

**NAMAMI GANGE PROGRAMME**

**REQUEST FOR PROPOSAL**

For

**Services for removal of pollutants from Drain water through installation and commissioning of Ozone Based Advanced Oxidation Process (AOP) for drain joining River Ganga at Varanasi**

**National Mission for Clean Ganga**  
Govt. of India, Ministry of Jal Shakti,  
Department of Water Resources, River Development & Ganga  
Rejuvenation, First Floor, Major Dhyan Chand National  
Stadium, India Gate, New Delhi-110002

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## NAMAMI – GANGE

Request for Proposal for

### **Services for removal of pollutants from Drain water through installation and commissioning of Ozone Based Advanced Oxidation Process (AOP) for drain joining River Ganga at Varanasi**

#### **National Mission for Clean Ganga**

Department of Water Resources, River Development & Ganga Rejuvenation, Ministry of Jal Shakti, First Floor, Major Dhyan Chand National Stadium, India Gate, New Delhi-110002

#### **NOTICE INVITING TENDER**

**Ref No.:** TE/3/2022-O/o ED(Tech)/NMCG

**Date:** 23<sup>rd</sup> February 2023

The National Mission for Clean Ganga invites tenders in two bid system i.e. Technical and Financial bid from reputed and experienced firms/service providers for **Ozone Based Advanced Oxidation Process (AOP) treatment system** on or along the bank of identified drain at a suitable location/near confluence of the drain joining river Ganga at Varanasi.

The focus of the proposal is obtaining services to reduce the pollution load to river Ganga or its tributaries through use of latest/ innovative technology for wastewater treatment with optimum footprint and faster deployment on **Service Purchase Model**.

1. The RFP will be available for download from the websites of NMCG ([www.nmcg.nic.in](http://www.nmcg.nic.in)) and GeM Portal (<https://gem.gov.in/>).
2. The bidder should have 10 years' experience in either design, manufacture and supply of ozonation system or as authorized dealer of the Ozonation system.
3. The bidder shall have successfully delivered services for at least one similar work in India. *Similar works* means work of supply, installation, commissioning & providing services for removal of pollution from drain water/ septage water through Ozone based Advanced Oxidation Process (AOP) treatment plants of at least 1 MLD capacity successfully under SMCG/NMCG/Govt Organization within last 7 years from the date of submission of bids. The bidder would be required to furnish documentary proof from the concerned agency (for whom the work was undertaken) towards successfully completing the similar work.

#### **OR**

The bidder should have supplied, installed & commissioned at least three ozonation systems for raw water / drinking water treatment with the ozone generation capacity of minimum 1.5 kg/hr. each or more in Government organization or public sector undertaking, out of which, one ozonation system shall be operating satisfactorily for minimum 1 year. The bidder should produce supply order copy and performance certificate from such customers where this system has been installed & is in service.

4. The Net worth of the bidder shall be minimum of 10 cr. in each of the last three financial years preceding the date of submission of bid.
5. The average annual turnover of the bidder during the last three financial years preceding the date of submission of bid should not be less than 20 crores. The bidder shall submit a certificate issued by Chartered Accountant and/ or Audited Balance Sheet and Profit & Loss account for the above financial years.
6. In the case of Joint Venture (JV)/ Consortium, the technical eligibility shall be met by lead member of the JV/consortium and the Financial eligibility criteria shall be met jointly. (**Maximum two partners are allowed in the JV**). The bidders/JV partners shall submit the list of all ongoing or completed works in India of similar nature as mentioned in sl. no. 3 above; Documentary proof of specific performance report issued by the Client for each project to be submitted.
7. Bidder or the JV partners should not have been blacklisted by any Central/State/Government agency and submit an undertaking on firm's letterhead in this effect.
8. The Bidders shall prepare and upload the electronic copy of the Proposal (with all pages numbered serially and by giving an index of submissions) through GeM portal after digitally signing of all the documents. The Bidder shall upload the Technical Proposal and the Financial Proposal separately by using the appropriate sections on GeM portal
9. An Earnest money, amounting to INR 80,00,000/- (Rupees Eighty Lacs only) in the form of Bank Guarantee in favour of the *National Mission for Clean Ganga*, New Delhi.
10. Pre-bid meeting shall take place online via meeting link to be provided, on 03/03/2023 at 11:00 AM.
11. The last date of the submission of the bids is 24/03/2023 till 04:00 pm.
12. The hard copy of EMD, Affidavits and undertakings, shall be submitted in the office of NMCG by 24/03/2023 by 02:00 pm.
13. The Technical bids shall be opened on 24/03/2023 at 04:30 pm through GeM Portal (<https://gem.gov.in/>).
14. The date of opening of the financial proposal shall be intimated later.
15. The acceptance of a tender rests with the NMCG, which does not bind itself to accept the lowest tender and reserves itself the right and authority to reject any or all of the tenders received without assigning any reason. The tender in which any of the prescribed conditions are not fulfilled or are incomplete in any respect are liable to be rejected.
16. All rates shall be quoted as per the format of the BOQ provided.
17. On acceptance of the tender, the name of the authorised representative (s) of the service provider who shall be responsible for taking instructions from NMCG, shall be communicated to the NMCG.

18. The bid shall remain valid and open for acceptance for a period of 180 days from the date of opening of tenders.
19. The bidder shall acquaint them with the quantum and nature of work and working conditions at the site and locality at their own cost and no claim shall whatsoever be entertained in this regard.
20. The tender is non-transferable.
21. Selection of the firm will be made on Least Cost Selection (LCS) method.
22. Disqualification: The Bidder, by submitting its Proposal pursuant to this RFP, shall be deemed to have acknowledged that without prejudice to the NMCG's any other right or remedy hereunder or in law or otherwise, the Bid Security shall be forfeited and appropriated by the NMCG as the mutually agreed pre-estimated compensation and damage payable to the NMCG for, inter alia, the time, cost and effort of the NMCG in regard to the RFP including the consideration and evaluation of the Proposal under the following conditions:
  - (a) If a Bidder submits a non-responsive Proposal;
  - (b) If a Bidder withdraws its Proposal during the period of its validity as specified in this RFP and as extended by the Bidder from time to time;
  - (d) In the case of the Selected Bidder, if the Bidder fails to reconfirm its commitments during negotiations.
  - (e) In the case of a Selected Bidder, if the Bidder fails to sign the Agreement or commence the assignment; or
  - (f) If the Bidder is found to have a Conflict of Interest.

Director General

(National Mission for Clean Ganga)

## REQUEST FOR PROPOSAL

National Mission for Clean Ganga (NMCG), invites bids from eligible Companies and Agencies having experience and expertise in the similar field of work as described in the scope of work. The tender is being invited for the contract period of 02 years, starting from the time the plant starts to deliver on the sewage treatment as per the given parameters, extendable for a further period of one or more year on mutual consent and provision of clause 14, for proposed work specified below:

Place of services will be at the confluence point of Assi River and river Ganga, near existing 50 MLD Sewage Pumping Station in Varanasi.

### 1. Brief description of works: -

#### i. Area of services: -

- (a) The National Mission for Clean Ganga invites online e-tenders for the treatment of drain water discharging into river Ganga using “**Ozone Based Advanced Oxidation Process (AOP)**” ex-situ Treatment System to lower the pollution load in the river using innovative technologies in terms of ease of installation of treatment unit, faster deliverable of intended outcome, lower power consumption, low footprint and competitive capital & O&M cost with respect to conventional option.
- (b) The area of services shall be the confluence point of River Assi. The site is situated in the holy city Varanasi (UP) near Sant Ravi Das Park. The treatment site is located on the confluence Point of Assi River & River Ganga near to existing 50 MLD sewage pumping station. The coordinates are 25°16'57" N& 83°00'32" E.

#### ii. Scope of Services

- (a) Integrated River Management Plan for River Ganga under Namami Gange Programme has an actionable activity as “Treatment of wastewater flowing through open drains into R. Ganga and its major tributaries through bioremediation / appropriate in-situ treatment / use of innovative technologies to abate and control pollution.
- (b) The river Ganga (Rejuvenation, Protection and Management) Authorities Order, 2016” notification dated 7th Oct 2016 extends responsibility on NMCG to take measures or effect cause to such action(s) to abate pollution to Ganga River.
- (c) NMCG through other mandates is also assessing the pollution sources and taking preventive and corrective measures, which includes creation of sewerage infrastructure in major towns/cities in order to have a long-term sustainable management of sewage pollution. There are also projects under consideration for managing industrial wastewater. These projects primarily involve containment of sewage generated from towns and cities through Interception and Diversion approach of major drains emanating

from respective towns and extending treatment at Sewage Treatment Plant. Such projects take 2 or more years for its completion and commissioning. If the project has sewer network as a component, the time period required for completion increase to 5 or more years. During the period of sanction to Commissioning, the polluted water remains a continuously source of pollution to the river Ganga or its tributaries.

- (d) The pollution discharged from city/town or other sources culminates to drains which ultimately meets tributaries or river Ganga directly. These drains may have sources from urban sewage, surface run off from agricultural or urban area, and / or industrial discharges.
- (e) Assi river is a minor tributary of river Ganga and has a length of 5.5 km and flows through the city of Varanasi city. It carries the drainage and sewage waste from the city. Numerous narrow nallas conjoin river Assi with untreated wastewater and hence it is also referred as Assi Nalla.
- (f) As per CPCB report - [https://www.livelaw.in/pdf\\_upload/ngt-assi-varunaganga-404837.pdf](https://www.livelaw.in/pdf_upload/ngt-assi-varunaganga-404837.pdf), the wastewater flow in the Assi river reaches 92 MLD. Currently Assi river is having flow of 60-70 MLD against which the sewage treatment capacity in the area is 50 MLD from Ramana STP. So, approximately 20 MLD of untreated sewage is directly getting discharged in river Ganga near Assi Ghat.
- (a) In order to reduce the pollution load during interim period of infrastructure development, and also to manage the cumulative effect of different discharges being directly discharged to river Ganga and its tributaries, it is necessary to adopt techno-economic and sustainable technologies to reduce the pollution load of drain.
- (b) Modular treatment options have potential to deliver fast result on required outcome and can sustain higher input quality variations with reasonable or comparable financial implications.
- (c) NMCG is planning to construct a new STP for the excess flow of 30 MLD. DPR is currently under preparation by UPJN but construction of Sewerage System and Treatment Plant may take few years.
- (d) Hence, treatment of Assi Nala using Ozone based Advanced Oxidation process has been proposed as an interim measure to treat the excess sewage to prevent any untreated sewage being discharged in river Ganga.
- (e) The details of the services to be provided by the Service Provider which broadly includes, but is not limited to, the following is given below. Details of services are given in Appendix-II.
  - Cleaning of floating materials from the drain at the point of installation of the treatment system to ensure no discharge of floating material to Downstream of the treatment system.
  - Proper disposal of Sludge and other solid waste collected from the drain including its transportation

- Treatment of drain water to improve the water quality on 24 hours basis for 270 days (except for monsoon period – 15 June to 15 September) at no capital cost for the treatment system by NMCG.

**Treatment Methodology:**

1. Temporary weir will be constructed to arrest the untreated water going to river. (Existing Weir to be used/Modified)
2. In the first step in order to relieve the strain of untreated water getting mixed with adjoining River, the wastewater will be lifted from the drain by putting the pumps.
3. In pre-treatment, the primary filtration system shall be provided for separation of suspended solids. In this primary system, associated BOD/COD contributed by suspended solids shall be removed.
4. The water from the primary treated water will be taken to ozonation tank will be subjected for ozonation for soluble BOD & COD removal, disinfection & DO increase.
5. The collected sludge out of primary treatment will be disposed off to MSW after proper sludge treatment.
6. The water will be released after filtration if the TSS removal needs to be enhanced to mix as per gravity flow to adjoining River.
7. The flow totalizer or V notch & online analyzers except FC measurement or the correlated ORP meter will be installed at the terminal point of the system.

**Indicative Design Parameters:**

proposed plant shall be designed to handle excess 30 MLD flow. The raw wastewater parameters provided for design are as follows –

Sr. No.	Parameter	UOM	Value
1.	Flow	MLD	30
2.	pH		6.5 – 8.5
3.	BOD	ppm	≤ 100
4.	COD	ppm	≤ 160
5.	Total Suspended Solids	ppm	≤ 100
6.	Faecal Coliform	MPN/100 ml	≤ 10 <sup>7</sup>
7.	DO	ppm	0.2

**Indicative Treated Water Parameters:**

The effluent quality of the proposed Ozone Based AOP before discharge to the drain at downstream should be minimum of the following to qualify for the bid:

Sr. No.	Parameter	UOM	Value
1.	pH		6.5 – 8.5
2.	BOD as part of TOC	ppm	≤ 30
3.	COD as part of TOC	ppm	≤ 100
4.	Total Suspended Solids	ppm	≤ 50



5.	Faecal Coliform	MPN/100 ml	≤ 230
6.	Dissolved Oxygen	ppm	≥ 5

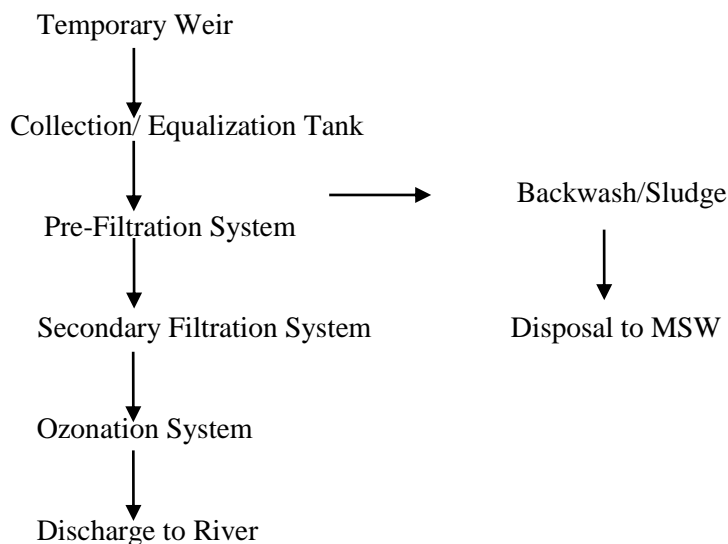
Greater than 70% of removal in BOD & COD (equivalent 67% removal in TOC Base assumption BOD - (TOC-10.94)/0.315) for 30 days observations.

- The deliverables will be **On Services Purchase System** and necessary systems / equipment / instruments / manpower etc. will be supplied, transported, installed, and operationalized as specified by NMCG during the period of Contract by bidder on service purchase for a period of 2 years.

### Design Notes:

- It is assumed that the COD, BOD, TSS values shall remain constant. Any variation in the feed water quality shall have impact on performance of the system.
- The proposed system shall be able to handle ± 10% fluctuations in the inlet parameters.

### Process Flow Chart:



### iii. Language of Tender / Contract:

The language of the Tender shall be in English and all correspondence, drawings etc. shall conform to English language.

### iv. Duration of Contract:

The Contract period shall be for two years from the date of Operation / Service delivery of fully functional Oxidation plant, which may be further extended for a period of one or more year(s) based on satisfactory performance and provision of GCC clause 14. Six months will be provided separately, after signing of the agreement, for setting up of the

plant. *(Service for drain treatment is required for 2 years, excluding monsoon period – from 15<sup>th</sup> June to 15<sup>th</sup> September*

**v. Performance Monitoring:**

- (a) The performance monitoring of the treatment system shall be based on the data generated by Real Time Water Quality and Quantity Monitoring System (RTWQMS) at upstream and downstream. The difference in pollution load shall be the basis for assessing the performance of the system and shall be basis for payment purposes.
- (b) The RTWQMS shall be calibrated as per the guided frequency prescribed in Guidelines for Online Continuous Monitoring System for Effluent” published Central Pollution Control Board.
- (c) NMCG or its authorised agent will be performing the validation of data and will be witnessing the calibration. The accuracy and other details as specified in the said document shall be followed. Deviation or provision not covered in the document with regard to quality of data generated, system calibration, data validation, communication, logging, storage and other aspects necessary to have a reliable set of data for payment and for dissemination in public domain, shall be articulated in the contract document on scientifically and mutually agreed basis between NMCG and the bidder before commencement of the contract.
- (d) The performance and delivery of the treatment system and other works as specified in the scope of work shall be monitored and assessed by Third Party designated by NMCG. The Third Party will analyze the monthly data and submit monthly progress report to NMCG for payment to the Party.
- (e) The NMCG shall cause the payment due to the Service Provider, to be made within 20 (twenty) days after the receipt by the NMCG of duly completed bills with necessary particulars. The data on pollution reduction based on the criteria set out for eligibility for payment shall be derived from the data available at the monitoring system at the site and NMCG server. The bidder shall raise payment invoice for his services in the 1<sup>st</sup> week of following month based on the criteria and service extended within the provision of the contract.
- (f) Online Monitoring Systems shall be installed by the bidder and data shall be shared by the bidder with NMCG.

**vi. Pre-Bid Site Inspection:**

- (a) The interested bidders are advised to visit the site prior to the bid submission and get themselves acquaint with the actual site conditions and may hold discussions with the concerned person if so required. However no travelling and any other cost / expense shall be payable for this purpose.
- (b) Where necessary, before submitting the Bid the Bidder should inspect and examine the site and its surroundings and shall satisfy itself about form and nature of the Site, the

quantities and nature of the work/service and materials necessary for the completion of the works/services, means of access to the site, the accommodation it may require, and in general, obtain all necessary information as to risk, contingencies and other circumstances which may influence or affect its tender. No extra charges consequent on any misunderstanding or otherwise shall be allowed.

**vii. Cost of Bidding Document:**

The bidder shall bear all costs associated with the preparation of submission of its bids. NMCG shall in no case be responsible or liable for these costs, regardless of the conduct or outcome of the bidding process.

**viii. Clarification by Bidder:**

Bidders requiring any clarification on the RFP may submit their queries to the NMCG through GeM portal before the date mentioned for Pre-bid Meeting. The NMCG will post the reply to all such queries on the GeM portal without identifying the source of queries. NMCG shall not be held responsible in any manner if prospective Bidders miss any notifications placed on GeM Portal.

**ix. Pre-Bid Meeting:**

Prospective bidders are encouraged to attend to the pre-bid meeting to be held Online, on 03/03/2023 at 11:00 AM (Meeting link will be provided). During the Pre-Bid Conference, the Bidders will be free to seek clarifications and make suggestions for consideration of the NMCG. NMCG shall endeavour to provide clarifications and such further information as it may, in its sole discretion, consider appropriate for facilitating a fair, transparent and competitive Selection Process.

**2. Method of submitting the bid application:**

i. The Proposal shall be typed and signed by the authorised signatory of the Bidder who shall initial each page. In case of printed and published Documents, only the cover shall be initialed. All the alterations, omissions, additions, or any other amendments made to the Proposal shall be initialed by the person(s) signing the Proposal. At the time of uploading, the Proposals shall be digitally signed by the bidder or a person or persons duly authorised to bind the bidder to the contract (the “Authorised Representative”) as detailed below:

- (a) by the proprietor, in case of a proprietary firm; or
- (b) by a partner, in case of a partnership firm and/or a limited liability partnership; or
- (c) by a duly authorised person holding the Power of Attorney, in case of a Limited Company or a corporation; or

A copy of the Power of Attorney certified under the hands of a partner or director of the Bidder and notarized by a notary public in the form specified in Appendix – viii, shall accompany the Proposal.

- ii. At any time prior to the Submission Deadline, the NMCG may, for any reason, whether at its own initiative, or in response to a clarification requested by a prospective Bidder, amend the Bidding Documents by addendum. These shall be made available only on the NMCG's website. All relevant information like minutes of pre-bid meeting and response to the bidder's query shall only be available on the website of NMCG.
- iii. It is bidder responsibility who downloads the tender document to contact with NMCG and check regularly on the NMCG's website before submission of its Bid. All these addendum, amendment and clarification shall be deemed to be part of the tender document and it will be assumed that the information contained therein has been taken into account by the Bidder in its Bid. The earnest money also liable to forfeited if bidder fail to furnish the information given in addendum, amendment and clarification in its Bid.
- iv. In order to afford prospective Bidders reasonable time in which to take the amendment into account while preparing their Bids, the NMCG may, at its discretion, extend the Submission Deadline. Details of time extension, if any will be provided on the website of NMCG.

### **3. EARNEST MONEY:**

- i. Each tender must be accompanied by an earnest money of INR 80,00,000/-(Rupees Eighty Lacs only) in the form of Bank Guarantee of Scheduled Bank in favor of National Mission for Clean Ganga payable at New Delhi. Bid not accompanied by earnest money shall be summarily rejected.
- ii. The earnest money shall be liable to forfeiture if the Bidder after submitting his tender modifies his offer or the terms & conditions thereof in any manner, even if NMCG has not suffered any loss, during the validity period of this tender enquiry, it being understood that the tender documents have been made available to him and he is being permitted to tender in consideration of his agreement to this stipulation. The earnest money is also liable to be forfeited in the event of bidder fails to furnish the requisite security deposit by the due date without prejudice to any other rights and remedies of the NMCG under contract and law.
- iii. The earnest money will be returned to all unsuccessful bidder without interest as soon as practicable, after decision on tenders. The earnest money to the successful bidder will be returned after furnishing of security deposit. No interest shall be payable on the amount of earnest money in any case.

### **4. Documents required with the technical bid:**

- i. Self-attested copies of the documents mentioned in **Appendix-III** are to be annexed with the technical bid, failing which the tender will be rejected.

The bidder shall sign on each page of tender document for acceptance of all terms and

conditions.

**5. Performance security deposit:**

- i. The successful bidder shall furnish within 15 days of the acceptance of his tender a Performance Security Deposit in the form of Bank Guarantee (BG) for 3% of the Contract price valid for 60 days beyond the period of the contract. The format for the Bank Guarantee has been provided in **Appendix –IV**.
- ii. The Security Deposit furnished by the bidder shall be subject to the terms & conditions given in the Annexure of this tender and NMCG will not be liable for payment of any interest on the security deposit or any depreciation of value of the equipment/material/machinery etc. employed for the perform.

**6. Manner of submission of tender (Two Bid system)**

Tenders shall be uploaded in the GeM portal in two separate e-File – Technical bid & Financial bid in the appropriate section on GeM portal within the specified date of submission as mentioned in the RFP. Technical e-bid shall contain the technical documents & documents related to eligibility criteria and file duly named as “Technical Bid”. Financial e-bid shall contain the price details and file named as “Financial Bid”. The hard copies (listed below) of the required documents shall be put in sealed envelope duly super- scribed the name of work mentioned in tender notice, full name and address of Bidder and submitted to the office of NMCG within the specified due date.

The envelope shall contain the hard copy of the following:

- a. EMD / Bid Security
- b. Power of Attorney
- c. Required Affidavits and Undertakings
- d. Joint bidding agreement (if applicable)

**7. Submission of Bids:**

- i Tenders which do not comply with the instructions specified shall be summarily rejected.
- ii The bid shall be accompanied by earnest money of INR 80,00,000/- (Rupees Eighty Lacs only) by way of Bank Guarantee of scheduled Bank in favor of National Mission for Clean Ganga payable at New Delhi. All credentials, documents and copies of certificate/information called for shall be submitted as per tender document with the bid.
- iii For avoidance of doubt, it is clarified that the Bidder will not be required to submit a hard copy of its Technical and/or Financial Proposal, and if a hard copy of the said proposal(s) is submitted, then the Proposal submitted by such Bidder shall be rejected as being non-responsive.
- iv Necessary clarification if any required by NMCG shall be furnished by the bidder within the time given by NMCG for the same. The NMCG is at liberty to verify any or all documents submitted by the bidder, even by referring to third parties.

## **8. Last Date for Submission**

The Bidder, on or before the specified date and time, shall submit the hard copy of original Bid Security, Power of Attorney and Joint Bidding agreement (if applicable) in a sealed envelope which will bear the address of the NMCG, RFP Notice number, assignment name as indicated in the RFP and the name and address of the Bidder. It shall bear on top, the following: “Do not open, except in presence of the Authorised Person of the NMCG”

## **9. Modifications and Withdrawal of Offers**

Bidders may modify their bids by using the appropriate option for bid modification on GeM Portal, before the deadline for submission of bids. For bid modification and consequential re-submission, the Bidder is not required to withdraw his bid submitted earlier. The last modified Bid submitted by the Bidder within the Bid Due Date shall be considered as the Bid. For this purpose, modification / withdrawal by other means will not be accepted. In online system of bid submission, the modification and consequential re-submission of Bid is allowed any number of times. A bidder may withdraw his Bid by using the appropriate option for Bid withdrawal, before the deadline for submission of Bids. However, if the Bid is withdrawn, re-submission of the Bid is not allowed.

## **10. Rates**

Rate shall be quoted inclusive of all taxes as applicable on date, to carry out the scope of work as mentioned above

## **11. Opening of tender**

- (a) The tender i.e. technical bid will be opened in NMCG Office. The bidders will be at liberty to be present either in person or through an authorized representative at the time of opening of the tenders.
- (b) At the stipulated time of opening, Envelope shall be opened first. The offers from those service providers who are unable to unconditionally accept tender conditions or who fail to deposit the required EMD, affidavits and undertakings will be rejected and their Technical bid shall not be opened.
- (c) The Financial bids of only those bidders will be opened whose technical bids are found to be acceptable as per the evaluation criteria for technical bids mentioned in **Appendix-III**.
- (d) In the event of more than one bidder becomes L1, the Competent Authority in NMCG, MoJS, Department of WR, RD & GR reserves the right to select one of the L1 bidders based upon various norms like quality of work experience, number of years in operation and other credentials like work completion certificate of any Central Government / State Government Undertaking /Organization.

**12. Examination of Bids and Determination of Responsiveness:**

- i. For evaluation / examination of Technical & Financial bids, an independent selection committee will be formed and the price bids will be opened only in respect of eligible and technically qualified bidders in accordance with the eligibility and evaluation criteria mentioned in **Appendix-III**. Information relating to examination, clarification, evaluation and comparison of bids and recommendations for the award of a contract shall not be disclosed to bidders or any other persons, not initially concerned with such process until the award to the successful bidder has been announced. Any effort by a bidder to influence the Employer (NMCG) processing of bids or award decisions may result in the rejection of the bidder's bid.
- ii. A substantially responsive bid is one that conforms to all the terms and conditions and specifications of the bidding document without material deviation or reservation. A material deviation or reservation is one which affects in any substantial way the scope, quality, or performance of the work inconsistent with the bidding documents, the
- iii. Employer's rights or the bidder's obligations under the contract, or whose rectification would affect unfairly the competitive position of other bidders presenting substantially responsive bids.
- iv. If a bid is not substantially responsive, it will be rejected by the Employer and may not subsequently be made responsive by correction or withdrawal and the non-conforming deviations or reservations.

**13. Award criteria**

The employer shall award the contract to the Bidder whose Bid has been determined to be responsive to the bidding documents and who has offered the lowest evaluated Bid Price (L1).

**14. Notification of Award and signing of agreement.**

- i. The bidder whose bid has been accepted will be notified of the award by the employer prior to expiration of the Bid validity period. This letter of acceptance will state the sum that the employer will pay the service provider in consideration of the execution and completion of the works by the service provider.
- ii. The notice of tender and any other communication circulated for the tender shall form part of the contract document.
- iii. The successful service provider within 45 days of issue of LOA shall sign the contract agreement consisting of Notice Inviting tenders, General conditions of the contract as issued at the time of invitation of tender and acceptance thereof together with any correspondence thereto.
- iv. The contract agreement shall be executed on a non- judicial stamp paper of appropriate

value and the cost of the same shall be borne by the service provider.

**15. CORRUPT PRACTICES:**

Any bribe, commission advantage offered or promised by or on behalf of the bidder to any officer or servant of the NMCG shall (in addition to any criminal liability which the bidder may incur) debar his tender from being considered, canvassing on the part or on behalf of the bidder will also make his tender liable to rejection.

**16. INTERVIEW AND ACCEPTANCE OF TENDER**

The bidder shall be prepared to visit to NMCG, without any obligation, if called upon to do so, for an interview by the Executive Director (Technical) or other officer authorized to act on his behalf from NMCG, as the case may be, at their own expenses. The Director General, NMCG reserves the right to reject any or all the tenders without assigning any reason and does not bind himself to accept the lowest or any tender. The successful bidder will be advised about the acceptance of his tender by a letter/fax or formal acceptance of tender.



**LETTER OF ACCEPTANCE**

To:  
(Name and address of the service provider)

.....  
.....

Dear Sirs,

This is to notify you that your Bid dated (Date) for execution of the \_\_\_\_\_ (Name of the contract and identification number, as given in the instructions to Bidders) for the Contract Price of Rupees \_\_\_\_\_(amount in words and figures as corrected and modified in accordance with the instructions to Bidders is hereby accepted by our agency.

You are requested to furnish the Performance Security for an amount equal to 3% of the contract price and valid beyond 60 days form the contract completion period, in the form and manner and as per terms and conditions of the tender documents within 15 days from the date of issue of this LOA.

Execute the contract agreement within 45 days from the date of issue of LOA.

All other terms and conditions shall be binding on you as per the tender document. Kindly acknowledge the receipt.

Yours faithfully,

Authorized Signature  
Name and Title of Signatory  
Name of Agency.

**ISSUE OF NOTICE TO PROCEED WITH THE WORKS**

To

(Name and address of the service providers)

.....  
.....

Dear Sirs,

Pursuant to your furnishing the requisite security as stipulated in ITB and signing of the contract for the implementation/construction of a Bid Price of Rs. you are hereby instructed to proceed with the execution of the said works in accordance with the contract documents.

Yours faithfully

(Signature, name and  
title of signatory authorized  
to sign on behalf of Employer)

## CONTRACT FORM

This Contract made on the ..... day of ..... 2023 between National Mission for Clean Ganga – NMCG, Department of Water Resources, River Development & Ganga Rejuvenation, Ministry of Jal Shakti, Government of India (hereinafter called “the ..... Employer”) and .....

.....  
.....  
.....  
(Name and address of service provider) (hereinafter called “the Service provider” of the other party).

WHEREAS the Employer is desirous that the Service provider executes.

.....  
.....  
.....  
(Name and identification number of contract) (hereinafter called “the Works”) and the Employer has accepted the Bid by the Service provider for the execution and completion of such works and the remedying of any defects therein, at a contract price of Rs. ....

NOW, THEREFORE, IT IS HEREBY AGREED BETWEEN THE PARTIES AS FOLLOWS:

1. In this Contract, words and expressions shall assume the same meanings as are respectively assigned to them in the conditions of Contract hereinafter referred to and they shall be deemed to form and be read and construed as part of this Agreement.
  
2. In consideration of the payments to be made by the Employer to the Service provider as hereinafter mentioned, the Service provider hereby covenants with the Employer to execute and complete the works and remedy the defects therein in conformity in all aspects with the provisions of the contract.
  
3. The Employer hereby covenants to pay the Service provider in consideration of the execution and completion of the works and in remedying the defects wherein the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.
  
4. The following documents shall be deemed to form and be read and construed as part of this Contract, viz.:
  - i. Letter of Acceptance,
  - ii. Notice to proceed with the works,
  - iii. Service provider’s Bid,
  - iv. Price Bid,
  - v. General conditions of contract (including special conditions of contract),
  - vi. Specifications,

- vii. Bill of quantities,
- viii. Any other documents listed in the contract data as forming part of the contract.

IN WITNESS WHEREOF the Parties have caused this Contract to be executed the day and year first before written.

Binding signature of Employer Signed by .....  
.....  
(for and on behalf NMCG)

Binding signature of Service provider Signed by.....  
(for and on behalf of..... duly authorized  
vide Resolution No ..... dated.....of the Board  
of Directors of.....)

In the presence of (Witnesses)

- 1.
- 2.

## **GENERAL CONDITIONS OF CONTRACT**

### **TERMS & CONDITIONS**

#### **1. DEFINITION:**

- (a) The term 'Contract' shall mean and include the invitation to tender incorporating the instruction to bidder, the tender, its annexure, appendixes, schedules, acceptance of tender and such general and special conditions as may be added to it.
- (b) The terms NMCG wherever occurs shall mean National Mission for Clean Ganga and will include its Director General and its successor or successors and assignees.
- (c) The terms DG shall mean Director General and its successor or successors and assignees.
- (d) The term "Service provider" shall mean and include the person or person, firm or company with whom the contract has been placed including their heirs, executors, administrators, successors and their permitted assignees, as the case may be.
- (e) The term 'Contract Rates' shall mean the rate of payment accepted by the MD, NMCG for and on behalf of NMCG.
- (f) The term "Employer" shall mean NMCG.

#### **2. PARTIES TO THE CONTRACT**

- (a) The parties to the contract are service providers and NMCG, represented by the DG and/or any other person authorized to act on behalf of the NMCG.
- (b) The person signing the tender or any other document (s) forming part of the tender on behalf of any other person or a firm shall be deemed to warrant that he has authority to bind such other person or the firm, as the case may be in such matter pertaining to the contract, if, on enquiry, it is found that the person concerned has no such authority NMCG may without prejudice to other civil, criminal remedies, terminate the contract and hold the signatory liable for all cost and damages.

#### **3. CONSTITUTION OF SERVICE PROVIDERS**

- (a) "The tenders shall be entertained from the parties having all statutory registration with the appropriate authorities" Service provider shall at the time of submission of tender declare whether they are sole proprietary concern or registered Partnership Firm of Private Limited Company or a Public Limited Company incorporated in India or Hindu Undivided Firm. The Composition of the partnership, names of Directors or companies and name of the Karta of Hindu Undivided Family shall be indicated. The service providers shall also nominate person in whose hands the active Management and control of the work relating to the contract during the tenure of the contract would lie. The

person so nominated shall be deemed to have power of attorney from the service provider(s) in respect of the service provider and whose acts shall be binding on the service provider(s).

- (b) The contactor shall well acquaint and study carefully and get clarified site conditions, surroundings, approaches, working conditions, the materials, machines, equipment, specifications, schedule of quantities, frequencies of different operations and conditions of the tender documents and to get clarifications and explanations, if required, from the Officer- in- Charge to fully appreciate the scope of work before quoting his rates.
- (c) The service providers shall not make any change in the constitution of the firm during the currency of the contract, without the prior approval of the NMCG. The service providers shall notify, to the NMCG about the death/resignation of any of the partner(s)/director(s) immediately on the occurrence of such an event. On receipt of such notice the NMCG shall have the right to terminate the contract at its discretion.

#### **4. SUBLETTING**

The service provider(s) shall not sublet transfer or assign the contract or any part thereof without the prior written approval of the NMCG. In the event of the service providers contravening this condition the NMCG is entitled to terminate the contract and to get the balance items under the contract extended at the risk and cost of the service provider and the service provider(s) shall be liable for any loss or damage which the NMCG may sustain in consequence or arising out of such replacing of the contract.

#### **5. EXECUTION OF WORK: SERVICE PROVIDER'S RESPONSIBILITIES:**

- (a) The service provider shall ensure quality work in a planned and time bound manner. Any substandard material/ work set beyond the tolerance limits shall be summarily rejected by the Officer- in- Charge.
- (b) The work shall be carried out in the manner complying in all respects with the requirements of relevant byelaws of the local body under the jurisdiction of which the work is to be executed or as directed by the Officer- in- Charge and nothing extra shall be paid on this account.
- (c) The service provider shall comply with proper and legal orders and directions of the local or public authority or Municipality and abide by their rules and regulations and pay all fees and charges, which he may be liable.
- (d) The service provider shall dump garbage / malba / wastage at specified / demarcated / notified site / ground by the local municipal authorities (ULB) on his own cost and responsibility and shall not stack building material / malba on road or on the land owned by any other authority, as the case may be. It will be the responsibility of the service provider in consultation with ULB/SPMG to identify the dumping site/ground and to get permission from the concerned local authority/corporation on his own responsibilities and expenses.

- (e) No assistance of any kind shall be made available by the department for the purchase of equipment's, plants, machinery, materials of any kind or any other items required to be carried out in execution of work. Payment will be made in Indian currency only for the executed work.
- (f) Work shall be carried out on all days including Sundays and Holidays. The service provider shall attend complaints received in connection with the services immediately.
- (g) In case any green energy or clean energy investment is made by the service provider then the entire carbon credits associated with the project shall be transferred in the name of service provider.

## **6. LIABILITY FOR PERSONNEL**

- (a) All persons employed by the service provider(s) shall be engaged by them/him as his/their own employees in all respects and the responsibilities/obligations under contract Labour (R&R) Act 1970, the Indian Factory Act the Workmen compensation Act 'Employees Provident Fund Act 'and under minimum wages Act and various other statutory enactments shall be that of the service provider.
- (b) The service provider shall indemnify the NMCG against all the claims whatsoever in respect of the said personnel and workmen compensation act, EPF Act, ESI Act, or any other statutory/Provisions or otherwise in respect of any damage, penalty, compensation, interest, fines payable in consequence of any accident or injury sustained by any worker of the Service provider. The service provider shall Co- ordinate with ESI authorities to get the family treatment card for his staff.
- (c) The service provider shall also make available such returns/records for inspection by authorized by NMCG. The service provider shall maintain necessary record and registers like wages book and wage slip, etc. register of unpaid wages and register of fines and deductions.
- (d) The service provider shall regularly liquidate any financial liability under the contract towards fulfilling statutory obligations stipulated in different labour Act/rules/instructions/circulars etc. applicable to the contract and submit proof of having fulfilled the same.

### **i. WEEKLY OFF**

The Service provider shall be liable to allow paid weekly off etc. to the personnel employed by him as mandated under the appropriate State/Central laws governing their employment under him.

### **ii. WASHING FACILITY:**

The service provider is liable to provide washing facilities as provided in the contract Labour (Regulation and Abolition) Act and the rules framed there under or any other applicable law.

**iii. FIRST AID FACILITY:**

The Service provider is liable to provide first Aid facility as provided in the contract Labour (Regulation and Abolition) Act and the Rules framed there under or any other applicable law.

**7. PERIOD OF CONTRACT:**

The Contract shall remain in force for all purpose for a period of 02 years from the date of Operation / Service delivery of fully functional Oxidation plant, which may be further extended for a period of one or more year(s) based on satisfactory performance and provision of clause 14. NMCG reserves right to terminate the contract at any time during its currency without assigning any reason there of by giving thirty days' notice in writing to the service provider(s) at their last known place of residence/business and the service providers shall be entitled for compensation as per clause 12 below. The action of NMCG under this clause shall be final conclusive and binding on the service providers and shall not be called in question.

**8. SECURITY DEPOSIT:**

- (a) The service provider(s) shall furnish within fifteen days from the acceptance of their tender, security deposit as prescribed in the invitation to tender failing which the contract shall be liable to cancellation at the risk and cost of the service provider(s) and the EMD will be forfeited and subject to such other remedies.
- (b) The Security Deposit shall be furnished in prescribed forms given in the **Appendix-IV**.
- (c) The NMCG shall not be liable for payment of any interest on the security deposit or by depreciation of any equipment /machinery etc. employed for the execution of work.
- (d) The Security Deposit will be refunded to the service provider(s) without interest on due and satisfactory performance of the services and on completion of all obligations by the service provider(s) under the terms of the contract.
- (e) In the event of termination of the contract, NMCG shall have the right to forfeit the entire or part of the amount of security deposit lodged by the service provider(s) or to deduct appropriate sum due to be claimed for any damages, losses, charges, expenses or cost that may be suffered or incurred by the NMCG.
- (f) The decision of the NMCG in respect of such damages, losses, charges, costs, or expenses shall be final and binding on the service provider(s).
- (g) If during the term of this Contract the Service provider is in default of the due and faithful performance of its obligations under this Contract, or any other outstanding dues by the ways of fines, penalties and recovery of any other amounts due to it, the



NMCG shall, without prejudice to its other rights and remedies hereunder or at the Applicable Law, be entitled to call in, retain and appropriate the Performance Security. Nothing herein mentioned shall debar the NMCG from recovering from Service provider by a suit or any other means any such losses, damages, costs, charges and expenses as aforesaid, in case the same shall exceed the amount of the Performance Security.

**9. LIABILITY OF SERVICE PROVIDER(S) FOR LOSSES ETC. SUFFERED BY THE EMPLOYER**

- (a) The service provider(s) shall be liable for all costs, damages, expenses suffered or incurred by the NMCG due to the service provider's negligence and the unworkmanship like performance of any service under his contract or breach of any terms thereof or their failure to carry out the work with a view to avoid incurrence of damages etc. and for all damages or losses occurred to the NMCG or in particular to any property or plant belonging to the NMCG due to any act whether negligent or otherwise of the service provider(s) themselves or their employees. The service provider(s) shall also be liable for the interest at commercial lending rate on costs/damages/expenses. The decision of the NMCG regarding such failure of the service provider(s) and their liability for the losses, etc. suffered by the NMCG shall be final and binding on the service provider(s).
- (b) The NMCG is entitled to claim for any damages, losses, charges, costs, or expenses suffered or incurred by them due to service provider(s) negligence's and unworkman like performance of services under the contract or breach of any terms thereof and adjust the same from the bills of the service provider directly. The total sum claimed shall be deducted from, any sum then due or which at any time hereafter may become due to the service provider(s) under this or any other contract with the NMCG. In the event of the sum which may be due from the NMCG, as aforesaid being insufficient, the balance of the total sum claimed and recoverable from the service provider(s). Should this sum also be not sufficient to cover the full amount claimed by the NMCG, the service provider shall pay to the NMCG on demand the remaining balance of the aforesaid sum claimed. The NMCG will be the sole judge determining after taking into consideration all the relevant circumstance, the quantum value of loss and also in regard to the liability of service provider(s) for such loss the amount to be recovered from them. The decision of the NMCG in this regard shall be final and binding on the service provider(s).

**10. SET-OFF**

Any sum of money due and payable to the service provider(s) (including security deposit returnable to them) under this contract may be appropriated by the NMCG and set off against any claim of the NMCG for the payment of any sum of money arising out of or under any other contract made by the service provider(s) with the NMCG.

**11. BOOK EXAMINATION:**

The service provider(s) shall, whenever required to produce or cause to produce for examination by the NMCG. or any other officer authorized by him on behalf any cost or other accounts book of accounts, vouchers, receipts, letters, memorandums or writings or any copy of or extract from any such document and also furnish information and returns, verified in such manner as may be required by the statutory compliance/payment made to EPF/minimum wages etc., renewed license any or all such documents desired by NMCG. The decision of NMCG on the question of relevancy of any document, information or return shall be final and binding on the service provider(s). The service provider(s) shall produce the required document, information and returns as at such time and place, as may be directed by the NMCG or any other officer authorized in this regard.

## **12. PAYMENT:**

- (a) Payment shall start from the time the Ozone oxidation plant starts to deliver on the KPIs as per the requirement provided in the scope of work.
- (b) No payment shall be made during the period of installation and commissioning of the plant.
- (c) Monthly data report for the quantity of the pollution load treated and output of flows is to be submitted to the NMCG signed by the representative of the Third Party assigned by NMCG, for payment to the agency.
- (d) Payment will be made on submission of monthly bills and necessary supporting documents.
- (e) The service provider shall submit all his/their bill by the seventh of following month. payment of which will be made to the service provider(s) within 20 days after receipt of the bill with completed detail of the work performed.
- (f) The payment will be subject to achievement of the desired result and satisfactory execution of the work, monthly reports duly verified by the Third Party.
- (g) The payment shall be done on volumetric basis for drain treatment.
- (h) No payments shall be payable for unsatisfactory work/services for a particular month along with imposition of penalty as mentioned.
- (i) No payment shall be made to the service provider on account of termination of the contract arising out on the default/violation/breach of the contract agreement on the part of the service provider.
- (j) Upon termination of the contract before the contract expiry period, by the employer, the service provider shall be entitled to a payment for the 50% of the remaining contract period, as on the date of the termination, @ 15 MLD sewage flow.
- (k) The total payment made to the service provider shall not exceed the Total Contract Price.

## **13. CONTRACT TERMINATION:**

- (a) The contract shall cease to exist on the completion of the contract period unless the contract agreement is extended by both the parties.
- (b) The Contract Agreement may be terminated before the contract expiry period by both the parties in a scenario when the services are no longer required, or the purpose of the contract has been

fulfilled, and the payment shall be guided by clause 12(i).

- (c) The contract shall be terminated by the employer on account of the breach of contract, giving a 30 days' notice, without any financial liability on the part of the employer.
- (d) The contract may be terminated by the employer in the event of the Service Provider's non-performance - not delivering the desired output, for a continuous period of 90 days, without any financial liability on the part of the employer.
- (e) The contract may be terminated by the Service Provider by giving a notice of 30 days with justifiable reason, without any financial liability on the part of the employer.

**14. CONTRACT EXTENSION:**

If the employer so desires, the contract shall be extended at a discounted rate. The rate quoted by the bidder for the existing contract period shall be discounted @ 25% for the first year and @35% for the second year; remaining terms and conditions shall remain the same as per the existing contract agreement.

**15. CONTRACT VARIATION:**

The provision of contract variation shall be applicable to this contract on mutually agreed terms and conditions.

**16. POWER CHARGES:**

- (a) The Service Provider shall bear the charges for the power consumption for operating the treatment plant.
- (b) The Service Provider shall have to make backup provision for instances of power disruption to keep the plant running.

**17. LAW GOVERNING THE CONTRACT/DISPUTE RESOLUTION:**

The contract will be governed by the Laws of India, for time being in force as amended from time to time. Any disputes arising out of this contract will be settled first by amicable settlement or by arbitration fairly in the court of Law of competent jurisdiction. **The courts in Delhi shall have exclusive jurisdiction** to adjudicate the disputes arising under the contract.

**18. DUTIES AND RESPONSIBILITY OF THE SERVICE PROVIDER(S):**

- (a) The service provider(s) shall carry out all items of services assigned or entrusted to him/them by NMCG or any other officer acting on his behalf and shall abide by all instructions issued to him/them from time to time by the said officer. They shall render the services to the satisfaction of the NMCG or any other officer acting on his behalf together with ancillary and incidental duties, service and operations as may be indicated by the said officer(s) and are not inconsistent with the terms & conditions of the contract. The service provider shall always be bound to act with responsible delegacy and in a business-like manner and to use such skill as expected of men or ordinary prudence in the conduct of their activities.
- (b) The service provider shall engage adequate workers and other competitive staff for the nature of work to be performed to the satisfaction of the NMCG or any other officer

acting on his behalf. The service provider shall be responsible for the good conduct of their employees and shall compensate the NMCG for losses arising from neglect, carelessness, want of skill or misconduct of themselves, their servant or agents or representatives. The NMCG shall have the right to ask for the dismissal of any employee of service providers who in his opinion is hampering the smooth execution of the work and his decision regarding losses caused by neglect and misconduct etc. of the service providers, their servant and agents of representative shall be final and binding on the service provider.

- (c) The service providers shall inform NMCG on the officers authorized to act on his behalf, the name of one or more responsible representative(s) authorized to act on their behalf in day to day working of the conduct. It shall be duty of such representative(s) to call at the office of the NMCG or an officer acting on his behalf, every day and generally to remain in touch with them to report the progress and generally to take instructions in the matter.
- (d) The service providers shall strictly abide by Laws, Rules & Regulations.
- (e) The service provider shall provide verifiable proof that EPF/ESI that has been deposited in respect of particular workers, working under the Service provider who are working in NMCG along with the EPF/ESI number issued by concerned authorities. A copy of ESI card also is deposited with NMCG within one month period even in case of change of worker, failing which payment will not be released subsequently for the aforesaid period, without prejudice to the other actions.
- (f) If the party fails to comply with the statutory/legal requirement, as stipulated in the terms & conditions of the tender within two months from the award of contract, contract is liable to be terminated with one month's notice and security deposit be forfeited and in place, second lowest/third lowest will be kept as back up to immediately to replace the terminated agency.

#### **19. Settlement of dispute and Arbitration**

- (a) All disputes and differences arising out of or in connection with the contract and works of any nature assigned under the same (whether during the progress of the works or after their completion), determination, abandonment or breach of the contract shall be referred to a team of three men arbitrator appointed by the NMCG. The arbitrators shall elect an umpire among them. In case of conflicting findings by the arbitrators, the decision of the umpire shall be final and binding. It will not be an objection to any such appointment that the arbitrators are the government servants and had any interest in the NMCG or the contract entered into directly or indirectly. In all cases, the arbitrators shall state the decision in writing and if the amount for claims in dispute is Rs.50,000/- and above, the arbitrators shall give reasons for award. The Venue of the arbitrator shall be New Delhi.
- (b) Subject as aforesaid the provisions of the Arbitration and conciliation act 1996 or any statutory modification or amendment thereof and the rules made there under for the time being in force shall apply to the arbitration proceeding under the clause.

- (c) The party invoking the arbitration shall specify the dispute to be referred to the arbitrator under this clause together with the amount or amounts claimed in respect of each such dispute within a period of 90 days from the occurrence of the disputes.
- (d) If the service provider's do not make any demand for arbitration in respect of any claims in writing within 90 days of receiving the intimation from the NMCG that final bill is ready for payment, the claim of the service provider's will be deemed to have been waived and absolutely barred and the NMCG will be discharged and released all liabilities under the contract in respect of these claims.
- (e) The decision of the employer or any other authorized officer in this regard, regarding the quantum of reduction as well as justification thereof in respect of rates for sub-standard work which may be decided will be final and would not be open to arbitration.
- (f) In the event of the service provider having to carry out defects as pointed out, he shall be allowed such extension of time for its completion as is considered reasonable by the employer compliance within such time as the employer may prescribe in that behalf and in the event of the service provider failing to effect such compliance within the time prescribed by the employer then the employer shall without prejudice to his other rights be entitled to withhold from the amount payable to the service provider any amount payable to the workmen under any such laws, regulations or rules and to make payment thereof to the workmen. The employer shall also have in that event the right to terminate the contract with immediate effect and to exercise powers reserved to their employer under the contract as a result of termination.

## **20. FORCE MAJEURE**

Neither Party is responsible for any failure to perform its obligations under the Contract, to the extent it is prevented or delayed in performing those obligations by an event of Force Majeure.

An event of Force Majeure is an event or circumstance which is beyond the control and without the fault or negligence of the party affected ("Affected Party") and which by the exercise of reasonable diligence the Affected Party was unable to be prevented and which is not caused or contributed by the Affected Party, provided that event or circumstance is limited to the following:

- (a) act of terrorism; riot, war, invasion, act of foreign enemies, hostilities (whether war be declared or not), civil war, rebellion, revolution, insurrection of military or usurped power;
- (b) ionising radiation or contamination, radio activity from any nuclear fuel or from any nuclear waste from the combustion of nuclear fuel, radioactive toxic explosive or other hazardous properties of any explosive assembly or nuclear component;
- (c) epidemics, earthquakes, flood, fire, hurricanes, typhoons or other physical natural disaster, but excluding weather conditions regardless of severity; and
- (d) freight embargoes, strikes at national or state-wide level or industrial disputes at a national or state-wide level in any country where Works are performed, and which

affect an essential portion of the Works but excluding any industrial dispute which is specific to the performance of the Works or the Contract.

For the avoidance of doubt, inclement weather, third party breach, delay in supply of materials (other than due to a nationwide transporters' strike) or commercial hardship shall not constitute a Force Majeure event.

Where there is an event of Force Majeure, the Affected Party must notify the other Party in writing as soon as possible and in any event within 10 (ten) days of becoming aware of or the date it ought to have become aware of the occurrence of an event of Force Majeure, giving full particulars of the event of Force Majeure and the reasons for the event of Force Majeure preventing the Affected Party from, or delaying the Affected Party in performing its obligations under the Contract. The Affected Party must use its reasonable efforts to mitigate the effect of the event of Force Majeure upon the performance of its obligations under the Contract and notify the other party of the measures being taken to mitigate the effect(s) of the event of Force Majeure.

Upon completion of the event of Force Majeure, the Affected Party shall, as soon as reasonably practicable, recommence the performance of its obligations under the Contract. Where the Affected Party is the Service provider, the Service provider must provide an amended Works Programme rescheduling the Works to minimize the effects of the prevention or delay caused by the event of Force Majeure.

An event of Force Majeure does not relieve a party from liability for an obligation which arose before the occurrence of that event, nor does that event affect the obligation to pay money in a timely manner which matured prior to the occurrence of that event.

The Service provider has no entitlement and Consultant/Owner has no liability for:

- (a) any costs, losses, expenses, damages or the payment of any part of the Contract Price during an event of Force Majeure; and
- (b) any delay costs in any way incurred by the Service provider due to an event of Force Majeure.

If an event of Force Majeure occurs and its effect continues for a period of 120 (one hundred twenty days or more in a continuous period of 365 (three hundred sixty-five days after notice has been given under this Clause, either Party may terminate the Contract by issuing a written notice of 30 (thirty) days to the other Party.

In the event that the Parties are unable to agree in good faith about the existence or occurrence of a Force Majeure event, such dispute shall be finally settled in accordance with the dispute resolution provided herein; provided however that the burden of proof as to the occurrence or existence of such Force Majeure event shall be upon the Party claiming relief on account of such Force Majeure event.

Signature of Bidder

## **PRICE BID**

*(The financial bid is to be uploaded in the GeM portal. The form is provided at <https://gem.gov.in/>. Bidders are advised to download and fill the required details in the permitted cells and upload the same)*

**List of Drains (packages wise) proposed for services**

<b>Package No.</b>	<b>Name of Drains</b>	<b>City</b>	<b>Flow## MLD</b>	<b>Organic Load in TPD</b>	<b>BOD in mg/l</b>
1.	Assi Ghat Drain	Varanasi	30	3.0	100

## The flow and the qualities are indicative and may be assessed by the bidder for their proposed interventions.



**DETAILS OF SERVICES**

1. Identification of appropriate site for installation of the Equipment's /Instruments and necessary support system in consultation with employer or any agency authorized/ identified by it.
2. Installation, operate and maintain the installed system of treatment at site with its security. Safety and security of the plant shall be the exclusive responsibility of the service provider and shall also provide for necessary safety precaution and security to the plant and equipment during the monsoon period when the plant will be non-operational.
3. Providing necessary civil intervention at the site, without compromising the natural attributes of the drains and conditions imposed by the government agency extending NOC for carrying out the pollution control interventions.
4. Cleaning of floating and primary suspended solid waste materials along with its treatment from the drains and Sludge arising from de-sludge activity performed and its proper storage, transportation and disposal as per provision of Municipal Solid Waste Management Rules, 2016 in collaboration with agency identified by employer.
5. Disposal of primary sludge or any sludge arising out of the treatment and its proper storage, treatment, its transportation and disposal as per provision of Municipal Solid Waste Management Rules, 2016 in collaboration with agency identified by employer.
6. Treatment of drain water to improve the water quality on 24-hour basis for the total contract period excluding monsoon period – 15 June to 15 September, at no capital cost for the treatment system along with its peripherals by employer.
7. If it is desired by employer that during the monsoon period, the system shall be kept operating, employer will request the service provider in writing on or a week before 15th June of every year to keep the system operating for such operations carried out by the service provider will be payable by employer at the existing contract prices.
8. If the employer so desires to use the Oxidation plant set up in a different location post the expiry of the current contract agreement, the same shall be provided by the service provider at mutually agreed terms and conditions.
9. The effluent quality of the proposed Ozone based AOP before discharge to the drain at downstream should be minimum of the following to qualify for the bid:

A.

Sl. No.	Parameter	UOM	Value
1	pH		6.5 – 8.5
2	BOD as part of TOC	ppm	≤ 30
3	COD as part of TOC	ppm	≤ 100
4	Total Suspended Solids	ppm	≤ 50
5	Faecal Coliform	MPN/100 ml	≤ 230
6	Dissolved Oxygen	ppm	≥ 5

B. Greater than 70% of removal in BOD (equivalent 67% removal in TOC)

(Base assumption BOD - (TOC-10.94)/0.315) for 30 days observations.)

10. Information on water flow and quality at the u/s and d/s of the Ozone Based AOP, sludge generation and de-silting/de-sludging, disposal of collected floating. Suspended and solid waste, shall be logged properly. These information /data will be subjected to scrutiny of NMCG or any other officer authorised by NMCG on its behalf.
11. The “service” as defined in **Appendix-II** shall be for a period of 2 years and may be extended by NMCG based on its requirement on satisfactory performance and mutual agreed conditions.
12. The necessary facility to support and operate the treatment system including manpower, electric power, security, safety against theft and flood will be the responsibility of the bidder.
13. The qualitative and quantitative data as per requirement of NMCG as mentioned in **Appendix-II** shall be monitored on real time basis and communicated by the bidder on real time basis to NMCG. Such information will be the basis for payment.
14. The water quality parameters to be monitored and the acceptable technology for their monitoring has been provided in **Appendix-VI** and the bidder has to install from the specified system. The data generated shall be transferred to NMCG or other servers without any loss of data in text form as details provided in **Appendix-VI**.
15. The bidder shall install camera to cover the situation of drain at upstream and downstream of Ozone Based AOP to reflect the status of cleaning work.
16. The bidder shall ensure that the plant should run continuously. Provision to be made in case of the incidence of power disruption for continuous running of the plant.
17. A flow indicator/ meter shall also be installed at the downstream of any intervention made to pond/store the water in the drain in order to provide sufficient information on the amount of water being treated and being discharge (by-pass).
18. If the Ozone Based AOP system is required to be shifted by the Bidder to any other suitable location as specified by NMCG within R. Ganga Basin within the contract period, the cost associated with shifting shall be reimbursed by NMCG on actual basis.
19. Bidders are required to provide terms & Conditions for shifting Ozone Based AOP, while submitting the technical bid, however, the cost may be submitted along with Price Bid.
20. NMCG will facilitate NOC from the concern agency to work on the drain, BUT the liability for arrangement of land and space to install, transport, operationalized and dismantle or shift the Ozone Based AOP shall be the obligation of the bidder at his cost.
21. The payment terms and condition for extending the service as defined in the scope of Work shall be as per the guidelines provided in **Appendix-V**.
22. There will be no liability with NMCG to create any asset for obtaining the services
23. The bidder shall provide the details on the on-line real time monitoring system with regard to its calibration and validation. NMCG or its authorised agent will witness the calibration or call for calibration at any given time and also may validate the generated data. “Guidelines for Online Continuous Monitoring System for Effluent” published Central Pollution Control Board dt. 7th Nov 2014 will be the followed for system calibration, data validation and technology verification of the real time instruments installed for the monitoring of water quality including the technology selection, data transmission and data management.

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**STATEMENT ON ELIGIBILITY AND EVALUATION CRITERIA**

1. Name and address of the bidder and telegraphic address:
- 

**II COMPOSITION OF BIDDER:**

It shall be stated whether the bidder is business proprietorship concern or registered partnership firm or a Limited Company. The name and date of birth of all partners/Director, Proprietors shall be given. It shall be certified that there are no undisclosed partners. In the case of Limited companies, the authorized and paid-up capital shall be stated.

**III BUSINESS IN WHICH THE BIDDER IS EMPLOYED:**

The nature of business in which the bidder or partner of the tender's firm are engaged shall state together with particulars of where Head Office and branches if any, are located along with details of sister concern.

**IV Eligibility and Experience of Working:**

1. The bidder should have 10 years' experience in either design, manufacture and supply of ozonation system or as authorized dealer of the Ozonation system.
2. The bidder shall have successfully delivered services for at least one similar work in India. *Similar works* means work of supply, installation, commissioning & providing services for removal of pollution from drain water/ septage water through Ozone based Advanced Oxidation Process (AOP) treatment plants of at least 1 MLD capacity successfully under SMCG/NMCG/Govt Organization within last 7 years from the date of submission of Bids. The bidder would be required to furnish documentary proof from the concerned agency (for whom the work was undertaken) towards successfully completing the similar work.

**OR**

The bidder should have supplied, installed & commissioned at least three ozonation systems for raw water / drinking water treatment with the ozone generation capacity of minimum 1.5 kg/hr. each or more in Government organization or public sector undertaking, out of which, one ozonation system shall be operating satisfactorily for minimum 1 year. The bidder should produce supply order copy and performance certificate from such customers where this system has been installed & is in service.

3. The Net worth of the bidder shall be minimum of 10 cr. in each of the last three financial years preceding the date of submission of bid.

The average annual turnover of the bidder during the last three financial years preceding the date of submission of bid should not be less than 20 crores.

4. The bidder should submit a certificate issued by Chartered Accountant and/ or Audited Balance Sheet and Profit and Loss Account for the above financial years.
5. In the case of Joint Venture (JV)/ Consortium, the main bidder shall fulfill the required Technical eligibility criteria and the Financial eligibility criteria shall be met jointly. (Maximum two partners are allowed in the JV). The bidders/JV partners shall submit the list of all ongoing works / completed anywhere in India in similar nature; Documentary proof of specific performance report issued by the Client for each project to be submitted.
6. Bidder or the JV partners should not have been blacklisted by any Central/State/Government agency and submit an undertaking on firm's letterhead in this effect.
7. All the Consortium member(s) shall authorize the lead partner by submitting a power of Attorney as per the prescribed format duly signed by the authorized signatories. The lead partner shall be authorized to receive instructions for and on behalf of all partners of the Consortium and entire execution of the contract.
8. The Consortium and its members shall be jointly and severally responsible and be held liable for the purpose of guaranteed obligation and any other matter as required under the contract.
9. The lead/associate partner in the JV cannot create a JV with other firm/consultant for same work.
10. Bidder must submit valid registration certificate with any Government department, permanent Account Number (PAN) and licenses /permissions from the authorities concerned as provided under the various labour legislations including the labour license obtained as per the provisions of the contract Labour Act, 1970 and should have their own Provident Fund Account Code No. With the Regional Provident Fund Commissioner (RPFC) and also have valid registration with ESI Authorities. Proof of up-to-date remittances to ESI & EPF Authorities shall be produced. Firms / Service providers shall not be blacklisted by any PSU / Govt under takings. They shall submit an affidavit to this effect.
11. Bidder shall submit Certified Copy of License from Labour Commissioner to Employ Contract labour under Contract Labour Act, if applicable.
12. Bidder shall submit Certified Copy of Service Tax Registration which shall be in the Name of the Bidder (Latest paid Challans to be submitted), if applicable.
13. Bidder shall submit a copy of TDS Certificate along with the Completion Certificate for the work done in Private/Non-Govt. Organization.
14. At the time of submission of bids, the bidder shall furnish an affidavit on a non-judicial stamp paper of Rs.100/- as under: -

“I/We undertake and confirm that eligible similar work(s) has/have not been executed through another service provider on back-to-back basis.”

15. Bid shall be complete and covering the entire scope of job and shall confirm to the General and Special Conditions indicated in the bid documents. Incomplete and non- confirming bids will be rejected outright.

## V EVALUATION CRITERIA

The detailed submitted by the bidders in technical bid will be evaluated in the following manner:

S. No.	Criteria	Maximum Marks
1	<b>Past Experience – Experience in similar nature of work</b>	<b>30</b>
A	<b>One work</b> successfully completed of IMLD capacity or more	20
B	<b>Two work</b> successfully completed of IMLD or more	25
C	<b>Three or more work</b> successfully completed of IMLD or More	30
	<b>OR</b>	
A	supplied, installed & commissioned at least <b>Three ozonation systems</b> for raw water / drinking water treatment with the ozone generation capacity of minimum 1.5 kg/hr.	20
B	supplied, installed & commissioned at least <b>Five ozonation systems</b> for raw water / drinking water treatment with the ozone generation capacity of minimum 1.5 kg/hr.	25
C	supplied, installed & commissioned at least <b>Eight ozonation systems</b> for raw water / drinking water treatment with the ozone generation capacity of minimum 1.5 kg/hr.	30
2.	<b>Feasibility of Work Plan</b>	<b>20</b>
A	Approach & Methodology	15
B	Work Plan including timeline(s)	05
3.	<b>Innovation &amp; Level of Automation Proposed</b>	<b>20</b>
A	Innovation	10
B	Scale of automation including real time monitoring	10
4.	<b>Net Worth of the Company</b>	<b>15</b>
A	Up to 10 Cr.	10
B	Between 10 to 15 Cr.	12
C	Above 15 Cr.	15
5.	<b>Average Annual turnover of Company for last three years</b>	<b>15</b>
A	Between 20 - 25 Crores	10
B	Between 25 - 30 Crores	12
C	More than 30 Crores	15
	Total	<b>100</b>

### Notes:

1. Qualifying marks for evaluation of price bid will be equal or more than 70 marks in aggregate.
2. An independent selection committee will be formed for the evaluation of the technical & price bids.
3. The NMCG, however, reserves the right to restrict the list of such qualified service providers to any number deemed suitable by it.

### **Price Bid Evaluation**

The Price Bids of the technically qualified bidders who have obtained minimum technical score of 70 marks shall be opened in the presence of such bidders' representatives who choose to attend.

The contract will be awarded to the Bidder whose Bid has been determined to be responsive to the bidding documents and who has offered the lowest evaluated Bid Price.

**APPENDIX –IV**

**FORM OF BID SECURITY (BANK GUARANTEE)**  
(In stamp paper)

B.G. No:

Dated:

WHEREAS, .....(name of Bidder including names of all Joint Venture Participants) (hereinafter called “the Bidder”) has submitted its Bid (hereinafter called the “Bid”) dated (date) for the performance of (name of Contract).

KNOW ALL PEOPLE by these presents that We ..... (name of Bank) of ..... (name of country) having our registered office at ..... (hereinafter called “the Bank”) are bound unto ..... (hereinafter called “the Owner”) in the sum of .....for which payment well and truly to be made to the said Owner, the Bank binds itself, its successors, and assigns by these presents. [The Bidder should insert the amount of the guarantee in words and in figures. This figure should be the same amount as set out in RFP. The details related to the Bid Security are set out in the same RFP Clause].

The CONDITIONS of this obligation are:

- a. If the Bid has been termed as non-responsive in accordance with the clause 2.20.4 of the RFP document.
- b. if the Bidder withdraws its Bid during the Bid Validity Period; or
- c. if the Bidder, having been notified of the acceptance of its Bid by the Owner during the period of Bid validity,
  - 1. fails to sign the Agreement in accordance with and when required by RFP Clause 13; or
  - 2. fails to provide the performance security to the Owner in accordance with and when required by RFP clause 2.21
- d. If the Bidder fails to commence the assignment.

We undertake to pay to the Owner up to the above amount upon receipt of its first written demand, without the Owner having to substantiate its demand, provided that in its demand the Owner will note that the amount claimed by it is due to it owing to the occurrence of one or more of the conditions set out above, specifying the occurred condition or conditions.

This Guarantee will remain in full force up to and including 45 days after the expiry of the Bid Validity Period and it may be extended by the Owner in accordance with the Bidding Documents, notice of which extension(s) to the Bank is hereby waived. Any demand in respect of this Guarantee should reach the Bank not later than the above date or the extended date.

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No. 758 except that the supporting statement under Article 15(a) is hereby excluded.

SEALED with the Common Seal of the said Bank this ..... day of ....., [Year].

\_\_\_\_\_  
WITNESS  
(signature, name and address)

SIGNATURE OF THE BANK

SEAL

Name:  
Position:



**Bank Guarantee for Performance Security**

((In stamp paper))

To

-----  
-----  
.....

In consideration of “National Mission for Clean Ganga”,(hereinafter referred to as “NMCG“) which expression shall, unless repugnant to the context or meaning thereof, include its successors, administrators and assigns) awarding to ....., having its office at ..... (hereinafter referred as the “Service Provider” which expression shall, unless repugnant to the context or meaning thereof, include its successors, administrators, executors and assigns), vide the NMCG’s Letter of Award no. .... dated ..... valued at Rs. .... (Rupees .....), (hereinafter referred to as the “Award”) the assignment for services in respect of the ..... Project, and having agreed to furnish a Bank Guarantee amounting to Rs. .... (Rupees .....) to the NMCG for performance of the said Agreement.

We, ..... (hereinafter referred to as the “Bank”) at the request of the Service Provider do hereby undertake to pay to the NMCG an amount not exceeding Rs. .... (Rupees ..... ) against any loss or damage caused to or suffered or would be caused to or suffered by the NMCG by reason of any breach by the said Service Provider of any of the terms or conditions contained in the said Agreement.

2. We, ..... (indicate the name of the Bank) do hereby undertake to pay the amounts due and payable under this Guarantee without any demur, merely on a demand from the NMCG stating that the amount/claimed is due by way of loss or damage caused to or would be caused to or suffered by the NMCG by reason of breach by the said Service Provider of any of the terms or conditions contained in the said Agreement or by reason of the Service Provider’s failure to perform the said Agreement. Any such demand made on the bank shall be conclusive as regards the amount due and payable by the Bank under this Guarantee. However, our liability under this Guarantee shall be restricted to an amount not exceeding Rs. .... (Rupees .....).

3. We, ..... (indicate the name of the Bank) do hereby undertake to pay to the NMCG any money so demanded notwithstanding any dispute or disputes raised by the Service Provider in any suit or proceeding pending before any court or tribunal relating thereto, our liability under this present being absolute and unequivocal. The payment so made by us under this bond shall be a valid discharge of our liability for payment thereunder and the Service Provider shall have no claim against us for making such payment.

4. We, ..... (indicate the name of Bank) further agree that the Guarantee herein contained shall remain in full force and effect during the period that would be 92 required for the performance of the said Agreement and that it shall continue to be enforceable till all the dues of the NMCG under or by virtue of the said Agreement have been fully paid and its claims satisfied or discharged or till the NMCG certifies that the terms and conditions of the said Agreement have been fully and properly carried out by the said Service Provider and accordingly discharges this Guarantee. Unless a demand or claim under this Guarantee is made on us in writing on or before a period of one year from the date of this Guarantee, we shall be discharged from all

liability under this Guarantee thereafter.

5. We, ..... (indicate the name of Bank) further agree with the NMCG that the NMCG shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Agreement or to extend time of performance by the said Service Provider from time to time or to postpone for any time or from time to time any of the powers exercisable by the NMCG against the said Service Provider and to forbear or enforce any of the terms and conditions relating to the said Agreement and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said Service Provider or for any forbearance, act or omission on the part of the NMCG or any indulgence by the NMCG to the said Service Provider or any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have the effect of so relieving us.

6. This Guarantee will not be discharged due to the change in the constitution of the Bank or the Service Provider(s).

7. We, ..... (indicate the name of Bank) lastly undertake not to revoke this Guarantee during its currency except with the previous consent of the NMCG in writing.

8. For the avoidance of doubt, the Bank's liability under this Guarantee shall be restricted to Rs. .... crore (Rupees ..... crore) only. The Bank shall be liable to pay the said amount or any part thereof only if the NMCG serves a written claim on the Bank in accordance with Paragraph 2 hereof, on or before [.....].

For .....

Name of Bank:

Seal of the Bank:

Dated, the .....day of ....., 20.....

(Signature, Name and designation of the authorised signatory)

**NOTES:**

- i. The Bank Guarantee should contain the name, designation and code number of the officer(s) signing the Guarantee.
- ii. (ii) The address, telephone no. and other details of the Head Office of the Bank as well as of issuing Branch should be mentioned on the covering letter of issuing Branch

## Monitoring Mechanism of Intervention

### I. Data Collection

- (a) Data on flow and quality shall be collected on real time basis, from a location identified and agreed by NMCG and the bidders at upstream (u/s) and down-stream (d/s) of the installed treatment system by the bidder having proper representation of the untreated and treated water and duly representing the treated effect made by the bidder's intervention.
- (b) The data will be collected on hourly basis for 24 hours for the period of contract.
- (c) Downtime of more than 50% of data generation, logging and transmission to NMCG will disqualify the data and payment for that calendar date and payment will be governed by **Table- C**.
- (d) The correlation study for TOC and BOD for each drain will be carried out for influent as well as effluent of the treatment system provided by the bidder.
- (e) The correlation of FC with ORP will be established during stabilization period & initial & final ORP to be achieved will be considered as an alternative parameter for FC removal. The established ORP range shall be considered for the billing.
- (f) All hourly and 24 hours water flow and quality data from Inlet and outlet of the treatment system shall be delivered to the server specified by NMCG on real time basis. Such server will be setup and maintained by the NMCG. The Service provider (Bidder) shall provide the data in text file, one file for each transmission and the data will be placed in a directory as indicated by NMCG.
- (g) Data transfer will be implemented using SFTP service or other open communication standard as mutually agreed between the Service Provider and NMCG
- (h) Provision for remote calibration facility for TOC will be a must. The calibration will be cross- validated through an independent agency appointed by NMCG. However, observation of drift of more 10% on 3 consecutive occasions will necessitate replacement of necessary sensors for determination of the subject matter.
- (i) All data during the calibration shall be also maintained for the period of contract.
- (j) The service provider will store all the data collected during the period of contract. The storage shall be 100% online to make it available to NMCG on instantaneous basis. In case of contingencies, service provider will provide necessary access to NMCG for downloading any or entire part of data base maintained by Service Provider.

### II. Quality assurance

- (a) Calibration frequency will be once in a week for TOC, TSS, D O , O R P , pH and Flow. The validation of calibration shall be carried out on monthly basis by an independent agency appointed by NMCG for the purpose.
- (b) Calibration shall be conducted by using Standard methods and in concurrence of NMCG. Before operationalization of the treatment system, the Service provider will submit the Standard Operating and Calibration Procedure for the instruments to NMCG for its concurrence. Any deviation on calibration and operating procedure shall

be intimated to NMCG without delay and non-reporting of such deviation shall lead to non-payment during the non-compliance period of this clause.

- (c) Post calibration, the parameter will be set to match the calibration result.
- (d) All information related to quality assurance of data shall be maintained by the Service provider and shall be submitted along with the payment invoice in soft and hard copy or in format requested by NMCG from time to time.
- (e) The traceability of the chemicals used for calibration shall be traceable to NIST standard.

### **III. Mandatory Measurement Conditions**

- (a) Mandatory measurement condition will be used to qualify the treatment for payment, the service provider must assure that the following conditions are in place. It is expected that the service provider will confirm these measurements throughout the period of contract.
- (b) Flow and water quality for pH, TOC, DO, FC (ORP) and Turbidity/TSS (mg/l) parameters are measured at the inlet and outlet of the treatment system and payment will be governed as per section C.

### **IV. Requirement of Treatment**

The Employer (NMCG) shall obtain the necessary No-objection Certificate to carry-out the proposed intervention of treatment by the bidder. The bidder will provide necessary site and work plan giving details for getting NOC such as,

- a. physical and hydrological modification proposed to be made in the drain or its banks,
- b. Area required for the installation and operation of the treatment system, garbage/solid waste / sludge storage
- c. Power requirement and associated work and systems
- d. Risk envisaged and its mitigation measures
- e. Any other information of importance or as required by NMCG or the agency responsible for providing NOC

List of drain with its indicative parameters have been provided in **Appendix I**. Bidders are encouraged to have their own assessment of the attributes of the drain through site visits and also to identify appropriate based on their requirement, but with minimal compromise with the natural attributes of the drains, its flow and surrounding environment. Due care needs to be taken to avoid any impact on the farmland, accessibility to the site through public access, proximity of electric power supply, if required and ease for movement of material.

**V. Employer scope of work:**

- a. Approvals for HT/LT Power supply.
- b. Supply and installation of HT/LT panel, Transformer, incoming cabling & termination to bidder's panel.

**VI. Deliverables Expected**

- (a) The treatment shall be provided to the complete flow in the drain and no-bypass shall be allowed.
- (b) The plant shall be ready for commissioning within 6 months from the date of agreement.
- (c) The treatment is expected for a period of 9 months in a calendar year, leaving the monsoon period (15 June 15 Sep). The treatment facility shall be operational and deliver the quality as proposed in the bid for not less than 95% of the time in a calendar date. The payment will be governed by Clause C.
- (d) The effluent quality of the proposed treatment system before discharge to the drain at downstream should be minimum of the following to qualify for the bid:

A.

Sr. No.	Parameter	UOM	Value
1.	pH		6.5 – 8.5
2.	BOD as part of TOC	ppm	≤ 30
3.	COD as part of TOC	ppm	≤ 100
4.	Total Suspended Solids	ppm	≤ 50
5.	Faecal Coliform	MPN/100 ml	≤ 230
6.	Dissolved Oxygen	ppm	≥ 5

B. Greater than 70% of removal in BOD (equivalent 67% removal in TOC (Base assumption  $BOD - (TOC - 10.94) / 0.315$ ) for 30 days observations.

The combination of following conditions will be applicable for payment of the services

**A. Eligibility of Payment on Operational Status of Treatment System**

**Table A**

Downtime (%) (Daily)	Treatment Efficiency Claimed (%) $(\frac{Inlet Qc \times Inlet Qt - Outlet Qc \times Outlet Qt}{Inlet Qc \times Inlet Qt}) \times 100$					Payment (as % of Quoted Price)
	BOD as part of TOC	FC	TS S	DO	pH	
Less than 05	A	B	C	D	E	100
	Less than A but more than 0.7 A	Less than B but more than 0.7 B	Less than C but more than 0.7 C	Less than D but more than 0.7 D		70
	Less than 0.7 A but more than 0.5A	Less 0.7 B but more than 0.5B	Less than 0.7 C but more than 0.5C	Less than 0.7 D but more than 0.5AD		50
	Less than 0.5 A	Less than 0.5 B	Less than 0.5 C	Less than 0.5 D		Nil

- % in a given calendar date,  $Q_c$  – Quality,  $Q_t$  – Flow quantity, TOC – Total Organic Carbon (As a part of COD & BOD), TSS – Total Suspended Solids, FC – Fecal Coliform, DO- Dissolved Oxygen, A, B, C, D are 100% equivalent to claimed treatment efficiency.
- The total correlations will be established for percent reduction or maintenance of every parameter for the fraction wise payment for that parameter. However it is governed by the minimum reduction required for initiation of payment.
- No payment shall be made if deliverable is less than 50% of the defined parameters and deduction shall be applicable for not meeting the established quality parameters.
- The service contract shall be based on minimum 2 years for the minimum assured flow of 30 MLD. However it is the responsibility of the owner to provide the minimum assured flow round the clock during the contract period and 30 MLD flow will be considered as billing basis. For excess sewage treatment above 30 MLD, the payment shall be made accordingly.
- The correlation of FC with ORP will be established during stabilization period & initial & final ORP to be achieved will be considered as an alternative parameter for FC removal. The established ORP range shall be considered for the billing.
- The plant tolerance limit shall be  $\pm 10\%$  of design parameters.

- i. Downtime is defined as the period during which the system was non-functional due to any reason, other than availability of flow in the drain.
- ii. The Service provider has to make necessary provision in the drain to ensure that the flow availability is reported to NMCG on continuous basis. The location for installation of such facility will be mutually decided by NMCG and the Service Provider.

**B. On-line Real Time Water Quality and quantity**

- i. On-line real time water quality and quantity measurement will be become the basis for payment for the services rendered by the Service provider on daily basis.
- ii. The details of the parameter for water quality to be assessed at the inlet, outlet of the treatment system provided by the service provider along with the monitoring and reporting frequency and the desired technology is as below:

**Table B**

<i>S. NO.</i>	<i>Parameter</i>	<i>Frequency</i>	<i>Other requirements</i>	<i>Remarks</i>
1.	Flow	24 hours on hourly basis	Cubic meter per hour  Technology – Magnetic / Ultrasonic Or As per CPCB guidelines.	Communicated to NMCG specified location / server on Real time basis  Controller & DAS & Data Transmission
2.	Total Organic Carbon (TOC)	24 hours on hourly basis	Combined Combustion Catalytic Oxidation at 680 C and NDIR method Or As per CPCB guidelines (para x of notes below).	Controlled & DAS & Data Transmission  Remote Calibration Facility
3.	pH	24 hours on hourly basis	Electrode Method Or As per CPCB guidelines (para x of notes below).	
4.	TSS/ Turbidity	24 hours on hourly basis	As per CPCB guidelines (para x of notes below).	
5.	Dissolved Oxygen	24 hours on hourly basis	Electrode Method Or As per CPCB guidelines (para x of notes below).	
6.	Fecal Coliform (ORP)	24 hours on hourly basis	Electrode Method Or As per CPCB guidelines (para x of notes below).	

- iii. The measurement data of monitoring through real /online time instruments received from each of the location (Inlet and outlet) for quality and quantity shall not be less than 90 % for TOC and Flow and 80% for TSS, DO, ORP and pH on hourly basis for eachcalendar day.

C. The payment will be governed by the following formula

$$\text{Payment} = \text{Quoted Payment (A * B)}$$

A – Payment Eligibility from Table A

B – Compliance to Clause B(iii) as per Table C

Table C – Impact of Measurement data on the payment of Services  
(For deriving Factor - B)

**Table C**

Availability (%)	Data Received at NMCG (Hourly for 24 hours)					Impact on payment component (%)
	Flow	TOC	TSS/Turbidity	DO	pH	
More than or equal to 90	Y	Y	Y	Y	Y	100
Less than 90 & More than 80	N	N	Y	Y	Y	100
Less than 80 & More than 70	N	N	N	Y	Y	90
Less than 70	N	N	N	Y	Y	Nil

Total observation (daily) – 24\*1 = 24 per day

$$\text{Available (\%)} = [\text{Observation available} / \text{Total Observation}] \times 100$$

- i. The service provider is required to submit calibration SOP before commissioning of the treatment system.
- ii. The calibration and validation system will be approved by NMCG and will remain a critical document during the period of contract. Any deviation or modification required in the SOP due to change in system or otherwise, the same needs to be implemented after mutual agreement between NMCG and the Service Provider.
- iii. Calibration frequency will be once in a month for TOC, TSS, pH, DO and Flow. The validation of calibration shall be carried out on monthly basis by an independent agency appointed by NMCG for the purpose.
- iv. Calibration shall be conducted by using Standard methods and in concurrence of NMCG. Before operationalization of the treatment system, the Service provider will submit the Standard Operating and Calibration Procedure for the instruments to NMCG for its concurrence. Any deviation on calibration and operating procedure shall be intimated to NMCG without delay and non-reporting of such deviation shall lead to non-payment during the non-compliance period of this clause.
- v. The online monitoring will be put up to see the efficiency of the most important parameters proposed to be monitored viz., Carbon, Coliform and dissolved oxygen. Hence online monitoring of Total Organic Carbon (TOC) and Dissolved Oxygen (DO)



is important along with Flow, pH and TSS. The measuring technology of the parameters should be based on international and national regulatory reference methods. For continuous monitoring of organic pollution TOC monitoring is to be carried out by measurements based on methods specified in USEPA 415.1, APHA5310 B, DIN EN 1484 page 10 & 502 page 17, CPCB guide manual page 88 and CPCB guidelines.

**D. The Weighted Average assigned to the KPIs for the purpose of payment:**

**Table D**

<b>KPIs</b>	<b>Weighted Average</b>
BOD/COD	50%
TSS	30%
FC	10%
DO	10%

**Price Bid form****Name of Package:** \_\_\_\_\_

<b>Activity*</b>	<b>Unit</b>	<b>Per ML Rate for Treatment of Drain Sewage Water (R) in INR</b>
# Service cost for providing committed water quality of drain water.	ML	
<b>Contract Amount (Rx30x270x2)</b>		

- All costs to be inclusive of all taxes.
- The service cost shall include the expense for power consumption, cleaning and disposal of floating matters in the drain and disposal of the primary sludge at designated site)
- The total amount shall be for 2 years considering work for 270 days per year (excluding the monsoon period) for 30 MLD capacity of the plant.

**Appendix-VIII**

**Format for Power of Attorney for Signing of Proposal**

(On Non – judicial stamp paper of Rs 100/- or such equivalent document duly attested by notary public)

Know all men by these presents, We, ..... (name of the firm and address Of the registered office) do hereby irrevocably constitute, nominate, appoint and authorize..... (Name), son / daughter / wife of ..... and presently residing at ....., who is presently employed with us and holding the position of ....., as our true and lawful attorney (hereinafter referred to as the “Attorney”) to do in our name and on our behalf, all such acts, deeds and things as are necessary or required in connection with or incidental to submission of our application for \_\_\_\_\_ (Name of the work) including signing and submission of all documents and providing information/responses to NMCG, representing us in all matters before NMCG, and generally dealing with NMCG in all matters in connection with or relating to or arising out of our bid for the said Project. We hereby agree to ratify and confirm all acts, deeds and things lawfully done by our said Attorney pursuant to and in exercise of the powers conferred by this Power of Attorney and that all acts, deeds and things done by our aforesaid Attorney shall and shall always be deemed to have been done by us.

**For.....**  
**(Signature, Name, Designation and Address)**