect of the above precautions and to pay any damages and costs which may be awarded in any such suit, action or proceedings to any such person, or which may, with the consent of the Contractor, be paid in compromising any claim by any such persons.

B.2.21 Clause – 21 : Measures for Prevention of Fire : The Contractor shall not set fire to any standing jungle, trees, bush wood or grass without a written permit from the Engineer-in-charge.

When such permit is given, and also in all cases when destroying cut or dug up trees, bush wood, grass etc., by fire, the Contractor shall take necessary measures to prevent such fire spreading to or otherwise damaging surrounding property.

B.2.22 Clause – 22 : Liability of Contractors for any damages done in or outside work area : Compensation for all damage done intentionally or unintentionally by contractors laborers whether in or beyond limits of Ahmedabad Municipal Corporation property including any damage caused by the spreading of fire

mentioned in the clause 21, shall be estimated by the Engineer-in-charge, or such other officer as he may appoint, and the estimates of the Engineer in charge, subject to the decision of the Electrical Department, AMC, on appeal, shall be final and the Contractor shall be bound to pay the amount of the assessed compensation on demand, failing which the same will be recovered from the Contractor as damages in the manner prescribed in clause 1 or deducted by the Engineer-in-Charge from any sums that may be due or become due from Ahmedabad Municipal Corporation to the Contractor under this contract or otherwise.

The contractor shall bear the expenses of defending any action or other legal proceeding that may be brought by any person for injury sustained by him owing to neglect of precautions to prevent the spread of the fire and he shall also pay the damages and cost that may be awarded by the court in consequences.

B.2.23 Clause – 23 : Work not to be sublet. Contract may be rescinded and security deposit forfeited for subletting it without approval or for bribing a public officer or if contractor becomes insolvent: The contract shall not be assigned or sublet without the written approval of the Engineer-in-charge. And if the contractor shall assign or sublet his contract or attempt to do so or become insolvent or commence any proceeding to get himself be adjudicated an insolvent or make any compromise with his creditors, or attempt of do so, the Engineer-in-charge may, by notice in writing rescind the contract. Also if any bribe, gratuity, gift, loan, perquisite, reward or advantage, pecuniary or otherwise, shall either directly or indirectly be given, promised or offered by the contractor, or any of his servants or agents to any public officer or person in the employ of Ahmedabad Municipal Corporation in any way relating to his office or employment, or if any such officer or person shall become in any way directly or indirectly interested in the contract, the Engineer-in-Charge may thereupon by notice in writing rescind the contract. In the event of contract being rescinded, the security deposit of the Contractor shall thereupon stand forfeited and be absolutely at the disposal of Ahmedabad Municipal Corporation and the same consequences shall ensue as if the contract had been rescinded under clause 3 hereof and in addition the Contractor shall not be entitled to recover or be paid for any work thereof actually performed under the contract.

B.2.24 Clause – 24 : Works to be under directions of Electrical Department, AMC :
All works to be executed under the Contract shall be executed under the direction and subject to the approval in all respects of the Electrical Department, AMC of the Circle for the time being, who shall be entitled to direct at what point or points and in what manner they are to be commenced and from time to time carried on.

B.2.25 Clause – 25 : The disputes relating to this contract, so far as they relate to any of the following matters, whether such disputes arise during the progress of the work or after the completion or abandonment thereof, shall be referred to the court of law and its jurisdiction will be of Ahmedabad.

- (i) The rates of payment under clause 5 for any tools, materials and stores in or upon the works of the site thereof or belonging to the contractor or procured by him and intended to be use for execution of the work or any part thereof of which possession may have been taken by the Engineer-in-Charge under the said clause-5.
- (ii) The rates of payment for any class of work which is included in the additional or altered work carried out by the Contractor in accordance with the instructions of the Engineer-in-Charge under clause 12 and the rate for which is to be determined under the said clause 12.

- (iii) The rates of payment for materials already purchased or agreed to be purchased by the Contractor before receipt of notice given by the Engineer-in-Charge under clause 13, and / or the amount of compensation payable to the Contractor under the said clause for loss in respect of such materials.
- (iv) The amount of compensation which the contractor shall be liable to pay under clause 15 in the event of his failure to rectify, remove or reconstruct the work within the period specified in the written intimation or the amount of expenses incurred by the Engineer-in-Charge under the said clause 15 in rectifying, removing, or re-executing the work or in removing and replacing the materials or articles complained of.
- (v) The reduction of rates as may be fixed by the Engineer-in-Charge under clause 15 for the inferior work or materials as accepted or made use of.
- (vi) The amount of compensation payable by the Contractor for damages as estimated and assessed under clause 22.
- (vii) The amount payable to the Contractor for the work carried out under clause 27 in accordance with the instruction and the requirement of the Engineer-in-Charge in a case where there is no specifications.
- (viii) The reference to court proceeding under this clause shall not:
 - i) affect the right of the Engineer in charge under clause 5 to take possession of all or any tools, plants, materials and stores in or upon the works of site thereof belonging to the contractor or procured by him and intended to be used for the execution of the work or any part thereof.
 - ii) Preclude the Engineer in charge from utilizing the materials purchased by the contractor in any work or from removing such materials to other places, during the period the work is stopped or suspended in pursuance of notice given to the contractor under clause 13.
 - iii) Entitle the contractor to stop the progress of the work or carrying out the additional or altered work in accordance with the provisions of clause 12 or as the case may be, of clause 27.

B.2.26 Clause – 26 : Access to the Site : The Contractor shall arrange to construct, maintain and afterwards remove and reinstate any temporary access required for and in connection with the execution of the works. Reinstatement shall include restoring the area of the access route to at least the degree of safety, stability, drainage and appearance that existed before the Contractor entered the site.

B.2.27 Clause – 27: Action where no specifications : In case of any class of work for which there is no such specification, such work shall be carried out in accordance with the IS specifications, and in the event of there being no IS Specifications, then, in such case the work shall be carried out in all respects in accordance with the instructions and requirements of the Engineer-in-Charge.

B.2.28 Clause – 28 : Definition of work : The expression “work” or “works” where used in these conditions shall, unless, there be something in the subject or context repugnant to such construction, be construed to mean the work, or the works, contracted to be executed under or in virtue of the contract, whether temporary or permanent and whether original, altered, substituted or additional.

- B.2.29 Compensation under the Workmen's Compensation Act :** The Contractor shall be responsible for and shall pay any compensation to his workman payable under the Workmen's Compensation Act, 1923 (VIII of 1923) (hereinafter called the said ACT) for injuries caused to the workmen. If such compensation is paid by Ahmedabad Municipal Corporation as principal under sub-section 12 (1) of the said Act, on behalf of the Contractor, it shall be recoverable by the Ahmedabad Municipal Corporation from the Contractor under sub-section 12 (2) of the said section. Such compensation shall be recovered in the manner laid down in clause 1 above.
- B.2.30** The Contractor shall be responsible for and shall pay the expenses of providing medical aid to any workmen who may suffer a bodily injury as a result of an accident. If such expenses are incurred by Ahmedabad Municipal Corporation, the same shall be recoverable from the Contractor forthwith and be deducted, without prejudice to any other remedy of Ahmedabad Municipal Corporation, from any amount due or that may become due to the Contractor or from Security Deposit.
- B.2.31** The Contractor shall provide all necessary personal safety equipment and first-aid apparatus available for the use of the persons employed on the site and shall maintain the same in suitable condition for immediate use at any time and shall comply with the following regulations in connection therewith:
- (a) The workers shall be required to use the equipment so provided by the Contractor and the Contractor shall take adequate steps to ensure proper use of the equipment by those concerned.
 - (b) When work is carried out in proximity to any place where there is a risk of drowning all necessary equipments shall be provided and kept for use and all necessary steps shall be taken for the prompt rescue of any person in danger.
 - (c) Adequate provision shall be made for prompt first-aid treatment of all injuries likely to be sustained during the course of the work.
- B.2.32** The Quantities shown in the tender are approximate and no claim shall be entertained for quantities of work executed being less than or more than to any extent then those entered in the tender.
- B.2.33** No compensation shall be allowed for any delay caused in the starting of the work on account of delay in making available the full site of land at a time.
- B.2.34 Claim for compensation for delay in the execution of work :** No compensation shall be allowed for any delay in execution of the work on account of water standing in borrow-pits or compartments. The rates are inclusive of hard or cracked soil, excavation in mud, sub-soil water or water standing in borrow-pits and no claim for an extra rate shall be entertained unless otherwise expressly specified.
- B.2.35 Minimum age of person employed :**
- (i) No contractor shall employ any person who is under the age of 15 years.
 - (ii) The Contractor shall pay fair and reasonable wages to the workmen employed by him in the contract undertaken by him. In the event of any dispute arising between he contractor and his workmen on the grounds that the wages paid are not fair and reasonable, the dispute shall be referred without delay to the Engineer – in – charge who shall decide the same. The decision of the Engineer – in – charge shall be conclusive and binding on the Contractor, but such decision shall not in any way affect the conditions in the contract regarding the payment to be made by Ahmedabad Municipal Corporation at

the sanctioned tender rates.

- (iii) The Contractor shall provide drinking water facilities to the workers / laborers employed on Ahmedabad Municipal Corporation works. Amenities relating to sanitation shall also be provided to the workers / laborers employed on works (in urban areas). If the contractor fails to comply with these provisions, the Engineer - in - charge shall give notice in writing and if the contractor does not provide this facility to the workers /laborers within a period of ten days from the date of the notice in writing, the Engineer in charge shall there upon make the arrangement for drinking water at the cost of the Contractor.
- (iv) The Contractor shall provide the amenity of proper shade and shelter to the workers / laborers and their children on Ahmedabad Municipal Corporation works as soon as the work starts. If the Contractor fails to provide shed and shelter, the Engineer-in – charge shall provide the same at the cost of Contractor.

B.2.36 The Contractor should as far as possible, obtain his requirement of laborers, skilled and unskilled, from the nearest Employment Exchange so as to utilize the local employment potential. If there are no local Employment Exchanges or such Exchanges are not able to provide the required laborers locally. Suitable laborers should be utilized to the maximum extent possible.

B.2.37 Fair Wages : If the Contractor fails to pay within 7 (Seven) days to the laborer(s) / worker (s) the minimum wages prescribed by the Government under the minimum wages Act, 1948 as in force from time to time, the Engineer in charge shall be at liberty to deduct the amount payable to the laborer(s) worker(s) from his (Contractor’s) bills or deposit(s) payable by the Contractor after making due inquiries and establishing the claim(S) of the laborers(s) worker(s).

The Contractor shall not be entitled to any payment or compensation on account of any loss that the Contractor may have to incur on account of the action as aforesaid. Before the action as aforesaid, is enforced, a notice in writing to the Contractor shall be issued by the Engineer-in-charge to pay the wages as per Minimum Wages Act in force at the relevant time. If contractor does not act as aforesaid within seven days, then the action contemplated as above shall be taken against him.

B.2.38 Fencing and Lighting :

- (a) The Contractor shall, unless otherwise specified, be responsible for the proper fencing, lighting, grading and taking of the necessary safety measures for all works comprised in the contract and for the proper provision of temporary road, way, foot-ways, guards, fences, caution notices etc., as the same may be rendered necessary by reasons of the work for the accommodation of workmen, foot passengers or other traffic and of owners and occupiers of adjacent property and the public and shall remain responsible for any accidents that may occur on account of his failure to take proper & timely precautions.
- (b) All the arrangements made for fencing and lighting shall be maintained by the Contractor throughout the currency of the contract till the physical taking over of the work by Ahmedabad Municipal Corporation.

B.2.39 Liability of accidents to persons : Responsibilities and liabilities of the contractor under Workmen's Compensation Act.

- (a) On the occurrence of an accident, which results in death of workmen employed by the contractor or which is so serious as is likely to result in death of any such workmen, the Contractor, shall within 24 hours of happening of such accident(s) intimate, in writing, to the Engineer in charge the fact of such accident(s). The contractor shall indemnify Ahmedabad Municipal Corporation against all loss or damage sustained by the Ahmedabad Municipal Corporation resulting directly from his failure to give intimation in the manner aforesaid including the penalties or fines, if any, payable by the Ahmedabad Municipal Corporation as consequence of Ahmedabad Municipal Corporation's failure to give notice under the Workmen's Compensation Act or otherwise to conform to the provisions of the said Act in regard to such accidents(s).
- (b) In the case of an accident, in respect of which compensation may become payable under Workmen's Compensation Act, whether by the Contractor or by the Ahmedabad Municipal Corporation as principal Employer, it shall be lawful for the Engineer-in-charge to retain out of money due and payable to the Contractor, such sum or sum of money as may, in the opinion of the Engineer in charge, be sufficient to meet such a liability. The opinion of the Engineer in charge shall be final in regard to all matters arising under this clause.

B.2.40 Access to site and work on site : The Engineer may, if he considers fit from time to time, enter upon any land(s), which may be in possession of the Contractor this contract for the purpose of executing any work not included in this contract and may execute such work not included in this contract by agent or by other Contractors, at his opinion and the Contractor shall, in accordance with the requirements of the Engineer-in-charge, afford all reasonable facilities for execution of the work including occupation of lands by structure or otherwise for any other contractor employed by the Ahmedabad Municipal Corporation and his workmen or for the workmen of the Ahmedabad Municipal Corporation who may be employed in the execution on or near the site of the work not included in the contract or of any contract in connection with or ancillary to the work and in default, the Contractor shall be liable to the Ahmedabad Municipal Corporation for any delay or expense incurred by reason of such default. Provided always that if the exercise of these powers shall cause any damage to the contract, he may, within fifteen days of such damage arising, make a statement of the same to the Engineer in charge who shall, from time to time, assess the value in his judgment of such damage and the Ahmedabad Municipal Corporation shall from time to time pay to the Contractor the amounts (if any) accepted as justified by the Engineer in charge.

B.2.41 Insurance of laborers : The Contractor shall be responsible to arrange for insurance of all laborers. Skilled and unskilled, workers, supervisors etc., employed by him as per labor regulations of the state.

B.2.42 Setting out : The Contractor shall be responsible for the true and proper setting out of the works and the correctness of positions, levels, dimensions and alignments of all parts of the work and for the provisions of all necessary instruments, appliance and labor in connection therewith. If, at any time, during the progress of the work, any errors, appear or arise in the positions, levels, dimensions or alignments of any part of the work, the Contractor, on being required to rectify such errors by the

Engineer in charge shall at his own expense do so to the satisfaction of the Engineer in charge, if however, such error is based on incorrect data supplied in writing by the Engineer in charge, the expense of rectifying the same shall be borne by the Corporation. The checking of and setting out of any line or level by the Engineer in charge or his representative shall not in any way, relieve the contractor of his responsibilities for the correctness of the error. The Contractor shall carefully protect and observe all bench marks, site nails, pages and other things used in setting out of the work(s).

B.2.43 All the testing works shall be carried out as specified in specifications at the cost of contractor

Signature of the contractor

ANNEXURE – 1

(Referred to in Condition No. 2 General Rules and Direction for the guidance of contractors)

To,
The Electrical Department, AMC

Place:

Date:

Details regarding my / our partners / our company (in the case of limited company) Names, Address(es), telephone numbers(s) Income Tax etc. are as under:

Sr. No.	Name(s) of person/partner Director of the Company	Fulladdress of the place of business (with pincode)	Telephone No.(s) (Office)	Residential address(es) (Resi.) with telephone no.	Mobile no.(s)
1	2	3	4	5	6

I/We hereby agree to intimate to you about change if any, in the above mentioned address(es) and telephone No.(s) within Fifteen days of its occurrence till my / our deposit, for the said work paid by me/us is not returned to me/us.

Signature of the contractor:

SECTION B-3 : SCHEDULES

SCHEDULE – B.3.1

DETAILS OF THE WORKS OF SIMILAR TYPE AND MAGNITUDE CARRIED OUT BY THE TENDERER DURING LAST 2 YEARS PERIOD

Sr. No.	Name of Work	Place and Country	Tendered Cost	Date of start	Date of Completion		Principal Features
					Prescribed date of completion	Actual date of completion	

Note : Certificate of satisfactory completion of the work from the owner shall be given for each work.

Signature of the Tenderer with stamp

Name :

Company's seal :

Date :

SCHEDULE-B32

DETAILS OF THE WORKS IN HAND AND WORKS TENDERED FOR AS ON THE DATE OF SUBMISSION OF THE TENDER.

Sr. No	Name of Work	Place and Country	WORKS IN HAND			WORKS TENDERED FOR			Main features of the work
			Tendered Cost	Cost of work remaining to be executed as on date	Anticipated Date of Completion	Tender Cost	Date when decision is expected	Stipulated date & period of Completion	

Signature of the Tenderer with stamp

Name :

Company's seal :

Date :

**SCHEDULE - B.3.3 DETAILS OF TECHNICAL PERSONNEL WITH TENDERER WHO ARE PROPOSED FOR
THIS CONTRACT.**

Sr.No	Description of Category	Name	Qualification	Professional experience and details of works carried out	Since how long in service with tenderer	Remark

Note : The complete bio-data of each personnel with qualification and experience shall be furnished separately alongwith this schedule.

Signature of the Tenderer with stamp
 Name :
 Company's seal :
 Date :

SCHEDULE – B.3.4 INFORMATION REGARDING

FINANCIAL CAPACITY OF THE TENDERER.

Sr. No.	Details	Amount	Remarks
1.	Solvency		Solvency certificate from a Bank or revenue officer of an amount upto 20% of the tendered cost plus the amount of works on hand still to be executed will have to be produced by the Contractor.
2.	Annual turnover for last two years: (a) 2007 - 2008 (b) 2008 - 2009		Details of major contracts executed during these years shall be furnished.
3.	Price of the biggest job carried out		Certificate from the owner in support of successful completion of work may be furnished.

Signature of the Tenderer with stamp

Name :

Company's seal :

Date :

SCHEDULE – B.3.5

DETAILS OF THE EQUIPMENT IN POSSESSION OF THE CONTRACTOR AND THE EQUIPMENT HE PROPOSES TO BRING TO THE SITE FOR THIS WORK

Sr. No.	Type and Description of the Equipment & Capacity	Age and Approximate Value	Numbers the Tenderer has in possession	Numbers he proposes to bring on to site.

Tenderer hereby confirms that quantity and type of tools he will employ for execution will not be less than those listed in para A.5.8 and agree to bring more equipment, if so warranted in the opinion of the Engineer.

Signature of the Tenderer with stamp
Name :
Company's seal :
Date :

SCHEDULE - B3.6

CONTRACTORS SCHEDULE FOR EXECUTION OF WORKS

Tenderer shall furnish the Schedule for the work to be completed as per the following format:

Sr. No.	Activity	Schedule Date	
		Start	Completion
1	Mobilization at site		
2	Percentage execution work completed		
2.1	25%		
2.2	50%		
2.3	75%		
2.4	90%		
2.5	100%		

Signature of the Tenderer with stamp

Name :

Company's seal :

Date:

SCHEDULE – B.3.7

STRUCTURE AND ORGANISATION OF FIRM

1. Name of Applicant
2. Nationality of Applicant
3. Office Address
 - Telegraphic Address
 - Telephone No.
 - Telex No.
 - Fax No.
 - E-mail Address
4. Year and location of establishment
5. The Applicant is
 - a) An individual
 - b) A proprietary firm
 - c) A firm in partnership
 - d) A limited company or Corp.
(if a firm in partnership)
6. **Attach the organization chart showing the structure of the organization including the names of the Directors and position of officers.**
7. Number of years of experience
 - a) As a Prime contractor
(Contractor shouldering maior responsibility)
 - b) As sub-contractor
(Specify main contractor)
8. For how many years has your organization been in business of similar work under it's present name ? what were your fields when your organization was established?
9. Were you ever disqualified / considered ineligible for similar works?
10. Whether any new fields were added to your organization? If, so, give details.
11. Were you ever required to suspend execution for period of more than six months continuously after you started ? If so, give the name of project and reasons thereof.

12. Whether you ever left the work awarded to you incomplete?
(if so, give name of project and reasons for not completing work?)
13. In how many of your projects penalties were imposed for delays?
(Please give details)
14. In which field of electrical / mechanical engineering do you claim specialization and interest?
15. Give details of your experience in pumping machinery for manufacture and quality control.
16. Give details of equipments, if any.
17. Give details of your plans for sub-contracting if any, in terms of percentage of works.

Signature of Tenderer

Name

Company's Seal

Date

SECTION : C-1: GENERAL SPECIFICATIONS

C.1.1 TIME FOR COMPLETION

- C.1.1.1 The time limit for this Contract is **45 Days (7 days for documents, drawings approval and 23 Days for supply & delivery of goods at site, erection, testing & commissioning)** inclusive of monsoon period. The Contractor shall commence the works on site when ordered by the Engineer and shall proceed with the same with due expedition and without delay except as may be expressly sanctioned or ordered by the Engineer or be wholly beyond the Contractor's control.

C.1.2 PATENTS, RIGHTS AND ROYALTIES

- C.1.2.1 The Contractor shall save harmless and indemnify the Electrical Department and the AMC from and against all claims and proceedings for or on account of infringement of any patents, rights, design, trade mark or name of other protected rights on respect of any Constructional plant, machine, work or material used for or in connection with the works or temporary works or any of them and from and against all claims, demands, proceedings, damages, costs, charges, and expenses whatsoever in respect thereof or in relation thereto. Except where otherwise specified, the Contractor shall pay all tonnage and other royalties, rent and other payments or compensation if any for getting stone, sand, gravel, clay or other materials required for the works or temporary works or any of them.

C.1.3 THE SITE

- C.1.3.1 Tenderer must visit the work site and see for himself the site and ground conditions in all respects including availability of labour (skilled and unskilled), approaches, availability of water, electricity, materials, and all other matters affecting the work before submitting the tender.
- C.1.3.2 The submission of the tender by Tenderer implies that he had visited the work site, read the entire tender document and has made himself aware of the scope of specification of work to be performed and of the conditions and rates at which materials will be issued to him and local conditions and other factors which have a bearing on the execution of work.
- C.1.3.3 Owner will not, therefore, after acceptance of the tender, pay any extra charges for any reason whatsoever in case Contractor find later on to have misjudged the site and other conditions.

C.1.4 ACCESS TO THE SITE

- C.1.4.1 The Contractor shall arrange to construct, maintain and afterwards remove and reinstate any temporary access required for and in connection with the execution of the works. Reinstatement shall include restoring the area of the access route to at least the degree of safety, stability, drainage and appearance that existed before the Contractor entered the site.

C.1.5 SETTING OUT THE WORKS

- C.1.5.1 The Contractor shall be responsible for the true and proper setting out of the works in relation to original points, lines and levels of reference given by the Engineer in writing or shown on the Drawings and for correctness, subject as above mentioned in the position, levels, dimensions and alignment of all parts of the works and for the provision of all necessary instruments, appliances and labour in connection therewith.
- C.1.5.2 The checking of any setting out of any line or level by the Engineer's Representative shall not in any way relieve the Contractor of his responsibility for the correctness thereof.

C.1.6 AMENITIES TO BE PRESERVED

C.1.6.1 The Contractor shall cause the least possible interference with the amenities, whether natural or man made. No tree shall be felled without permission of the Engineer's Representative and clearance of the site shall generally be kept to the minimum necessary for the works and temporary works. Temporary works shall be sited so as minimize the number of trees to be felled.

C.1.7 EFFECTS OF WEATHER

C.1.7.1 The Contractor shall ensure that no damage occurs to the works during construction by arranging adequate protection for excavation or building work against the effects of drought, sunshine, wind or rainfall (including erosion and flooding). No work shall be performed when in the opinion of the Engineer's Representative such work is liable to be injuriously affected by the weather. Contractor shall have no claim against the AMC on account of loss alleged to have been sustained directly or indirectly by reason of the Engineer's Representative declining to permit such work to start or continue, or ordering work damaged by the weather to be made good or removed and re-executed.

C.1.8 SAFETY MEASURES AND SERVICES

C.1.8.1 The Contractor shall be responsible for the safety of all workmen and other persons entering or in the works and shall take all measures necessary to their safety to the approval of the Engineer's Representative. Reference in these respects shall also be made to the Conditions of Contract and safety in particular, such measures shall include the following:

- (a) Provision of proper safety and emergency regulations' fire, gas and electric shock precautions, stretchers and first-aid box together with rescue facilities generally for each place of working;
- (b) Provision and Comprehensive maintenance of suitable lighting to provide adequate illumination of works with appropriate spares and standby equipment;
- (c) Provision and Comprehensive maintenance of safe, sound, ropes, slings, pulleys and other lifting tackle, each appliance having an up-to-date testing certificate where appropriate;

C.1.8.2 The Contractor shall ensure that all his employee are fully conversant with the regulation, emergency and rescue procedures, etc. and the Contractor shall the rule that any employee committing a serious breach of such a regulations be instantly dismissed and shall no be re-employed.

C.1.8.3 Contractor shall provide and maintain at his own expenses all lights, guards, fencing and necessary watchmen when and where necessary or additional AMC for the protection of the works or for the safety and convenience of those employed on the works and the public.

C.1.8.4 Contractor shall take the necessary permission and clearance of all the authorities like department of Roads, traffic, Water Supply and Drainage; Electricity Telephone Company, etc. Wherever necessary and observe the regulations regarding the execution of work in congested areas, heavy traffic areas, etc.

C.1.9 CLAIMS FOR DAMAGE TO PERSONS OR PROPERTY

C.1.9.1 Any claim received by the AMC or the Engineer's Representative in respect of matters in which the Contractor is required under the Contract to indemnify AMC will be passed to the Contractor who shall likewise inform the AMC and Engineer's Representative of any such claim which is submitted directly a claimant. The Contractor shall do everything necessary, including insures of claims received, to ensure that all claims are settled properly

expeditiously and shall keep the AMC and the Engineer's representative informed as to the progress made towards settlement, failing which the AMC shall be entitled to make direct payment to claimants of all outstanding amounts due to them in the AMC. Opinion and without prejudice to any other method of recovery to deduct by way of offset the amounts so paid from any sums due or become due from the AMC to the Contract.

C.1.9.2 If the Contractor receives a claim, which he considers to be in respect of matters in which he is indemnified by the AMC under the Contract, he shall pass such claims to the AMC.

C.1.9.3 Contractor will be solely responsible for any loss to life or limbs of workmen or the public arising out of inadequate protective and/or safety measures taken Contractor and irrespective of whether or not Engineer has ordered take protective and safety measures.

C.1.10 ASSISTANCE FOR THE ENGINEER'S STAFF

C.1.10.1 The Contractor shall provide all necessary assistance to the Engineer's Representative and his staff in carrying out their duties of checking the setting out, inspecting and measuring the work. The Contractor shall provide necessary assistance including labourers as may be needed from time to time by the Engineer's Representative.

C.1.11 CLEARING SITE ON COMPLETION

C.1.11.1 On completion of the Works, the Contractor shall clear away and remove from the site all Constructional Plant, surplus materials, rubbish, Temporary Works of every kind and leave the whole of the site and the works clean and in a workmanlike condition to the satisfaction of the Engineer.

C.1.12 DEFECTS IN WORK

C.1.12.1 If any subsidence or breakdown or any defects take place in any part of the mechanical & electrical work whatsoever during defects liability period from the completion of the contracted work, Contractor shall make good the same at his own cost, or AMC may without notice to Contractor make good the same in any and with any material that he may think proper and at the expense of Contractor.

C.1.13 INFORMATION FURNISHED

C.1.13.1 The information given to Tenderers in this tender document comprising of all parts is given in good faith and meant to serve only as a guide. Owner / Engineer will not hold himself responsible if any such information given for the guidance of Contractor is found to be incorrect, partly or in whole and or any deductions, conclusions or interpretation drawn by Contractor. It is, therefore, imperative that Tenderer must obtain and examine for himself all data, information and particulars required for the satisfactory execution of the work.

C.1.14 PAYMENT TERMS

Payment for goods & Services shall be made in Indian Rupees as follows :

C.14.1 On supply & delivery at site : 60% of the contract price shall be paid on receipt of Goods and upon submission of the documents;

C.14.2 On erection at site : 30% of the contract price shall be paid on completion of erection.

C.14.3 On testing & commissioning : the remaining 10% of the contract price shall be paid to the contractor after successful testing & commissioning at site and within thirty (30) days after the date of the acceptance of Completion Certificate of Contract, However bidders shall have to keep performance guarantee with AMC for 36 Months or defect liability period whichever is later.

C.1.15 BRAND NAMES

C.1.15.1 The make of equipments shall be as per attached list. If make of a particular item is not given in the tender, it shall as approved by AMC.

C.1.16 INSPECTIONS AND TESTS :

C.1.16.1 The Purchaser or its representative shall have the right to inspect and / or to test the Goods to confirm their conformity to the Contract. The special conditions of contract and / or the Technical Specification shall specify what inspections and tests the Purchaser requires and where they are to be conducted. The Purchaser shall notify the Supplier in writing of the identify of any representatives retained for these purposes.

C.1.16.2 The inspections and tests may be conducted on the premises of the Supplier or its subcontractor(s), at point of delivery and / or at the Good's final destination. Where conducted on the premises of the Supplier or its subcontractor(s), all facilities, transportation, lodging & boarding and assistance (including access to drawings and production data) shall be furnished to the inspectors at no charge to the Purchaser.

C.1.16.3 Should any inspected or tested Goods fail to conform to the Specifications, the Purchaser may reject them and the Supplier shall either replace the rejected Goods or make all alterations necessary to meet specification requirements free of cost to the Purchaser.

C.1.16.4 The Purchaser's right to inspect, test and, where necessary, reject the Goods after the Good's arrival in India shall in no way be limited or waived by reason of the Goods having previously been inspected, tested and passed by the Purchaser or its representative prior to the Goods' shipment from the country of

C.1.17 PACKING :

C.1.17.1 The Supplier shall provide such packing of the Goods as is required to prevent their damage or deterioration during transit to their final destination as indicated in the Contract. The packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit and open storage. Packing case size and weights shall take into consideration, where appropriate, the remoteness of the Good's final destination and the absence of heavy handling facilities at all points in

C.1.17.2 The packing, marking and documentation within and outside the package shall comply strictly with such special requirements as shall be expressly provided for in the Contract and, subject to Clause 14, in any subsequent instructions ordered by the Purchaser.

C.1.18 DELIVERY AND DOCUMENTS

Delivery of the Goods shall be made by the Supplier in accordance with the terms specified by the Purchaser in its Scope of Work and the Special Conditions of Contract.

C.1.19 INSURANCE

The Goods supplied under the Contract shall be fully insured against loss or damage incidental to manufacture or acquisition, transportation, storage and delivery in the manner specified in the Special Conditions of Contract.

C.1.20 WARRANTY

- C.1.20.1 The Supplier warrants that the Goods supplied under the Contract are new, unused, of the most recent or current models & incorporate all recent improvements in design & materials unless provided otherwise in the Contractor. The Supplier further warrants that the Goods supplied under this Contract shall have no defect arising from design, materials or workmanship (except insofar as the design or material is required by the Purchaser's Specifications) or from any act or omission of the Supplier, that may develop under normal use of the supplied Goods in the conditions obtaining in India.
- C.1.20.2 This warranty shall remain valid for 24 months after the Goods, or any portion thereof as the case may be, have been delivered, erected and commissioned to the final destination indicated in the Contract, unless specified otherwise in the Special Conditions of Contractor.
- C.1.20.3 The Purchaser shall promptly notify the Supplier in writing of any claims arising under this warranty.
- C.1.20.4 Upon receipt of such notice, the Supplier shall, with all reasonable speed, repair or replace the defective Goods or parts thereof, without additional costs to the Purchaser other than, where applicable, the cost of inland delivery of the repaired or replaced Goods or parts from the port of entry to the final destination.
- C.1.20.5 If the Supplier, having been notified, fails to remedy the defect(s) within a reasonable period, the Purchaser may proceed to take such remedial action as may be necessary, at the Supplier's risk and expense and without prejudice to any other rights which the Purchaser may have against the Supplier under the Contract.

C.1.21 EXTRA ITEM OF WORK

- C.1.21.1 The extra work beyond tender item, if required to be executed during course of execution of regular work, that shall have to be carried out by the contractor as per the instructions and satisfaction of the Engineer-in-charge. This will be paid separately as per detail rate analysis made by the department based on market rate or prevalent SOR whichever is less.

C.1.22 PERFORMANCE GUARANTEE

- C.1.32.1 The contractor has to give performance guarantee of 5% of the order value in form of bank guarantee for the period of 24 months from the date of commissioning and shall be released after 36 months or defect liability period whichever is later.

SECTION C 1.4 : ANNEXURE

ANNEXURE – C.1.4 (A) WATER SUPPLY AND ELECTRICITY

1.0 WATER SUPPLY

REQUIRED WATER SUPPLY WILL BE PROVIDED BY AMC ON SITE.

2.0 ELECTRICITY

ELECTRIC POWER AND CNG GAS WILL BE PROVIDED BY AMC ON SITE.

Signature of Contractor

Name :

Company's seal :

Date

ANNEXURE - C.1.40 (B)
SITE ENVIRONMENTAL CONDITIONS

1. Client : Ahmedabad Municipal Corporation

2. Project Title : **Supply, Installation, Testing and Commissioning work of Compressed Natural Gas (CNG) Cremation Furnace complete (one no.) with CNG gas detection system with warning alarm and Auto shut off of main CNG supply valve at Naroda Crematorium, in Ahmedabad.**

4. Location Ahmedabad
5. Nearest Railway Station Ahmedabad
6. Nearest Airport Ahmedabad
7. Access Road : National Highway No. 8C
8. Altitude : 49 M above MSL
9. Ambient Air Temperature : (a) Maximum : 47⁰ C (b) Minimum : 4⁰ C
10. Rainfall : (a) Annual Average : 75 cms. (b) June through September
11. Climatic Condition : Extreme : in winter, cold and in summer, hot
12. Seismic Data : (a) Zone as per I. S. 1893 – Zone III
13. Ground water Table : As per Soil Exploration Data available
14. Relative Humidity : 95%

ANNEXURE -C-1.40(C)

DEFECTS LIABILITY PERIOD AND REFUND OF SECURITY DEPOSIT

The Defects Liability Period shall be under and the amount of balance Security Deposit of the contractor shall refunded as under after completion of work.

S.N.	Name of the Work	Defects Liability Period	Amount of Security Remarks Deposit
1	The scope of work includes Supply, Installation, Testing and Commissioning work of Compressed Natural Gas (CNG) Cremation Furnace complete (one no.) with CNG gas detection system giving warning alarm and Auto shut off of main CNG gas supply valve at Naroda Crematorium, Ahmedabad.	24(Twenty Four)months after handing over charge of entire work and certificate of completion to that effect is issued by Engineer-in-charge	5% Security Deposit recovered at the time of signing the contract, shall be refunded after 15 days from the date of issue of completion certificate by the Engineer-in-charge

The contractor shall be responsible to make good and remedy at his own expense any defect; which may develop or may be noticed before the defect liability period of **24(Twenty Four)** months from the date of completion certificate The engineer-in-charge shall give the contractor a written notice about the defects and the contractor shall make good the same within 15 days of receipt of such notice. In case of failure on the part of the contractor, the engineer-in-charge may rectify or remove or re-execute the work at the risk and cost of the contractor. The engineer-in-charge shall be entitled to appropriate the whole or any part of the amount of security deposit towards the expense, if any, incurred by him in rectification, removal or re-execution.

SECTION –D :- TECHNICAL SPECIFICATION

SCOPE OF WORK

- **Tenderer should visit the new CNG cremation furnace site and should detail study of it and then they should give their Tender offer. give written confirmation about the site visit with the Tender offer.**
- AMC invites tender for Supply, Installation, Testing & Commissioning of Natural Gas (CNG) Cremation Furnace (01 no.)at Naroda
- AMC reserves the right to change in the quantity of CNG Cremation.Furnace. in
- The scope of work includes SITC of Compressed Natural Gas (CNG) Cremation Furnace complete with Chimney, Wet Scrubber system and, Burners control accessories for connecting various part of the furnace as per the technical specifications with CNG gas detection system giving Alarm and Auto shut off of main CNG gas supply valve.
- The design of Compressed Nature Gas Cremation Furnace Should be like quality, Long Life, pollution control, effective time saving, space and above all complete cremation & satisfaction to the mourners with least power and CNG consumption.
- All written and unwritten laws of ethics. religion. and hvgiene are strictly cremation process.
- Cremation should be complete, smokeless and as rapid as possible.
- There should be no manual intervention in the entire process of cremation
- Successful bidder has to give undertaking for Three years in the form of 5 Performance Guarantee from the date of Commissioning.
- The supplied CNG cremation furnace shall have proper arrangements and suitable for complete cremation of human dead body of average 60 Kgs. in hygienic manner and with due respect to the dead and without causing nuisance to the surrounding area. **The furnace shall be designed for round the clock capable of processing at least 6 to 8 cremation per it should capable of operating for extended period as required.** The offered shall incorporate the following basic conditions.
 1. Cremation should be carried out completely and quickly without nuisance.
 2. Cremation shall take place automatically without intervention of human being.
 3. Cremation furnace shall be simple, fast and safe in operation.
 4. Having features to ensure full compliance to the environment protection obligation.

The Compressed Nature Gas Cremation Furnaces(CNG C.F) is consisting mainly of Fully automatic Burners one in primary combustion chamber and second in secondary chamber with necessary piping, pressure gauge, Gas Train. Furnace cell of steel, refractory bricks lining, heater, furnace door, Hand charging machine, Ash collector, fresh air supply fans with dampers, flue – draught fan with injector, chimney, electrical control panel, electrical control desk etc.All the CNG gas related joints must be leakproof and tested at 11 kg/cm² Pressure.

The furnace shall be erected at sight and shall be complete with auxiliary equipments. The Cremation Chamber should be re-designed as a grid furnace to offer excellence performance for the combustion and to secure complete incineration of human dead body. The combustion chamber shall be long, wide and high so as to accept human dead body easily and also to achieve required volume for cremating human dead body.

Tenderer should specify the CNG consumption per day based upon 6 cremation per day for one week duration..

Item No. 1. :- Cremation Chamber

a. Combustion Chamber

The primary Chamber burner should give temperature up to 550-700 degree C, While secondary Chamber burner should give min. 900 degree C temperature.

b. BrickLining

The casing of the Furnace will have lining of heavy duty fire bricks (min.42% Alumina content)conforming to IS-8 with min.thickness of 90 mm. In the areas of high wear (main hearth) 63 % alumina tile shall be used to get high resistance to abrasion and thermal shock. Moderate heat duty firebricks of suitable sizes shall be used for min. loss of heat conforming to IS-2042 and IS-6.

c. Insulation:

Calcium silicate insulation shall be used in areas around the casing between the refectories and the steel casing. The quality and thickness of the insulation should be such that the cremator casing should be kept a

d. Cremator Control System:

The basic control system utilized should be tested components of an industrial quality. Details of such components should be given.

e. Burners:

The Gas burners should be mounted at place of cremator facilitating access for Comprehensive maintenance and repairs. Burners should configured for On/Off control, and should be ignited automatically and the burner system should be protected against flame failure, herby complying with the gas regulations. Burner should be of superior quality and full technical details shall be given

Item No. 2:- Electric Control Panel and Operating Desk:

Tendrer shall Supply fully automatic Programmable logic Controller for the satisfactory working of conversed CNG cremation furnace.

Item No. 3:- Fresh Air Supply Fan :-

Tendrer shall Supply Fresh Air Fan for the satisfactory working of CNG cremation furnace.

Item No. 4:- Flue-Draught Fan :-

1 No. Flue-Draught Fan of Suitable flow and pressure for forcing out gases generated during combustion to the chimney.

Item No. 5:- Charging Trolley with Handle :

The Body charging trolley have simple mechanism for inserting and releasing dead body in the furnace.

Item No. 6:- Ash collection

The arrangement for ash collection from combustion chambers shall be locking arrangement shall be provided on the opening for ash collection.

Item No. 7:- Chimney:

Self supported Chimney of suitable base and top with suitable inner diameter and 30.5 Meter height mainly made up of suitable thickness of MS Plates provided with flanges at approximately 3 Meter intervals. The chimney shall be installed on solid RCC Foundation using high tensile foundation bolts. It should have flasher unit, lightning protection arrangement and suitable ladder. The size and dimensions of chimney should be computed for one furnace installation. The velocity of exhaust gas at the top of the chimney should be 15 meters per second.

Item No. 8:- Wet Scrubber

Item No 9:-In case of any CNG gas leakage found then the gas detection system must operate giving warning alarm and Automatic shut off of main CNG gas supply valve.the CNG gas leak Detection system must Comprise following

Details of CNG gas Detector:

(1) UNIPHOS 499 T

CNG Detector Head Housed in flameproof enclosure IIA & IIB certified-03 nos

Gas: Methane

SensorCatalytic Bead

Range:0-100% LEL

Alarm LED indication at 20% LEL

Operating Voltage : 12V DC

(2)UNIPHOS 499H

Local Console with LED Display for 10 channels and relay O/P

Operating Voltage:230 V AC/ 5 Amps

O/P 12 V DC for Detector Heads

I/P RS 485 Communication

The above system should be installed with 4 core shielded cable of ISI mark laying in PVC conduits and with mounting stand for 499T Detectors and with appropriate main CNG gas supply valve for Automatic shut off in case of CNG gas leakage.

8.1. INTRODUCTION:

Wet Scrubbers should be used for the removal of fine particulate matter from industrial emission sources. It should removes particulate matter which are corrosive, hazardous flammable and difficult to handle solids.

The Wet Scrubber System should be generally consists of wetted type scrubber, entrainment separator, re circulation pumps, I.D. Fan and required basic instruments.

The gas should be generally saturated in the inlet section, rather that in the venture throat section. In addition, the gas should be introduced in such a way that it never contacts a dry particle in the scrubber, once it has a left the inlet as nozzle. The only surfaces, which the gas can contact, are already wetted with a liquid film, So that solids deposition does not occur. The venturi must be suitable for the inlet gas temperature high, or the inlet gas humidity low. Wet Scrubber must be utilized for the particulate matter being collected. (Like sticky, or to become sticky on contact with the scrubbing liquid.)

8.2 PROCESS DESCRIPTION : The gases after being sucked from the furnace shall be brought to the inlet of wet scrubber through suitable size duct made out of 1.6 mm. Thick AISI-304 Stainless Steel Sheet. The gases first come in contact with the scrubbing liquid (Water) in the venturi inlet. The inlet section should be provided with spray nozzle. Due to the combined effect of scrubbing liquid sprayed to the quench section, the gas gets saturated before it enters the throat section of the venturi.

The mechanism aiding the collection of particulate in wet scrubber are :

- | | |
|------------------------|--------------------|
| a) Inertia | b) Diffusion |
| c) Electrostatics | d) Brownian motion |
| e) Nucleation & Growth | f) Condensation. |

However, the predominant phenomenon should be the inertia. In most wet collectors, the basic idea should be to throw the dust or aerosols particle at an obstacle at a sufficiently high relative velocity so that the particle runs into or should be trapped by the obstacle. The obstacle should be usually atomized water droplet.

The liquid droplets can be produced by forcing the scrubbing liquid through small high-pressure orifice in spray nozzle. The liquid should be provided by means of recalculation pump. When these droplets enter the throat section and encounter the high velocity gas stream, they explode into numerous small droplets. This is known as atomization. The dust particles which impact on these atomized droplets get easily separated from the bulk of the gas stream. The particles which do not impact on liquid droplets penetrate the scrubber, and are exhausted along with the gas stream.

As the gas exits the throat section, it carries with it all of the liquid droplets which have achieved a velocity very nearly that of the gas stream to the expander section. The gas then slows down due to the increase in the area of the expander section. Some of the Kinetic energy from the liquid droplets transfers back to the gas stream, resulting in a recovery of the energy required in accelerating the gas to throat velocity. The energy regain is what distinguishes a venturi scrubber from other type of wet scrubber.

The gas and the liquid phase enters the entrainment separator through a wetted elbow. Those particles which impact on liquid droplets can be separated from the bulk of the gas stream, in the separator. The gaseous pollutants accompanying the gas coming out from the venturi is absorbed in the scrubbing liquid.

The scrubbing liquid is collected at the bottom of the entrainment separator. The cleaner gas from entrainment separator to I.D. Fan and from I.D. Fan to Flue Duct/Chimney will be passed through suitable size duct made of 1.6 mm. Thick AISI-304 Stainless Steel Sheet. The water circulation system can be through type or close type. In case of close system, the same liquid collected at the bottom of the entrainment separator is circulated back to the top of the wet scrubber. A bleed line is provided on the delivery line of the recirculation pump which can be disposed off. A make-up water connection is also provided to compensate for the evaporation losses and liquid wasted in the bleed stream.

In case of through system. The direct water connection to be given at the pump suction. Fresh Water can be used for scrubbing when required. Under such circumstances the recalculation pump will act as a booster pump

Tenderers Sign and stamp

Add.Chief.Engineer(Electrical)

SECTION E TECHNICAL SPECIFICATIONS DATA SHEET

SR. NO.	PARTICULARS	DATA	DATATO BE FURNISHED BY BIDDER
1.	Compressed Natural Gas(CNG) Cremation Furnace type	Pre heated air type	
2.	Dimensions of the incineration chamber		
(i)	Length		
(ii)	Width		
(iii)	Height		
(iv)	Grate level	180 mm above the floor level	
3	CNG furnace shall be suitable for Supply Voltage	415V, 3Phase, 4 Wire, 50HZ A.C. Supply	
4	Maximum furnace temperature	1050 Deg. Centi.	
5	Minimum furnace temp. w/o affecting bricks	400 Deg. Centi.	
6	Operating temperature	600 Deg. Centi.	
7	CNG Burner Burner Control mode Burner Controls Burner Gas Valves(Main) Burner Gas Valves(Secondary)		
8	CNG Consumption for heating up Incineration chamber for 20 to 600 deg. C post combustion chamber for 20 to 900 deg. C		
9	Energy consumption for auxiliary equipment		
10	Incineration time for one body	60 to 80 min (Approx.)	
11.	Charging device	Manual with maximum lift of 240 mm	
12	Door operation	Push button operation through gear motor/ manual
13	Ash removal	Manual at rear end	
14	Cremation Capacity	6 TO 8 Dead body/day	
15	CNG gas detector	UNIPHOS 499T of United phosphorus Ltd.	
16	CNG gas detector Console	UNIPHOS 499H of United phosphorus Ltd.	

Signature of Contractor

SECTION F

PRICE BID FOR SUPPLY,INSTALLATION,TESTING ,COMMISSIONING OF COMPRESSED NATURAL GAS(CNG) SYSTEM COMPLETE WITH CNG GAS DETECTION GIVING WARNING ALARM AND AUTO SHUT OFF OF MAIN CNG GAS SUPPLY VALVE AT NARODA CREMATORIUM

Price Bid

S.N.	Description	Qty	Rate of Each in Rs.	Total Amount in Rs.
1	Supply, Installation, Testing & Commissioning work of Compressed Natural Gas(C.N.G) cremation Furnace complete with CNG gas detection system with warning alarm and Auto shut off of main CNG supply valve at Naroda Crematorium in Ahmedabad	1 No.		
2	Supply, Installtion, Testing and Commissionin of wet Scrubber as per tender Specifiction for CNG Cremation Furnaces	1 Unit		
3	Supply, Installation, Testing and Commissioning of 30.5 meter height self supporting Chimney as per Tender Specification for CNG Cremation Furnaces	1 No.		
Total Amount of Sr no (1) to (3) in fig. Rs.				
Total Amount of Sr no (1) to (3) in words Rs.				

Signature of Contractor

**Add.Chief Engineer
(Electrical)**

Name

Company Seal

Date: