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E mail : projects@tcckerala.com

Phone : 0484-2545011

Web Site : www.tcckerala.com



THE TRAVANCORE - COCHIN CHEMICALS LIMITED
(A Government Company)
Udyogamandal P.O, Kochi – 683 501, Kerala

NOTICE INVITING TENDER (NIT)

TENDER REFERENCE NO: PROJ/60TPD HCL/2017

- i. Tenders are invited for the know-how, basic engineering, detail Engineering, supply, erection and commissioning using the latest state - of - the - art technology for a 60 TPD HCL Synthesis unit which can generate minimum 24 TPD saturated steam by replacing one of the existing 30TPD HCL Synthesis Units in our Chlor-alkali Plant.

NB: Tenderers are advised to get acquainted with the building/space/ systems etc. of the existing HCl plant to ensure the feasibility of installing 60tpd HCl Synthesis unit with steam co generation in the designated space within the specified time frame.

- ii. Dispatch of bid document : on 07-08-2017
- iii. Cost of the bid document : Rs.1000.00(non-refundable)
- iv. Earnest Money Deposit : Rs.2.00 Lakhs
- v. Closing date & time for receipt of bid: 22-09-2017, 14.00 hrs

- vi. Opening of Techno-commercial bid : 25-09-2017 15.00 hrs
- vii. Opening of Price Bid : On an appropriate date based on Technical evaluation
- viii. Cost of Tender: Rs.1000/-in cash or by DD in favour of Travancore-Cochin Chemicals Ltd; payable at Aluva/Ernakulam/Udyogamandal.
- ix. The bidders are requested to quote price with split figures such as;
 - a) For the supply of imported items
 - b) For the supply of Indigenous items
 - c) For erection & commissioning including start-up, guarantee test run and training of TCC personnel on operation and maintenance.
- x. The interested parties shall submit the bids in two parts. Bidders are required to submit offer in Two covers, namely

Part-I Technical and Unpriced bids. ("Fee/Pre-Qual/ Technical/")

Part-II Priced bid (Financial).

- xi. Tender documents may also be downloaded from our website www.tcckerala.com, in that case the bidders should submit the cost of tender document by way of DD along with Part-1 of the Offer.
- xii. Earnest Money Deposit (EMD): Rs.2,00,000/- (Two lakhs) as DD or Bank guarantee from any Nationalized Bank or Foreign Bank having branches in India for an equivalent Amount valid for 6 months from the last date for the submission of bids .
EMD shall not bear any interest and shall be released only after order finalization.
- xiii. Interested bidders may obtain further information about this requirement from the office of The Assistant General Manager (Projects), Travancore Cochin-Chemicals Ltd.

- xiv. Bidders shall ensure that, the bids complete in all respects, is submitted to the "Assistant General Manager (Projects)" The Travancore-Cochin Chemicals Limited, Udyogamandal P.O, Kochi-683501,Kerala India, or sent by registered post to reach to the Assistant General Manager (Projects),The Travancore-Cochin Chemicals Limited ,on or before the closing "date and time" failing which the bids will be treated as late and will be rejected.
- xv. The Last date of receipt of duly filled up tenders 14.00 hrs on 22-09-2017.
- xvi. In the event of critical dates such as last date for tender submission, Tender opening date for part 1 & 2 being declared as a holiday /closed day for TCC, the bids will be received/opened on the next working day at the appropriate time. Price Bid Opening date shall be informed appropriately.
- xvii. The bid enquiry documents are not transferrable.

All queries related to the tender shall be sent to the Office of the "Assistant General Manager (Projects)"

The Travancore-Cochin Chemicals Limited

Udyogamandal.P.O, Kochi – 683 501,

KERALA, INDIA, Tele-fax No.91-484-2545011

Email: projects@tcckerala.com

TENDER NOTICE

1. INTRODUCTION

- 1.1. The Travancore-Cochin Chemicals Ltd (TCC) is a Public Sector Undertaking established in the year 1951, having its registered office and factory at Eloor, Udyogamandal, Ernakulam District in the state of Kerala, India. The company is engaged in the manufacture and marketing of caustic soda, chlorine, HCl acid and Sodium Hypochlorite.

TCC has a total caustic soda capacity of 175 TPD comprising of one Monopolar Membrane Technology plant of 125 TPD and 2 Nos. 25 TPD Bipolar Membrane Plants.

The company proposes to double the capacity by 2020.

TCC markets its products all over India to various consuming sectors. It has an annual turnover of IR 2160 Million. The company is managed by a team of qualified and experienced professionals and has total employee strength of 520.

The industrial relations are excellent and the company has a good record of safety. TCC is an ISO 9001:2008, ISO 14001:2004 and OHSAS 18001: 2007 certified company.

2. BIDDER ELIGIBILITY CRITERIA

Pre Qualification Criteria

The bidder must meet the following requirements to qualify for bidding:

- a. The bidder must be a technology supplier for similar plants or the Indian subsidiary of a foreign technology supplier having at least 50% equity, in the Indian subsidiary.
- b. The bidder must have supplied at least two numbers of HCl Synthesis units of 30 TPD or more capacity for the production of Hydrochloric Acid with 9-10 bar (g) steam co generation.
- c. The bids can be submitted either by the bidder meeting the above criteria singly or in consortium with a consortium partner.

In the case of consortium the leader shall have more than 50% share of the scope of supplies and services in terms of the price quoted by the consortium. The leader of the consortium shall be jointly and equally responsible with his consortium partner for the execution of the contract and performance of the plant in terms of the provisions of the contract.

The consortium should produce a consortium agreement between the members of the consortium, duly attested by a Notary Public of the place of execution of the consortium agreement, which shall contain the share of each of the consortium member and shall specifically mention the leader of the consortium and also clearly indicate that the consortium members shall be jointly and equally responsible for the execution of the contract and performance of the plant in the event the work is awarded to the consortium. The tender documents shall be signed by the leader of the consortium or any person duly authorized by the consortium by a power of

attorney duly signed by the leader of the consortium and attested by a Notary Public of the place of execution of the power of attorney.

- d. The bidder must provide copies of 2 Purchase Orders / contract to show that they have supplied similar Units stating the scope of work in brief, the year of commissioning. A copy of commissioning certificate & Performance Guarantee test results for these supplies shall also be produced. In case the tenderer is refrained from disclosing the name and address of the beneficiary due to any Non Disclosure Agreement, the tenderer may mask name and address in the documents above however the documents are to be attested by the tenderer
- e. The bidder must provide copy of at least one end user certificate regarding working of the Unit.
- f. The bidder must ensure themselves that they fulfill the eligibility criteria mentioned above before submitting the offer.
- g. Bidders are advised to get acquainted with the available building, space and systems of the existing plant and a clear lay out plan for all the equipments and shall schedule each activity connected with the erection & commissioning of the new unit.

Two cover system.

The interested parties shall submit the bids in two parts.

Bidders are required to submit offer in Two covers, namely

Part-I-Technical and Unpriced bids.("Fee/Pre-Qual/ Technical/").

Part-II Priced bid. (Financial).

Those who have downloaded the tender document from the website should submit the DD for Rs.1000/- towards the cost of tender document along with Part-I of the offer.

Offers shall be accompanied by,

- 1) EMD of Rs. 2.0 lakhs by way of DD/Bank Guarantee for equivalent amount valid for 6 months from the last date for submitting the tender.
- 2) Copy of receipt / DD of Rs.1000/- towards the cost of tender document.

Offers without the above are liable to be rejected.

Tender documents may be obtained from the office of the undersigned or can be down loaded from our web site www.tcckerala.com

Cost of Tender:Rs.1000/- in cash or by DD in favour of Travancore-Cochin Chemicals Ltd; payable at Aluva/Ernakulam/Udyogamandal.

In the case of bidders down loading the tender documents from the web site the cost of tender document by way of DD shall be submitted along with Part-1 of the Offer.

Earnest Money Deposit: Rs.200000.00 (two lakhs) as DD or Bank guarantee from any Nationalized Indian Bank/Foreign bank having branches in India for equivalent Amount.

Submission of the bids : Bidders shall ensure that the bids, complete in all respects ,is to be submitted to the “Assistant General Manager (Projects), The Travancore-Cochin Chemicals Limited, Udyogamandal P.O, Kochi-683501,Kerala India”, by hand or sent by registered post to reach ,on or before the closing date and time failing which the bids will be treated as late and will be rejected.

The Last date of receipt of duly filled up tenders **2.00 PM on 22nd September 2017.**

In the event of critical dates such as last date for tender submission, Tender opening date for part 1 & 2 being declared as a holiday /closed day for TCC, the bids will be received/opened on the next working day at the appropriate time in the office of the “Assistant General Manager (Projects)", The Travancore-Cochin Chemicals Limited, Udyogamandal.P.O, Kochi – 683 501, Kerala, INDIA, Tele -No.91-484-2545011, Email: projects@tcckerala.com.

3. PURPOSE & SCOPE OF TENDER

3.1 PURPOSE OF TENDER

This Notice Inviting Tender (NIT) is issued to receive firm quotations from reputed suppliers for replacing the existing 30 TPD HCL Synthesis Unit with a new **60 TPD HCl** Synthesis unit capable of generating **minimum 24 TPD** saturated steam based on the latest state-of-the-art technology.

3.2. SCOPE OF TENDER

3.2.1 Tender shall be for the know-how, basic engineering, detail engineering, supply, erection and commissioning of 60TPD HCL Synthesis Unit with steam Co-Generation based on the latest state-of-the-art technology by replacing existing 30 TPD unit .

3.2.2 All the works within the battery limit except dismantling of the existing unit is under the scope of this tender .

3.2.4 BATTERY LIMITS

The following battery limits shall be applicable for this Tender.

INCOMING (During Normal Operation)

- 1) Hydrogen : At the main isolation Valve in the existing Acid Plant with pressure of 1200mm water column at 40deg C
- 2) Chlorine : At the main isolation Valve in the existing Acid Plant with pressure of 1000mm water column at 40deg C

Cl2	:	85.0 % V/V
O2	:	12.0 % “
H2	:	1.0 % “
H2O	:	0.8 % “
CO2	:	1.0 % “
inert	:	0.2 % “

- 3) Absorption water : At the ground floor level with a pressure of 2.0Kg/cm²g and 32°C
 Flow rate : 10 Nm³/Hr
 Conductivity : > 10 μ Siemens/cm
- 4) Boiler Feed water: from the soft water tank 2.0 M head in our existing boiler house.
 At the required Point with a pressure of 2000 mm of water column.
 Temperature 32°C
 pH 10-11
 Approximate flow rate 6M³/Hr
 Total Hardness (CaCO₃) < 5mg/l
 Total Alkalinity (CaCO₃) < 600mg/l
 Total Chlorides (CaCO₃) < 100mg/l
 PO₄ < 100mg/l
- 5) Cooling water : Cooling water at 2.0Kg/cm²g and 32°C will be made available at the ground floor level.
- 6) Power: Power at specified ratings (415V/230V) for all the prime movers/instruments etc. will be made available.
- 7) Compressed air and instrument air: Instrument air at 4 – 6 Kg/cm²g and at a dew point of -7°C will be made available at a single air distribution header near to the equipment.
- 8) Nitrogen gas at 2.5 Kg/cm²g will be made available from Nitrogen Generation Unit at the ground floor.
- 9) Emergency Power: will be arranged by TCC. The tenderer shall give the total requirement of emergency power.

OUT GOING

- 1) 32 % –Hydrochloric acid at and temp of ≤ 45⁰ C at the inlet of HCL Storage vessel in the Acid plant.
- 2) Saturated Steam at a pressure of 10 bar (g) at the equipment steam outlet
- 3) Cooling water return – at a pressure of minimum 0.5 Kg/cm²g at 42⁰C maximum.

4) Effluent : All effluents to be directed and terminated at our Effluent streams.

Vent gas from the tail gas absorber shall be directed to our dilute caustic scrubber unit.

Vent gas specifications

Flow rate	:	300 Nm ³ /Hr Max
Temperature	:	≤ 40 °C
HCl content at TGA outlet	:	15mg/Nm ³
Cl ₂ content at TGA out let	:	5 mg/Nm ³

Additional weightage is provided in the technical evaluation for the bidders ensuring better limits.

3.2.5 The new Unit with ancillary systems is to be housed in the existing building without any major civil construction. If at all minor modification, like increasing the cut out size, providing additional support etc., will have to done by the tenderer at their cost but not on the cost of *production* from existing unit. (Existing layout of HCL Plant attached)

3.2.6. During designing the following shall also be considered

1. Maximum heat recovery
2. Operational convenience
3. Adaptability in the existing building
4. Adequacy of the control /safety system to take care of unanticipated power outages.

3.3. Bidder Eligibility

The bidder must meet the following requirements to qualify for bidding:

The bidder must be a technology supplier or the Indian subsidiary of a foreign technology supplier having at least 50% equity, in the Indian subsidiary.

The bidder must have supplied at least 2 plants of 30 TPD or more capacity for the production of Hydrochloric Acid with high pressure (9-10bar(g)) saturated steam generation.

The bids can be submitted either by the bidder meeting the above criteria singly or in consortium with a construction partner.

In the case of consortium the leader shall have minimum 50% share of the scope of supplies and services in terms of the price quoted by the consortium. The leader of the consortium shall be jointly and severally responsible with his consortium partner for the execution of the contract and performance of the plant in terms of the provisions of the contract.

The consortium should produce a consortium agreement between the members of the consortium, duly attested by a Notary Public of the place of execution of the consortium agreement, which shall contain the share of each of the consortium member and shall specifically mention the leader of the consortium and also clearly indicate that the consortium members shall be jointly and severally responsible for the execution of the contract and performance of the plant in the event the work is awarded in favour of the consortium. The tender documents shall be signed by the leader of the consortium or any person duly authorized by the consortium by a power of attorney duly signed by the leader of the consortium and attested by a notary public of the place of execution of the power of attorney.

The bidder must provide two copies of Purchase Orders / Contracts stating the scope of work in brief, the year of commissioning with Copies of commissioning certificate & Performance Guarantee test results for these supplies shall also be produced. This is to establish that they have successfully commissioned the unit. In case the tender is refrain from disclosing the name and address of the beneficiary due to any existing Non-Disclosure Agreement, the name and addresses in such document can be masked. However, this document copy shall be duly certified by the authorized signatory of the bidder.

The bidder must provide copies of at least one end user certificate.

The bidder must ensure themselves that they fulfill the eligibility criteria mentioned above before submitting the offer.

Bidders are advised to get acquainted with the available space and systems of the existing plant and a clear lay out plan for all the equipments and shall schedule each activity connected with the erection & commissioning of the new unit.

3.4. **Scope of work**

The scope of work of the tender shall consist of the following;

- a) Supply of license, knowhow /technology
- b) Performing basic engineering & Detail Engineering which shall mainly include

Design of the HCl synthesis unit

Design basis and data sheet showing mass balance, utility consumption, environment emission specification and guaranteed figures.

Process sketch.

Operation and maintenance instructions.

Process description, manual of commissioning.

Operating procedures, maintenance, start –up and emergency shutdown instructions.

Assembly instructions and erection procedure;

Mechanical drawing of all supplied equipments.

Spare parts list, operation & maintenance manual of all rotating equipments with performance chart.

Construction parts lists of all supplied equipment for easy identification of each item according item nos. in the drawings.

P&I diagram showing piping dimensions, piping materials, fittings and valves required for isolation and drainage, instruments (tag numbers according to customer specification) including equipment lists;

Process and control descriptions;

Interlock system with alarm and interlock list;

Wiring diagrams of ignition and control panels including input/output signals to main control panel, loop diagrams and panel views with dimensions;

Description of Instruments

Sub-supplier's documents for instruments supplied by them.

General arrangement drawing; with tie-in point information, drainage points;

Isometric drawings;

Piping list showing material, size, fluid and pressure rating;

List of fittings showing type, rating size quantity and material;

Sub-supplier's documents for valves, flame arrestors etc

Final documentation: All engineering documents shall be compiled in a data book (both hard and soft copies required)

- c) Supply, erection and commissioning of **60TPD HCL** Synthesis Unit including the integrated boiler to generate high pressure saturated steam at **10 bar(g)** with commissioning spares.
- d) Technical assistance comprising of;
 - i) Training of TCC personnel in assembling, operation and maintenance of plant.
 - ii) Operational assistance for plant start-up.

- e) The tenderer shall specify elaborately the documents, design details, detailed drawings, data sheets of equipment, instrumentation, civil works, operating and maintenance manuals of the areas covered by their scope of supply.
- f) Engineering package should include all systems and facilities up to the battery limit.
- g) The codes and standards followed shall be ;
 - a) For piping ASME / ANSI
 - b) Flange and connections DIN or ASME/ANSI
 - c) Steam system should be conforming to IBR standards
- h) HAZOP / Safety studies and reports thereon.
- i) The tenderer shall satisfy themselves with the adequacy and satisfactory condition of the existing facilities to be integrated to the new plant and the successful tenderer shall not be absolved of his obligations in terms of warranties and performance guarantees on account of any failure of the existing facilities.
- j) The tenderer shall make a detailed study of the proposed site for better understanding of the available building space and equipments in the existing plant and has to propose a detailed scheme. This shall include scheme for replacement / modification of equipments/vessels piping etc.
- k) The associated boiler unit shall conform to IBR standards. The initial license, certification to operate at the designed level and capacity for a period of one year from the date of commissioning shall also be provided.
- l) To grant TCC irrevocable non-exclusive rights to establish and operate the Unit and produce and sell the products in India or any other country.
- m) To provide complete list of items of machinery and equipment required for the plant with full technical specifications, data sheets, dimensional drawings, break up prices on CIF Cochin basis for imported items and FOR TCC for indigenous items.
- n) To offer a specific performance guarantee for the,
 - i) HCl production capacity
 - ii) Product concentration
 - iii) Temperature of the product

- iv) Free Chlorine (vent and acid)
 - v) Steam quantity with pressure
 - vi) Emission parameters
- o) To offer a comprehensive test to establish the performance of proposed manufacturing facilities covered in the scope of work

3.5 Technical Specifications

HCl synthesis unit with burner and steel combustion chamber, consisting of:

Burner:

The burner system shall be with automatic ignition and designed to ensure complete combustion of feed gases. The system shall be easily accessible for assembly and removable for maintenance

The burner system shall be equipped with suitable Burner Management System (BMS) which can ensure safe operation. Details of BMS are detailed under instrumentation scope of supply.

Boiler

The integrated boiler for co generation of steam shall be made of high quality steel capable of withstanding the temperature and developed pressure.

All statutory and other approvals and certifications required for the erecting, commissioning and operation are to be complied.

HCl synthesis furnace designed as steel combustion chamber for *10 bar g steam* production;

Rupture Disc

For the safety of the unit detachable/replaceable rupture discs shall be provided wherever necessary.

Suitable falling film absorber & vent gas scrubber shall be considered

FIELD INSTRUMENTATION

Shall have the following as minimum

All transmitters shall be loop powered (24 VDC) with 4-20 milli amps output and with HART compatibility

All positioners in control valves shall be electro pneumatic type.

Process Control:

Measurement of density (AIC) consisting of sensor, transmitter; measuring range 0-38 wt. % HCl.

Flow control (FIC) equipment for Cl₂ and H₂, orifices, transmitters, control valves with mounted solenoid valves.

FIC equipment of absorption water, air for ignition, orifice, transmitter, control valve included;

Local pressure gauges (PI) for N₂ and cooling water etc

Temperature gauges (TI) for cooling water inlet and outlet etc

Temperature transmitter with alarm (TIA) of acid from scrubber and other points

Pneumatically actuated on/off valves (XV) mounted with solenoid valves for Cl₂ and H₂ gas etc.

Restriction orifice and pneumatically actuated on/off valve (RO/XV) with mounted solenoid valve for N₂ purge etc

Automatic Start-up:

Pilot ignition burner (BX), including electrodes made of ceramic, tantalum and graphite, PTFE adapter, hoses for air/H₂, high voltage cables;

Local pressure gauge (PI) for air, hydrogen etc;

Restriction orifices and pneumatically actuated on/off valves (RO/XV) with mounted solenoid valves for H₂ and air to pilot burner;

RO/XV with mounted solenoid valves for start-up via H₂ and Cl₂bypasses.

Safety Interlock:

FIS - Flow measurement for cooling water with low alarm;

FIS - Flow meter for N₂ purge with contact output, low alarm;

PIS Pressure gauges with contacts for Cl₂ and H₂, low alarm;

PS monitoring of the rupture disc with relay output;

XS infrared photocell system with transmitter;

XS 2 ultra-violet photocell system with transmitter;

Product Acid Pumps:

PI Local pressure gauges;

TI Local temperatures gauges;

Instrumentation for Steam System:

LIC Level measurement control for steam boiler

LSH Level high alarm ;

LSL Level low, alarm ;

LI Local liquid level;

PI Pressure gauge for steam boiler;

PIS Pressure transmitter for steam boiler, high alarm included;

PI Pressure gauge for boiler feed water;

FI Flow measurement for boiler feed water;

AIC Conductivity measurement and control valve for automatic purge.

INSTRUMENTATION – IGNITION PANEL

Ignition Panel for ignition and automatic start-up for installation close to the unit consisting of:

Local panel (IP65) made of preferably plastic;

Infrared and ultra-violet photocell amplifier, spark transformer, spark detector;

Signal lamps and push-buttons for automatic start-up;

Terminals for signals and alarms,

Power: 230; 50Hz (only if not powered by control panel)

INSTRUMENTATION – CONTROL PANEL

Panel containing completely wired Safety System including Hardware for start-up/shut-down sequences, ignition and interlock functions, consisting of:

Panel (IP54) made of MOC FRP to be located in a shielded environment (e.g. the control room, Ex free) at max. 150m away from the synthesis unit;

Licensed Software, sequence programming and digital I/O signal for alarms and trips, transferable to DCS;

Terminals for signals and alarms, for others power distribution with circuit breaker.

Power: 230; 50Hz

FITTINGS AND FLAME ARRESTORS

Values for isolating, drainage and venting, including gaskets, nuts and bolts;

Sight glass for acid product and condensate pipe;

BURNER MANAGEMENT SYSTEM (BMS)

BMS shall be a standalone one incorporating all safety requirements specified in the technical specifications above

ONLINE CONTINUOUS EMISSION MONITORING SYSTEM(CEMS)

The above system shall continuously monitor the HCL gas and chlorine gas in the vent gas line and shall transmit the same to the DCS as well as to CPCB server. The system shall be designed to meet the CPCB guidelines and requirements with regard to the emission of HCL synthesis unit.

4. PROCEDURE FOR EVALUATING THE BIDS.

The tender committee will evaluate and compare the pre-qualified tenders in two stages viz., technical evaluation and commercial evaluation. The final comparison will be done by arriving at a comparison price based on technical superiority, Future derived benefits ,and quoted price.

The Evaluation method is as below.

4.1 TECHNICAL (100 Points)

Technical aspects are evaluated considering Technology Process, Single Responsibility & After Sales Service and Assured Emission Limits , as specified below :-

(i)	Technology & Process	-	10
(ii)	Single point responsibility	-	5
(iii)	No. of similar plants	-	5
(iv)	Inbuilt Proven Online monitoring system-		5
(v)	Ease of operation/Maintenance	-	10
(vi)	Adaptability of the unit in the existing space -		10
(vii)	Delivery period & commissioning of plant-		5
(viii)	Performance Guarantee exceeding 24 Months -		10
(ix)	Assured after sales service	-	10
(x)	Emission limits		20
	HCL	10	
	Chlorine	10	-
(xi)	Level Of Automation	-	10
	Total	-	100

Only the bids scoring 70% and above will be considered for the price comparison.

4.2 COMMERCIAL

The commercial evaluation shall be done based on the net overall outcome of the investment for the estimated life span of 5 years.

- a) **Effective Price (EP)** is taken as the quoted price minus (-) net present value of life benefits by way of high pressure steam generation for a period of 5 years with 10% discounting rate .

Bid comparison price is arrived based on the following formula;

Bid Comparison price = Effective Price / Technical point obtained in the technical evaluation.

Bidder with the **Minimum Comparison Price** shall be considered for the project.

5 . THE SITE CONDITIONS

Soil condition	:	Laterite soil, max.load bearing capacity – 15MT/M ²
Rainfall	:	Normal, Annual Rainfall – 3350 mm in two Spells; June-August & October-November.
Maximum rainfall	:	1320 mm (normally in June) in a month.
Wind velocity	:	10-12 Km/hr
Relative humidity	:	75% - 93%.
Ambient Temp	:	25 - 36°C

These conditions are only representative and the tenderers should make their own enquiries and ascertain the conditions

6. TECHNICAL COMPLIANCES

The tenderer shall furnish the following details:-

- a) Experience in supply of similar plants both in India and abroad.
- b) Market share in terms of number of units and capacity (TPD).
- d) Operating details
- g) Safety features incorporated in the design for safe operation of the plant.
- i) Maintenance frequency and type of maintenance and estimated cost usually involved.
- j) Ensured emission norms

The tenderer shall provide the complete details of the control and interlock philosophy of the proposed requirements in DCS for the plant and for inter-phasing with the existing system.

Burner Management System shall be a standalone one incorporating all safety requirements specified in the technical specifications above

7.0 COMMERCIAL OFFER

Commercial offer should contain break up price for transfer of knowhow, basic engineering, detailed engineering, supply , erection and commissioning of the unit.

The currency conversion rate shall be the prevailing rate at the time of effecting payment for different heads as mentioned in the contract.

The currency conversion rate for price/commercial comparison shall be the tender opening date .

The quotation should have the **list of spares along with cost separately for first 3 years of operation of the plant** for imported items and one year for indigenous items. The price quoted shall be binding for 36 Months .

Tenderer should try to maximize use of indigenous machinery, materials and workmanship.

Tenderer shall give details on the other proposed service deemed necessary, like procurement, inspection etc., and the services offered shall be specifically mentioned in the quotation.

The technical bid and price bid should be submitted separately.

8.0 Validity of the offer:

The offered rates are to be valid **for 90 days** from the date of opening the tender

9.0 GUARANTEES & WARRANTIES

9.1 Equipment warranty

Tenderer shall guarantee that the equipment supplied is new and without any defect and manufactured of first class quality material and workmanship. This warranty should be valid for a period of **24 months** from the date of successful commissioning of the plant. In case of failure before expiry of warranty period, tenderer shall replace the same free of cost immediately.

9.2 Performance Guarantee

Plant performance is to be proved as per performance guarantee furnished by the tenderer for a continuous period of 72 hours with respect to plant capacity; plant flexibility, materials and utilities consumption figures, product quality etc.

9.3 Guarantee Test Runs (GTR) are to be conducted after the plant is operated continuously for 7 days at an average load of 80% or on achieving full rated capacity continuously for two days after the date of Start-up, whichever is earlier. Guarantee runs should be completed within six months from the date of completion of erection of the plant. During Guarantee run no standby equipment shall be used in parallel for proving their guarantee.

Successful completion of guarantee test shall not relieve the tenderer of their obligation and responsibility in any manner with regard to modification/rectification/replacement to meet warranty.

The tenderer should guarantee the individual and overall milestones as per PERT chart from the date of award of contract, which include preparation of drawing and their approval, procurement, fabrication erection of equipment at site etc. A detailed PERT/CPM net work is to be submitted for vigorous follow-up and timely completion.

During the guarantee test run, if the plant fails to meet the guarantee figures given, the tenderer shall modify the plant and systems at his risk and cost to achieve the guarantee within the agreed stipulated time. The liability of the

bidder in such an event shall be unlimited and TCC is free to penalize the tenderer for his failure to meet the obligation.

If GTR figures varies the guarantee from the guaranteed limits , the tenderer should modify/rectify/replace the system or equipments and should bring the figures within the guarantee figures.

10. DRAFT CONTRACT

The draft contract annexed forms a part of this tender document and vice versa.

11. LIQUIDATED DAMAGES ,PAYMENT TERMS ,COMMERCIAL TERMS etc

As provided in the draft Contract.

12. INSPECTION

As provided in Chapter – 7 of the draft Contract.

13. DELIVERY AND ERECTION OF THE EQUIPMENT

TCC prefer to complete the supply, erection & commissioning of the plant within 15 months from the Effective Date of Contract. The tenderer shall provide supply, erection & commissioning schedule along with the offer. Expedited delivery carries value points (ref. Sec.4.1)

14. TECHNICAL OFFER REQUIREMENTS

Full Technical Specification of the Contract Equipment

Quantity and Quality of the Products

Technical Compliance / deviation from the requirements specified in the tender document

Assured Emission Limits

Erection & Commissioning Schedule

Bidder Eligibility Documents

EMD : Demand Draft or Bank Guarantee

Cost of Tender Form : Demand Draft