



WATER CORPORATION OF ODISHA
OFFICE OF THE MANAGING DIRECTOR, WATCO
Ground Floor, Unnati Bhawan
Near Satyanagar Fly over, Bhubaneswar-751001,
Odisha, India
Telefax: +91-674-2391444
E Mail: mail@watcoodisha.in, md@watcoodisha.in

Expression of Interest (EOI) Invited
From
Manufacturers of Consumer Water Meters

March 2020

CONTENTS

S. NO.	CONTENTS	PAGE NO.
1	Disclaimer	3
2	EOI	4
3	EOI Document	5-12

Disclaimer

This EOI Document has been prepared by Managing Director WATCO, Odisha, Bhubaneswar solely for the purpose of gathering information regarding various aspects of consumer water meters such as types, technical specifications, installation aspects, accuracy, durability and repair and maintenance aspects etc. from reputed and eligible manufacturers of consumer water meters as a knowledge sharing exercise for going to the subsequent stage of procurement bidding process.

The information contained in this EOI document (the “EOI”) or subsequently provided to Manufacturer/Manufacturer(s), whether verbally or in documentary or any other form by or on behalf of WATCO or any of their employees or advisors, is provided to Manufacturer(s) on the terms and conditions set out in this EOI and such other terms and conditions subject to which such information is provided.

This EOI is neither a bid nor an agreement and is neither an offer nor invitation by “WATCO” to the Manufacturer/s. The purpose of this EOI is to provide interested Manufacturers with information that may be useful to them for sharing credible and required product information in their presentation during pre-bid conference pursuant to this EOI.

The issue of this EOI does not imply that “WATCO” is bound to select any particular type or specifications of any particular meter manufacturer/manufacturer(s). The Manufacturer shall bear all its costs associated with or relating to the preparation and submission of its EOI including but not limited to preparation, copying, postage, delivery fees, expenses associated with any demonstrations or presentations which may be required by “WATCO” or any other costs incurred in connection with or relating to its EOI. All such costs and expenses will remain with the manufacturer and “WATCO” shall not be liable in any manner whatsoever for the same or for any other costs or other expenses incurred by a manufacturer in preparation or submission of the EOI.



**WATER CORPORATION OF ODISHA
OFFICE OF THE MANAGING DIRECTOR, WATCO**

**Ground Floor, Unnati Bhawan
Near Satyanagar Fly Over Bridge, Bhubaneswar-751001,
Odisha, India**

Telefax: +91-674-2391444

E Mail: mail@watcoodisha.in, md@watcoodisha.in

EOI Identification No MD, WATCO-01-19/20 Dated:17.03.2020

EXPRESSION OF INTEREST (EOI)

The MANAGING Director, WATCO, Bhubaneswar on behalf of the Governor of Odisha invites Expression of Interest (EOI) in conformity with the detailed EOI document, from reputed and eligible manufacturers of consumer water meters for selection of types and technical specifications of meters for using the same in the next level of bidding process. The EOI can be downloaded from WATCO website www.watcoodisha.in / www.urbanodisha.gov.in and completed document can be sent by E-mail/hard copy as per details provided in the EOI document. Processing fee of Rs.5000/shall be deposited as provided in the EOI document.

Last date & time for EOI download : 27.03.2020 up to 5.00 PM

Last date and time for submission of EOI document : 31-03-2020 up to 5.00PM

Date of technical cum presentation meeting : 7.04.2020 at 12.30PM

Name & Address of the Officer Inviting EOI:

Managing Director, WATCO,
OFFICE OF THE MANAGING DIRECTOR, WATCO
Ground Floor, Unnati Bhawan
Near Satyanagar Fly Over Bridge, Bhubaneswar-751001,
Odisha, India Telefax: +91-674-2391444,
E Mail: mail@watcoodisha.in, md@watcoodisha.in

Sd/-
Managing Director, WATCO

Copy to:-

1. Principal Secretary cum Chairman, WATCO, Bhubaneswar for favour of kind information.
2. Engineer-in-chief, PH, Odisha for favour of kind information.

Sd/-
Managing Director, WATCO



**WATER CORPORATION OF ODISHA
OFFICE OF THE MANAGING DIRECTOR, WATCO**

**Ground Floor, Unnati Bhawan
Near Satyanagar Fly Over Bridge, Bhubaneswar-751001,
Odisha, India**

Telefax: +91-674-2391444

E Mail: mail@watcoodisha.in, md@watcoodisha.in

EXPRESSION OF INTREST (EOI)

WATCO invites Expression of Interest (EOI) from reputed and eligible manufacturers of 15 mm dia water meters for selection of types and technical specifications of meters for using the same in the next level of procurement bidding process.

- There are about 3.85(Three Point Eighty Five) lakhs domestic consumer water connections across five Municipal Corporation and Puri town in Odisha. Presently, allmost all connections are unmetered. There is a proposal to provide consumer water meters of mechanical inferential type, multi jet, magnetically coupled, having dry dial, Class 'B' conforming to IS-779: 1994 with up to date amendments or ISO 4064:2014 standard with ISI/EEC/OIML/MID certification mark shall be with protection class of IP-68 meter with 5 years warranty to cover all consumers connections progressively in a period of 1-5 years. The basic objectives of metering are: 1. to charge customers in proportion to the amount of water they use. 2. allow the system to demonstrate accountability. 3. fair for all customers because it records specific usage. 4. encourage customers to conserve water (especially as compared to flat rates). 5. allow utility system to monitor the volume of finished water it puts out. 6. aid in the detection of leaks and waterline breaks in the distribution system. Since the water meters play vital role for achieving overall sustainability in operation and maintenance of any utility, it is absolutely necessary to review and understand the entire metering aspects including selection of right type of meters, technical specifications, life cycle and durability, accuracy, ease of installation, repair and maintenance, availability of spares, warranty and guarantee aspects, calibration requirements during the life cycle and overall economics including the latest technological advancements in metering.
- Expression of Interest therefore, is called by this notice from water meter Manufacturers to enable WATCO to decide on the type of meter and its specifications, formulate & implement the procurement and installation of the

metering scheme, thereby collecting the revenue as per the actual water consumed by the citizens of the ULBs, & conducting Water Audit, and provide citizens with commendable services.

A. Eligibility criteria and document submission requirement for participating in the EOI:

1. The Manufacturer's registered in India as per companies act and operational successfully for the last 10 years and registered under the taxation authorities of India(GST/IT) and having outstanding track record in the area of production and supply of Mechanical water meters demonstrating robust performance consistently in India. Company profile including Copies of MOA, registration certificates to be submitted.
2. Manufacturer's demonstrating average turnover of Rs.20 crores in last 5 years. Copies of balance sheets to be furnished.
3. The Manufacturer having production capacity of 2,50,000 of Mechanical inferential multijet magnetically coupled domestic water meters conforming to BIS specifications/ISO specifications and having supplied 1,00,000 such meters in any one year in last 5 years and having done supply, installation, O&M of 50,000 such water meters in any one year in the last 5years. Copies of supply orders/completion certificates etc. demonstrating the achievement of the criteria should be submitted.
4. Product catalogues including all specifications, accuracy class, product life for Multijet mechanical water meter of latest models and other types of meters like AMR compatible mechanical meters, ultrasonic meters, AMI etc.
5. Manufacturer is ISI certified and additionally ISO 9001 Certified: copies of certificates to be submitted.
6. MID valid certificate, ISO 9001, ISO 17025 certificate for accredited in-house laboratory etc. to be submitted.
7. Accuracy class of the water meter along with sizes, for which the manufacturer has approvals to be furnished.
8. ISI/ EEC / MID / OIML pattern approval certificates along with validity extension copies, if the EEC approval certificates are in foreign language other than English, translated version of the same in English to be submitted by the manufacturer.
9. Manufacturing facility details and testing facility details available with them.
- 10 Undertaking that his firm or their product is not black listed by any State/Central Govt. /Board or public sector undertaking at the time of submission of EOI.

B. Indicative Specifications of the required type of water meter for information

of the manufacturers (Manufacturers are encouraged to provide specifications of latest models which may be superior to the specifications given below) :

Technical Specification for Consumer Water Meters

Meter Type

The domestic type water meters from 15mm to 40mm sizes shall be magnetically coupled, Multijet, inferential type, dry dial, IP 68 protection, totalizer enclosed in metallic housing suitable against antifraud attempts, screwed ends.

Applicable Standards

Water meter shall conform to ISO 4064:2005 with MID and ISI marking. MID certificate and FCRI Life cycle test certificate to be produced.

Water meter should have certificate for the Model Approval as per the Indian legal Metrology Act 2009.

Manufacturer Certifications

The water meter manufacturer must possess quality management certificates pertinent to ISO 9001:2008, ISO 14007:2004 as well as the MID factory certificate from local (Indian) manufacturing plant.

Detailed Description Multijet water meter

The water meter and accessories shall be manufactured from materials of adequate strength and durability. The materials, which come in contact with the potable water, shall not create a toxic hazard, shall not support microbial growth, and shall not give rise to unpleasant taste or discoloration in the water supply. The meters shall be supplied complete with brass nuts and brass nipples, strainer & sealing.

The manufacturer shall provide specific details of materials used for various parts of the meter in particular to the material specified in technical specifications as below.

1. Meter Body-

- i) The body of the meter shall be of either Brass or Bronze. The firm shall specifically mention in the offer, the metal used in manufacturing.
- ii) Material that come in contact with the water supply shall withstand 2 ppm (Parts per million) of chlorine residual in the water supply and shall be resistant to corrosion.
- iii) The lower case of the meter shall be painted with thermal painting externally. The painting materials should be safe for human uses and not affect human health.

2. Hydraulics- The measuring chamber and the turbine shall be made of Engineering plastic. The spindle and bearings inside the hydraulic chamber shall be made of polished stainless steel with hard metal tip/sapphire.

3. Magnet Shield- The pressure plate which separates the dry side and wet side

of the meter must have provision to place magnetic shield of mild steel between the register and the pressure plate to avoid magnetic tampering.

4. **Meter Cap**-The Meter cap housing the totalizer shall be made engineering plastic with suitable locking arrangement so as not to allow easy tampering.
5. **Seal**- Meter will be provided with monolithic plastic seal with copper/SS wire or Rust proof sealing wire. The seal or seal wire if broken will indicate tampering attempt.
6. **The Totalizer and Totalizer Shield**-
The Register shall be designed in such a way that if the Register protective transparent window is broken for a reason or another the Register cannot be removed from its place.

Totalizer-

- A] It shall be of straight reading type and shall register in cubic meter units
- B] The Totalizer reading shall be set to zero at the factory, except the volume registered while testing the meters at the factory.
- C] The Register shall consist of a row of at least 5 in-line consecutive digits to denote minimum reading of 99999KL. Another two digits or pointers shall register flows in litres and should be of a different colour.
- D] The totalizer should be of closed type. Closed Type means that even if meter is opened the rollers and gears of totalizer are protected in an enclosure can.
- E] The Totalizer must be suitable for test on an electronic test bench.
- F] The Totalizer shall be enclosed in metallic housing (Copper or Stainless Steel) suitable against antifraud attempts.
- G] The Totalizer should have IP 68 Ingress protection class supported by certificate from FCRI.

7. **Flow Characteristics**- The following table indicates the acceptable flow parameters required to measure low flows accurately as per ISO 4064:2005.

Table 1

Meter Size (mm)	Minimum flow rate Q1 (l/hr)	Transitional flow rate Q2 (l/hr)	Permanent flow rate Q3 m ³ /hr
15	16	25.6	1.6
20	25	40	2.5

8. Meter should have minimum dynamic range of 100 (R 100).

Markings on dial/ cap of the Meter-

- i. Model Name
- ii. Make/ Brand
- iii. Sl. No. / Year of manufacture
- iv. Manufacturing unit address
- v. Permanent / nominal flow rate
- vi. CE and certificate No.
- vii. Ratio
- viii. Size

ix. Direction of flow of water on both sides of the body of meter.

9. Third-party Pre-shipment inspection at Manufacturer's place-

The Supplier shall before shipping, provide a recognized, nominated and independent Third party, Inspection Agency, Cost for pre-shipment inspection and tests to be borne by bidder.

The approved document to witness test by inspector shall include below minimum tests.

- Visual marking – as per tender specifications
- Accuracy testing as per ISO 4064:2005 – 3 Flows as per Table No.1
- Pressure Tightness

Supply decision will be made after the Third-Party Inspector provide the independent Inspection Report to the Purchaser.

Testing of Supply Lot

Each supplied lot will undergo lot acceptance testing at FCRI. Below Table derived from Table 1 and 3A of ISO 2859-1:1999 shall be followed for sample size and lot acceptance criteria. Accuracy and pressure tests of these samples will be conducted at FCRI as per ISO 4064:2005.

Lot Size	First Sample	Acceptance Number	Rejection Number	Second Sample	Size of Cumulative Sample	Cumulative Acceptance Number
1-50	5	0	1	-	-	-
51-150	13	0	2	13	26	1
151-280	20	0	3	20	40	3
281-500	32	1	3	32	64	4
501-1200	50	2	5	50	100	6
1201-3200	80	3	6	80	160	9
3201-10000	125	5	9	125	250	12
10001-35000	200	7	11	200	400	18
35001 and over	315	11	16	315	630	26

The Inspection report at manufacturers place along with Lot test report from FCRI is to be submitted to the Purchaser for lot acceptance.

Pre-Qualification Criteria

1. Water meter manufacturer should not have been blacklisted, anywhere in India or Abroad.
2. Manufacturer should have MID approved factory in India.
3. The Water Meter Manufacturer should have minimum production capacity of 5 lakhs water meters per annum. (Necessary Purchase orders to be submitted)
4. The Water Meter Manufacturer should have minimum 4,00,000 water meters which are running satisfactorily in last 7 (Seven) years. (Necessary performance certificates should be attached)
5. Only water meter models approved as per Indian legal Metrology Act, 2009 will be considered and should have Legal Metrology marking with License No.

Certificates Checklist

Below is checklist for documents / certificate need to be submitted along with bid for technical Evaluation.

1. Product Certificate as per MID from International Notified body which should be available in public domain. The web link and procedure to verify the certificate to be provided by the bidder.
2. Manufacturer's Factory must also be MID certified from International Notified body.
3. Water Meter Life Cycle test Reports from FCRI.
4. IP 68 Certificate from FCRI for Water Meter Register.
5. Manufacturing Plant from where meters will be supplied Quality Management System Certificate – ISO 9001 & ISO 14001.
6. The Bidder need to provide the Model Approval of Water Meter as per the Indian legal Metrology Act, 2009.
7. Prequalification documents.

C. Technical Meeting cum presentation

Manufacturers qualifying the eligibility criteria shall be invited to participate in the Technical Meeting cum presentation to be held on 7-03-2020 in the 2nd Floor Conference Hall of Unnati Bhawan, Near Satyanagar Fly Overbridge, Bhubaneswar, Odisha, India. The manufacturers /their authorized technical team shall make a detailed presentation to cover the followings and participate in the interactive session with the technical team of WATCO/PHEO:

1. Company profile and credentials
2. Production capacity, manufacturing and testing facilities details including information on spare parts production details.
3. All certificates they have – manufacturing, production, quality, statutory etc.
4. Past performance records in the field of consumer metering in India: success stories and failures.
5. Technical specifications of the latest models of mechanical type multijeet inferential domestic consumer meters, its suitability and durability for use in both intermittent and continuous water supply, theory and principles of measurement, accuracy class, pressure loss class, flow profile sensitivity class, temperature class, static pressure and pressure range, rated operating conditions, reverse flow measurement, indicating range and device, visual displays, materials of construction, all tests such as routine tests, acceptance tests, life tests, including evaluation and performance tests as per latest IS/ISO/OIML/AWWA/MID standards as applicable as per industry standard, life cycle of different components and also for the meter as a whole, ease of installation in vertical/horizontal/inclined positions and other aspects such as accessories like NRVs, filter, air vent, and repair and maintenance requirement over the years of use, , calibration requirement, availability of spares, warranty/guaranty aspects including merits and demerits and overall economics. Installation drawings under different conditions with required

accessories shall be presented.

6. The manufacturer's experience and approach with regards to integrated approach of supply, installation, repair and maintenance for the life period of 10-15 years from the date of installation of the meter.
7. Information and detailed specifications and presentation on consumer meters of other sizes up to 50 mm.
8. Any other information on domestic metering technology and advances made in recent times.

Each Manufacturer will be given 30 (thirty) minutes time for their presentation. They may share the hard copy and soft copy of the presentation during the meeting.

D. SUBMISSION OF EOI:-

The EOI shall be submitted on line along with the documents cited above at clause A under eligibility criteria and non-refundable processing fees of Rs.5,000/- (Rupees Five thousand only) through electronic submission (E-mail as well as hard copy by courier/registered post before the scheduled date of submission) as under:

- i) The manufacturer shall submit the processing fee amount electronically on or before the last date and time of the bid in Account Number 35406572672 at State Bank of India, HOD Branch, Bhubaneswar (IFSC /RTGS code No SBIN0010249) through the firm's banker. Since the amount is less than Rs. one lac the same may be remitted through NEFT. EOI number shall be inserted before the beneficiary name and date & time of closing of bid should be inserted either before the Firms's address or Firm's name as shown below:-

Account No.
Beneficiary Name/in favour of	⟨EOI No.⟩/ ⟨Item No.⟩ WATCO
manufacturer's name	⟨Date and time of closing⟩ manufa cturer's name
Address	⟨manufacturer's address⟩

- ii) Bidders must upload the scanned copy of RTGS/NEFT customer confirmation in place of DD/Pay order along with the EOI document before the date and time of closing of the receipt of the EOI. If processing fee is transferred through online Banking, confirmation receipt indicating transaction number should be mentioned.
- v) Processing fee received without complying with above instructions shall be liable for rejection."

The EOI shall be received on stipulated date & in time. After scrutinizing the same, the EOIs confirming to the aforesaid criteria of processing fee and fulfilling the eligibility requirements shall be treated as 'Responsive' & it shall be communicated to them, about the date of technical presentation as mentioned in EOI. Manufacturers qualifying the eligibility requirement receiving intimation shall only attend the technical presentation meeting.

The processing fee above is nonrefundable and nontransferable.

EOI shall be submitted both through E-mail-mail@watcoodisha.in, md@watcoodisha.in (soft copy) and hard copy by speed post in the address given below:

To The Managing Director,

OFFICE OF THE MANAGING DIRECTOR, WATCO

Ground Floor, Unnati Bhawan Near Satyanagar Fly Over Bridge, Bhubaneswar-751001,

Odisha, India, Telefax: +91-674-2391444, E Mail: mail@watcoodisha.in, md@watcoodisha.in

Sd/-

Managing Director
WATCO, Odisha, Bhubaneswar