INFORMATION SHEET for PROCUREMENT of RO PLANT

Reference No: FNK-I/IUL/2024/195

Issued on: 02nd July 2024

Issued by:

Fenaka Corporation Limited

Male', Republic of Maldives

Section I: Instruction to Bidders

A. General		
1. Scope of Bid	1.1	Fenaka Corporation Limited requests quotations for RO Plant in accordance with *Section III, Technical Specifications*
	1.2	It is in Fenaka Corporation Limited's discretion to cancel this bid invitation at any time.
2. Eligible Participants	2.1	Local companies registered in Maldives are eligible to participate in the tender
	2.2	Foreign companies are eligible to participate in the tender only if the total bid value is above 2,500,000 Maldivian Rufiyaa.
B. Preparation of the Bid		
3. Bid Prices	3.1	The unit price of each item and the total price shall be clearly indicated in the quotation
	3.2	All items shall be quoted in the bid (please refer to *Section III, Technical Specifications* for the details of required items)
	3.3	Quotation shall separately indicate the additional charges such as freight charges, insurance, etc.
	3.4	The bidder shall submit quotation on CIF basis to Male' port
4. Currency	4.1	The bidder shall quote entirely in Maldivian Rufiyaa
5. Alternative Bids	5.1	Bidders can submit a maximum of two (2) options
6. Validity of Bids	6.1	Quotation shall remain valid for minimum sixty (60) days from the date of bid opening
7. Bid Security	7.1	All bids should be accompanied with a bid security of USD 1,000 (One Thousand US Dollars) or its equivalent in Maldivian Rufiyaa
	7.2	The bid security should be: - Original bank guarantee letter (or) - Bank guaranteed and stamped check (or) - An insurance policy from Maldives Monetary Authority (MMA) registered insurance company

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	7.3	Any bid not accompanied by a Bid Security shall be rejected during bid opening
	7.4	The bid security must be valid for a minimum of twenty (20) additional days beyond the validity of quotation
8. Technical Compliance	8.1	All relevant information including the brand shall be given to enable technical evaluation of quoted items
	8.2	If the manufacturer or assembler is not the same as the bidder, a document indicating that manufacturer or assembler is willing to sell the item to the bidder is required
	8.3	Technical compliance letter will be required to enable technical evaluation
	8.4	If the goods do not comply with the requirements mentioned in *Section III, Technical Specifications*, the bid will be rejected during evaluation.
9. Documents Comprising the Bid	9.1	Quotation (inclusive of the delivery period and payment terms)
	9.2	Manufacture Specification Sheet
	9.3	Photo (Color Photo)
	9.4	Drawings
	9.5	Details of the company - Company profile/background - Company registration certificate - GST registration certificate (for local bidders only) - TAX clearance report (6 months validity) - Contact details (name, designation, mobile number, and e-mail address)
	9.6	Experience letters, if available - Letters within past five (5) years - Relevant experience letters - Letters with project name and value
	9.7	One (1) compact disc with original bid document scanned and written
	9.8	Bids lacking the documents above are subjected to be rejected during the bid opening

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10. Format of Bid	10.1 The Bidder shall submit two (2) sets of the bid document (1 original and 1 copy), enclosed separately in two envelopes, and sealed with company stamp 10.2 All pages of the bid document shall be originally stamped and bound properly (excluding the bid security)
C. Bid Submission	
11. Sealing and Marking Bid Document	11.1 The bid document shall be sealed properly in an envelope clearly marked 'ORIGINAL' or 'COPY', with the name of the company and the tender reference number (FNK-I/IUL/2024/195)
12. Bid Opening	12.1 The bids will be opened on 11th July 2024, 1100hrs in the presence of bidders 12.2 Bids will be opened at: Fenaka Corporation Limited Hilaalee Magu, K. Male', Republic of Maldives 12.3 Bids received electronically will not be accepted
13. Bid Rejection	13.1 Fenaka Corporation Limited shall not consider any bidders that arrive after the deadline for submission 13.2 Bidders that do not register for the tender are unable to participate in the bid opening 13.3 Bids lacking the documents mentioned in 9. Documents Comprising the Bid (except 9.6 Experience letters) and that do not comply with 10. Format of Bid are subjected to be rejected
D. Awarding of Contract	
14. Payment Terms	14.1 An advance payment will not be released for this project 14.2 Vehicle should be in alliance with Ministry of Transport and Civil Aviation vehicle registration regulations.

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Section II: Evaluation Criteria

Proposal Cost: 60 points for the lowest price

- *(Lowest price / proposed price) x 60*

Delivery: 10 points for the lowest delivery period

- *(Lowest delivery period / proposed delivery period) x 10*
- If the delivery period indicates 'ex-stock', it shall be taken same as the party offering the longest delivery period.

Credit Period: 10 points for the maximum credit period.

- *(Proposed credit period / longest credit period) x 10*

Experience: 20 Points

- This company only acknowledges experience letters which proves the pickup have been supplied to Maldives.

Note: Any discrepancy in technical details specified in quotation with technical specification document, the specification shall prevail.

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Section III: Technical Specifications

Description	Quantity
RO Plant 150m	02

Technical Specification for 150 m^3 of 02 Reverse Osmosis Desalination Plant for Lh. Hinnavaru

Scope of Work

The contractor is responsible for providing and installing a fully functional 02 Nos of 150 m^3 reverse osmosis desalination plant in a single skid, encompassing all necessary components and equipment for efficient operation including piping, upgrade of borehole pump(s) (water intake), Prefiltration and RO plants.

Technical Specifications

- Single RO Plant should be capable of producing minimum 150 m^3/day based on 20 hours of operation per day (7500 l/hr.) It should be compact and easily disassembled for portability and recovery rate should not be less than 40%. Furthermore, all items should be incorporated in compact SS skid systems. Contractor must provide critical spares for 12 months of operation provided and training sessions for staff to effectively operate the new RO Plant(s).

- The contractor holds responsibility for the newly installed RO Plant throughout the Defect Liability Period, lasting for 12 months from the installation date.

- Both RO Plants are to be designed for installation on a single foundation, functioning as a two-train system, thus limiting the available space in the RO Plant room. The existing foundation measures 3330 millimeters in length, 2032 millimeters in breadth, and has a height of 2743 millimeters in RO Plant Room.

- The contractor is responsible for uninstalling the current RO Plant(s) and installing the new plants within a one-week timeframe. The island's water storage is inadequate for a period exceeding one week.

- The contractor to provide the following drawings:
  - Process flow + PID Diagrams
  - General Arrangement Drawings - Single Line Electric Diagrams
  - Catalogue for all proposed equipment's
  - Operation and maintenance manuals (written in English)

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Component	Requirement
Feed Water	Sea water of TDS 25000-45000ppm is the medium of feedwater.
Borehole Pump	Borehole pump to be upgrade for the feed of minimum 37.5 m^3/hr. Existing borehole diameter is 225mm and the feed is 11.95 m^3/hr.
Feed Pump	Centrifugal pump of corrosion resistant material.
Prefiltration	05- and 10-micron bag or cartridge filters and media filter (sand filter) must provide (spares should be readily available locally). Multimedia Filters, pressure type, FRP or composite construction complete with graded silica sand media, anthracite and gravel support. Filter is supplied with manual or automatic valves actuated electrically Cartridge or Bag filtration system complete with stainless steel housing and filter elements (5 and 10 micron), differential pressure indicator, air relief valve isolation and drain valves and inlet and outlet pressure gauges.
Reverse Osmosis membranes and vessel	RO membranes (8") of sufficient quantity and compact vessel size. High pressure inter connection piping shall be of duplex stainless steel. Low pressure piping shall be UPVC.
High pressure pump	Duplex SS axial piston pump, and motor sized for the (frequency controlled) production capacity preferred. Preferred brand of HP pump is Danfoss.
Plant backwash/rinse system	Backwash pump, and HDPE tank or a dichlorination system (if chlorination is done) sized for full backwash of the RO plant. Automatic flushing system including controls of concentrate by pass solenoid valve.
Low pressure pipes and fittings	u-PVC (grey) or PP (green) pipes and fittings of minimum PN10. All inlets and outlets must be of u-PVC.
Disinfection system	Sufficiently sized UV-C system with two light tubes, or chlorination system with pump for disinfection of product water.
Antiscalent Dosing	A small amount of antiscalent must be dosed to prevent formation of CaSO4, CaCO3 scale. Chemical tank shall be polyethylene with cover fitted with liquid level gauge and float switch and a pump for dozing.
Chlorine Dosing	Chemical tank shall be polyethylene with cover fitted with liquid level gauge and float switch and a pump for dozing.

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Chemical Injection Pump	positive displacement diaphragm-action type, with parts exposed to chemicals made of corrosion resistant plastic or special rubber compound, electric motor driven, complete with suction strainer, ball check valve, injection nozzle for screwing water pipe, anti-syphon device and necessary lengths of suction and delivery tubing all of corrosion resistant plastic materials.
Electric Control Panel	Steel sheet IP55 enclosure, mounted on unit and containing main isolating switch, star-delta magnetic starters for pumps, control circuit transformer, control switches, indicating lights, fault shutdown circuits and relays. MCC shall be equipped with annunciation panel covering all normal operations, normal shutdown and emergency shutdown condition with R/O plant. Micro PLC panel board or HMI to include direct reading of major instruments.
Controls and Safety Devices	Low and High Feed Alarm, Low and High Pressure Alarm and Product Water Conductivity or TDS Alarm and Other Electrical Alarms and Faults.
Dash Board	Visible product flow meter, reject water flow meter, conductivity of product water (either in dash board or in Panel), pressure gauges for feed, reject, membrane inlet and product water.
Set of instruments	R.O. feed TDS, pH - digital Pressure gauges for Media filter inlet and outlet Pressure gauges for cartridge or bag filters inlet and outlet High pressure pumps suction low pressure switch High pressure pumps discharge high pressure switch Pressure gauges for feed, inter stage and brine reject Pressure gauges for product water Permeate and brine reject flow meters Raw water flow meter Product water conductivity & TDS analyzer - digital Feed water low suction pressure switch Inert thermoplastic electrically actuated product shutoff valve

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