

ಫ್ಯಾಕ್ಸ್/Fax : 080-25586321

ಈಮೇಲ್/E-mail : ho@kspcb.gov.in

ವೆಬ್‌ಸೈಟ್/Website : http://kspcb.gov.in



25581383, 25589112

25588151, 25588270

25588142, 25586520

ಕರ್ನಾಟಕ ರಾಜ್ಯ ಮಾಲಿನ್ಯ ನಿಯಂತ್ರಣ ಮಂಡಳಿ
Karnataka State Pollution Control Board

“ಪರಿಸರ ಭವನ”, 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

No: KSPCB/NEIA/CEO-2/TAC-386/2016-17/ 5418

Dated:

19 DEC 2016

KARNATAKA STATE POLLUTION CONTROL BOARD

PROCEEDINGS OF THE 386TH TECHNICAL ADVISORY COMMITTEE MEETING HELD ON 21.11.2016 IN THE BOARD MEETING HALL, 3RD FLOOR, “PARISARA BHAVANA”, CHURCH STREET, BANGALORE - 560001.

Members Present:

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, Mahalakshmpuram, 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
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.	Sri.B.G. Mohankrishna, Chief Environmental Officer-2, Karnataka State Pollution Control Board, Bangalore.	Convener

Officers of the Board present

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. Narayan Swamy, Deputy Environmental Officer, Board Office.

CONVENER

Industry Representatives		
Sl.No	Name & Address of the Industry	Name & designation of the industry representatives
1.	Pallavi Creations, Bellary.	Not Attended
2.	Destruction of Bio-medical and other Hazardous waste using Plasma Gasification.	Sri. Umashankar N.R. Sri.
3.	“Automated Bio-Medical Waste Management System by TETHR Box Technologies”, - A software developed by TETHR.IT.	Sri. Murali Balaji M.C. Sri. Safer Usman.

ITEM NO: 386:01

The proceedings of 385th meeting was read and discussed. The committee confirms the proceedings without any changes.

General Subject:

Ozonation based pre-treatment of KIADB CETP Effluent.

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 Doddabailapura”. 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.
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 (details given in earlier reports). 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 laboratory bench-scale studies (done for 2 set of samples collected during different time period) indicated the potential of ozonation to substantially minimize chemical usage in primary treatment, enhance biodegradability and facilitate subsequent enhanced biological oxidation. Hence, the use of Ozonation and/or Oxidation with H₂O₂ in addition to the existing chemical precipitation, other existing and proposed upgradation scheme can supplement and

CONVENER

complement the existing and the proposed up-gradation scheme of KIADB CETP. For further details and advice for the transfer of the know-how related to ozonation based-pretreatment, CSIR-NEERI, Nagpur can be contacted.

Eco-friendly potable Sanitary napkin incinerator for hygienic disposal of used Sanitary napkins.

The issue was raised by Dr. Jai Prakash TAC Member and it was opined by the committee that Board cannot make recommendation of any specific products for marketing. However, since the napkins are not considered under Bio-medical waste, but considered as municipal solid waste. But has deleterious effect on the health it is going to cause if it is not disposed scientifically, it is necessary to evolve a policy guidelines for safe disposal of napkins. In this regard, the following action may be initiated.

1. To get details of raw material used in the manufacture of napkins by different manufacturer.
2. Characteristic of flue gases if burnt openly or in an incinerator,
3. Probable pollution control equipment which can be used for removing the toxicity of flue gases from the equipment,
4. A visit may also be arranged to know onsite handling of napkins.

ITEM NO: 386:02

Pallavi Creations, Bellary.

Project proponents have not attended the meeting. The Environmental officer (NEIA-OB) explained the technology proposed for treating waste from industry.

After deliberation, it was opined that the proponent can be directed to submit the details of dyes used in the process, treatment scheme for such dyes before treatment and after treatment shall be submitted and the issue may be discussed in the next meeting.

ITEM NO: 386:03

Destruction of Bio-medical and other Hazardous waste using Plasma Gasification.

M/s. Aquazone has presented a technology for destruction of municipal solid waste and a specific type of hazardous waste. They have informed that Plasma Gasification can be used for gasifying municipal solid waste and auto shredder waste to produce electricity. There are such plasma gasification plants operating in different countries including India. In comparison with different technology which is available today for gasification viz pyrolysis, incineration and conventional gasification, Plasma gasification has high operating temperature of 3500-6500⁰C with bi-product of syngas, inorganic material and vitrified slag. These by products can be efficiently reused. With regard to the efficiency of such plants, the Plasma gasification can be used for handling any type of waste (paints, oil waste, coal fines etc..) without sorting. They have also informed that the flue gases which come out from the plant may contain PM, CO₂, CO etc., which are well within the stipulated standards. They have informed that;

1. Gasification Technology Performing at Atmospheric Pressure, Elevated Temperature and

CONVENER

High Plant Availability.

2. Capable of Utilizing Integrated Mixed Waste and/or Coal Fines/Waste as Feed.
3. High Recovery of Clean Renewable Energy as Electricity.

After detail deliberation, the committee has sought the following information

1. Details on specific type of bio-medical waste and hazardous waste which can be used in the project shall be submitted.
2. Details of net energy consumption and the robustness of technology shall be submitted.
3. Type of electrode used in the torch, electrode poisoning and a frequency of replacement of electrode shall be submitted.
4. Type of material used in handling such a high temperature of 3500- 6500⁰C shall be submitted.
5. Environmental implication of plasma gasification technology.
6. Problems which may be encountered during the process of plasma gasification.
7. What are the safety measures which are required for the technology.
8. Complete energy balance of the system including the quality of exhaust gas.
9. Modifications required (if any) taking into consideration of composition of the Indian scenario of municipal solid waste including composition, moisture content etc.,

There was already a plant in Delhi which was operating earlier was failed. Hence, it was advised to give the factors which made to fail at Delhi and the improvements made in the present technology for handling such problems shall be submitted.

ITEM NO: 386:04

“Automated Bio-Medical Waste Management System by TETHR Box Technologies”, - A software developed by TETHR.IT.

The project proponents have earlier made a presentation during 384th TAC meeting, where certain suggestions were made for improving the technology. With regard to that they have visited 2 hospitals viz Sanjay Gandhi Trauma Centre and Apollo hospital to have onsite information on segregation, handling, storage data maintenance of biomedical waste. It was found that

1. Not all hospitals are segregating the wastes in different coloured bags.
2. Untreated biomedical waste was being stored beyond 48 hours.

To ensure proper segregation and disposal, they have developed an embedded a system which utilizes full potential of complete vision to monitor biomedical waste. Camera can be fixed at the storage yard which can monitor the colour bag. Sophisticated computer vision algorithms to extract features from the video. Alerts will be generated when mixing of biomedical waste bags or waste bags that are not removed for specific time period, Unusual activities are captured and will be showed in the form of images on a dedicated dashboard. They finally concluded that their software can

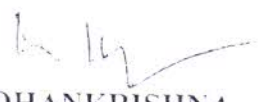
Note: During discussion, Dr. Chanakya has suggested to make TAC meetings paperless following initiatives can be taken up by the Board:

- To install Wi-Fi projector in the meeting hall, so that Projections/Presentations from Computer/ Laptop/ Mobile phone/ TAB can be made without wire.
- To provide TAB to TAC members, so that TAC agenda can be circulated to the members through e-mail and there will be no need of printing hardcopy of agenda.

Member convenor has informed that the issue may be referred to E-Governance Cell/ Administration Section for taking necessary action.


DR. JAI PRAKASH ALVA
Chairman

Technical Advisory Committee
Karnataka State Pollution Control Board


B.G. MOHANKRISHNA
Chief Environmental Officer-2
Convenor, Technical Advisory Committee
Karnataka State Pollution Control Board