

REPLIES TO PRE-EOI QUERIES FOR PRE-EOI MEETING HELD ON 5th June 2026

S. No.	Page No.	Clause No.	Clause Description	Bidder's Query	Clarifications
1	8 of 18	1	Quantity of Sludge	<p>The sludge quantities indicated in the EOI appear to be significantly lower than the design values. Based on our experience in the execution of the Worli 500 MLD project, the sludge quantity mentioned is approximately 30% lower than the design sludge generation.</p> <p>We request BMC to confirm the actual sludge generation quantities to be considered for the conceptualization and sizing of the proposed sludge treatment facilities across all WWTPs.</p>	Refer Addendum 1, Sr. No.1
2	8 of 18	2	Scope of Work and Objectives of EOI	<p>The EOI permits the submission of either centralized or decentralized sludge processing solutions covering the seven WWTPs located across Mumbai.</p> <p>To enable optimization of the proposed solution and realistic assessment of implementation feasibility, we request BMC to provide details of land availability at:</p> <ul style="list-style-type: none"> • Each individual WWTP site (for decentralized solutions), and/or • Any identified centralized processing location(s), if available. <p>This information is essential for evaluating technology options, logistics, CAPEX/OPEX implications, and overall project viability.</p>	Refer Addendum 1, Sr. No. 2
3	9 of 18	3	Heavy Metal Management	<p>EOI indicates process for heavy metal identification, separation, and treatment which depends on the characteristics and concentration of heavy metals in the sludge. We request BMC to provide the heavy metal analysis data and applicable environmental standards/regulatory limits to be considered for process conceptualization and compliance.</p>	<p>Analysis will be available after generation of Sludge.</p> <p>EOI conditions prevail.</p>

4	9 of 18	3	Use of Treated residue	<p>The EOI specifies the conversion of USEPA Class A biosolids (approximately 25% dryness) into value-added products and expects the establishment of sustainable revenue models.</p> <p>Given the substantial combined sludge quantity from all WWTPs, the long-term commercial viability of any resource recovery solution is highly dependent on assured market offtake. We request BMC to become stakeholder to support the project through:</p> <ul style="list-style-type: none"> • Long-term purchase/offtake agreements with end users; • Minimum offtake commitments or other mechanisms to support sustainable commercialization. <p>Such clarity will enable bidders to develop realistic and workable revenue models.</p>	EOI Conditions prevail.
5	10 of 18	3	Commercial and Delivery Model	<p>The CAPEX and OPEX requirements for implementing centralized or decentralized sludge processing solutions across the seven WWTPs in Mumbai represent a significant investment for any organization or technology provider, particularly in the absence of a clearly defined commercial recovery model.</p> <p>We respectfully request BMC to consider equity participation or direct investment, and to become a party to a Tripartite Agreement alongside the product buyer. This would ensure shared responsibility and strengthen the commercial viability of selling biosolids and other resource products generated from the process.</p>	EOI Conditions prevail.
6	4 of 18	Gen.	Notice inviting Expression of Interest	<p>In the Notice Inviting EOI, it is stated that based on the assessment of responses received from eligible applicants/organizations, the Authority may initiate a formal procurement process to determine the subsequent course of action.</p> <p>We kindly request BMC to confirm the tentative timeline for the policy decision following this EOI, as well as the anticipated schedule for project implementation.</p>	<p>Timeline for project implementation will depend upon outcome of EOI and subsequent formulation of Sludge Management Strategy.</p> <p>EOI conditions prevail.</p>

7	17 of 18	Annexure-II	Commercial Model and Case Studies with measurable outcome	<p>Since the EOI does not clearly define the final output product and this project is the first of its kind in India, developing a comprehensive commercial/business model requires extensive market assessment and validation from potential off takers of the by-products generated in significant quantities.</p> <p>At present, the EOI does not provide sufficient market study data, demand assessment, or firm commitment from prospective off takers to enable bidders to accurately evaluate the commercial viability of the project. In the absence of such critical information, bidders are unable to prepare a reliable commercial model or furnish case studies with measurable outcomes as sought in the EOI.</p> <p>In view of the above, we respectfully request that the requirement for submission of a Commercial Model and Case Studies with measurable outcomes be waived for the EOI stage. Such requirements may instead be considered at a later stage when adequate project details, market data, and product off-take commitments are available. Kindly Review and Confirm</p>	EOI Conditions prevail.
8	17 of 18	Annexure-II	Work orders / Completion certificates. Client references / certificates	<p>The EOI document specifies multiple possible technology options for implementation. Considering the limited time available for EOI submission, it is challenging for bidders to provide technology-specific reference certificates and detailed supporting documentation for all potential technology alternatives.</p> <p>Since the primary objective of the EOI stage is to identify and evaluate suitable technologies, we request that the evaluation at this stage be focused on the technical approach, technology capability, and overall project concept.</p> <p>Once the technology is shortlisted/finalized by BMC, the selected bidders may be requested to submit relevant technology-specific reference certificates, performance records, and supporting credentials applicable to the finalized technology.</p> <p>This approach will facilitate broader participation, enable a fair comparison of technology options, and</p>	EOI Conditions prevail.

				ensure that reference requirements are aligned with the technology ultimately selected for implementation. Kindly review and confirm	
9	7 of 18	1	Background	It is stated that biogas generated from anaerobic digestion fermentation is used for power generation on-site. Can this biogas be used as fuel for Bio-Solid product manufacturing?	Biogas generated from anaerobic digestion will be utilised for captive power generations in the respective WWTfs. EOI conditions prevail.
10	8 of 18	1	Background	The document states that dewatered sludge quantity is 500-600 tons/day with solid contents of approximately 25%. Are there any analysis results for other parameters such as organic matter ratio, calorific value, heavy metals, and ash properties? This information is necessary for evaluating the usefulness and utilization methods of Bio-Solid as a product.	Analysis will be available after generation of Sludge. EOI conditions prevail.
11	9 of 18	3 (A)	Heavy Metal Management	Is it understood that a process for identifying, separating, and treating Heavy Metals is absolutely necessary?	EOI conditions prevail.
12	9 of 18	3 (A)	Information requested End Use of Treated Residue	It states 'Technologies for conversion to Landfill-grade waste.' In this EOI, is it acceptable to consider treating the final product as Landfill-grade waste? Also, in this case, if the Landfill option is to be considered, will the proposal for securing a Landfill site location also be the responsibility of the contractor?	Bidders need to provide the output products and landfill methods in compliance with the requirements mentioned in the EOI.
13	11 of 18	4	Eligibility Criteria Experience & Past Performance	Regarding past experience, will local subsidiaries of companies with experience be evaluated as having the required experience? In this case, the Indian subsidiary does not have the required experience	Refer Addendum 1, Sr. No. 3
14	9 of 18	3 (A)	Timeline for release of actual Project Bid	We do like to know about the timeline of the Project Bid.	EOI conditions prevail.
15	7 of 18	1	Quality of Treated Sludge	what would be the quality of the sludge to be treated further; through our deployed unique technology	Please refer to Clause 1 -Quality of Treated Sludge.

					As mentioned in EOI, Class A sludge with 25% dry solids would be generated in the STPs and available for further processing into sellable biosolids and useful resource products. EOI conditions prevail.
16	7 of 18	1	Quality of Treated Sludge	Whether the anaerobically digested sludge (AD sludge class A) will be offered to us duly treated for pathogens and vector attraction reduction (VAR)	As mentioned in EOI, Class A sludge with 25% dry solids would be generated in the STPs and available for further processing into sellable biosolids and useful resource products. EOI conditions prevail.
17	8 of 18	1	Quantity of Sludge	Whether the AD SLUDGE is made available at once in a day or in regular hourly intervals	Sludge will be available on daily basis.
18	7 of 18	1	Quality of Treated Sludge	Can we know the maintenance schedule of your STP plant to overlap the same with our plant maintenance schedule.	STP contracts are awarded on Design, Build, Operate and maintenance basis.
19	7 of 18	1	Quality of Treated Sludge	Do we have to do the proximate analysis of every incoming batch ourselves or you shall provide the same of your output material	As mentioned in EOI, Class A sludge would be generated as per US EPA guidelines.
20	7 of 18	1	Sludge Generation and Digestion	Are you offering us the Anaerobic Sludge of class A after extracting the biogas out of it?	EOI conditions prevail.
21	7 of 18	1	Quality of Treated Sludge	Can we know the Ash content and the moisture content of the sludge being offered and the content of moisture	As mentioned in EOI, Class A sludge would be generated. EOI conditions prevail.
22	7 of 18	1	Quality of Treated Sludge	As discussed during the meeting held at the Office of the CHEIEF ENGINEERS on the 5 th of June, we already have around 25-30 MT /DAY as demo plant operational partially after having proved the proof of concept at PUNE UNDER PMC PUNE . Physical	As mentioned in EOI, Class A sludge would be generated. EOI conditions prevail.

				properties of the AD Sludge mentioning the moisture viscosity and the physical form either GRANULAR ; PASTE OR FLAKES to suit our process.	
23	11 of 18	3(B)	Key Commercial and Risk Assumptions	<p>WE PRESUME THAT THE WHOLE CONVERSION/ TREATMENT PLANT IS INSTALLED AT THE STP PLANT WITH SUFFICIENT SPACE AND POWER CONNECTION</p> <p>Whether the project is to be commissioned at one location only out of all the 7 locations</p> <p>Whether the AD SLUDGE is made available at our processing unit by the corporation</p> <p>Are we getting the segregated wet waste also at the processing unit</p> <p>Any inorganic material/discarded material to be disposed off by us?</p>	<p>Sludge generated will be of Class A quality standards with a minimum of 25% dry solids content. Bidders can propose both centralized and decentralized treatment solutions.</p> <p>Also refer Addendum 1, Sr. No. 2</p>
24	11 of 18	4	<p>4. Eligibility criteria</p> <p>At least 1 completed project in Class A/ Class B Sludge Treatment (locations, capacity, size, outcomes, final disposal) for government, public sector, or large enterprises.</p> <p>Annexure-III</p> <p>Sl. No. 7 - At least 2 completed projects in sludge treatment</p>	<p>The eligibility criteria in sl. no. 4 and the annexure-III, both the statements are contrary.</p> <p>We understand that only 1 project in Class A/ Class B Sludge Treatment is required for qualification purpose.</p> <p>Kindly confirm.</p>	Refer Addendum 1, Sr. No. 4
25	11 of 18	3(B)	Land area	Kindly provide the available area designated for the sludge management facility and share the plot boundary along with contour details in AutoCAD format.	Refer Addendum 1, Sr. No. 2
26	8 of 18	2	The estimated quantity of digested sludge	We understand that the scope of sludge transportation and depositing at sludge management	Refer Addendum 1, Sr. No. 2.

			generated collectively is approximately 500-600 metric tonnes per day.	facility will be carried out by the respective operators from all the 7 STPs. Further, we understand that the entire sludge treatment proposed facility to be accommodated at one or maximum of two locations. Kindly confirm the same.	Refer to Clause 2. Scope of Work and Objectives of EOI.
27	8 of 18	3(A)	Technical Solution Description	In order to prepare comprehensive execution methodology, request to provide the below details: - Incoming Power supply & facility for exporting energy. NGL and HFL of the proposed site.	These details can be provided at the later stage.
28	8 of 18	3(A)	Technical Solution Description	Kindly provide the below mentioned details:-- 1.Actual raw sewage characteristics of the existing treatment plants, including BOD, COD, TSS, and VSS data,for the last one- 2. A comprehensive heavy metals analysis report for the raw sewage, including details of the sampling methodology, analytical procedures, parameters tested, detection limits, and corresponding analytical results.	Analysis will be available after generation of Sludge. EOI conditions prevail.
29	7 of 18	1	Quality of Treated Sludge	Please provide the calorific value of the sludge in terms of HHV (MJ/kg).	As mentioned in EOI, Class A sludge would be generated. EOI conditions prevail.
30	7 of 18	1	Quality of Treated Sludge	We understand that the processing of screenings and grit work. Please confirm.	As mentioned in EOI, Class A sludge would be generated after Anaerobic digestion. EOI conditions prevail.
31	9 of 18	3(A)	Seasonal variability: Performance under changes in sludge composition due to rainfall, temperature, or industrial discharges.	Kindly provide a detailed assessment of the seasonal variability in sludge composition.	Analysis will be available after generation of Sludge.
32	10 of 18	3(A) Commercial and	Funding Pattern	Kindly provide the source of funding for the proposed project in terms of Capex and Opex.	Bidders need to provide a revenue-sharing model, including CAPEX and OPEX cost recovery.

		Delivery Mode			EOI conditions prevail.
33	9 of 18	3(A) Technical Solution Description	Project duration for EPC works	Kindly confirm the duration for EPC works and O&M to be carried out for the proposed project.	These details can be provided at the later stage.
34	7 of 18	1	Quality of Sludge	Is there any sludge analysis available? As MCGM is going with the current STP works at different sites has any study being made or is there any legacy data on sludge analysis is available, if yes, we request you to share the same with us. In case of absence of data can MCGM suggest us any reference data available online for our reference, please provide the co-ordinates for the same.	Analysis will be available after generation of Sludge.
35	9 of 18	3 (A)	Heavy Metal Management	Since the tendered ongoing projects are based on anaerobic sludge digestion, is it estimated that there shall be any heavy metal component in the sludge? Is there any industrial source being connected to the existing sewer lines? Please clarify.	The WwTFs treat municipal sewage, which is primarily domestic in nature, and there are no industries contributing to the load. Analysis will be available after generation of Sludge.
36	9 of 18	3(B)	Commercial and Delivery Model	In case we want to propose in-situ treatment at the present sites, then is there a space availability at existing locations, if yes, we request you share the area embarked in the layout for the same.	Refer to Addendum 1, Sr. No. 2
37	7 of 18	1	Background	Is there availability of waste heat at the proposed sites if in-situ treatment is proposed?	EOI conditions prevail.
38	10 of 18	3(B)	Cost Estimates	Whether BMC intends to bear the capital expenditure (CAPEX) for setting up the biosolids processing facility, or whether respondents are expected to propose a fully contractor-funded, zero-cost-to-BMC model? Clarity on the anticipated budget envelope or tipping fee / gate fee framework, if any, will enable respondents to propose commercially viable and bankable solutions.	Bidders need to provide a revenue-sharing model, including CAPEX and OPEX cost recovery. EOI conditions prevail.
39	10 of 18	3(B)	Cost Estimates	The EOI requests indicative CAPEX and O&M cost per tonne of sludge treated. However, no indicative	This will be provided at the later stage.

				budget or reference benchmark has been provided by BMC. Kindly advise whether BMC has an indicative budget ceiling or expected cost range against which proposals will be evaluated, to enable meaningful and comparable cost submissions.	
40	11 of 18	3(B)	Key Commercial Assumptions	The EOI states that BMC will provide land either at STP sites or at other designated locations. Kindly share indicative land availability (area in sq. metres or acres) at each of the seven WwTF sites, along with any known land constraints, access limitations, or encumbrances. In the absence of site-specific data, respondents will be unable to assess technical feasibility for each location.	Refer Addendum 1, Sr. No. 2
41	8 of 18	2	Scope of Work and Objectives of EOI	Can BMC confirm whether the processing facility is envisaged as a centralised plant (consolidated at one or two sites) or as distributed / satellite plants co-located at each WwTF? This is critical for technology selection, land dimensioning, and logistics planning, given the geographic spread across seven sewerage zones.	Refer Addendum 1, Sr. No. 2
42	9 of 18	3(A)	Indicative implementation timeline (engineering to commissioning)	What is BMC's expected overall project timeline from EOI shortlisting to commissioning? Specifically, is there a target commissioning date or operational deadline (e.g., linked to NGT compliance obligations)? Understanding the mandated commissioning window will allow respondents to propose technology solutions that are realistically deliverable within the required time frame.	EOI conditions prevail.
43	15 of 18	5.3.3	Procurement Process	Following EOI shortlisting, what is the anticipated time between EOI evaluation and issuance of the formal RFQ / RFP? An indicative procurement calendar will assist respondents in maintaining resource allocation and retaining principal / technology partner interest through the subsequent stages.	This will be decided after finalization of the Sludge Management Strategy.
44	8 of 18	1	Quantity of Sludge	The total estimated digested sludge generation is stated as approximately 500–600 TPD at 25% dry solids content. Kindly confirm whether this quantity	Refer Addendum 1, Sr. No. 1

				represents the current operational output or the projected generation post-completion of all WwTF upgradation works. Additionally, what is the expected ramp-up timeline from current to full-scale generation?	
45	8 of 18	1	Quantity of Sludge	In case the sludge generation is going to increase gradually over the period of years please provide the clarity on the quantity of sludge expected from the treatment facilities over the period of 2years/3years/5years/10years/20years of time	Refer Addendum 1, Sr. No. 1
46	8 of 18	1	Quality of Sludge	The EOI specifies Class A Biosolids compliance per US EPA 40 CFR Part 503 standards. However, typical Indian municipal sludge may present elevated heavy metal concentrations (cadmium, lead, chromium, arsenic) relative to Class A thresholds. Has BMC conducted baseline characterisation of sludge at any of the WwTFs? If available, kindly share indicative laboratory test data for informed technology screening.	Analysis will be available after generation of Sludge.
47	10 of 18	3(B)	Commercial and delivery Model	Will BMC consider proposals involving a negative tipping fee (i.e., where BMC pays a processing charge per tonne), or is the preference exclusively for revenue-neutral or contractor-self-sustaining models? Certain high-quality biosolids conversion technologies may require a modest tipping fee to achieve financial viability, particularly during the initial years of operation.	EOI conditions prevail.
48	10 of 18	3(B)	Revenue and Value Recovery Potential	What statutory and regulatory approvals are currently in place or anticipated for end-product use — specifically for biosolids as soil amendment / bio-fertiliser under the Fertilizer Control Order, or as construction material? Will BMC provide offtake support (e.g., mandating use within BMC's own horticulture, green spaces, or infrastructure works) to de-risk the commercial model?	EOI conditions prevail.
49	10 of 18	3(A)	Section 3A – End Use of Treated Residue	While the EOI references compliance with US EPA, FCO, CPCB/SPCB norms, and NGT orders, no consolidated compliance framework specific to	EOI conditions prevail.

				Maharashtra / MPCB is provided. Will BMC facilitate or support obtaining required environmental clearances and consent to operate for the processing facility, or will this responsibility vest entirely with the selected entity?	
50	7 of 18	1	Quality of Treated Sludge	Kindly provide detailed sludge characteristics for each STP, including TS, VS, calorific value, heavy metals, oil & grease, etc.	Analysis will be available after generation of Sludge. EOI conditions shall prevail.
51	9 of 18	3(A)	Seasonal variability	Please clarify the extent of variability in sludge quality due to seasonal changes and industrial discharge impacts.	Analysis will be available after generation of Sludge. EOI conditions shall prevail.
52	8 of 18	2	Scope of Work and Objectives of EOI	Please specify whether sludge supply will be managed centrally or on an individual STP basis.	EOI conditions shall prevail.
53	11 of 18	3 (B)	Key Commercial and Risk Assumptions	Kindly provide details of available land, including location, area, site constraints, zoning, and regulatory considerations	Refer Addendum 1, Sr. No. 2.
54	9 of 18	3 (A)	End Use of Treated Residue	Please provide defined specifications or quality standards for end products (e.g., biosolids, soil conditioners, fuel products, etc.).	EOI conditions shall prevail.
55	11 of 18	3(B)	Key Commercial and Risk Assumptions	Kindly define minimum performance benchmarks and expected outcomes, including volume reduction, emissions, and energy consumption.	EOI conditions shall prevail.
56	10 of 18	3(B)	Proposed Business and Delivery Model	Kindly clarify whether the project is expected to be implemented in a phased manner or as a full-scale deployment from the outset.	Refer Addendum 1, Sr. No. 5.
57	7 of 18	1	Sludge Generation and Digestion	Kindly elaborate on the integration requirements with existing anaerobic digestion and biogas systems	Biogas generated from anaerobic digestion will be utilised for captive power generations in the respective WwTFs. EOI conditions shall prevail.
58	9 of 18	3 (A)	End Use of Treated Residue	Kindly confirm whether BMC will facilitate product offtake, market linkage, or provide any demand assurance mechanisms	EOI conditions shall prevail.

59	11 of 18	3(B)	Key Commercial and Risk Assumptions	Please confirm the availability of utilities (power, water, fuel, etc.) and indicate applicable tariffs or cost responsibilities.	EOI conditions shall prevail.
60	11 of 18	3(B)	Key Commercial and Risk Assumptions	Please clarify the responsibility for obtaining statutory approvals and environmental clearances.	EOI conditions shall prevail.
61	8 of 18	2	Scope of Work and Objectives of EOI	Please confirm whether deployment of multiple technologies across different STPs is permissible.	EOI conditions shall prevail.
62	12 of 18	5	Preparation, Submission and Evaluation Requirements	Kindly provide clarity on the evaluation criteria, specifically the weighting between proven and emerging technologies.	EOI conditions shall prevail.
63	9 of 18	3 (A)	End Use of Treated Residue	Please define responsibility for handling and disposing of rejects and residual waste streams.	EOI conditions shall prevail.
64	9 of 18	3 (A)	End Use of Treated Residue	Kindly confirm the availability and accessibility of landfill and/or incineration facilities for final waste disposal.	EOI conditions shall prevail.
65	3 of 18	-	Disclaimer	Please provide information on access to detailed project reports (DPRs), site visits, and sludge sampling permissions for bidders.	EOI conditions shall prevail.
66	7 of 18	1	Quality of Treated Sludge	<p>Whether BMC has conducted any characterization studies of the anaerobically digested Class A sludge proposed to be supplied from the wastewater treatment facilities.</p> <p>If available, kindly provide the following typical sludge characteristics:</p> <ul style="list-style-type: none"> · Gross Calorific Value (GCV) and/or Net Calorific Value (NCV) on wet basis and dry basis. · Volatile solids (%). · Ash content (%). · Moisture content (%). · Ultimate analysis (Carbon, Hydrogen, Nitrogen, Sulphur, Oxygen). · Heavy metal analysis, if available. <p>In case such data is not presently available, kindly confirm whether representative sludge samples and</p>	<p>Analysis will be available after generation of Sludge.</p> <p>EOI conditions shall prevail.</p>

				laboratory analysis reports will be made available to interested applicants during the subsequent stages of the procurement process.	
67	8 of 18	2	Scope of Work and Objectives of EOI	Whether BMC prefers a centralised biosolids facility, site-based facilities, or a hybrid model.	EOI conditions shall prevail.
68	10 of 18	3(B)	Commercial and Delivery Model	Whether BMC is willing to pay a service fee for each ton of biosolids.	EOI conditions shall prevail.
69	11 of 18	3(B)	Key Commercial and Risk Assumptions	Available land area at each STP and at any designated central locations.	Refer Addendum 1, Sr. No. 2.
70	9 of 18	3 (A)	End Use of Treated Residue	Whether landfill capacity could be made available for us for a period of one to three years while we develop and establish the Class A market.	EOI conditions shall prevail.
71	7 of 18	1	Quality of Treated Sludge	Whether incoming sludge to the proposed facility will be guaranteed to meet Class A at 25% DS, or whether further sanitisation and product upgrading should be included.	EOI conditions shall prevail.
72	10 of 18	3(B)	Commercial and Delivery Model	Expected responsibility split between STP contractors, BMC and the biosolids conversion contractor.	EOI conditions shall prevail.
73	9 of 18	3 (A)	End Use of Treated Residue	Whether BMC expects the contractor to take full offtake risk for all products.	EOI conditions shall prevail.
74	9 of 18	3 (A)	End Use of Treated Residue	Applicable Indian regulatory pathway for sale as fertiliser, soil conditioner, compost blend or other product.	EOI conditions shall prevail.
75	9 of 18	3 (A)	End Use of Treated Residue	Whether BMC will support farmer outreach, demonstration trials and approvals with agricultural departments.	EOI conditions shall prevail.
76	9 of 18	3 (A)	End Use of Treated Residue	Whether minimum storage capacity should be designed for monsoon buffer, six months or one year.	EOI conditions shall prevail.
77	12 of 18	5	Preparation, Submission and Evaluation Requirements	Whether BMC will evaluate avoided cost benefits such as reduced land requirement, reduced truck movements, lower odour control and lower drying energy in addition to product sales revenue.	EOI conditions shall prevail.

78	8 of 18	2	Scope of Work and Objectives of EOI	Since some of the 7 STPs will have batch THP (thermal hydrolysis process) pre-treatment, we would like to know if we can offer a separate plan for handling the Class A product from these plants, as we expect the quality of end-product to be significantly better with THP (low odour, no pathogen regrowth, stackability, dryness, less storage area).	EOI conditions shall prevail.
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Ch. Eng. (MSDP)