

(Autonomous Institution of the Department of Atomic Energy, Government of India) Survey No.36/P, Gopanpally Village, Serilingampally Mandal, Ranga Reddy District, Hyderabad-500046, Telangana

Telephone : +91-40-20203010 Date: 06.10.2021
Website : www.tifrh.res.in Email: rajasekharr@tifrh.res.in

PUBLIC TENDER

(TWO PART TENDER) for the following Works:

Civil & Structural Work for Raw and RO Water Plant at plot B, Survey No. 36/P, Gopanpally Village, Serilingampally Mandal, Ranga Reddy District, Hyderabad.

Tender No.	TIFR/PD/CF21-77/210789
Type of Tender	Two Part Tender (Part-I: Technical Bid and Part- II:
	Financial Bid)
Estimated Cost	Rs. 8.35 Lakhs
Cost of EMD	As per Office Memorandum, No. F.9/4/2020-PPD
	Government of India, Ministry of Finance Department
	of Expenditure Procurement Policy Division. Dated
	12th Nov. 2020. No provisions regarding Bid Security
	should be kept in the bid documents in future and only
	provision for Bid Security Declaration should be kept
	in the Bid Document. Accordingly the bidder should
	give the bid security declaration as per Annexure II
Pre-Bid Meeting Date, Time and Place	11.10.2021 at 11.00 am
Last Date for Submission of Tender	20.10.2021 by 13:00 Hrs
Date of Opening Bids(Only Part-I:	20.10.2021 by 15:00 Hrs
Technical Bid)	
	Rs. 500/-(Demand Draft to be drawn in favor of
Tender Fee	"TIFR Centre for Interdisciplinary Sciences",
	Payable at Hyderabad (To be enclosed with the
	Technical Bid
	Part –I))

- In case the Part"I" and Part"II" bids are not sealed in separate envelopes the tender will be rejected.
- The technical bid should not contain any indication of the price.
- The Technical Bid received without payment of tender fees and Security bid undertaking shall be summarily rejected.
- Contacts: Mr. Ashis Panigrahi Tel: 040-20203004 or Mr. Akshay Tel: 040-20203005 for technical and commercial clarifications.
- Quotation sent by hand delivery/courier are to be handover at security after obtaining stamp, date and signature of the concern person at security.

Mr.Rajasekahr R



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Head Technical Services

INVITATION OF BIDS

FOR

Civil & Structural Work for Raw and RO Water Plant at plot B, Survey No. 36/P, Gopanpally Village, Serilingampally Mandal, Ranga Reddy District, Hyderabad.

TECHNICAL BID

PART-I



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SECTION-I

IMPORTANT INFORMATION

INTRODUCTION

The Tata Institute of Fundamental Research is a National Centre of the Government of India, under the umbrella of the Department of Atomic Energy, as well as a deemed University awarding degrees for master's and doctoral programs. Tata Institute of Fundamental Research Centre for Interdisciplinary Sciences, Hyderabad invites bids for the following work:

Name of work: Civil & Structural Work for Raw and RO Water Plant at plot B, Survey No. 36/P, Gopanpally Village, Serilingampally Mandal, Ranga Reddy District, Hyderabad. 1. PARTICULARS:

a)	Location	Plot B,Survey No. 36/P, Gopanpally Village, Serilinganpally (Mandal) Ranga Reddy Dist., Hyderabad
b)	Pre-bid Meeting	11.10.2021 at 11.00 a.m.
c)	Issue of note-worthy replies / clarifications to Pre-bid queries	4-5 days
d)	Closing date of receipt of bids	20.10.2021 by 13:00 Hrs
e)	Date of opening of Sealed cover-II containing Price Bid of eligible bidders	To be intimated to eligible bidders after completion of technical evaluation

2. GENERAL INSTRUCTIONS

- a) TIFR shall award the contract for the project through the two Bid systems.
- b) The Contractors are advised to visit and examine the site of work and its surroundings and obtain any information that may be necessary, in addition to those provided in this document. The Contractor shall be deemed to have fully acquainted himself about the site condition, whether he inspects it or not.
- c) The Contractor should adhere to the building bye-laws applicable for the area.
- d) All clarifications shall be sought before the date of pre-bid meeting. The bidders may make suggestions which shall be considered during the Pre Bid Meeting. No further clarifications shall be issued after issue of noteworthy replies to the pre-bid queries.
- e) The submission of the bid by Contractor would imply that they have carefully read and agreed to the terms and conditions contained in this bid document.
- f) The bid for the work shall remain open for acceptance for a period of **90** (Ninety days) days from the date of submission of the bids, which period may be extended by mutual agreement and the Contractor shall not cancel or withdraw the offer during this period. This bid document shall form a part of the contract agreement.
- g) Fluctuation: Bidder must consider the price fluctuation going to happen in the bid Validity period (i.e. 90 days + execution period 15 days.)
- h) Action for withdrawal: The bidder can't withdraw the bid within the validity period. If any bidder withdraws his bid during above said period then action will be taken as per tender clause& declaration.



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3. SUBMISSION OF BIDS

Bids shall be submitted at *TIFR*, *Survey No. 36/P*, *Gopanpally Junction*, *Post:Gopanpally*, *Serilingampally*, *Hyderabad-500 046* in a sealed Master envelope super scribed "Bid for Civil & Structural Work for Raw and RO Water Plant at plot B, Survey No. 36/P, Gopanpally Village, Serilingampally Mandal, Ranga Reddy District, Hyderabad." with our enquiry no. and due date, containing two separate sealed covers clearly super scribed as "Technical Bid" and "Price Bid" before the closing date and time of submission in the following manner:

- a) "Technical Bid": This will contain Technical part, Eligibility Documents along with testimonials, Tender Fee and bid security undertaking.
- b) "Price Bid": This will contain the complete bidding document with duly filled in Schedule of Financial Quote of Price Bid& Tender Drawings.

The Bids without signature of the authorized person of bidder and seal, without Tender Fee, without bid security undertaking, with conditions or conditional rebates shall be summarily rejected.

4. EVALUATION OF BID:

- a) EVALUATION OF TECHNICAL BID: The bids received will first be first opened and will be examined for Tender Fee, bid security undertaking, Eligibility Criteria, Conditions, etc. Conditional Tenders and Tenders without Tender Fee, bid security undertaking shall be summarily rejected.
- b) **EVALUATION OF PRICE BID:** The Price Bid should contain the complete bid document with duly filled in Schedule of Financial Quote of Price Bid and signed Tender drawings. Price Bids of Technically qualified Bidders will only be opened. Work will be awarded to lowest bidder (L1) based on their quotes after making necessary arithmetical checks.

5. SCOPE& OBJECTIVE

The Objective of the tender is Civil & Structural Work for Raw and RO Water Plant at plot B, No. Survey No. 36/P, Gopanpally Village, Serilingampally Mandal, Ranga Reddy District, Hyderabad as per the specifications and Bill of quantities mentioned in the Price Bid.

Period of Completion of Work: 15 days from the date of issue of work order.

Defect Liability Period: 12 months from the date of handing over of completed structure as per tender.

6. PAYMENT SCHEDULE:

The contractor shall submit the bills for payments along with detailed statement showing the actual works carried out under different heads of items in the format specified by the TIFR. Final bills will be settled based on the joint measurements of each item of works and certified by TIFR Engineer. Final Bill will be settled within 30 days from the date of submission with certification of TIFR Engineer.



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SECTION-II ELIGIBILITY CRITERIA FOR TENDER QUALIFICATION

A. Eligibility Criteria for Tender Qualification

1. The Agencies/Contractors will be qualified for Civil & Structural Work for Raw and RO Water Plant at plot B, No. Survey No. 36/P, Gopanpally Village, Serilingampally Mandal, Ranga Reddy District, Hyderabad

2. Eligibility criteria:

- The Agencies/Contractors shall be in profit for last three financial years and should have valid PAN from Income Tax Authority, GST registration No. etc. and any other registration applicable/mandatory for contract.
- 2. The Agencies/Contractors should have executed successfully at least one Similar work costing Rs. 6.65 lakhs or two Similar work costing Rs.4.984 lakhs or 3 Similar work costing Rs.3.322 lakhs during last 7 financial years ended on end date of receiving tender for Research Institutes, Universities, Private Laboratories, R & D institutes, etc. in any Government /PSU/Private organizations of repute.
- 3. The Agencies/Contractors should furnish copies of work orders, completion certificates from the clients in support of the above.



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SECTION-III NOTICE AND INSTRUCTIONS

1. Sealed item rate tenders in the prescribed form are invited from Tata Institute of Fundamental Research, Centre for Interdisciplinary Science, Hyderabad, for the following:

Tender Notice No.	TIFR/PD/CF21-77/210789
Name of Work	Civil & Structural Work for Raw and RO Water Plant at plot B, Survey No. 36/P, Gopanpally Village, Serilingampally Mandal, Ranga Reddy District, Hyderabad.
Estimated Cost	Rs. 8.35 Lakhs
Completion Time	15 days
Earnest Money Deposit	As per Office Memorandum, No. F.9/4/2020-PPD Government of India, Ministry of Finance Department of Expenditure Procurement Policy Division. Dated 12 th Nov. 2020. No provisions regarding Bid Security should be kept in the bid documents in future and only provision for Bid Security Declaration should be kept in the Bid Document. Accordingly the bidder should give the bid security declaration as per Annexure II. Action for withdrawal: The bidder can't withdraw the bid within the validity period. If any bidder withdraws his bid during above said period then action will be taken as per tender clause& declaration.
Tender Fee	Rs 500/- (Rupees Five Hundred only)
Pre-bid meeting	11/10.2021 at 11.00 am. in TIFR Building, Survey No. 36/P, Gopanpally Junction, Post: Gopanpally, Serilingampally, Hyderabad-500 046
Last Date of Submission of Tender	20.10.2021 at 13:00 Hrs

2. Sale of Tender: can be purchased from the TATA INSTITUTE OF FUNDAMENTAL RESEARCH (TIFR), SERVICE BUILDING I, SURVEY NO. 36/P, GOPANPALLY JN, POST: GOPANPALLY, HYDERABAD-500 046, on payment of tender cost in the form of Demand Draft to be drawn in favour of "TIFR Centre for Interdisciplinary Sciences", Payable at Hyderabad (To be enclosed with the Technical Bid Part –I).

The tender documents issued must accompany at the time of submission, proof of tender cost already paid.

Submission of Tender & Opening: Tenders shall be submitted in a sealed envelope super scribed with Tender enquiry no., Due date and with headings "Civil & Structural Work for Raw and RO Water Plant at plot B, Survey No. 36/P, Gopanpally Village, Serilingampally Mandal, Ranga Reddy District, Hyderabad." containing two separate sealed covers clearly super scribed as "TECHNICAL BID" and "FINANCIAL BID" on or before the closing date and time of submission in the following manner:.



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"TECHNICAL BID": This will contain the following:

- a) Proof of Tender Cost paid already
- b) Bid security undertaking
- c) Schedules giving information on Eligibility Criteria specified for tender qualification.

"FINANCIAL BID": Signed copy of the Financial Bid quoting amount in the stipulated format and signed copies of the tender drawings.

- Earnest Money Deposit (EMD): As per Office Memorandum, No. F.9/4/2020-PPD Government of India, Ministry of Finance Department of Expenditure Procurement Policy Division. Dated 12th Nov. 2020. No provisions regarding` Bid Security should be kept in the bid documents in future and only provision for Bid Security Declaration should be kept in the Bid Document. Accordingly the bidder should give the bid security declaration as per Annexure I
- **4. Performance guarantee/Security Deposit:** The tenderer, whose tender is accepted, will be required to furnish a Performance guarantee/Security Deposit of 3% of the tendered amount within 7 (seven) working days from the date of intimation. This guarantee shall be in the form Demand Draft / Pay Order / Banker's cheque / Deposit or Government Securities / Fixed Deposit Receipt (FDR) or Guarantee Bonds (BG) of any Scheduled Bank. In case a fixed deposit receipt of any Bank is furnished by the contractor to TIFR as part of the Performance guarantee/Security Deposit and the Bank is unable to make payment against the said fixed deposit receipt, the loss caused thereby shall fall on the contractor and the contractor shall forthwith on demand furnish additional security to TIFR to make good the deficit.

The Performance guarantee/Security Deposit shall be initially valid up to the stipulated date of completion plus 365 days. In case the time for completion of work gets enlarged, the contractor shall get the validity of Performance guarantee/Security Deposit extended to cover such enlarged time for completion of work. The Performance guarantee/Security Deposit shall be returned to the contractor, without any interest, after completion of defect liability period.

The Engineer-in-charge shall make a claim under the Performance guarantee/Security Deposit for amounts to which TIFR entitled under the contract (notwithstanding and / or without prejudice to any other provisions in the contract agreement) in the event of:

- a) Failure by the contractor to extend the validity of the Performance guarantee/Security Deposit as described herein above, in which event the Engineer-in-charge may claim the full amount of the Performance guarantee/Security Deposit.
- b) Failure by the contractor to pay TIFR, Hyderabad any amount due, either as agreed by the contractor or determined under any of the Clauses / Conditions of the agreement, within 30 days of the service of notice to this effect by Engineer-in-charge.

In the event of the contract being determined under provisions of any of the relevant clauses of the agreement, the Performance guarantee/Security Deposit shall stand forfeited in full and shall be absolutely at the disposal of TIFR, Hyderabad.

In case a fixed deposit receipt of any bank is furnished by the contractor to TIFR, Hyderabad as part of the security deposit/performance guarantee and the bank is unable to make payment against the said fixed deposit receipt, the loss caused thereby shall fall on the contractor and the contractor shall forthwith on demand furnish additional security to TIFR, Hyderabad to make good the deficit.



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All compensation or the other sums of money payable by the contractor under the terms of this contract may be deducted from, or paid by the sale of a sufficient part of his security deposit/performance guarantee or from the interest arising there from, or from any sums which may be due to or may become due to the contractor by TIFR or any account whatsoever and in the event of his Security Deposit/performance guarantee being reduced by reason of any such deductions or sale as aforesaid, the contractor shall within 10 days make good in cash or fixed deposit receipt tendered by the State Bank of India or by scheduled banks (if deposited for more than 12 months) endorsed in favour of the TIFR, HYDERABAD, any sum or sums which may have been deducted from, or raised by sale of his security deposit or any part thereof.

Security Deposit/performance guarantee as deducted above can be released against Bank Guarantee issued by a Scheduled Bank on its accumulation to a minimum of Rs.5 Lakhs subject to the condition that amount of such Bank Guarantee, except last one, shall not be less than Rs.5 Lakhs. Bank Guarantee should be submitted which will be valid upto the expiry of defect liability period.

5. Acceptance of Tender: The competent authority, on behalf of TIFR, Hyderabad does not bind itself to accept the lowest or any other tender, and reserves to himself the authority to reject any or all the tenders received, without assignment of any reason. All tenders, in which any of the prescribed condition is not fulfilled or any condition, including that of conditional rebates is put forth by the tenderer, shall be summarily rejected.

The Competent Authority, on behalf of TIFR, Hyderabad reserves to itself the right of accepting the whole or any part of the tender and the tenderer shall be bound to perform the same at the rates quoted. The officer inviting tenders shall have the right of rejecting all or any of the tenders and will not be bound to accept the lowest tender or any other tender.

6. Validity of Tender: The tender for the work shall remain open for acceptance for a period of **90** days from the last date of submission of tenders. If any tenderer withdraws his tender before the said period, or before issue of Letter of Intent, whichever is earlier, or makes any modifications in the terms and conditions of the tender which are not acceptable to the Department, then TIFR, Hyderabad shall, without prejudice to any other right or remedy, be at liberty to forfeit 50% of the said earnest money absolutely. Further the tenderer shall not be allowed to participate in the retendering process of the work.

7. Levy / Taxes payable by contractor:

- i. GST or any other tax on materials and services in respect of this contract shall be payable by the contractor and TIFR shall not entertain any claim whatsoever in this respect.
- ii. The contractor shall deposit royalty and obtain necessary permit as required for supply of the sand, aggregate, stone etc. from local authorities.
- **8. Deduction of Income Tax :** Applicable as per IT Rules.
- **9. Site visit by the tenderer before tendering:** Tenderers are advised to inspect and examine the site and its surroundings during working hours and satisfy themselves before submitting their tenders as to the nature of the ground and sub-soil (so far as is practicable), the form and nature of the site, the means of access to the site, the accommodation they may require and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their tender. A tenderer shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charges consequent on any misunderstanding or otherwise shall be allowed.



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- 10. Signing of Tender and receipts for payments: In the event of the tender being submitted by a firm, it must be signed separately by each partner thereof or in the event of the absence of any partner, it must be signed on his behalf by a person holding a power-of-attorney authorizing him to do so, such power of attorney to be produced with the tender, and it must disclose that the firm is duly registered under the Indian Partnership Act-1952. Receipts for payments made on account of work, when executed by a firm, must also be signed by all the partners, except where contractors are described in their tender as a firm, in which case the receipts must be signed in the name of the firm by one of the partners, or by some other person having due authority to give effectual receipts for the firm.
- 11. Tenderer's responsibilities: The tenderer shall be responsible for arranging and maintaining at his own cost all materials, tools & plants, facilities for workers and all other services required for executing the work unless otherwise specifically provided for in the contract documents. Submission of a tender by a tenderer implies that they have read this notice &all other contract documents, and has made himself aware of the scope & specifications of the work to be done and local conditions and factors having a bearing on the execution of the work
- 12. Signing of contract: The Notice Inviting Tender shall form a part of the contract document. The successful tenderer / contractor, on acceptance of his tender by the Accepting Authority, shall, within 15 days from the stipulated date of start of the work, sign the contract consisting of: the Notice Inviting Tender, all the documents including all conditions, specifications and drawings, if any, forms the tender as issued at the time of invitation of tender and acceptance thereof together with any correspondence leading thereto. Canvassing, either directly or indirectly, in connection with the tenders is strictly prohibited and the tenders submitted by the contractors who resort to canvassing will be liable to rejection and may be barred from the future participation in TIFR works.

Contractor's Signature & Seal



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UNDERTAKINGBY THE TENDERER

I / We have read and examined the Tender document including terms & conditions, specifications, bill of quantities, drawings and designs, general rules & directions, General Conditions of Contract, Special Conditions of Contract and all relevant other documents, publications and rules referred to in the Conditions of Contract and all other contents in the tender documents for the work.

I / We, hereby tender for execution of the work specified for the TIFR, Hyderabad within the time specified and in accordance in all respects with the specifications, designs, drawings and instructions in writing.

We agree to keep the tender open for Ninety days (90) days from the last date of its submission and not to make any modifications in its terms and conditions. A sum of Rs has been deposited in cash / receipt treasury challan / deposit at call receipt of scheduled bank / fixed deposit receipt of scheduled bank / demand draft of a scheduled bank / Bank Guarantee issued by a Scheduled Bank as earnest money. If I / we, fail to furnish the prescribed Performance guarantee/Security Deposit within prescribed period, I / we agree that the said TIFR, Hyderabad or its authorized officer shall without prejudice to any other right or remedy, be at liberty to forfeit the said earnest money absolutely. Further, if I / we fail to commence work as specified, I / we agree that the TIFR, Hyderabad shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the said earnest money and the Performance guarantee/Security Deposit absolutely, otherwise the said earnest money shall be retained by TIFR, Hyderabad towards security deposit to execute all the works referred to in the tender documents upon the terms and conditions contained or referred to therein.

Fluctuation: Bidder must consider the price fluctuation going to happen in the bid validity period (i.e 90 days + execution period 15 days.)

Action for withdrawal: The bidder can't withdraw the bid within the validity period. If any bidder withdraws his bid during above said period then action will be taken as per tender clause& declaration.

Further, I / We agree that in case of forfeiture of earnest money or both Earnest Money & Performance guarantee/Security Deposit as aforesaid, I / We shall be debarred for participation in the re-tendering process of the work.

I / We hereby declare that I / We shall treat the tender documents, drawings and other records connected with the work as secret / confidential documents and shall not communicate information derived there-from to any person other than a person to whom I / We am / are authorized to communicate the same or use the information in any manner prejudicial to the safety of the State.

> **Seal& Signature of Contractor Postal Address**

Dated	
Witness	
Address	
Occupation	
Contractor's Signature & Seal	
	Daga 11



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SECTION-IV ANNEXURE

ANNEXURE -I

RO PROCESS DESCRIPTION

Reverse Osmosis is the reversal of the natural phenomena of Osmosis by the application of external pressure on the solution that contains the higher concentration of dissolved ions, thus forcing water through semi-permeable membrane in the opposite direction leaving the dissolved ions and suspended solids.

In the Reverse Osmosis process, the water that passes through the membrane is commonly referred to as PERMEATE or product water, the water that remains behind the membrane along with dissolved and suspended solids is referred to as CONCENTRATE or REJECT water.

OUTLET WATER PARAMETERS OF R.O PLANT

S. No	Physical parameters	Units	Outlet water
01	Total Dissolved Solids	mg/l	<10

Above quality shall be achieved provided:

- The feed quality is same as per design values provided above.
- In case of change in feed quality or source, end quality may have variation or changes.
- The operation of system is strictly done as per Operation Manual, guidelines and instructions.
- All log sheets/daily reports are sent to us for monitoring and suggest suitable actions for better and smooth operation of the system each month.
- Pure chemicals, original spares and consumable specified by us only are used in system.
- Sufficient Inventory of spares for at least 1 year and consumables is to be maintained.
- The Values of Conductivity etc will be as per online instruments
- Parameters not shown in raw water analysis are assumed as zero.
- There shall be no free chlorine, oil, grease in raw water
- Any abnormal behavior in system shall be notified to our service team within 24 hrs.
- Relevant ASTM Standard procedures will be the basis of water analysis and measurements.



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Plant Description

PRETREATMENT:

Pretreatment is the process aimed at keeping the membranes free from any scale formation, deposition & bio growth which may foul the membranes and lead to reduction in flux over span of time and this is achieved by series of units operation starting from Chlorination, Multi grade sand bed filter, Activated carbon filter, Antiscalent treatment, and fine filtration. While all these unit operation are briefly described in succeeding paragraphs, the objective is to bring pretreated water to conditions where SDI & LSI of the water does not pose any hazard to the membranes.

THE LIFE AND EFFICIENCY OF THE MEMBRANES ENTIRELY DEPENDS ON PRETREATMENT SYSTEM. THEREFORE A GOOD AND EFFECTIVE PRETREATMENT SYSTEM IS AN ESSENTIAL PART OF A PURIFICATION PACKAGE AND ENVISAGES PERFECT TREATMENT TO RID THE WATER FROM UNDESIRABLE PHYSICAL, CHEMICAL AND MICROBIOLOGICAL IMPURITIES.

MULTI GRADE SAND FILTER:

The raw water is filtered through a filter media of multi-grade sand & pebbles (PSF) unit in order to remove suspended matter, turbidity, and colloidal matter present in the feed water. The PSF is made-up of FRP & internally, it is fitted with inlet distributor and bottom collecting system. Externally it is equipped with extra strong rigid PVC/CPVC, pipe work with necessary valves & fittings.

This unit is charged with different grades of filtering sand. Suspended matter gets en-trapped when raw water is passed in downward direction through layers of different grades of sand bed. The PSF is isolated for backwash when the pressure drop across the filtering bed is more than specified limit.



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ANTI-SCALANT DOSING SYSTEM:

All the dissolved salts have particular solubility in water and if the concentration of these salts increases beyond the saturation point then the salts tend to precipitate out. Silicates have very low solubility and they precipitate out faster at higher recoveries. Anti-scalant increases the solubility of the salts present in the water. This, in turn reduces the risk of scale formation.

MICRON CARTRIDGE FILTER:

By above process of pretreatment, water becomes free from undissolved solids, iron, manganese and organic matters & filtered water upto 20 microns by particle filtation. Keeping in view of porosity below 0.0005 microns and other characteristics of R.O. membranes, the make have specified that ideal SDI of R.O. feed water should be below 3 which are possible if water is properly filtered by micron cartridges of rating below 5 microns. Therefore we provided multi micron cartridges in stainless steel housing rating 5 microns to achieve ideal SDI level. Since in blending stream purification everything has to be removed except minerals therefore the membranes is selected of such porosity / molecular weight cut off that there should not be molecular rejection of inorganic dissolved solids / minerals. As a result hardness do not precipitate over membranes and there shall not be any requirement of water Softening plant and blending stream has to be fine filtered before ultra filtration membranes feed.

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MEMBRANE FILTRATION SECTION - REVERSE OSMOSIS RO SKID:

HIGH PRESSURE PUMP:

One high-pressure pump is provided to meet the capacity requirement at given operating pressure. The pump is of Multi stage centrifugal type in stainless steel construction.

REVERSE OSMOSIS SYSTEM:

Reverse osmosis is based on the technology which removes total dissolved solids by their molecular rejection. In the process pretreated water is pumped to membrane and feed pressure is increased above osmotic pressure. As a result pure water migrates from the concentrate to produce perfectly sterilized desalinated water. The system is designed based on raw water analysis treated water quality & recovery. We offer R.O. block fully automatic with synchronized logic control & instruments for on-line measurement of parameters to ensure safe and efficient working as well as treated water quality control.

This system reduces the feed TDS by around 95% thus giving superior quality water, which can be recycled back to process. This system consists of powder coated MS skid for mounting of high pressure tubes (pressure vessels) assembled with spiral wound membrane elements. Necessary control valves provided with required instrumentation for safe operation.



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PERMEATE WATER STORAGE TANK

Client needs to procure intermediate storage tank of desired capacity depending upon the operating hours of plant.

OPTIONAL ITEMS:

CIP SYSTEM:

The Cleaning in Place system is used for chemical cleaning of membranes at fixed interval during normal operation over a period of time. RO membrane elements are subject to fouling by suspended or sparingly soluble materials that may be present in the feed water.

The nature and rapidity of fouling depends on the condition of feed water. Regular cleaning of membranes shall be done for effective performance of membranes. Cleaning tank with pump & motor is provided in the system.

OZONATOR:

The Ozonator is a device with an aerator at the end of its hose, which is inserted in the water. It adds a tiny amount of ozone and results in a sanitizing and oxidizing effect. Ozone is produced by adding a third atom of oxygen to a molecule i.e. O_3 instead of the usual O_2 .

FUNCTIONS OF OZONE:

- Kills bacteria & viruses in food & beverages with surprising speed.
- ➤ Has a strong penetrating effect, sanitizing & oxidizing everything. ➤ It can do oxidizing chemistry.
- Removes tapeworm larvae, sheltered ascaris eggs, Freon & PCBs.
- While ozonating food & beverages, it turns into oxygen and water, leaving no toxicity behind.

ULTRA VIOLET WATER DISINFECTANT SYSTEM

Safe, Economical, and Environment-friendly

The high-output UV units are specifically designed for high-flow commercial and residential applications. And the efficient UV lamps and quartz sleeves enhance the penetration power of ultraviolet rays up to 99.9%. The UV units will not bring about side effects whereas other chemicals will. Furthermore, the disinfectant efficiency is several times as much as that of chlorine and chlorine mixture. It definitely deserves your reliance.



Technical Details				
REVERSE OSMOSIS SYSTEM				
FILTER FEED PUMP				
Quantity offered	One			
Type Horizontal Centrifugal Mono block				
Capacity	400 LPH			
Head	25 - 30 mwc			
Make	LEO/Equivalent			
PRESSUR	E SAND FILTER			
Quantity offered	One			
Туре	Vertical Pressure Vessel			
Model	844			
Capacity	400 LPH			
Material of construction	FRP			
Valves	MPV			
Filter Media	Silica Quartz Sand With Pebbles & Gravel			
Service Cycle	3.5 kg/cm2			
Backwash Duration	15 – 20 Minutes			
Discharge Pressure	2.5 Kg/cm2			
Make	Pentair/Equivalent			
ACTIVATED	CARBON FILTER			
Quantity offered One				
Туре	Vertical Pressure Vessel			
Model	844			
Capacity	400 LPH			
Valves	MPV			
Material of construction	FRP			
Filter Media	Activated Carbon 900IV			
Service Cycle	3.5 kg/cm2			
Backwash Duration	15 – 20 Minutes			
Discharge Pressure	2.5 Kg/cm2			
Make	Pentair/Equivalent			
ANTI-SCALANT DOSING PUMP				
Quantity Offered	One			
Туре	Electronic diaphragm operated			
Capacity 0 – 6 LPH @ 20 MWC				
Material of construction Polypropylene				



Power required	60 Watts		
Make	EDOSE/Equivalent		
ANTI-SCALANT SOLUTION H OLDING CUM PREPARATION TANK			
Quantity Offered One			
Туре	Vertical cylinder		
HDPE Tank Capacity	100 Liters		
Make	EDOSE/Equivalent		
MICRON C	ARTRIDGE FILTER		
Quantity Offered	Two		
Make	Hyaline Enviro		
Flow rate	400 LPH		
MOC of Housing	PP		
Operating Pressure	2.0 to 3.0 kg/cm2		
Max. Operating Pressure	10 kg		
No. of cartridges	02		
Length	20"		
Type of cartridge	Slim Wound		
HIGH PR ESSURE PUMP			
Quantity Offered	One		
Туре	Multistage Vertical Centrifugal		
Material of construction impeller	SS-304 (only wetted parts)		
Capacity	400 LPH		
Head	100 meters		
Power rating	1.5 HP		
Working pressure & Maximum Pressure	8 kg & 10 kg		
Speed	2900 rpm		
Make	LEO/Equivalent		
RO MODULE			
No. off	One		
Feed rate	400 LPH		
Recovery	50 %		
Permeate flow	200 LPH		



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	T
Salt rejection	98%
No. of Membrane	1
Туре	Spiral wound
Material of construction	Thin film composite
Make of membranes	Hydranautics/Equivalent
No. of pressure tubes (1 element long)	1
Size of elements	4"
Pressure tube construction	Glass fiber epoxy resin
Pressure rating	300 PSI
PRESSURE	B OOSTER SYSTEM
Quantity Offered	Two (1 working + 1 Standby)
Capacity	4 m³/hr
Head	25 m
Material of construction	Inlet Outlet Chamber – SS-304 Impellers & Diffusers – SS-304
Pressure tank	24 ltr
Accessories	With 5 way valve, NRV, pressure switch, pressure Gauge
Power rating	0.75KW/1HP, 2800 rpm, single phase
Make	Shakti/Equivalent
PIPING FROM PERMEAT	TE WATER TANK TO LABORATORY
CPVC Piping	1.5"
Length	Max up to 25 meters

INSTRUMENTATION

S. No	Description	Location	Qty	Make
1.	Pressure Gauge - 2/2" Dial	Each vessel inlet & outlet, RO reject and Each Pump outlet.	1 Lot	Baumer
2.	Flow Indicator	RO Reject, RO Outlet, Skid based	2 Nos.	Aster
3.	Pressure Switches	Each HPP inlet & outlet.	2 Nos.	Danfoss



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SECTION - V ANNEXURE

ANNEXURE – II

TENDER SECURING DECLARATION
Date:
Tender No.:
To:
Head Technical Services,
TIFR Hyderabad.
We, the undersigned, declare that:
 We understand that, according to your conditions, bids must be supported by a Tender- Securing Declaration.
2. We accept that we will automatically be suspended from being eligible for tendering in any public procurement tenders with any public entity for the period of time determined by the Public Procurement Oversight Authority, if we are in breach of our obligation(s) under the tendering conditions, because we:
 a) have withdrawn our tender during the period of tender validity specified in the Tender Data Sheet; or
b) having been notified of the acceptance of our Tender by the Procuring Entity during the period of tender validity fail or refuse to execute the contract; or fail or refuse to furnish the performance security, if so required.
3. We understand that this Tender Securing Declaration shall expire if we are not the successful Tenderer, upon our receipt of your notification or regret of the tender award letter; or thirty-eight days after the expiration of our tender, whichever is earlier.
Signed:
Name:
Dated on day of,



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ANNEXURE-III

भारत सरकार / Government of India परमाणु ऊर्जा विभाग / Department of Atomic Energy सचिवालय समन्वय अनुभाग / Secretariat Coordination Section

अणुशक्ति भवन / Anushakti Bhavan,

छत्रपति शिवाजी महाराज मार्ग / C.S.M. Marg,

मुंबई / Mumbai - 400 001

इ-मेल / Email: sectcord@dae.gov.in

No.23/08/2020-SCS/E-File/ 9200 ·

Dated: -23- 11 - 2020

पुष्ठांकन / ENDORSEMENT

विषय /:

Bid Security / Earnest Money Deposit - Regarding.

Subject:

उपरोक्त विषय पर व्यय विभाग, वित् मंत्रालय, नई दिल्ली से प्राप्त दिनांक 12/11/2020 के कार्यालय ज्ञापन संख्या. F.9/4/2020-PPD की एक प्रति सूचना एवं आवश्यक कार्रवाई हेतु अग्रेषित है ।

A copy of Office Memorandum No. F.9/4/2020-PPD dated 12/11/2020 received from Department of Expenditure, M/o Finance, New Delhi on the above - mentioned subject is forwarded for information and necessary action.

संलग्न : यथोपरि / Encl.: 02 Pages.

(न. ज. खानविलंकर / N. J. Khanvilkar) अनुभाग अधिकारी / Section Officer (022 - 22862661)

पऊवि के सभी संघटक इकाईयों / सार्वजनिक क्षेत्रं के उपक्रमों / सहायता प्राप्त संस्थानो के प्रशासनिक प्रधान । All Administrative Heads of Constituent Units/PSUs/Aided Institutions of DAE.



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No. F.9/4/2020-PPD
Government of India
Ministry of Finance
Department of Expenditure
Procurement Policy Division

512, Lok Nayak Bhawan, New Delhi Dated the 12th November 2020

OFFICE MEMORANDUM

Subject: Bid Security/ Earnest Money Deposit.

The Government is in receipt of many representations that on account of slowdown in economy due to the pandemic, there is acute financial crunch among many commercial entities and contractors, which in turn is affecting timely execution of the contracts. It has also been represented that this may affect the ability of contractors to bid in tenders and hence reduce competition. Requests are being received for reduction in quantum of Security Deposits in the Government contracts.

- 2. As per Rule 170 of General Financial Rules (GFRs) 2017, Micro and Small Enterprises (MSEs) and the firms registered with concerned Ministries/ Departments are exempted from submission of Bid Security. Further, in lieu of Bid Security, Ministries/ Departments may ask bidders to sign "Bid Security Declaration" accepting that if they withdraw or modify their bids during period of validity etc., they will be suspended for the time specified in the tender documents. Similar provisions also exist in the Manuals for Procurement of Works 2019 and Manual for Procurement of Consultancy & other Services 2017.
- 3. In this context it is noted that Bid Security (also known as Earnest Money Deposit) is still being taken from the contractors by the various Ministries/ Departments, though the relaxations have already been provided in General Financial Rules (GFRs) 2017.
- 4. In view of above, it is reiterated that notwithstanding anything contained in Rule 171 of GFRs 2017 or any other Rule or any provision contained in the Procurement Manuals, no provisions regarding Bid Security should be kept in the Bid Documents in future and only provision for Bid Security Declaration should be kept in the Bid Cocuments.
- 5. Wherever, there are compelling circumstances to ask for Bid Security, the same should be done only with the approval of the next higher authority to the authority competent to finalise the particular tender or the Secretary of the Ministry/ Department, whichever is lower.
- The above instructions will be applicable for all the tenders issued till 31.12.2021.



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7. These instructions will be applicable for all kinds of procurements viz. Goods, Consultancy, Works, non-consulting Services etc and are issued under Rule 6(1) of the GFRs 2017.

(Kotluru Narayana Reddy) Deputy Secretary to the Govt. of India

Tel: 24621305

Email: kn.reddy@gov.in

Kenekeldy

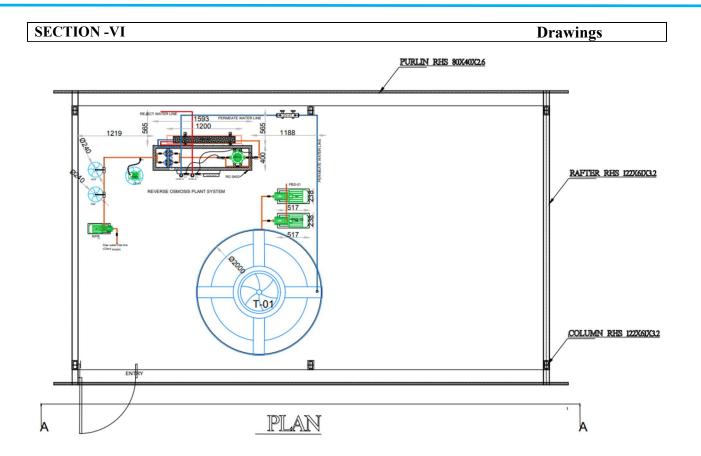
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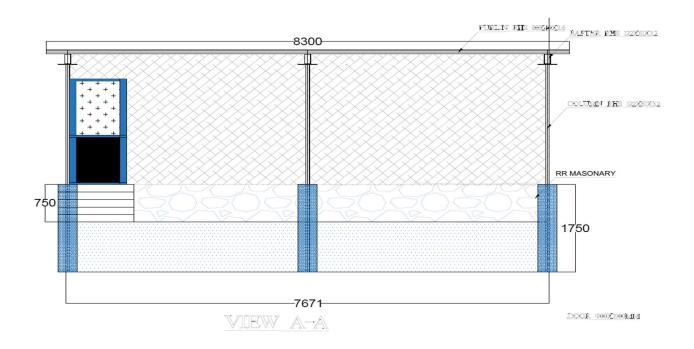
All the Secretaries and Financial Advisers to Government of India

Copy to: Secretary, Department of Public Enterprises with a request to issue the same instructions to Central Public Sector Undertakings (CPSUs).

Ctifr

TATA INSTITUTE OF FUNDAMENTAL RESEARCH







(Autonomous Institution of the Department of Atomic Energy, Government of India) Survey No.36/P, Gopanpally Village, Serilingampally Mandal, Ranga Reddy District, Hyderabad-500046, Telangana

SECTION -VII FINANCIAL BID

INVITATION OF BIDS

FOR

Civil & Structural Work for Raw and RO Water Plant at plot B, Survey No. 36/P, Gopanpally Village, Serilingampally Mandal, Ranga Reddy District, Hyderabad.

FINANCIAL BID

PART-II

Ctifr

TATA INSTITUTE OF FUNDAMENTAL RESEARCH

(Autonomous Institution of the Department of Atomic Energy, Government of India) Survey No.36/P, Gopanpally Village, Serilingampally Mandal, Ranga Reddy District, Hyderabad-500046, Telangana

SCHEDULE OF QUANTITIES

Civil & Structural Work for Raw and RO Water Plant at plot B, Survey No. 36/P, Gopanpally Village, Serilingampally Mandal, Ranga Reddy District, Hyderabad.

	Description	Unit	Quantity	Rate/Unit	Amount
1	Site Clearance including uprooting of rank	Sqm	40.00		
	vegetation, grass, brushwood, trees and saplings				
	of girth up to 30cm measured at a height of 1m				
	above ground level, clearing grass, including				
	disposal of rubbish up to a distance of 5 Km				
	outside the periphery of the area cleared etc.				
	complete all as per the directions of Engineer - in				
	- Charge.				
2	EXCAVATION:	Cum	26.80		
	Earthwork in excavation below Ground Level in				
	all kinds of soils up to hard strata to a maximum				
	depth of 2.0 m below existing FGL; staking out				
	of work as per specifications; taking spot levels				
	on edges & centerline @ 3m c/c as per				
	specifications; coming out of water if				
	encountered; providing side strutting if required,				
	segregating the excavated earth in to serviceable				
	and unserviceable earth; stacking the serviceable				
	earth separately for enabling reuse for backfilling				
	or any other purpose as per instructions of TIFR-				
	TCIS, HYDERABAD; carting away and disposing				
	the unserviceable earth and disposing off				
	beyond site boundaries to suitable dumping				
	spots/unobjectionable places; obtaining approval				
	from Mining Department/Applicable				
	departments by payment of royalty; Right of way				
	payments; loading at TIFR-TCIS, HYDERABAD				
	premises; transportation to dumping				
	spots/unobjectionable places; unloading &				
	leveling at dumping spots/unobjectionable				
	places;				



3	PLAIN CEMENT CONCRETE: Supplying and Laying Plain Cement Concrete of Grade 1:4:8 with stone aggregate of 40mm down size (including shuttering if required) in all leveling courses under Foundation, Floors, Pipelines, Pits, trenches etc., at all depths complete all as per Drawings and Specifications and instruction of the Engineer-in-charge.	Cum	6.68	
4	Providing and Construction of Random rubble masonry with hard stone in foundation and plinth including levelling up with cement concrete 1:6:12 (1 cement : 6 coarse sand : 12 graded stone aggregate 20 mm nominal size) upto plinth level with Cement mortar 1:6 (1 cement : 6 coarse sand) etc., complete all as per the directions of the Engineer - in - charge	Cum	21.71	
5	Providing and laying in position M-20 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, including the cost of centering, shuttering finishing, cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in - charge. (Note: - Cement content considered in this item is @ 330 kg/cum. Excess/less cement used as per design mix is payable/recoverable separately).	Cum	3.00	
6	BACK FILLING Backfilling around sub-structure with serviceable & reusable soils available from excavation and stacked earlier within the new site boundary including re- excavating, shifting to the site of backfilling, backfilling in layers of 200 mm; watering; compacting; testing to achieve 95% MDD as per lab results all complete as per instructions of TIFR-TCIS, HYDERABAD. Depth upto 1.5m	Cum	26.20	



7	STRUCTURAL STEEL WORK: Supplying,	Kg	708.26	
	fabricating, hoisting and erecting in position HS			
	structural steel works similar to Pre-Engineering			
	building structures using columns, canopies,			
	rafter , sub rafters and Purlins at all			
	elevations/levels/heights including			
	aligning/leveling, providing and fixing bolts, nuts,			
	washers, angles, channels, joists, rails, tees,			
	plates, rounds, squares,etc., of various sizes and			
	other structural steel sections conforming to			
	latest IS 2062-Grade A & B as applicable including			
	straightening, cutting, welding, bending to shape,			
	bolting, cleaning the rust and scales. Scope is			
	inclusive of following finishes ie.Grit / sand			
	blasting and applying one coat of Red Oxide			
	Primer DFT 30 Microns and synthetic enamel			
	paint DFT 35 microns. Only paint touchup			
	wherever needed to be done after erection.			
	The rate to include the cost of all materials,			
	labours, tools, tackles, cranes, devices, fasteners,			
	welding, connection required for work shop and			
	packing pieces, fabrication in the work shop,			
	transportation to site and erection at site as per			
	specifications and drawing complete.			
	Make: JSW, Tata Steel,RINL,SAIL etc with ISI			
8	Providing and fixing Colour Coated Galvalume	Sqm	46.48	
	sheet Jindal/ Kirby/any approved make for			
	roofing of 1000/1020mm cover width,28 to			
	30mm high crests			
	at 250/255mm centers in lengths upto 12m to			
	suit site requirements, in hot dip metallic coated			
	steel. Sheet to have wide pans			
	with three stiffening ribs for efficient water			
	shedding and special male female sides with full			
	return leg on side lap for supports from purlins			
	at Ends and anticapillarity flute in side lap. The			
	material shall be cold rolled steel, 550Mpa yield			
	stress (ASTM A446 Grade E) With hot dipped			
	metallic coating of aluminum Zink alloy			
	·			



	ASTM A792 or AS per IS 1397),0.5mm total coated thickness. The rate should be inclusive of laps, wastages, scaffoldings, screws, fasteners, shifting of materials etc. complete for finished item of work .(Laps either with same or with other Galvalume sheet will not be considerd for payment). Make: JSW, Tata Bluescope, etc with ISI			
9	Supply & fixing of 50mm V-board Panels (asbestos free fiber reinforcement cement sheet) strongly bonded with core material which is light weight concrete mix of Portland cement, expanded polystyrene bead aggregrates & admixture. V panels with unique semicircular tongue & groove joint system provides better stability. Bottom of panel shall be fixed to the floor channel of 1.25mm thick & top of the panel shall be fixed to the ceiling height the help of GI Channel of 1.25mm. The V boards to be fixed along the construction wall with necessary MS holders/clips welded to the members and apply two coats of putty (Birla) and painting in two coats of Royal emulsion. the cost includes all materials to the site, labour charges, Cuplock scaffolding charges, overhead & profits etc. complete for finished item work including joint filling with putty.(Also inclusive of corner PPGI flashing of 100x100x0.8mm).	Sqm	64.12	



Aluminium Door: Providing and fixing Powder coated(50 micron) Aluminium door of size in sngle shutter of each size 1.2 m x 2.10 m consisting of aluminium hollow sections, door frame verticals of size 83.50 mm x 44.45 mm x 1.50 mm thick , top rail 47.62 mm x 44.45 mm x 1.50 mm thick, middle rail- 49.91 mm x 44.45 mm x 1.50 mm thick, bottom rail-104 mm x 44.45 mm x 1.50 mm thick of Jindal/Indal/Hindalco/Equivalent make confirming to IS 733 and IS 1285, fixing with dash fasteners of required dia and size, including necessary filling up the gaps at junctions, i.e., at top, bottom, sides with required EPDM rubber/neoprene gasket etc. Aluminium section shall be smooth, rust free, straight, mitted and jointed mechanically wherever required including cleat angles, aluminium snap beading for glazing/paneling, CP Brass/Stainless Steel screws, all complete as per architectural drawing. The frame work t both sides prelaminated particle board flat pressed 3 layer confirming to IS 12823, Grade-1, Type-II of Bhutan/Nepal/ Greenlami/ Equivalent make and partly with plain glass in 5 mm thickness(Modigaurd/Saintgobin/Equivalent Make) with matching powder coated clips. The Door to be provided with 1 no of 4 levers godrej make mortice lock, 1 no. hydraulic aluminium extruded door closer of heavy duty, (Godrej/Everite/Hardywn/Equivalent make), 3 nos 100 mm long aluminium hinges of IS make, 1 no.heavy duty brass door stoppers, 2 nos 150 mm long aluminium door handles of IS make, 1 no.heavy duty brass door stoppers, 2 nos 150 mm long aluminium door handles of IS make. The rates including cost and conveyance of all materials, labour charges, transportation, GST, etc complete for finished item of work as per instructions of Engineer -in-charge	Sqm	2.52			
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11	Providing and placing on terrace Sintex tank with cover and suitable locking arrangement and making necessary holes for inlet, outlet and overflow pipes with fittings and seating arrangement of tank over masonary or conrete base as per the direction of engineer incharge.	Ltr	1,000.00	
12	Design, Supply & commissioning of 200LPH Ro Plant with technical details as per annexure-I	Job	1.00	
13	Supply of Shakti make Pressure Booster system: SH 4-4,Flow: 4M3/Hr @ Head:25M,Suction X Delivery: Rp 1 1/4" X 1",No of stages:4,Moc:Inlet Outlet Chamber-Cast Iron, Impellers and diffusers-SS304 with 5 way valve, NRV, Pressure switch, Pressure gauge, along with 24ltr pressure tank,.75KW/1HP,2800rpm,Single Phase. Rates inclusive of Supply, Transportation etc.	No	2.00	
14	Supply & Installation of 0.5mm PPGI Sheet(600mm wide) including Scaffolding,material & transportation	Rmt	20.00	
	Total			-
	GST @ 18 %			
	Grand Total			

In Words:



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Note:

- 1. TIFR, Hyderabad has right to delete any of above items from scope of work or may increase/reduce quantities as per its requirement during execution of work. No claim or compensation for such deletion/increase/decrease will be accepted/paid to contractor. Payment will be made as per actual quantities executed at tender rates.
- 2. Fluctuation: Bidder must consider the price fluctuation going to happen in the bid validity period (i.e 90days + execution period 60days.)
- 3. Action for withdrawal: The bidder can't withdraw the bid within the validity period. If any bidder withdraws his bid during above said period then action will be taken as per tender clause& declaration.

