SCOPEMINAR/MMO/16-17/
Date: 28.01.2016

NOTICE INVITING TENDER

Sub: Design, Supply, Installation, Testing & Commissioning of RO Plant of Capacity 10 Cum/hr for Treatment of available ground water at SCOPE Minar, Laxmi Nagar, Delhi-110092.

1. Sealed item rate tenders are invited by Dy.General Manager-Engg.,SCOPE on behalf of Constituents of SCOPE MINAR, Laxmi Nagar Delhi- 110092 for the subject work as per the details given below:

1.1	Name of the work	:	Design, supply, Installation, Testing & Commissioning of RO Plant (Capacity 10 cum/hour) for treatment of available ground water at SCOPE Minar, Laxmi Nagar, Delhi-110092.
1.2	Estimated Cost	:	Rs. 19,55,302 /-
1.3	Earnest Money	:	Rs 39,100 /-
1.4	Time for completion	:	3 months from the date of issuance of LOI.
1.5	Cost of Tender	:	Rs. 500.00
1.6	Last date of submission of Tenders	:	17.01 2017 up to 3:00PM
1.7	Place of submission of tender	:	Office of Dy.G.M.-Engg., MMO, SCOPE, SCOPE Minar, Laxmi Nagar, Delhi- 92
1.8	Date & Time opening of Tenders	:	17.012017 at 3:30PM
1.9	Place of opening of Tenders	:	As above

2. Tender Document consisting of drawings, Technical Specification, Schedule of quantities, General conditions of contract & special condition of contract can be had from the office of the Dy.General.Manager-Engg, MMO SCOPE MINAR, Laxmi Nagar, Delhi-110092 on payment of Rs.500/- in the form of cash/DD in favour of "MMO SCOPE MINAR Account" (Non-refundable) on any working day from 02.01.2016 to 16.01.2017 during working hours from 10:00AM to 3:00PM. Scope of work and eligibility criteria can be seen from the website of SCOPE www.scopeonline.in. However, bid shall be submitted on purchase documents only.

3. Tender document shall be issued only to reputed, specialized Contractors/Manufacturers/Authorised Dealers working with CPWD/PWD/MES/Railway/PSUs/Autonomous Bodies/SCOPE who fulfill following pre-qualification criteria & showing the original document in this regard:

   a) Proof of registration with ESI, PF, Service Tax/VAT clearance certificate, PAN No.

   b) Average annual financial turnover should be at least 1.5 times of the estimated cost during the immediate last 3 consecutive financial year.

   c) Experience of having successfully completed the works of Supply & Installation of Ion - Exchange make RO plant only of capacity 10cum/hr or more during the last 7 years ending last day of the month previous to the one in which applications are invited:

      Three similar completed works, each costing not less than the amount equal to 40% of estimated cost put to tender.

      OR

      Two similar completed works, each costing not less than the amount equal to 60% of the estimated cost put to tender.

      OR

      One similar completed works of aggregate cost not less than the amount equal to 80% of the estimated cost.

   d) Copies of similar works executed / in hand for multi-storied office building & industry during last three years along with work order & clients performance certificate.

   e) All the above certificate / documents shall be submitted by the firm duly signed & self attested subject to verification with original documents.

4 NIT & Tender details shall also be available on SCOPE's website www.scopeonline.in stipulating the terms and conditions for the benefit of intending bidders to understand the scope of work, specifications etc. However, bids will be acceptable only if issued from the office of Dy.G.M.-Engg. SCOPE and purchased by the bidder after verification of the specified pre-qualification criteria.

5 The tender shall be submitted in the following manner, in three separate sealed envelopes, duly super scribed the name of work along with following details:-

Envelope-I "EMD"

Envelope-II "Technical and Un-priced Commercial Bid"

Envelope-III "Price Bid"

Envelope – I shall contain 'EMD'. Envelope-II shall contain tender containing Technical & Un-priced Commercial Bid duly signed and stamped on all pages. Envelope-III shall contain only prices duly signed, i.e., schedule of rates duly filled in. It is to be noted that the sealed envelope containing Price Bid (Envelope-III) shall contain only the prices without any conditions whatsoever.

6 Tenderers are advised to submit their offers strictly based on the layout, design parameters, specific requirements, terms & conditions and specifications given in the tender document.

7 Earnest Money mentioned above should be paid by crossed Demand Draft / Pay order from any Nationalized / Scheduled Bank in favor of "MMO SCOPE MINAR Account". Tenders without Earnest Money Deposit will be summarily rejected and the representative of such tenderers will not be allowed to attend tender opening.

8 The tender Envelope (II) containing Technical & Un-priced Commercial Bids shall be opened on the due date in the presence of tenderers or their authorized representatives who wish to remain present. The price bids (Envelop - III) shall be opened after all the technical bids are brought at par.

9 SCOPE reserves the right to reject any or all tenders without assigning any reasons.

10 Pre-Bid conference shall be held on 13.01.2017 if required.

Dy. General Manager (Engg.)

SCOPE OF WORK

INTENT OF CONTRACT: This tender is for Design, Supply, Installation and commissioning of Ion-Exchange make (RO) plant of capacity 10m3/hour for treatment of ground water at SCOPE MINAR, Laxmi Nagar, Delhi-110092.

SCOPE OF WORK: The supplier will be given the required quantity of raw water from the raw water storage tank. The quality of raw water as specified to be treated to get total normal output of 10cu.m/hour of treated water of specified qualities.

Based on the quality of the raw water available and the final treated water required as specified, the supplier has to design, manufacture, supply, erect, test and commission, the plant as specified in the Bid Document. (All instrumentation and electrical system (Motors, MCC panels, instrument panels, electric and instrument cables, earthing and their erection) required for RO plant are in Bidders scope).

Inclusions are as follows :

The work is to be executed at lower basement of SCOPE Minar.

Supply and installation of RO plant including all i.e. civil works etc complete in all respect.

Supply and installation of Raw water pump in pump house including civil work and foundations etc complete in all respect.

Providing and fixing of pipeline through the desired route as instructed by Engineer-in –charge.

Supply and installation of MCC panel and all the electrical work related to RO plant.

Supply and installation of all valves, gauges, conductivity meters, flow meters etc.

The work is to be executed in occupied building where PSU offices are functioning. Hence, Work shall be done in a proper manner with minimum disturbance to the working environment of the building.

The Contractor should carryout the work with utmost care to as to not disturb/ dispute/ damage the property of the building.

The disposal of removed material if any shall be done in a systematic manner away from the grounds of SCOPE Minar and it shall not be allowed to accumulate.

Supply and application of all the consumables complete in all respect.

Proper site clearance after completion of work and during the progress of work as per instructions of Engineer-in-charge.

Multi Media Filter (MMF)

A Multi-Media Filter is used to help prevent fouling of an RO system. A MMF typically contains three layers of media consisting of anthracite coal, sand and garnet, with a supporting layer of

gravel at the bottom. These are the medias of choice because of the differences in size and density. The larger (but lighter) anthracite coal will be on top and the heavier (but smaller) garnet will remain on the bottom. The filter media arrangement allows the largest dirt particles to be removed near the top of the media bed with the smaller dirt particles being retained deeper and deeper in the media. This allows the entire bed to act as a filter allowing much longer filter run times between backwash and more efficient particulate removal.

A well operated Multi Media Filter can remove particulates down to 15-20 microns. A Multi-Media Filter that uses a coagulant addition (which induces tiny particles to join together to form particles large enough to be filtered) can remove particulates down to 5-10 microns. To put this in perspective, the width of a human hair is around 50 microns.

A multi media filter is suggested when the Silt Density Index (SDI) value is greater than 3 or when the turbidity is greater than 0.2 NTU. There is no exact rule, but the above guidelines should be followed to prevent premature fouling of RO membranes.

It is important to have a 5 micron cartridge filter placed directly after the MMF unit in the event that the under drains of the MMF fail. This will prevent the MMF media from damaging downstream pumps and fouling the RO system.

Microfiltration (MF)

Microfiltration is effective in removing colloidal and bacteria matter and has a pore size of only 0.1-10μm. MF is helpful in reducing fouling potential for an RO unit. Membrane configuration can vary between manufacturers, but the "hollow fiber" type is the most commonly used. Typically, the water is pumped from the outside of the fibers, and the clean water is collected from the inside of the fibers. Microfiltration membranes used in potable water applications usually operate in “dead-end" flow. In dead-end flow, all of the water fed to the membrane is filtered through the membrane. A filter cake that must be periodically backwashed from the membrane surface forms. Recovery rates are normally greater than 90 percent on feed water sources which have fairly high quality and low turbidity feeds.

Antiscalants/Scale Inhibitors

Antiscalants and scale inhibitors, as their name suggests, are chemicals that can be added to feed water before an RO unit to help reduce the scaling potential of the feed water. Antiscalants and scale inhibitors increase the solubility limits of troublesome inorganic compounds. By increasing the solubility limits, you are able to concentrate the salts further than otherwise would be possible and therefore

achieve a higher recovery rate and run at a higher concentration factor. Antiscalants and scale inhibitors work by interfering with scale formation and crystal growth. The choice of antiscalant or scale inhibitor to use and the correct dosage depends on the feed water chemistry and RO system design. Water Softening

A water softener can be used to help prevent scaling in an RO system by exchanging scale forming ions with non scale forming ions. As with a MMF unit, it is important to have a 5 micron cartridge filter placed directly after the water softener in the event that the under drains of the softener fail.

Dy. General Manager –Engg.