



ಕರ್ನಾಟಕ ರಾಜ್ಯ ಮಾಲಿನ್ಯ ನಿಯಂತ್ರಣ ಮಂಡಳಿ Karnataka State Pollution Control Board

“ಪರಿಸರಭವನ”, 1 ರಿಂದ 5ನೇ ಮಹಡಿಗಳು, ನಂ.49, ಚರ್ಚ್ ಸ್ಟ್ರೀಟ್, ಬೆಂಗಳೂರು - 560 001, ಕರ್ನಾಟಕ, ಭಾರತ

"Parisara Bhavana", 1st to 5th Floor, # 49, Church Street, Bengaluru - 560 001, Karnataka, INDIA
KSPCB/CEO-2/NEIABNG/394th TAC/2018-19

DATE: 18 FEB 2019

KARNATAKASTATE POLLUTION CONTROL BOARD

PROCEEDINGS OF THE 394th MEETING OF THE TECHNICAL ADVISORY COMMITTEE OF KSPCB HELD ON 01.02.2019 IN THE BOARD MEETING HALL, 3RD FLOOR, "PARISARA BHAVANA", CHURCH STREET, BANGALORE - 560001.

Members Present:

1.	Sri Manojkumar, IFS., Member Secretary, Karnataka State Pollution Control Board, Bangalore -01.	Chairman
2.	Sri M. Venkataram	Board Member
3.	Sri. K. S. Rajanandam,	Invitee
3	Sri B.N. Ramesh Kumar, Chief Environmental Officer -2, KSPCB, Bangalore – 560 001.	Member Convener
Officers of the Board present		
1.	Dr. A. Ramesh, Senior Environmental Officer, Board Office.	
2.	Sri Shanmugappa, Environmental Officer, Board Office	
3.	Dr. Niranjana, Environmental Officer, Board Office	
4.	Sri Asif Khan, Environmental Officer, Doddaballapura	
5.	Sri. Ashok Kumar, Deputy Environmental Officer, Doddaballapura.	
6.	Dr. D. R. Ravi, Deputy Environmental Officer, Board Office.	
7.	Sri. Majnunatha L, Deputy Environmental Officer, Regional Office, Mysore-I	
8.	Smt. Chitra, Asst Environmental Officer, Regional Office, Peenya	
9.	Sri. Raghavendra, Asst Environmental Officer, Regional Office, Peenya	

Members could not be Present due to Preoccupation (Absent with Intimation):

1.	Sri. Piyush Rodrigues	Board Member
2.	Dr. H.N. Chanakya, Scientist, Centre for Sustainable Technology, Indian Institute of Science (IISc), Bengaluru – 560 012	Invitee
3.	Dr. B.S. Jaiprakash, Vice President, Academy of Certified Hazardous Material Manager, India Chapter, Bangalore Institute of Technology, K.R. Road, Bengaluru.	Invitee
4.	Director of Factories, Department of Factories, Boilere, Industrial Safety and Health.	Invitee

Industry Representatives

Sl.No	Name & Address	Designation of the industry representatives
1.	Sri. Rama	Chief Development Officer, KIADB.
2.	Dr. Ravindra	Water Cell. KIADB.

3.	Mohan Kumar	KIADB.
4.	Dr. Ramesh Babu	Environ India Pvt Ltd., Chennai
5.	V. Ravichandran	Environ India Pvt Ltd., Chennai
6.	Sri. P Yuvaraj,	Environ India Pvt Ltd., Chennai
7.	Sri. Arvind Thyogi	J D Engineer
8.	Avijit tripathy	J D Engineer
9.	Dr. Suresh,	Additonal Director Mysore City Corporation
10.	Sri. Sheshadri P.	K & S Group
11.	Dr. Jyothi	K & S Group
12.	Sri. Sunil K. M.	K & S Group
13.	Sri. Sripad Gowda	K & S Group
14.	Sri. Anand Rao	Vice President
15.	Sr. H.M. Arif	Hon'ble Secretary, Peenya Industrial Association.
16.	Dr. Jayaramu	Past President, Peenya Industrial Association
17.	Sri. M.M. Giri	President, Peenya Industrial Association
18.	Sr. K. Rama prasad	Bio Leaf Energy
19.	Sri. Sripad D.	Bio Leaf Energy
20.	Sri. Srikanth Shetty	
21.	Sri. Umesh M.	
22.	Sri. Somesh M.	

ITEM NO: 394:01

Read & Confirmation of the Earlier Meeting

The proceedings of 393rd TAC meeting held on 12.12.2018 was read and discussed. The committee confirms the proceedings without any changes.

ITEM NO: 394:02

Up-gradation of existing 0.5 MLD Sewage Treatment Plant & 5 MLD Common Effluent Treatment Plant at Apparel Park, Doddaballapura- Regarding

Karnataka Industrial Area Development Board (KIADB) has developed Apparel Park at Doddaballapura. As a part of Infrastructure, they have installed Common Effluent Treatment Plant (CETP) to treat effluent generated from those industries which are housed in this Apparel park. There are certain operation issues with the CETP and the Board has issued directions under Section 33 (A) of the Water (Prevention and Control of Pollution) Act, 1974. In response, KIADB had submitted proposals for up-gradation of CETP from two consultants, namely, M/s. Janani Engineering Services and Solutions and M/s. Envirocare, New Delhi. The issue was placed before the TAC meetings held on 21-03-2016, 28-04-2016, 18-06-2016 & 19-12-2016 and decisions were communicated to KIADB authorities for taking necessary action.

As per the proceedings of TAC meeting held on 29-12-2016, the KIADB has submitted the compliance to the TAC proceeding regarding the up-gradation of the existing 0.5 MLD & 5 MLD CETP at Apparel Park, Doddaballapura prepared by the consultant M/s. Enviro Care, New Delhi and requested to place before TAC for deliberations.

The issue was discussed in the 390th TAC Meeting held on 28-09-2017 wherein the technology proposed by them is Electro- Catalytic Oxidation wherein specific frequency of electricity is passed through the effluent & the pollutants will be converted into ionization state and reduction of COD and colour can be achieved.

The committee had sought the following information:

1. TOC analysis shall be carried out to decide on the colour & COD reduction from the effluent.
2. Give the details of SVI of sludge.
3. Details of electro chemical reaction with mass balance for composite trade effluent including dye effluent streams.

Further, it was suggested to carryout pilot plant studies by establishing 5 MLD pilot plant, to study the efficiency of this technology by the consultant at his own cost. The KIADB has to support with basic infrastructure to carry out pilot plant studies. It was directed to submit the details of Pilot plant studies.

The Regional Officer, Doddaballapura has submitted Inspection report stating that M/s. Enviros India Authorities have submitted outcome of the studies & it is reported that there is considerable reduction in of BOD & COD when compared to samples of inlet and entry inlet E-cot –Reactor.

Hence it was opined to discuss the subject at the TAC Meeting and KIADB authorities and consultants were called for presentation.

During the presentation, the consultant has explained that, they have set up a pilot plant of capacity 5 KLD & samples were collected from 5-6 different industries everyday for 12 days and the composite sampling analysis were carried out which indicated that the COD is in the range of 4000-4500 mg/l.

The following observations were made with respect to the pilot plant studies.

1. The total effluent collected and treated in the pilot plant of 5 KLD.
2. The KIADB has supplied the effluent & Regional officer has also witnessed the procedure.
3. The effluent was treated through the E-Cot technology and treated water sample was analysed for TDS and COD. He also informed that the retention time was about 8 hours.
4. In this process, Primary Treatment is accomplished by 'Electro flocculation mechanism' rendered by e-Zeta reactors. The electrodes are coated with novel metal oxides, to synthesize 'poly- oxo cations' for removal of colour.
5. Secondary Treatment is accomplished by 'Electro-Oxidation Process Reactors'(e-cascade) employing 'Medium to High Band Width Thin Film Composite' electrode materials. E-Cascade reactors render oxidative destruction of colour and COD/BOD substances.
6. It is presented that the overall inference was the treatability study has responded well for electro-flocculation cum oxidation treatment and colour removal was affected. Almost 95% reduction of COD was observed in the process.

The consultant has also submitted the compliance to the earlier TAC proceedings and stated that there is no need for submission of SVI as the overall sludge generation is very minimal and most of the COD will get converted into gaseous form, also sludge is not recycled as in the case of activated sludge process. They have not submitted the details of electro-chemical reaction with mass balance for composite trade effluent including dye effluent streams. They were informed to submit the same at the earliest.

After detailed deliberation, the committee has sought the following information.

1. There was a mismatch with respect to the analysis report of the sample collected by the Regional officer and the consultant (In one case, the COD value analysed by the consultant was 4500 mg/l whereas, the same analysed by the Board was 780 mg/l. Hence, it was advised to look into the issue and submit the exact concentration of composite sampling.
2. The pollutant monitoring results were shown in the from range i.e 3200 – 3500mg/l, 3000-3400 mg/l which needs clarification with regard to number of samples collected, frequency of collection etc.

3. In certain days there is considerable reduction of concentration of effluent prior to EMF when compared to inlet characteristics.
4. The number of samples analysed each day along with the inference drawn to range of the analytical results obtained shall be submitted.
5. The optimization of current EMF with respect to COD concentration (This is not clear to me) shall be submitted as they have claimed effluent to the COD of 60,000 ppm can be treated with this system. Also, when and how frequently they set the EMF.
6. They were also asked to submit the details of electrochemical reaction with mass balance for composite trade effluent including the dry stream.
7. The industry was asked to submit the kinetics of reaction that takes place both at Electro-flocculation mechanism and electro-oxidation process.
8. Electrode wear out and frequency of their replacement to be evaluated and informed.

The TAC has opined to constitute a committee for visiting the industry in Hosur, Tamilnadu, where in this technology is implemented and operating since 2 years. The WMC section can initiate action on this.

Action-SEO WMC Cell

ITEM NO: 394:03

Presentation on Setting up of 1 × 350 TPD, An Integrated Municipal Solid Waste Processing Plant for Mangalore Municipal Corporation

Mangalore City Corporation has proposed to establish an integrated Solid Waste Processing Plant with an intention to produce RDF, Power generation and Bio-CNG. The DMA authority have attended the TAC meeting along with their consultants, Bioleap Green Energy Pvt. Ltd, Bangalore who explained the following salient features about the proposed project.

1. 150 TPD Biomethanation-cum-Bio-CNG Plant

- There is Value addition due to Biogas & Manure.
- There is almost No / Negligible Energy Input & Nutrient Requirements.
- The technology has less footprint area compared to Composting.
- The entire process is carried out in a Closed Vessel System where there is no emission of Green House Gases to the environment & no problem of odor and birds & rodents
- It is cost effective when compared to the current fuel / electricity prices.
- Municipal solid waste of 350 TPD generates 9000 m³/day of Biogas & 3500 Kg/day of Bio-CNG.
- This technology also saves Conventional Fuel – Petrol/Diesel
- 55000 m³ of volume required for Landfill/Open Dumping Site is saved.

2. 1 x 150 TPD RDF-cum-Incineration Plant

- This is proven & tested Technology for Heterogeneous Indian Garbage.
- The Combustibles are separated for the production of RDF.
- RDF is a good coal substitute. Emissions of RDF burning are superior to that of coal burning with less NOX and SO2.
- RDF as a Coal substitute has a good track record
- Instant MSW volume reduction is possible only through incineration
- Energy recovery from Garbage can be through RDF/electricity
- RDF incineration is economical than Garbage incineration.
- There are no emissions of Dioxins or Furans'.

The following are the environmental benefits of implementing this project:

- Savings in Conventional Fuel – Coal

- Total CER's Generated under CDM is 19800 / Year
- Stopping Release of CO2 to the Atmosphere
- Volume saved at Landfill / Open Dumping Site
- Stopping Ground Water Pollution at Open Dumping / Landfill site.

After detailed deliberation, the committee has sought the following information:

1. Detailed Project Report with detailed plant design and material balance shall be submitted.
2. Details of storage yard & commitment from MCC for supplying assured quantity of 350Tons of unsegregated Municipal Solid Waste shall be submitted.
3. Bio CNG is 95 % methane. It is better to omit this point
4. It is also informed to submit the calorific value of RDF and the percentage of different solid wastes used in the production.
5. Details of mode of disposal of digested effluent and leach ate shall be submitted.

Further action may be after the receipt of the details.

Action-SEO WMC Cell

ITEM NO: 394:04

Establishment of modern abattoir at Sy No. 488,489,490,491,492 & 494, Kesare, Mysore by Mysore City Corporation.

The Mysore City Corporation has proposed to establish Modern abattoir at Sy No. 488,489,490,491,492 & 494, Kesare, Mysore District. The Board has notified the Guidelines on 5.02.2014 for siting of Slaughter House as follows:

1. New slaughter house shall be located in accordance with the CPCB Guidelines viz., the slaughter house should be located outside or on the periphery of the city/ town and shall be away for the Airport. Main services such as Water, electricity and waste disposal facility are prerequisite.
2. The Slaughter house shall be located preferably at an aerial distance of 1 Km away from solid waste management processing facility/ land fill site identified and not less than 500 mts away from common waste facility like STP/ ETP/ CBMWTP, to prevent bird/ stray animals menace which are mainly responsible for spreading infections during its roaming/migration.

The Regional Officer has reported that proposed site is located at a distance of about 350 Mts away from the sewage treatment plant. There also exists a Primary Drainage running along within the proposed site.

The agenda was discussed in the earlier consent committee meeting held on 12.12.2018 and the committee after detailed deliberation has sought the following details from the proponent.

1. To take preventive measures to ensure that there will not be any bacterial/ pathogen contamination due to the existence of STP.
2. It was advised to look into the comprehensive industry document prepared by CPCB for slaughter house where best practicable technology for water pollution control in large slaughter houses is given. It was advised to follow the same
3. The total of capacity of ETP of 100 KLD shall be relooked as there is an apprehension of more water consumption. Methane produced in UASB to be advantageously utilized.
4. It was advised to revise the layout map taking into consideration of buffer zone with respect to existing STP and to ensure the minimum buffer zone as prescribed by CPCB/ KSPCB shall be adhered to.