NOTARY MRS. SANJANA S. TANAWADE Dist MUMBAI Regd No 10343 GOVT. OF INDIA

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL

WESTERN ZONE BENCH

ORIGINAL APPLICATION No. 47 of 2024

Nandkumar Pawar ...Applicant

Versus

MCGM & Ors ....Respondents

AFFIDAVIT IN REPLY

I, Bhaskar V. Kasgikar, Age- 56, Occupation – Service as Assistant Commissioner, S Ward, of Brihanmumbai Municipal Corporation, having office at S' ward Municipal Office Bld, 2nd Floor, L.B.S Road, Near Mangatram Petrol Pump, Bhandup - West, Mumbai, Maharashtra 400078:

1. I say that; I have made myself conversant with the facts of the case and am able to depose on behalf of the Respondent No 1 to 3. I am filing this affidavit in reply thereto.

NOTARY MRS. SANJANA S. TANAWADE Dist. Mumbai Regd No. 10343 GOVT OF INDIA

2. The present application has been filed with the grievance that there is indiscriminate dumping of solid waste and sewage in the

CRZ area of saltpans, mangroves at Nahur East, Kanjurmarg and Bhandup, Opposite Eastern Expressway, Mumbai. It is further alleged that stagnation of water in the said area is causing breeding ground for mosquitoes and the same is also blocking tidal water inlets in the said CRZ area. It is also alleged that there is illegal cultivation of grass happening in this area.

3. That as per direction dated 20.02.2024 of this Hon'ble, the joint committee was directed to visit the site in question after informing the applicant. Accordingly the present Respondent and all other stakeholders visited the site on 24th April, 2024. Hereto annexed and marked as **Exhibit 'A'** is the copy of Report of the Joint Committee.

4. The site visit was conducted along the North-South Axis of the Eastern Express Highway i.e. the direction moving from Thane towards Mumbai. The **points** to which the Applicant has made a grievance of in the present application were pointed out by the Applicant. The Respondent BMC has taken steps to is as under–

A. Bombay Oxygen Nallah, Usha Nagar Nallah and Nanepada Nallah

The Municipal Corporation has appointed a consultant to finalize the system for interception and diversion of dry

weather flow (sewage). On the Right Side (western side of the highway), the vents have got blocked and this obstructs the free flow of tidal water. The Vents need to be cleaned by physical removal of material that is blocking them.

Eastern Express Highway (EEH)

The MCGM has carries out work of desilting of said nalla on up stream of Eastern Express Highway (EEH). On downstream area of Eastern Express Highway (EEH) is covered with existing forest, Mangrove. Hence desilting of said nalla on downstream of Eastern Express Highway is not included in the scope of work of desilting of major nalla in Z-VI. It is also required to obtain NOC from Forest dept./Mangroves Cell/Thane Creek Flamingo Century etc. to carry out any type of work in said area which may take considerable time.

In view of above, it is to mention here that desilting / deepening/ widening of nalla stream in Forest / Mangroves area, being an ecological area it is advisable to execute the same through Forest dept. The expenditure incurred for the same may be

communicated to the office Respondent BMC; so that the office of Respondent BMC can make necessary budget provisions after obtaining necessary approvals of higher authorities.

Western side of E.E.H.

The work of cleaning vents and streams to allow tidal water to reach upto mangroves falls under the purview of forest dept. Hence the same is required to be carried out by the forest dept. only.

B. Minor Nallah near Bhandupeshwar Kund -

As mentioned above the work of cleaning of sludge Box Culvert is included in scope of work of desilting & cleaning of major nalla in Z-VI is already completed prior to Monsoon.

C. Kanjur Village -

The treatment of sewage and redirecting the same to a nearby nallah. However the said area of privately owned land where grass is being cultivated does not come under the purview of Brihanmumbai Municipal Corporation.

D. Crompton Nallah -

The excess floating material has to be removed and the sewage has to be treated before release. The Municipal Corporation has appointed a consultant to finalize the system for diversion/ treatment of dry weather flow (sewage).

5. The Respondent BMC further submits that, the Solid Waste Management (SWD) department of the Respondent has invited E-tenders to carry out the work of SITC of trash Boom system to collect, remove and dispose the floating material from the Bombay Oxygen Nallah, Usha Nagar Nallah, Crompton Nallah, Nanepada Nallah. The tendering process is in its final stage and it is expected that work installation of trash boom systems will start after the ongoing monsoon period.

6. The Respondent BMC further submits that, the Sewerage Project (S.P.) Department, has appointed the consultant, M/s Tandon Urban Solutions Pvt. Ltd to arrest ingress sewage from adjoin slums into Nallahs in the Eastern Suburb of Mumbai. The Inspection Report and Survey Report submitted by the consultant is approved by the Technical Advisory Committee (TAC). The Draft DPR for the interception and diversion of the dry weather flow is

awaited from the consultant. After the receipt of same appropriate steps will taken by the said department of the Respondent. Hereto annexed and marked as **Exhibit 'B'** is the copy of appoint of consultant and Copy approval of Technical Advisory Committee(TAC)

7. The Respondent BMC submits that, the a meeting was held in the chamber of the Regional Officer – Mumbai of MPCB on 29.07.2024, wherein, it is informed to MPCB as per the report of the joint committee appropriate steps are being taken by the BMC in the present case.
8. This Respondent craves leave to add, alter or amend the aforesaid averments as and when necessary.

Date:

Mumbai

Respondent No. 1 to 3

VERIFICATION

I, Bhaskar V. Kasgikar, Age- 56, Occupation – Service as Assistant Commissioner, S Ward, of Brihanmumbai Municipal Corporation, having office at S' ward Municipal Office Bld, 2nd Floor, L.B.S Road, Near Mangatram Petrol Pump, Bhandup West, Mumbai, Maharashtra 400078, do hereby state on solemn affirmation that what is stated in above para true and correct to my own knowledge and belief.

Solemnly Affirmed at Mumbai,

This day of Aug, 2024,

Respondent No.1 to 3

Advocate for Respondent No. 1 to 3

BEFORE ME
10/08/24
MRS. SANJANA S. TANAWADE
B.A.LLB.
Advocate & Notary
Regd. No. 10343
8, Panda Niwas,
Tulseth Pada, Lake Road,
Bhandup (W), Mumbai - 400 078.

NOTED & REGISTERED
Sr. No. 181 Page No. 25
Date : 10/08/2024

Exhibit - A

BEFORE THE NATIONAL GREEN TRIBUNAL
WESTERN ZONE BENCH, PUNE.

ORIGINAL APPLICATION No. 47 of 2024 (WZ)

Nandkumar Pawar ..... Applicant

V

MCGM and Ors. ..... Respondents.

REPORT OF THE JOINT COMMITTEE

OF

Municipal Corporation of Greater Mumbai (R-1)

Maharashtra Coastal Zone Management Authority (R-7)

And

Mangrove Cell, Maharashtra Forest Department (R-8)

This Hon'ble Tribunal by its order dated 20th February 2024 had constituted a Joint Committee vide para (4) of the order and had directed that the Committee should visit the site subject of this Original Application after informing the Applicant, and recommend a plan of action within a period of one month.

Accordingly, the Joint Committee duly representing the Respondents mentioned in para (4) of the aforesaid Order, along with the Applicant of this O.A., visited the site in question on 26th March 2024. During the site visit, the Additional Principal Chief Conservator of Forests Mangrove Cell and the Range Forest Officer, Thane Creek Flamingo Sanctuary along with

Field Staff and the Representatives of Respondents nos. 1 and 7 were present.

The observations of the Joint Committee made during the site visit are as follows:

[A] The site visit was conducted along the North-South Axis of the Eastern Express Highway (i.e. the direction moving from Thane towards Mumbai). The six points which the Applicant has made a grievance of in the O.A. were pointed out by the Applicant.

A dense vegetation dominated by *Avicennia marina* with the presence of *Sonneratia apetala* and *Acanthus ilicifiolius* was observed almost all along the eastern part of the highway and some locations at the western side.

The situation at each of the points was noted. The observations and recommendations, where possible, are presented below.

[B] **POINT No.1** This is the 'Bombay Oxygen Nallah'. It was observed that on the Left Side (eastern side of the highway) (i) excessive silting has caused this nallah to shrink in size (ii) sewage and other floating material was flowing into the Thane Creek.

SOLUTION SUGGESTED: *Firstly*, the nallah requires to be desilted; this would result in deepening the nallah. Widening the nallah, to the extent possible, would also mitigate the issue considerably. *Secondly*, the floating material needs to be removed by mechanical means. *Thirdly*, the sewage ought to be

treated before it enters into the nallah. It needs to be mentioned that the Municipal Corporation (Respdt. 1) has appointed consultant to finalise the system for diversion/ treatment of dry weather flow (sewage). Work on this issue is in progress by BMC.

On the Right Side (western side of the highway), the vents have got blocked and this impedes / obstructs the free flow of tidal water.

SOLUTION SUGGESTED: The Vents need to be cleaned by physical removal of material that is blocking them.

[C] POINT No.2: <u>Minor nallah near Bhandupeshwar Kund.</u> (i) On the Left Side, the Nallah has shrunk due to silting. (ii) There is sludge accumulation in the "box culvert" under the highway and the floor of the same appears higher.

On the Right Side the nallah has shrunk in width and depth due to silting. SOLUTION SUGGESTED: (a) the nallah should be cleaned and widened using manual labour (b) the sludge in the Box Culvert needs to be cleared so as to complement the flow of the nallah.

[D] POINT No.3: Ushanagar Nallah:

On the Left Side

(i) untreated sewage was seen flowing into the creek (ii) Much floating material was seen in the nallah (iii) Silt deposit is heavy.

On the Right Side

(i) the same situation as above was observed:

(ii) The Nallah has supporting retaining walls on both sides. There are several vents which were made for sea water to go into the nearby mangroves. These vents are also choked by various materials thereby obstructing sufficient flow of sea water.

SOLUTION SUGGESTED: The sewage has to be treated before release. The floating material and silt deposits have to be physically removed. The Vents have to be cleaned of material blocking them.

It needs to be mentioned that the Municipal Corporation (Respdt. 1) has appointed consultant to finalize the system for diversion/ treatment of dry weather flow (sewage). Work on this issue is in progress by BMC.

[E] **POINT No.4 – Kanjur Village** (19 07 52.32 N- 072 56 33.93 E)

On the Left Side, sewage from a small nallah has been diverted for grass cultivation which is seen partly on privately owned land abutting the Highway and partly on Salt Pan land; this is till the 'bund' separating the mangroves area from the salt pan lands.

On the right side, the situation is the same but there are no mangroves.

SOLUTION SUGGESTED: Treatment of sewage and redirecting the same to a nearby nallah. The privately owned land where grass is being cultivated does not come under the purview of the Mangrove Cell.

[F] **POINT No.5 Crompton Nallah:**
On both sides (Left and Right) there is (i) excess floating material and (ii) untreated sewage is seen flowing into the Thane Creek.
SOLUTION SUGGESTED: (A) The excess floating material has to be removed (B) The sewage has to be treated before release.
It needs to be mentioned that the Municipal Corporation (Respdt. 1) has appointed consultant to finalize the system for diversion/ treatment of dry weather flow (sewage). Work on this issue is in progress by BMC.

[G] **POINT No.6 – Nanepada Nallah:** On the Left Side, silting and excess floating material is seen due to which the nallah is completely choked. There is silting in the nallah bed, and untreated sewage water is finding its way into the Thane Creek. All of this reduces the free flow of water.

SOLUTION SUGGESTED: (A) The excess floating material has to be removed (B) The sewage has to be treated before release. (C) Desilting exercise has to be done periodically.
It needs to be mentioned that the Municipal Corporation (Respdt. 1) has appointed consultant to finalize the system for diversion/ treatment of dry weather flow (sewage). Work on this issue is in progress by BMC.

[H] **BETWEEN POINTS (1) AND (2)** – There is intermittent accumulation and stagnation of water caused by interrupted free flow of tidal water. This is due the construction of a temporary access road

made for lining and coating work of the existing sewer line. The said temporary road blocks the free flow of tidal water. Similar bund-type structures also in the nearby area seen and these are blocking the free flow of tidal sea water.

SOLUTION SUGGESTED: There has to be a thorough cleaning and opening of all the trenches and other necessary measures need to be put in place to ensure that the tidal water flow ingress and egress is unaffected.

It is respectfully submitted that the above observations and suggestions would mitigate the grievances made in the present O.A and hence the same may be favorably considered.

Dated 06th May 2024.

(Shri. S.V. Ramarao
Additional Principal Chief Conservator of Forest-
Mangrove Cell)
Respondent no.8

(Shri Bhaskar V. Kasgikar
Assistant Commissioner S Ward
Municipal Corporation of Greater Mumbai)
Respondent no.1

(Dr. Mahesh Shindikar
Expert Member MCZMA)
Respondent no.7

BRIHANMUMBAI MUNICIPAL CORPORATION

WORK ORDER

Work Order No.	9000007380
Department Address	Office of Dy.Ch.Eng.(S.P.)P&D,2nd Floor, Worli MCGM Engineering Hub,Dr.Moses Rd., Worli-18
Vendor Address	TANDON URBAN SOLUTIONS PVT LTD,,701, HARBHAAJAN BUILDING,MUMBAI,400098
Subject	Appointment of Consultant for preparation of DPR for ingress detection of Powai Lake in"S" Ward.
BID No.	7200033891
Office Estimate	6,785,400.00
Percent Quoted Other	
Contract Cost	6,780,000.00
Contract Period	6
SCR No./ Sanction No.	1501
SCR/SCN Date	20.12.2022
LOA No.	4000004046

Checklist

1. Contractor's registration Certificate
2. Pan Card & Latest Photograph
3. GST/VAT/Sale Tax Registration Certificate.
4. Bank Solvency Certificate (Upto date).
5. Original Workmen Compensation Policy, J.P.A. Policy & Contractor All Risk Insurance Policy as directed below.
6. Xerox copy of legal and stationery charges paid.
7. Bank details on letter head.
8. Partnership deed & Power of Attorney or proprietor, if applicable.
9. Receipt of Online Payment of E.M.D & A.S.D.
10. If the tender(s) have more than 20(Twenty) labours/persons on his establishment, establishment, then the tenderer(s) has to submit the copy of registration certificate under employees Provident Fund and misc. Provision Act 1952 (EPF & MP Act 1952) and registration certificate under state Labour Scheme (E.S.I.C. Act 1948). If the tender(s) has less than 20 labours/persons on his establishment, then tenderer(s) has to submit an undertaking on Rs.200/- stamp paper stating the same.

Gentlemen,

In continuation to Letter of Acceptance issued by this office u/no. 4000004046 I have to inform you as under.

1) You are hereby directed to take in hand the work immediately with the Preliminary arrangement such as providing site chowky, site laboratory,

mobilization of machinery etc. in consultation with the concerned Executive Engineer and Assistant Engineer. You are also requested to give the list of staff as per tender conditions alongwith their qualification and experience certificates for verification to concerned Executive Engineer in connection with the above subject work so as to commence the work in the right earnest from which will be taken as the date of commencement of this work. You are requested to note the scope of work & specifications mentioned in Tender Document and accordingly you are directed to make immediate preparation for compliance of the same.

2) As per G.C.C. Clause no. 5.f.ii), 5% Retention Money will be recovered from each running bill.

Signature Valid
Digitally Signed By

Date: 17.02.2023

User Name: Ravindra Lokhande
Designation: Exe.Eng.(S.P) P&D ES

BRIHANMUMBAI MUNICIPAL CORPORATION

Sewerage Project Department
No- DY.Ch.E./SP/ /P&D Dt.

Minutes of meeting

Sub:- Regarding detection of Ingress, interception and diversion of DWF (Sewage/Sludge) work and stopping of sewage ingress in Powai Lake, in 'S' Ward of BMC Mumbai.

Ref:- First Meeting of Technical Advisory Committee (TAC) held n 20.06.2024 regarding approval of draft DPR Submitted by Consultant M/s. TUSPL.

First Meeting of Technical Advisory Committee (TAC) was held on 20/06/20204 at 04:00 PM. in Conference Hall, 2nd Floor, Worli Engineering Hub, under chairmanship of DMC(E).regardingapprovall/ finalization of Detailed Project Report (DPR) Submitted by Consultant for the work of 'Preparation of D.P.R. for ingress detection, interception & diversion of DWF (Sewage/sludge) work and stopping of sewage ingress in Powai Lake, in 'S' Ward, Mumbai.

The BMC has formed a Technical Advisory Committee (TAC) to assess the feasibility of implementing the budget proposal and the process/technology proposed to achieve the objectives of the Powai Lake Project. As part of the critical analysis, the first meeting of the Technical Advisory Committee (TAC) was held on June 20, 2024.

The following TAC members and officers were present for the said meeting: -

Sr No.	Name of the Officer	Designation
TAC MEMBERS		
1	Shri S D Chavan	DMC(E), BMC (Chairperson)
2	Shri S N Bhore	ChE(SP), BMC
3	Shri R C Tamhane	ChE(MSDP), BMC
4	Shri P L Malvade	HE, BMC
EXTERNAL TAC MEMBERS		
5	Shri V Jothiprakash	External TAC Member, Prof. IITB
6	Shri S K Gupta	External TAC Member, Ret. Prof. IITB
7	Shri Rakesh Kumar	External TAC Member, Ex. Director NEERI
CONCERNED OFFICERS & STAFF		
8	Shri V K Kekan	DyChE(SP)P&D, BMC

9	Shri R Lokhande	EE(SP)P&D ES, BMC
10	Shri Rajesh Patil	EE (MSDP), BMC
11	Shri R D Rajput	EE Mech (MS) ES, Representative of ChE(SO)
12	Shri S V Mane	EE(HW)WW
13	Shri Prasad Patwardhan	AE WW (PI)
14	Shri P H Pawar	AE Mech (MS) ES, Representative of ChE(SO)
15	Shri H K Mudadi	AE (SWD)ES Planning, BMC
16	Shri M Acharekar	SE (SP) P&D ES, BMC
17	Shri S H Kavathe	SE (SP) P&D WS, BMC
18	Shri Sharad Tandon	Director, TUSPL
19	Shri Sandeep Zade	CTO, TUSPL
20	Shri Girish Ghorpade	TUSPL
21	Shri Rohit Patil	TUSPL
22	Shri Sushant Dawande	TUSPL

At the outset, Ch.E. (SP) welcomed all TAC members, and gave the overview of the project. Further directed consultant to give the presentation to TAC. M/s TUSPL, the consultant of the project, provided an overview of the project and presented the Detailed Project Report (DPR) that was submitted to BMC. The presentation utilized various tools including GIS, Drone captured Data, Reality model of Powai Lake.

The Ch.E.(SP) requested the members to give their valuable opinion on the following points & any other issue which they think which is relevant to the project:-

1. Finalization of Powai Interception diversion scheme.
2. Sewage Treatment Technology selection.
3. Disposal of tertiary treated water.
4. Remedial measures to maintain the lake water balance.
5. Land suitability of sewage treatment plant.
6. Requirement of engineered Wetland development in the lake

Key points discussed in the meeting by the External TAC members with the BMC officials andtheir opinion / remarks are listed below:-

Dr. Rakesh Kumar, Ex OSD, CSIR CCUS Mission :- (As per Email enclosed at page)

1. Interception and diversion and later treatment is a good idea.
2. The augmentation of water in Powai after treatment should be the key driving element for the fact that natural recharge of the powai in non-monsoon period has been cut off largely due to heavy construction in the catchment area.
3. To ensure that treatment levels are good for discharge a small portion (it can be decided by BMC) should be treated and sold to multiple user agencies. This will ensure quality monitoring (As users will demand certain levels) and also sustain possible costs in future.
4. The current plan shows that its largely decentralized (4 locations), however, one can examine the same on the basis of the following:-

- Space
- ownership
- pumping needs and its O&M costs
- technology costs (manpower and energy)
- Coordination costs and issues
- water recovery and its CBA (cost Benefit Analysis)

5. Engineered wetland is a good idea and the same should be designed for its use wrt nutrient removals (especially P which is a limiting factor). The same design and technologies suggested may please be shared for effective comments/suggestions
6. All minor sources which are left (as pointed out in the meeting) may be revisited for complete solutions for any ingress of liquid or solid waste
7. Lastly, it may not be related to this project TAC, however, an attempt and plan should be made to increase hydraulic carrying capacity of the lake.

Shri Jothiprakash opinion in addition to Dr. Rakesh Kumar ji's points:- (As per Email enclosed at page)

1. The concept of interception-diversion-treatment-and letting the treated water into the lake is a good concept, for this all the sewage entering into the lake shall be intercepted and treated.
2. The storm water drains need to be revamped and shall be made free from solid wastes.
3. Instead of having multiple STPs inside the Powai lake, a single STP of 20 MLD can be constructed, and the TTP can also be of same capacity, so that all the TTP water can be sold and that money generated can be used for the operation and maintenance of the STP and TTP, which makes it more sustainable.

4. Intermittent pumping station can be used to pump the intercepted sewage entering into the lake rather than having three small containerized/packaged/modular STP.
5. The selected treatment method in the STP should be such that it should reduce the level of treatment required in TTP. (Tertiary Treatment Plant)
6. The treatment method should be good enough to treat the Phosphorous and Ammonia to the minimum level so as to keep the Water Hyacinth under control (eradicate).
7. Collect the area-elevation-storage curve of the Powai lake from BMC, it can be used to find the original water spread area and capacity at different elevation of water levels.
8. In future, if SRA develops the slum contributing the sewage into Powai lake then the STPs of the intercepted swage will become null and void. Hence, the intercepted sewage can be treated in the large STP.
9. Thus, it is suggested not to have STP in the lake bed area. The consequences of using the land of garden to STP needs to be studied in detail.
10. Use of special arrangement to remove the large floating materials before reaching the smaller size screens.
11. The efficiency of using Mobile STPs needs to be studied.
12. As a starting point to increase the capacity of Powai lake, the water fringe area near the JVLR (where water weeds and idol immersion area) can be dredged.

Comments From Shri S. K. Gupta:- (As per Email enclosed at page)

1. There are various slum areas around Powai Lake which do not have sewer system. The SWD opening discharges around 16 MLD sewage. The generated sewage comes to Powai Lake through 11 locations where storm water outfalls are opening at the boundary of the lake from which 19 flood gates have been installed. The quantity of sewage generation has been calculated based on population forecasting and sewage generation. The quantity thus calculated may not give the correct picture of sewage generation throughout the year including dry weather flow (DWF) and wet weather flow(WWF). This quantity should be re-worked.
2. The review of existing sewer lines show that they are damaged due to metro and road works along JVLR. This should be addressed in the final DPR.
3. The drone service for aerial mapping for 1 km. along the periphery of the Powai Lake should be used to identify the non-point sources and their contribution to wastewater quantity.
4. The design for interception and diversion should be reviewed.

5. The proposal 1-4 to provide decentralised sewage treatment plant should not be located within the BMC garden, near BMC school (2 MLD) , Powai Udyan (2.5 MLD), Powai Vatika (2.5 MLD) Nirvana Garden (9 MLD). It is proposed that the location of 4th decentralised STP may be given primary and secondary treatment, thereby decreasing cost of treatment, and discharged into wastewater conveyance system.
6. The typical interception and diversion arrangement should also incorporate a unit/system before the screen to arrest the entry/ removal of waste plant material of different size.
7. The containerized packaged sewage treatment plant should be carefully selected to meet the proposed parameters for the treated wastewater approved by TAC for BMC Rejuvenation Project and CPCB, India, 2019.
   In the proposed treatment at 4 locations the selection of bioreactor as secondary treatment should be done carefully.

In addition to above, following discussion held during the meeting:-

1. The committee member Shri S K Gupta enquired what is the possibility of diverting sewage into the existing sewage network passing through the JVLR and routing it to the Bhandup WWTF.

   The consultant explained that as per the guidelines of National River Conservation Directorate (NRCD) of GoI, the lake water balance is required to be maintained. Currently lake is receiving about 16 MLD of water as sewage which is required for maintaining the water balance. Therefore, by laying of conveyance main to the Bhandup WWTF and bringing back the recycle network till Powai Lake is economically not viable. As per environment protection Act, Sewage cannot be released in the water body without treatment. Decentralized STP near lake is a viable option to maintain the lake water balance and respective ecological flow. In the continuation of this topic Shri Rakesh Kumar have shared his experience about the similar type of case studies executed for Shahdara lake of Delhi, and case studies of Yamuna River and Ganga River where sewage is treated to the desired standards and then released in the water bodies.
2. Prof V. Jothiprakash and Dr. Rakesh Kumar have suggested to identify and address both point sources and non-point sources of pollution in Powai Lake.

   The consultant explained that while point sources will be treated in the project, non-point sources need to be identified, tackled, and treated using various technologies like appropriate engineered wetland creations, etc.

3. TAC inquired about the status of sewage ingress from the other side of JVLR i.e. near The Westin Hotel, NITIE & Perubaug area.

   It was informed that the consultant and S.P. dept. has inspected the lake and it was found that at some places sewage is coming near NITIE & The Westin Hotel and they have informed the concerned ward office to take immediate action against these entities and make sure that the STPs installed at these sites are operational at all times and to the desired standards.

4. In continuation of the discussion, H.E. asked to submit the complete details of the proposed work so as to issue related remarks and to grant necessary permission for the installation of Decentralized Packaged treatment plants on the plots which are in possession of H.E. Department.

5. It was discussed that that the SWD department has to identify the storm water drains which are coming to powai lake, other than whatever mentioned in the DPR and inform about the status of sewage ingress through these drains, if any.

6. The TAC members observed to ensure that the technology adopted for sewage treatment includes processes to treat phosphorus and nitrogen, which will help to reduce pollution levels and hyacinth growth.

   The consultant explained that the technology of STP proposed is Membrane Bio reactor which not only removes the nutrients but also produce the water which after disinfection can be reused and recycled. Dr Rakesh Kumar observed that MBR is the most optimal solution for treatment of sewage at this point of time and for the project however nutrient removal from the deposited sludge in the lake is not possible through STP therefore the engineered wetlands inside the lake should also be proposed which can be harvested periodically so that the deposited nutrients also can be removed.

7. To prevent blockages due to larger floating materials, two different screen sizes shall be used instead of a single screen in the Interceptor and diversion arrangement.

8. Release of treated wastewater is essential for the restoration of Powai Lake. The proposed locations need to be re-examined, and it may be beneficial to combine two or more proposed Sewage Treatment Plants (STPs) together at single location.

9. The composition of floating materials varies between monsoon and non-monsoon periods, requiring re-engineering of the Interceptor and Diversion system to address both these

effectively. It was informed to the committee that the screens have been proposed at the interceptors. BMC agreed to introduce the bar screens also at the outlets during monsoon.

10. It is informed that the tender for the project work will be invited on DBO Basis. (Design-Build-Operate) with 3 years of DLP (defect Liability Period) & after completion of DLP, Operation & Maintenance will be for a period of 12 years.

The TAC appreciated the initiative of the BMC & the efforts taken by the consultant for rejuvenation of the Powai Lake. in line with the observations made by the committee as mentioned above, it was communicated that the DPR for the interception, diversion, conveyance and treatment of sewage ingress to Powai lake with option of reclamation of treated water having total cost of Rs 426.19 Cr, prepared by the consultant M/s TUSPL which has been circulated beforehand of the meeting through e-mail dated 20th June 2024 is found to be in line with the various Government guidelines for water body rejuvenation and good industry practices.

DMC (E) has then directed consultant M/s. TUSPL to note the various suggestion given by TAC members and do the necessary correction in the Draft DPR and submit the revised DPR accordingly, within 15 days so to arrange a next meeting of TAC members within a period of one month.

The meeting was then concluded with vote of thanks to the chair.

(Shri S K Gupta)
Ret. Prof. IITB
(External TAC Member)

Shri V Jothiprakash)
Prof. IITB
(External TAC Member)

(Shri Rakesh Kumar)
External TAC Member
(Ex. Director NEERI)

Consultant
(M/s TUSPL)

06-07-2024

(Shri S N Bhore)
Ch.E.(SP) BMC

(Shri S.V.Choudhari)
Ch.E.(SWD) BMC

(Shri R.C.Tamhane)
Ch.E.(MSDP) BMC

(Shri P L Malvade)
HE, BMC

(Shri P Gavali)
Ch.E(SO) BMC

(Shri S D Chavan)
DMC(E), BMC
(Chairperson)