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28 OCT 2013

KARNATAKA STATE POLLUTION CONTROL BOARD

PROCEEDINGS OF THE 374TH MEETING OF THE TECHNICAL ADVISORY COMMITTEE OF HELD ON 28.09.2013 IN THE BOARD MEETING HALL, 3RD FLOOR, "PARISARA BHAVANA", CHURCH STREET, BANGALORE - 560 001.

Members Present:

1.	Prof. Gopal Mugeraya, Professor, Department of Chemical Engineering, National Institute of Technology Karnataka (NITK), Suratkal, Srinivasa Nagar – 575 025.	Chairman
2.	Prof. S.S.Gadag, Sangam, No.612, 15 th Main Road, 1 st Block, 3 rd Stage, UVCE Layout, Basaveshwaranagar, Bangalore – 560 079.	Member
3.	Dr.H.N.Chanakya, Scientist, Centre for Sustainable Technology, Indian Institute of Science (IISc), Bangalore – 560 012.	Member
4.	Dr.B.S.Jai Prakash, Vice President, Academy of Certified Hazardous Material Managers – India Chapter, Bangalore Institute of Technology, K.R. Road, Bangalore.	Member
5.	Dr.R.Siddaramappa, M.Sc. (Agri), Ph.D, Retd. Professor of University of Agricultural Sciences (UAS), #25, "Gangothri", UAS Layout, Nagashettyhalli, RMV 2 nd Stage, Bangalore – 560 094.	Member
6.	Sri Kedarnath Mudda, B.Tech (Chemical), No.17, 18 th Cross, 8 th Main, Upper Palace Orchard, Sadashivanagar, Bangalore – 560 080.	Member
7.	Sri H.Srinivasaiah, Retd. Director of Factories, Department of Factories, Boilers, Industrial Safety & Health and presently Director, Karnataka German Technical Training Institute, COE Building, ITI Complex, Bannerghatta Road, Dairy Circle, Bangalore – 560 029.	Member
8.	Prof. S.K.Gali, Professor & HOD, Environmental Science, University of Agricultural Sciences (UAS), Dharwad – 580 005.	Member
9.	Dr. Sandeep Mudliar, Principal Scientist, E-II, Central Food Technological Research Institute (CFTRI), Mysore – 570 020.	Member
10.	Dr.R.Gopalakrishna, Associate Professor, Department of Physics, Maharani's Science College for Women, Palace Road, Bangalore – 560001.	Member
11.	Dr.S.Manjappa, Special Officer, Research & Development, Visveswaraya Technological University (VTU), UBDT College of Engineering, Davangere – 577004	Member
12.	Sri Dinesh Kumar Alva, "Sowparnikaa", Vyasaganara, Behind KPT, Kadri Hills, Mangalore – 575 004.	Member
13.	Sri S.Nanda Kumar, Chief Environmental Officer-I, Karnataka State Pollution Control Board, Bangalore.	Member Convener

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The Member Convener welcomed the Members for the meeting. The committee congratulated the Chairman of the committee for his new assignment as Director, National Institute of Technology Agartala (NITA). The new Member Secretary, Sri Vijayakumar, IFS was introduced to the committee. All the members expressed their co-operation to the Member Secretary. Member Secretary thanked the committee for the gesture.



Member Convener

ITEM NO: 374:01

Read and confirm the Proceedings of the 373rd Technical Advisory Committee meeting of Karnataka State Pollution Control Board held on 24.07.2013.

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The proceedings of the 373rd TAC meeting was read and confirmed. Action taken on the proceedings was brought to the notice of the committee for information.

ITEM NO: 374:02

R & D study on "Remediation of Chromium contaminated underground water using activated carbon fabric and/or manganese wool" – Dr.J.R.Mudakavi, Department of Chemical Engineering, IISc., Bangalore.

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Dr.J.R.Mudakavi, Department of Chemical Engineering, Indian Institute of Science (IISc.), made a presentation on the Board's sponsored R & D work on the "Remediation of Chromium contaminated underground water using activated carbon fabric and/or manganese wool."


The work involved is use of Activated Carbon Fabric (ACF) for removal of Chromium contaminated groundwater by adsorption technique. It was explained that, the Chromium contaminated groundwater with acidic pH can be treated by adsorption. The ground water is to be made acidic to treat in ACF and again to neutralize the treated water. The concept appears to be encouraging, but further studies are required to be taken up on field scale on the following:

- To quantify the amount of sludge generation before and after treatment due to use of chemicals for pH corrections.
- The collection and disposal options for chromium recovered from ACF.
- Regeneration of ACF after treatment in a larger scale.
- Cost benefit aspects.

The TAC felt that, there are already other methods being used viz. Resins, etc. for treatment of Chromium contaminated ground water at a cheaper rate. Therefore, techno economical feasibility of the technology is to be assessed vis-à-vis the existing options.

For in-situ experiments IISc may take up field scale studies through any of the industry which is responsible for chromium contamination of ground water. IISc may also attempt to use this technology for treatment of chrome bearing electroplating effluents.

The committee congratulated the initiatives of IISc for attempting an R & D for the problem.


Member Convener

ITEM NO: 374:03

Final Report on two research projects – 1) Reducing the Environmental Pollution through bio-processing of coconut water from desiccated coconut industries into value added product; Nata-de-coco and 2) Recycling of coconut water generated from urban temples for the production of Nata-de-coco, submitted by University Agricultural Sciences, Bangalore to KSPCB.

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Dr.B.L.Narayana Swamy, Principal Investigator, Department Agricultural Microbiology, University of Agricultural Sciences, Bangalore made a presentation on the Board sponsored R & D work carried out by the University on use of coconut water from desiccated coconut industries and from temples for making value added products.

The investigator has made an attempt to prepare a value added edible product popularly called "Nata-de-Coco" which is bacterial cellulose. This technology originated from Philippines. The process involves collection of sterile coconut water mixing it with required microbial inoculum along with some acetic acid, water and sugar. The product is formed as a gelatinous layer on the surface which is harvested, washed and sweetened with sugar for greater acceptability. It was explained that, if the desiccated coconut industries could segregate coconut water from other effluents and collect it in hygienic manner, the problem of disposal of effluent could be simplified. While coconut water could be converted in to Nata-de-coco product and the residual water could be converted to acetic acid and later on to vinegar.

The TAC observed that, further work is required to work further on mass balance, water balance, economics etc. for transferring the technology to industrial scale. Further, a system for disposal of the failed batches arising due to contamination needs to be addressed.

The committee congratulated the initiatives of University of Agricultural Sciences, Bangalore in attempting an R & D for the problem.

ITEM NO: 374:04

Proposal for establishment for setting up of new Bulk Drug unit by M/s. GPR Life Sciences Private Limited, Plot No.66E & 66F, KIADB Industrial Area, Humnabad, Bidar District.

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The subject was discussed in the 373rd TAC meeting held on 24.7.2013. The committee had sought certain additional information in respect of process kinetics, mass balance, details of solvents used, emission characteristics etc. The industry submitted the details and made a presentation on all the aspects.

The process kinetics is submitted. With respect to solvent recovery, it was explained that, the solvent is recovered by condensation, recovered and reused in the process. For the effluent, the industry has proposed one solvent stripper but the TAC recommends that there


Member Convener

should be one more stripper before the effluent is taken to biological treatment, this the industry should examine and select an appropriate proven system to ensure effective VOC elimination before treatment in biological system. The industry should avoid use of Dicyanodiamide in the process of manufacture of Metformin Hydrochloride and use better group green chemical or recommended to drop the product if an alternative is not found. Similarly, use of Diphenyle Methane and Chlorinating agents in the manufacture of Fexofenadine Hydrochloride should be replaced with green chemical.

With the above remarks, the committee recommends that issue of CFE could be considered by the Board.

ITEM NO: 374:05

M/s. Theramyt Biologics Private Limited, Prasad Enclave, No.118/119, Yeshwanthpura Industrial Suburb, 2nd Stage, 5th Main, Bangalore – 560 022.

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As per the decision in the 373rd TAC meeting, the TAC sub-committee consisting of Dr.H.N.Chanakya and Prof.S.S.Gadag along with Sri. K.M.Nagaraj, Regional Senior Environmental Officer inspected the location of the facility and observed that the location of the R & D facility is housed in a multistoried building where there are non-biotechnological organizations functioning. The common area is being used by all the people. The proponent has currently proposed to take up production only of safe "Bio Similar" using cell lines approved by GEAC and RCGM. The sub-committee has felt that, since the proponent has already established the facilities they may be permitted to function in the present location only for maximum of three years for R & D only on safe "bio similar" and cell lines approved by the appropriate regulatory body for BSL-II only.

The proponent submitted the copy of Office Memorandum issued by Department of Bio Technology, Government of India, wherein Institutional Bio-safety Committee is constituted for this facility.

The TAC felt that, the wastes potentially contain bio-hazardous, carcinogenic, mutagens, teratogenic, irritants etc. which requires to be handled safely with proper decontamination, storage and final disposal to Common Bio Medical Waste Facility. The committee suggested that the production area ventilation shall pass through two stage bacteriological filters viz. Hepa filters, coupled with advanced ozone filters.

The Board may decide on the present siting of the R & D facility. It is also felt by the committee that, henceforth during the site inspection itself the Board should ensure the proper location of the facility as per the guidelines already recommended by the TAC is followed.



Member Convener

ITEM NO: 374:06

Stipulating guidelines for management of Municipal Solid Waste according to Municipal Solid Waste (Management & Handling) Rules, 2000.

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The Senior Environmental Officer, Waste Management Cell briefed the committee about the draft guidelines prepared by him for disposal of construction debris, educational institutions, buffer zone for sanitary landfills and slaughter house. After detailed deliberations, it was felt that a TAC sub-committee could be constituted for examining the draft and also to finalize the guidelines in line with statutory requirements. The sub-committee may comprise of the following members.

- 1) Dr. H.N.Chankya,
- 2) Dr. B.S.Jai Prakash.
- 3) Sri. H.Srinivasaiah
- 4) Dr. Sandeep Mudliar
- 5) A representative from Department of Municipal Administration.

ITEM NO: 374:07

Review of Environmental Management System and conditions imposed in CFE issued for co-generation plant of M/s Coromandel Sugars Ltd., (Formerly ICL Sugars Ltd.), Makavalli village, KR Pet Taluk, Mandya District.

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In the 373rd TAC meeting, the committee deliberated on the use of coal as auxiliary fuel in bio-mass fired boiler for co-generation. The committee had sought certain information and study report with respect to air quality modeling, energy balance, water balance and a comprehensive EMP.

The industry made a presentation before the committee. The industry was advised to work out the impact of the air pollution on the immediate neighborhood and furnish the report. The TAC opined that, the use of coal in boiler as an auxiliary fuel is already a settled issue in respect of co-generation plants in sugar industries. Therefore, the details as sought by the TAC could be evaluated and decision taken by the Board on whether to allow the industry to use coal as auxiliary fuel or not.

ITEM NO: 374:08

Recommendation of Expert Committee and compliance report submitted by the M/s.Godavari Bio-refineries Ltd, (Godavari Sugar Mills Ltd), Sameerwadi, Mudhol Taluk, Bagalkot Dist.

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The Member Convener explained the background of the subject and the recommendations made by the Expert Committee constituted by the Department of Ecology & Environment, Government of Karnataka as per the directives of the Hon'ble High Court. The industry made a presentation on the action taken by it on the recommendations of the Expert Committee. The committee after deliberation opined as under.


Member Convener

- 1) The contention of the industry that they propose to continue with the bio-composting system is acceptable as this is a composite sugar and distillery unit where the press mud for composting is available. The present system of bio-methanation of the spent wash, concentration and to bio-compost the spent wash is ideal. If the spent wash is concentrated it will become viscous and operation of digester may get affected. Regarding the concern of the expert committee that composting process viz., spent wash to press mud ratio, number of cycles, composting period, type and quantum of inoculums to be used etc. is to be scientifically evaluated, the same could be examined by instituting a study through University of Agricultural Sciences, Dharwad. The study should also include the possible level of BOD/COD in the effluent that is ideal for composting; concentration limits for chlorides and any other parameters of concern in bio-compost should be suggested by the investigating agency. Terms of Reference for the study could be drafted by Dr. Siddaramappa the TAC member.
- 2) Industry should start monitoring the input BOD/COD of spent wash subjected to bio-composting, compost quality for the prescribed parameters and also for chlorides and sulphates. Industry should also, through UAS monitor, the soil quality wherever the bio-compost is used and the report shall be submitted to the Board. The Board should also carry out a periodic review.
- 3) Industry has agreed to reduce the duration of storage of spent wash and also discontinue the old lagoons. They propose to store the spent wash seven days before the bio-methanation, ten days before MEE and seven days after MEE. The industry should take up a trial to hold the effluent in an appropriately painted/protected mild steel tank to examine the technical feasibility and furnish a report. A plan of action for the above shall be submitted by the industry along with a time frame for completion, including abandoning of the existing lagoon system.
- 4) With respect of ground water monitoring, recharge, tracer study etc., as suggested by the expert committee shall be considered by the Board.

All other recommendations which are of administrative nature could be dealt by the Board.

(Draft approved electronically by the
Chairman of the committee)

Sd/-
PROF. GOPAL MUGERAYA
CHAIRMAN
TECHNICAL ADVISORY COMMITTEE
KARNATKA STATE POLLUTION CONTROL BOARD


S.NANDA KUMAR
CHIEF ENVIRONMENTAL OFFICER-I
MEMBER CONVENER, TAC.
KARNATKA STATE POLLUTION CONTROL BOARD