

KARNATAKASTATE POLLUTION CONTROL BOARD

PROCEEDINGS OF THE 384TH MEETING OF THE TECHNICAL ADVISORY COMMITTEE OF KSPCB HELD ON 18.06.2016 IN THE BOARD MEETING HALL, 3RD FLOOR, "PARISARA BHAVANA", CHURCH STREET, BANGALORE - 560001.

Members Present:

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| 1. | Dr. Jai Prakash Alva, Board Member, KSPCB, No.2, 5 th Cross, 4 th Main, Pampa Extension, Kempapura, Bangalore – 560 024. | Chairman |
| 2. | Sri. J.G.Kaveriappa, Board Member, KSPCB, No.40, Sri Krishna, 4 th 'A' Cross, I Stage, Anandanagar, R.T. Nagar Post, Bangalore – 560032. | Member Absent with Intimation |
| 3. | Sri. Mohankumar Kondaji, Board Member, KSPCB, No.218, 15 th 'C' Cross, Mahalakshampuram, Bangalore – 560 086. | Member Absent with Intimation |
| 4. | Dr. H.N.Chanakya, Chief Scientist, Centre for Sustainable Technologies, Indian Institute of Science (IISc), Bangalore – 560 012. | Member (Invitee) |
| 5. | Dr. Sandeep Mudliar, Principal Scientist, E-II, Central Food Technological Research Institute (CFTRI), Mysore – 570 020. | Member (Invitee) |
| 6. | Dr. B.S.Jai Prakash, Vice President, Academy of Certified Hazardous Material Managers – India Chapter, Bangalore Institute of Technology, K.R. Road, Bangalore. | Member Absent with Intimation) |
| 7. | Sri.B.G.Mohankrishna, Chief Environmental Officer-2, Karnataka State Pollution Control Board, Bangalore. | Convener |

Officers of the Board present

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| 1. | Dr. A. Ramesh, Senior Environmental Officer, Board Office |
| 2. | Sri. Venkatesh Shekar, Senior Environmental Officer, Board Office |
| 3. | Smt. R. Shantha Kumari, Environmental Officer, Board Office |
| 4. | Sri. Sridhar, Environmental Officer, Board Office |
| 5. | Sri. Asif Khan, Environmental Officer, Regional Office, Doddaballapura |
| 6. | Dr. D. R. Ravi, Deputy Environmental Officer, Board Office. |
| 7. | Sri.S.R.Ashok Kumar, Deputy Environmental Officer, Regional Office, Doddaballapura |

Industry Representatives

| Sl.No | Name & Address of the Industry | Name & designation of the industry representatives |
|-------|---|--|
| 1. | Up gradation of KIADB-CETP at M/s. Apperal Park, Doddaballapur M/s. Enviro Care, New Delhi M/s. Janani Engineering Services & Solution | Sri. Mohit, Consultant Sri. Rajendra.K, Consultant Sri.Raghavendra Hande, Consultant |

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| 2. | M/s. Kalpasthana Life care products Pvt. Ltd., Plot No.105 (Part-P), KIADB Industrial Area, Humnabad, Bidar District. | Not Attended the Meeting |
| 3. | “Automated Bio-Medical Waste Management System by TETHR Box Technologies”, - A software developed by TETHR.IT. | Sri. Safeer Usman - CEO Sri. Ashiq George, Business Development Manager. |

ITEM NO. 384:01

The proceedings of 383rd meeting was read and discussed. The committee confirms the proceedings with the following observations/additions.

ITEM NO:383:02

M/s. Theraindx Life sciences Private Limited, Sy.No.27, Deganhalli, Budhihal Post, Nelamangala, Bangalore – 562123.

The condition No. 10 shall be read as “A commitment shall be submitted duly signed by one of the Board of Directors of the company for carrying out all the above activities to the Board and he shall be made responsible”. The condition stipulated in the earlier proceedings shall be deleted.

ITEM NO:383:04

Up gradation of STP & CETP at M/s. Apperal Park, Doddaballapura.

1. In respect of condition No. 13, the same shall be modified as “the consultant shall submit scientific disposal methodology for the primary sludge removed from primary clarifier”.
2. In respect of Condition No. 14, the word “as done by CPCB” shall be removed and the same shall be read as; “it is also suggested to take up studies with different permutation & Combination including treatment with Hydrogen peroxide and Electro oxidation process, which is in operation at M/s. Scott garments”.
3. It is also suggested that, the treatment proposals submitted by the consultants shall be in line with CPCB guidelines evolved for textile sector with ZLD (Zero Liquid Discharge).
4. The treatment scheme shall also include evaluation of total Carbon & Colour analysis.

ITEM NO:383:06

M/s. Eurofins Clinical Genetics India Pvt Ltd, No. 540/1, Plot No. 18-B3, Ground floor, Doddanekundi Industrial Area, Hoodi Village, K.R Puram Hobli, Bangalore East Taluk.

The condition No. 9 shall be read as “the applicant shall establish the library & databank of micro-organisms procured from outside (outside states/Countries) and necessary approvals obtained from other relevant statutory authorities shall be submitted to the Board”.

ITEM NO:383:09

M/s. Omnikan Earth Science Pvt Ltd, Plot No. 556, A1 & A2, Hassan Growth Centre, KIADB Industrial Area, Hassan.

Dr. Chanakya has opined that, the treatment methodology adopted by M/s. Omnikan can be taken up as a case study by deploying few M.Tech students under the supervision of one of the Board Officer and the outcome may be sent to CPCB for implementation in other States at similar industries.

In this regard, Dr. Ravi D.R , Deputy Environmental Officer, was informed to take up the study and to come out with a report.

With the above addition, it was resolved to confirm the proceedings of 383rd TAC meeting.

Other Issues Discussed:

With regard to preparation of guidelines for R & D laboratories which carryout synthesis biological studies, cells of human system, animal testing facilities and those carrying out BSL II & III activities in their premises. It was opined to discuss along with Dr. B.S Jai Prakash in the next TAC.

ITEM NO:384:02

Up gradation of KIADB- CETP at M/s. Apperal Park, Doddaballapura.

The KIADB Officer's & the two consultants appeared before the TAC and presented their view on the observation of earlier TAC meetings. The discussions made in the meeting is as follows:

1. **M/s. Enviro Care**, New Delhi has presented the compliance to the earlier TAC meeting proceedings. They have submitted that, there is no requirement of Bench scale studies, as the plant is already under operation and there is sufficient data on treatment efficiency of each unit & quality of treated effluent at different stages. They also stated that, main pollutants for non-operation of CETP at present are Hardness, Silica, and Alkalinity. These pollutants are tackled through primary Coagulation, Clari-flocculation and aeration tank. They also stated that, they are going to use Alum, Lime, Poly electrolyte etc., for removal of these pollutants. Hence they are confident that, RO plant will work with the recovery of 90% efficiency and the membranes will also last for long. For a query about huge sludge formation due to the addition of Alum, Lime, Poly electrolyte etc, they have informed that, the sludge de-watering system/sludge thickener can be used to reduce the volume & to remove water content. The same can be disposed through TSDF. After detailed deliberation the committee suggested that the consultants shall focus on the following issues & submit revised proposals.
1. Exact quality of sludge generation at the Primary Clarifier shall be submitted.
2. Advantage of ATFD over MEE shall be submitted.
3. TDS removal methodology before aeration tank shall be submitted along with data of percentage removal.
4. Treatment process to withstand the shock load at the biological system shall be submitted.
5. At present even for very low load of 200 KLD, the RO plant is not working. The

authorities shall substantiate the working of RO Plant, when the plant is loaded to full capacity of 5 MLD.

6. Submit the details along with the pros and cons of MEE → Crystallizer & ATFD.
7. The methodology to increase the recovery of RO to reduce the capacity of evaporator shall be submitted.
8. The Colour removal technology shall be submitted when the industries use different coloured dyes for the process at their respective industry.
9. A visit may be arranged by KIADB to a chemical plant at Chennai, where the consultant have supplied the technology & operating the plant.

M/s. Janani Engg. Services and Solutions have also presented the compliance to the observations made in the earlier TAC meeting. They have stated that, the analysis of effluent was carried out before finalizing the proposal. They have proposed to establish Sequential Batch Reactor (SBR) technology instead of Activated Sludge Process (ASP) and SBR will work more efficiently than ASP in the present scenario. They have proposed three stage RO plant, which ensures 70-80% of recovery, however the 4th stage RO will ensure 90% of recovery, apart from preventing fouling of membrane. They have informed that they have established one such treatment unit at M/s. Shahi Exports, Shimoga for similar effluent and is working efficiently since 4 years.

After detailed deliberation, the TAC suggested following for the consultant to focus & modify the proposals.

1. Details of projection study conducted in terms of LSI shall be submitted.
2. The treatment methodology with SBR & without SBR along with its pros & cons of both the systems shall be submitted.
3. Efficiency study shall be submitted when the industries use large quantity of detergent, different coloured dyes which hampers the aeration activity.
4. Treatability study of effluent before RO, dual media filter & ACF along with Nano filtration.
5. Sustainability or otherwise for adopting Membrane technology for aeration shall be submitted.
6. Quantity of sludge generation due to addition of Lime, Alum & poly electrolyte, its reduction process & its final disposal methodology shall be submitted.
7. Multi operational load for efficient operation of ETP shall be submitted.
8. Study report of Chlorine-H₂O₂ oxidation in primary treatment & Ozone, H₂O₂-Chlorine oxidation for colour removal shall be submitted.
9. Details of treatment methodology by using H₂O₂ - ClO₂, UV radiation & Ozone shall be submitted along with pilot plant study report available.
10. Data on presence of Chlorine in the treated water & release of ClO₂, if any during the process & its control methodology shall be submitted.
11. Submit unit wise performance and report of ETP of M/s. Shahi Exports, Shimoga.

Keeping in view of the discussions & deliberations made in two TAC meetings with the consultants, it is the opinion of the TAC that the proposals made by M/s. Janani Engineering Services is more appropriate. However, KIADB shall obtain necessary clarifications/modifications of the proposals on the observations made before making final decision on either of the proposals.

