

## KARNATAKA STATE POLLUTION CONTROL BOARD

**PROCEEDINGS OF THE 385<sup>TH</sup> MEETING OF THE TECHNICAL ADVISORY COMMITTEE OF KSPCB HELD ON 17.09.2016 IN THE BOARD MEETING HALL, 3<sup>RD</sup> FLOOR, "PARISARA BHAVANA", CHURCH STREET, BANGALORE - 560001.**

### **Members Present:**

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| 1. | Dr. Jai Prakash Alva, Board Member, KSPCB, No.2, 5 <sup>th</sup> Cross, 4 <sup>th</sup> Main, Pampa Extension, Kempapura, Bangalore – 560 024.                   | Chairman                        |
| 2. | Sri. J.G. Kaveriappa, Board Member, KSPCB, No.40, Sri Krishna, 4 <sup>th</sup> 'A' Cross, I Stage, Anandanagar, R.T. Nagar Post, Bangalore – 560032.             | Member                          |
| 3. | Sri. Mohankumar Kondaji, Board Member, KSPCB, No.218, 15 <sup>th</sup> 'C' Cross, Mahalakshmiapuram, Bangalore – 560 086.  | Member                          |
| 4. | Dr. H.N. Chanakya, Chief Scientist, Centre for Sustainable Technologies, Indian Institute of Science (IISc), Bangalore – 560 012.                                | Member (Absent with Intimation) |
| 5. | Dr. Sandeep Mudliar, Principal Scientist, E-II, Central Food Technological Research Institute (CFTRI), Mysore – 570 020.   | Member                          |
| 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                          |
| 7. | Dr. H.G. Ashok, Professor and Head, Department of Agriculture Engineering, UAS-Bangalore.  | Invitee                         |
| 8. | 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. | Sri. Yoganand, Environmental Officer, Board Office.                 |
| 4. | Smt. R. Shantha Kumari, Environmental Officer, Board Office.        |
| 5. | Dr. D. R. Ravi, Deputy Environmental Officer, Board Office.         |
| 6. | Sri. S.T Narayan Swamy, Deputy Environmental Officer, Board Office. |

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| <b>Industry Representatives</b> |  |   |
|---------------------------------|--|---|
| <b>Sl.No</b>                    | <b>Name &amp; Address of the Industry</b>  | <b>Name &amp; designation of the industry representatives</b> |
| 1.                              | Shredder demonstration plant for volume reduction of Solid Waste in parks.   | Sri. Sudarshan K.<br>Sri. R.C. Dutt                           |
| 2.                              | Permission for marketing and selling of compostable carry bags/films as per IS/ISO 17088 manufactured by Green diams Biotech Ltd.,   | Sri. Deepak<br>Sri. Abhishek                                  |
| 3.                              | Eco-friendly potable Sanitary napkin incinerator for hygienic disposal of used Sanitary napkins.   | Dr. Siddharam<br>Nisha N.C.                                   |
| 4.                              | M/s. Kalpasthana Life care products Pvt. Ltd., Plot No.105 (Part-P), KIADB Industrial Area, Humnabad, Bidar District.  | Dr. D. Sham Rao<br>Sri. Basavangouda                          |
| 5.                              | Technical review of their product and consent letter from the Board that their product are suitable for the purposes of packing raw, processed and fresh foods by Director Business Development, R & D Nammaboomi. | Sri. Vince<br>Sri. Karunakaran                                |
| 6.                              | Acceptance of studyn report on "Study on Status of Noise Levels in Mysuru City" carried out by Karnataka State Council for Science and Technology, Bengaluru.  | M. Kashyap  |

### **ITEM NO: 385:01**

The proceedings of 384<sup>th</sup> meeting was read and discussed. The committee confirms the proceedings without any changes.

#### **General Subject:**

#### **Ozonation based pre-treatment of KIADB CETP Effluent.**

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Dr. Sandeep, TAC Member has made a presentation on the preliminary feasibility study undertaken on the request of KSPCB by a PhD student (PM Doctoral fellow) at CSIR-NEERI on "Ozonation based pre-treatment of KIADB CETP Effluent, at Doddaballapura". He also informed that motivation was due to the fact that CPCB has issued recent guidelines on "Techno- Economic Feasibility of implementation of Zero Liquid Discharge (ZLD) for Water Polluting Industries", wherein the options & technologies for treatment of textile effluent with dyeing is as below, in which ozonation is listed as one the options:

1. Ozonation + Bio-Oxidation + Sand Filtration + Activated Carbon Adsorption + Micro-filtration + Reverse Osmosis (3 Stage) + Multiple Effect Evaporator.
2. Chemical Precipitation + Bio-Oxidation + Chemical Precipitation + Sand Filtration + Activated Carbon Adsorption + Micro-filtration + Reverse Osmosis (3 Stage) + Multiple Effect Evaporator.

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3. Chemical Precipitation + Bio-Oxidation + Sand Filtration + Dual Media Filtration+  
Micro-filtration + Reverse Osmosis (3 Stage) + Multiple Effect Evaporators.

The existing KIADB CETP has a number of issues related to poor performance as observed by the TAC members during their visit and the performance monitoring done by KSPCB. One of the many issues is poor biodegradability of effluent and use of chemical coagulation, which can further pose problem of disposal of huge quantity of chemical sludge. The preliminary lab scale studies indicated the potential of ozonation to substantially minimize chemical usage in primary treatment, enhance biodegradability and facilitate subsequent efficient biological oxidation. **Hence, the use of Ozonation and/ or Oxidation with H<sub>2</sub>O<sub>2</sub> in addition to the existing chemical precipitation, other existing and proposed options can supplement and complement the existing and proposed up-gradation scheme of KIADB CETP.** The request was made to KSPCB for sending more quantity of effluent samples to CSIR-NEERI Laboratory.

**ITEM NO: 385:02**

**Shredder demonstration plant for volume reduction of Solid Waste in parks.**

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The Board has sponsored for a leaf shredder to operate in the Sadashivanagar park at the cost of Rs.58,000/- for the scientific disposal of leaves, twigs and branches that are normally generated in the parks. As the said shredder was found to be operating well in the said park, Chairman, KSPCB has expressed that similar shredders can be given to all the 198 wards of BBMP, so that the problem of organic waste disposal in the BBMP parks can be solved to some extent in turn the overall handling of solid waste in Bangalore city.

In this regard, the Board in its meeting held on 25.06.2016 has opined to get verification of technical specification by University of Agriculture Science. In this regard, 3 agencies have submitted the Technical Specification. Further, in the review meeting of the **“The solid waste management in BBMP limits”** held with BBMP on 27.07.2016, the matter regarding allocation of one shredder for each ward of BBMP for shredding the leaves in the BBMP parks was discussed and in this regard, the Joint Commissioner suggested that only shredder will not serve the purpose. And, hence it was decided to call the concerned BBMP officials (Technical persons) as invitees to the Board TAC before finalizing the technical details of the shredders.

Hence, the subject was placed before the TAC wherein, Dr. H. G. Ashok - Professor from Department of Agricultural Engineering, UAS has presided. M/s. M. K. Associates have made a presentation on the shredder which is supplied by them to few of the BBMP parks. It was informed that, the shredder is available in different capacities based on the requirement. It has got an inbuilt chopping facility and can be mounted in a very small area. He also presented video clipping of the shredder established in Bangalore. The four tractor load of in-organic dry solid waste with a Moisture Content of about 40% can be easily reduced to half a tractor, with a particle size of 5m x 3mm. The only annual maintenance required for this machine is the replacement of blades and rotor (only one in 5 years).

After detail deliberation, the committee has opined that

- Complete technical specification of different capacity shredders with choppers can be submitted to the Board.
- The fixed cost and running cost of the shredder will also be submitted.

Further, decision will be taken based on the review of the details submitted.

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**ITEM NO: 385:03**

**Permission for marketing and selling of compostable carry bags/films as per IS/ISO 17088 manufactured by Green diams Biotech Ltd.,**

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M/s. True Green have presented an compostable bags alternate for plastic carry bags which is completely compostable within 190 days. He has informed that the material is made out of starch extracted from tomato, topica etc., blended with Poly Propylene.

The material which can be considered under compostable shall have a specific characteristic of compostable, fragmentable, and bio-degradable. Basically compost-ability mentions the rate of Bio-degradation and toxicity of the compost. The product has no built up of environmentally dangerous components and doesn't accumulate in the organism and in the eco-system. It can also become a sustainable alternative for landfill. He also presented that his product is free from plastics.

After detail deliberation, the Committee has sought the following information.

1. Complete product cycle details shall be submitted.
2. Statutory compliances like CPCB, FDA etc., shall be submitted.
3. Details of how composting happens with complete mass balance analysis, composting cycle, procedure followed for carbon recovery, hydrogen and other traceable materials recycling shall be submitted.
4. If the material is used as packing material for food grains, the migration study of any possibility of material getting into the food stuffs shall be submitted.
5. Entire manufacturing process of compostable carry bags shall be submitted.
6. It is also directed to submit in ingredients of raw materials used, process employed and the composting considering 100gm of raw material.
7. The entire process can be compared with a known compostable plastic carry bags now available in the market and how this product is different from the material which is already in the market.
8. It was suggested that the next batch of carry bag to be produced, the source of raw material and additives used should be printed on the bags.

The committee after detail deliberation, has opined that further decision may be taken based on the reply submitted by the authorities. After the submission of report, the same will be reviewed by a sub-committee consisting of Dr. H.N. Chanakya, Dr. B.S. Jai Prakash and Dr. Sandeep Mudliar, and suitable decision will be taken based on the recommendation of the committee which will be sent to Government for information and to take a decision.

However, the committee has also opined that, as per the Government notification dated: 11.03.2006, this product can also be banned for using as carry bags in lieu of other plastic carry bags, as this may enter into the market in the name of compostable plastics and we cannot have a complete control on the huge market of plastic carry bags.

