

135

KARNATAKASTATE POLLUTION CONTROL BOARD

PROCEEDINGS OF THE 382ND MEETING OF THE TECHNICAL ADVISORY COMMITTEE OF KSPCB HELD ON 21.03.2016 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
3.	Sri. Mohankumar Kondaji, Board Member, KSPCB, No.218, 15 th 'C' Cross, Mahalakshampuram, Bangalore – 560 086.	Member
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 (Invitee)
7.	Sri.S.Venkatesh, Deputy Drugs Controller, The Drugs Controller of Karnataka, Palace Road, Bangalore.	Member (Invitee)
8.	Sri.B.G.Mohankrishnan, Chief Environmental Officer-2, Karnataka State Pollution Control Board, Bangalore.	Convener
Officers of the Board present		
1.	Sri.S. Nanda Kumar, Chief Environmental Officer,	
2.	Sri. Sadiq Ahmed, Senior Environmental officer	
3.	Sri. Rekha, Environmental Officer	
4.	Sri. M.N Yoganand, Environmental Officer	
5.	Sri. V. Ananda, Environmental Officer	
6.	Dr. D.R Ravi, Deputy Environmental Officer	

ITEM NO: 382:01

Read and confirm the Proceedings of the 381st Technical Advisory Committee meeting of Karnataka State Pollution Control Board held on 18.12.2015

The proceedings of the 381st TAC meeting was read and confirmed.

ITEM NO:382:02

M/s. Synus Labs LLP, Plot No.23, Bommasandra Industrial Area, 4th Phase, Bommasandra – Jigani Link Road, Anekal Taluk, Bangalore – 560 105.

The applicant has filed application under the Water & the Air Acts seeking consent to establish a new R & D lab to carryout R & D. It is proposed with the intention of working with pharmaceutical companies to carryout Research & Consulting services needed by them under CRAMS (Contract Research & Manufacturing Services). Research activity involves synthesis of hundreds & thousands of chemicals at milligram scale even though its is for research purpose.

The Project proponent has made a presentation of their project before the committee. The committee observed that, the industry uses certain solvents & chemicals which are hazardous in nature require utmost care during handling. Also, the committee suggested to the project authority to visit the Pai & Pai Chemicals CETP to determine if the facility is capable of handling the aqueous waste water generated from the proposed R & D activity and to submit a commitment that in case the CETP does not possess the facility for treatment of such kind of waste waters, in house treatment facility will be provided irrespective of any quantity of effluent generated. The unit shall collect the catalyst used separately and to hand over the same to the supplier for recycle. The unit should have an in-house Institutional Ethic Committee that will monitor and approve various research projects undertaken by the unit.

The proponents also agreed to comply by the guidelines for pharma /biotech research units evolved by KSPCB.

On compliance to the above, the project could be considered for establishment.

ITEM NO:382:03

M/s. INM Technologies Private Limited, No.4, 1st. 2nd & 3rd Floor, T.M. Industrial Estate, 12th KM, Mysore Road, Bangalore – 560 059.

The applicant has filed application seeking consent to establish a new R& D lab to carryout R & D of World Class Pharmaceutical Drugs under WHO GMP Guidelines, where in no manufacturing activity involved .The proposed R & D will be having 3 divisions:

- Formulation, Research & Development: Formulation activities carried for Injectables, Ophthalmic & Dental applications.
- Nano Bio-medical & Pharmaceutical Formulation Development: Formulation activities are carried for Implantable devices, Oral delivery system and dental applications.
- Analytical Research & Development: Tests carried out includes Description, Identification, Assay/Net content of the drug, related substances, pH of the solution, Osmolality, Particle Size Analysis, Viscosity measurement, Dissolution Testing & Residual analysis.

The Project proponent has made a presentation of their project before the committee. The committee discussed the proposal & related Environmental pollution generation in depth. The Committee opined that,

- The proponent should examine the regulatory aspect of Nano technology and the safety features and appropriate safety guidelines and compliance would be furnished to this committee.
- Furnish the mass balance.
- The proponent shall establish Institutional Animal Ethics Committee and furnish the list of committee members to the KSPCB.
- The chemicals like cadmium chloride, di-chloro methylene, di-methyl sulfoxide should be avoided. In their place green chemicals and green chemistry principles are be proposed. The proponents also agreed to comply by the guidelines for pharma /biotech research units evolved by KSPCB.

The committee expressed that, the project proponent shall submit technical information separately for Pharmaceutical drugs & Nano materials. On receipt of the details the project could be considered for establishment.

ITEM NO:382:04

M/s. Niranthra Scientific Solutions Private Limited, No.569 & 570, Srinivasa Lakshmi Arcade, 1st Main, 3rd Cross, Kengeri Satellite Town, Kengeri, Bangalore.

The applicant has filed application seeking consent to establish a new R& D lab to carryout Research & Development and consulting organization in the field of Agriculture, Health care & Life Sciences.

The Project proponent has made a presentation of their project before the committee. The project proponent informed that, there is no drug testing activity like testing on animals etc. They carry out only the stability study using instruments like HPLC and GLC to verify the contents in the formulations.

The applicant clarified that the proposed unit is an Herbal based Independent Research, Development & Consulting organization in the field of Agriculture, Health Care & Life Sciences. They will not use any Hazardous chemicals. The Lab is proposed to take all necessary analysis related with Agriculture, Health care & Life Sciences.

Analytical Testing Laboratory involves: Analysis of Agricultural Soil, Mineral, Cosmetic & Essential Oils, Disinfectants, Fertilizers, Water & Microbiology.

Research & Development Laboratory Involves: Herbal Formulation & Product Development & Parameter Optimization & Microbiology includes Herbal preparation & dietary supplement evaluation. The proponents also agreed to comply by the guidelines for pharma /biotech research units evolved by KSPCB.

The committee after discussion opined that, since the R & D facility is proposed in a commercial complex. It is opined that a sub-committee of TAC can visit the site and assess the activity and suitability to function in a commercial and public habited place.

ITEM NO:382:05

M/s. Kemio Solutions Private Limited, Plot No.432 & 476, 3rd Cross, MS Ramaiah Enclave, Nagasandra, Tumkur Road, Dasanapura Hobli, Bangalore – 560 073.

M/s. Kemio Solutions Private Limited has proposed to establish an R & D laboratory to carryout research on pharmaceutical therapeutic compound for treating pain, arthritis and

cardio-muscular pain. The industry has proposed to carry out the derivatives of salicylic acid and Bis-propanol

The project proponent has made a detailed presentation on the process flow, raw chemicals used, storage facilities provided, precautions to be taken while handling toxic / hazardous chemicals within the laboratory. In this R & D new organic molecules are discovered, developed and transferred to companies for application. That the proposed R&D is coming up in a building where there is a show room. The project proponent informed that, they are using nitrogen and argon gas both are inert gases and stored in a cylinder bay outside the facility, the R & D facility will be in the 3rd Floor above the show room thereby causing no interference to normal life.

After detailed deliberation committee has made the following suggestion;

- Proponent to provide solvent and chemical storage, spill disposal and emergency preparedness and evacuation plans
- They shall explore adopting green chemistry principles and submit with details.
- They shall submit the details of the group of compounds/molecules proposed for development.
- The details of solvents used along with their MSDS solvent recovery, if any, and details of disposal of distillate residue and liquid waste are to be submitted.

The proponents also agreed to comply by the guidelines for pharma /biotech research units evolved by KSPCB.

After the project proponent furnishes the details, the TAC will further examine the case.

ITEM NO:382:06

M/s. Surya Hard Chrome Private Limited, No.24, Sompura 1st Stage, Sompura Hobli, Nelamangala Taluk, Bangalore Rural District.

M/s. Surya Hard Chrome have proposed to establish new industry to carry out Hard Chrome Plating activity on job work basis with a maximum capacity of 40,000 sqcm per day and 400 Number of Rods per day. Earlier this unit was in Yeshwanthpur and the old site is contaminated with chromium, resulting in soil and underground water pollution. The industry was asked to furnish an action plan with time commitment for restoration of the ground water quality at the old site and proposal to treat the effluent in-house in the new location.

The project proponent explained the action taken by them on identification of contaminated soil profile through, consultants Ramky Enviro Engineers, excavation of contaminated soil and treating the contaminated soil with sodium bisulphite. The proponent has requested the Board to give one time permission/authorization for transporting the excavated contaminated soil to TSDF as this soil is classified as hazardous waste. He also informed that, the area where the chrome bath was placed is now concreted as the premises was rented out to someone else.

After detailed discussion the TAC opined that the following details be submitted by the project proponent;

1. The concentration of chromium at different depths at strategic location within the premises.
2. Details of quantification of contaminated soil through proper justification.
3. Soil quality profile within the premises where there is an apprehension of contamination.
4. Action taken for remediation of contamination ground water.
5. Technical justification for quantifying contaminated earth.

It was also suggested to hire a good technical consultant who can study the problem and come out with proper scientific solution.

After the project proponent furnishes the details, the TAC will further examine the proposal.

ITEM NO:382:07

M/s. Theraindx Life Sciences Pvt. Ltd., Sy.No.27, Deganhalli, Budhihal Post, Nelamangala, Bangalore – 562123.

M/s. Theraindx Life Sciences Pvt. Ltd., have proposed to establish new research laboratory to carryout Research & Development on basic, exploratory and regulatory research work on in vitro cell culture & experimental animals in pre clinical research area. They have proposed to carryout antibody production, pre-clinical services DMPK & pharmacology models & biology services, microbiology, cell biology, molecular biology & biochemistry services.

As per the guidelines the proposed R &D activities are housed in stand-alone building.

The proponent has made a detailed presentation on the proposed activities. It was informed that, the scope of research includes biology, life sciences, drug metabolism and pharmacokinetics. The main process involved polyclonal antibodies from serum of rabbits

injected with specific antigen or sequences & mouse monoclonal antibodies with the antigen or peptide sequence. Antibodies generated using these methods will be sent to customers. The drug metabolism & pharmacokinetic studies include in-vitro ADME & rodent pharmacokinetics, bio availability & tissue distribution studies. It was informed that, these models are disease models in rodents to study anti-infective, anti cancer, anti diabetic, anti-inflammatory activities of compounds in pre clinical stage.

After detailed deliberation, the TAC has suggested that the following details may be sought;

1. Water balance shall be rechecked and revised quantity shall be submitted the Board duly considering the waste water generated from animal cage washings. Presented data tends to indicate a large fraction still comes from this source.
2. Frequency of sterilization and check for surviving micro-organism used in the laboratory along with the senior responsible director who will certify the compliance.
3. Protocols followed for neutralization, dish-inspection and final cleaning with sodium hydrochloride solution.
4. The details of spillage control of hazardous /toxic chemicals used in the laboratory needs to be specified up front.
5. Emergency preparedness and evacuation plan details to be submitted.
6. They shall not use genetically modified micro-organisms in the laboratory.
7. They should follow the guidelines stipulated by the statutory agencies and have an approval of IBSE, AEC etc.
8. There shall not be any intermixing of chemicals/raw materials/personal between micro biological studies analytical studies. The proponents need to show how different classes of effluents are managed independently and with rigorous adherence to safety. There will be no liquid discharge into drains from the laboratories.
9. List of organisms proposed to be used in the chemical /clinical studies shall be submitted to the Board.
10. Preparedness for any bio-hazardous eventualities shall be submitted to the Board.

The proponents also agreed to comply by the guidelines for pharma /biotech research units evolved by KSPCB.

After the project proponent furnishes the details, the TAC will further examine this request.

ITEM NO:382:08

Sewage Treatment Plants- Continuous Aerobic Multistage Soil Bio Technology By M/s. **Vision Earth Care**, No.105, 4th Main Road, Amarjyothi Layout, RT Nagar, Bangalore – 560032.

The technology provider made a presentation. Soil Biotechnology, Nitrogen fixation is the main advantage of the process. It was given to understand that the land used for sewage treatment looks like a garden, it can be accommodated in the pathways, garden area etc. The technology provider did not explain the material used for the treatment as it is proprietary and the chemistry involved was also not explained. The

operation cost and maintenance cost appear to be on the lesser side as there is no mechanical equipments involved.

This technology is reported to be in operation at Command Hospital Bangalore. This could be considered under DEWAT system.

ITEM NO:382:09

Establishment of Sewage treatment plant using vermifiltration technology by **M/s.ACC Limited**, Kudithini Cement Works, Kurugodu Road, Kuduthini Bellary Taluk & District.

In this technology raw sewage is bio-filtered using soil media impregnated with earthworms. Sewage is treated as it flows down. The basic principles are adsorption, filtration followed by biological degradation. Earthworm helps in fast decomposition of organic matter and thus results in converting the biomass into compost. Detailed data on rates of conversion, area required per kg COD/BOD fed, biochemical basis for conversion, loading rates, etc. could be made available to TAC. Similarly the removal of coliforms and pathogens were not discussed.

From the presentation it is observed that there is are no mechanical equipments except for pumping and the operation cost is likely to be low.

After detailed deliberation the committee opined that this technology could be tried out on a pilot scale and trial basis wherein the above parameters are tested and documented rigorously.

ITEM NO:382:10

Shri Karibasavesha Technologies, Site No.E-40, 1st Floor, 3rd Cross, A.P.M.C. Yard, Batawadi, Tumkur, Bangalore – 572103.

The proponent has developed a technology to improve the efficiency of internal combustion engine and to reduce the air pollutants in the exhaust. The proponent made a presentation on the technology and also exhibited the kit he has developed called “performance booster”. The researcher claims that, it could be used for all kinds of fuel viz, petrol, diesel, CNG & LPG. It was informed to the researcher that, he may approach the Transport Department and for technology evaluation and adoption to ARAI, Pune.

ITEM NO:382:11

Release of balance project amount for Eradication of pollution by Recycling plastic tea cups and thermocol reg.

The Board has entrusted a project titled “Eradication of Pollution by recycling Plastic tea cups and thermocol” to the Department of Veterinary Anatomy and Histology, Veterinary College, Hebbal, Bangalore.

Plastic cups and thermocol are dissolved in organic solvents with concentration of 15% and the specimens of animals are immersed for two weeks and the specimens are plastinated . This is an unique and indigenous method for plastination and is claimed to be a low cost technique. The specimen samples were also shown during the presentation.

The study report submitted by the Veterinary Collage could be accepted.

Further, the committee opined that, the veterinary college can take up further studies to work on use of residual solution left out during impregnation.

ITEM NO:382:12

Upgradation of STP & CETP at M/s. **Apparel Park**, Doddaballapura.

KIADB has proposed to modify and upgrade the CETP at Apparel Park, Doddaballapura . The proposals made by two consultants M/s Janani Engineering Services & Solutions and M/s Envirocare , New Delhi.

M/s Janani Engineering Services and Solutions made a presentation before the TAC. The Chief Development Officer and other officers of KIADB were present during the presentation.

After the presentation, the following clarification were sought from the KIADB.

1. The quantification of the effluent from all the operating industries in the area should be collected.
2. Characterisation of effluent from each unit as well as combined effluent shall be taken up.
3. It was informed that some of the units have their own effluent treatment plant established. In light of this KIADB should examine the necessity of up gradation and modification of CETP.
4. The proposed modifications have to be justified by the consultant by bench scale studies.

5. If the proposal of M/s Envirocare, New Delhi is to be assessed they may also be called before TAC.

The Committee suggested that a sub-committee of TAC should visit the CETP to get first hand information.

For the site visit of M/s Nirantara Scientific Solutions Pvt Ltd., and CETP of Apparel park the following Sub-Committee of TAC comprising of Chairman TAC, Dr.B.S.Jaiprakash, Dr. H.N.Chanakya& Dr. Sandeep Mudliar is constituted.

In view of the fact that many proponents are coming forward to establish R & D units, some of which are in the populated area/ commercial complexes/ Residential areas etc., the Board should take firm decision that henceforth R & D Labs shall be established in standalone facility. This will enable the units to plan for proper safety, chemical storage area, collection and disposal of liquid waste, containment of gaseous pollutant emissions, emergency evacuation plan and related issues.



DR. JAI PRAKASH ALVA

Chairman

Technical Advisory Committee

Karnataka State Pollution Control Board



B.G.MOHANKRISHNA

Chief Environmental Officer-2

Convener, Technical Advisory Committee

Karnataka State Pollution Control Board