

Karnataka State Pollution Control Board  
Parisara Bhavana 10B, Baikampady Industrial Area,  
Mangalore - 575 011.  
Tel. : 0824- 2408420

ನಿವೇಶನ ಸಂಖ್ಯೆ 10ಬಿ,  
ಬೈಕಂಪಾಡಿ ಕೈಗಾರಿಕಾ ಪ್ರದೇಶ  
ಮಂಗಳೂರು-575011

ಕರ್ನಾಟಕ ರಾಜ್ಯ  
ಮಾಲಿನ್ಯ ನಿಯಂತ್ರಣ ಮಂಡಳಿ



towards a cleaner Karnataka

1389/msl  
26/3/13

No. PCB/SEO-MNG/G-12/2013/295

March 22, 2013

To,  
The Member Secretary  
Central Pollution Control Board  
"Parivesh Bhavan", East Arjun Nagar  
Delhi 110 032

Sir,

Sub: Meeting of Local Area Committee for verification of implementation of Action Plans – Baikampady Industrial Cluster, [REDACTED]

Ref: 1. This office letter No. PCB/SEO-MNG/G-12/2012/184 dated 03.10.2012  
2. This office letter No. PCB/SEO-MNG/G-12/2012/193 dated 08.10.2012

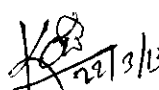
As per the advice of Central Pollution Control Board (CPCB), the Karnataka State Pollution Control Board (KSPCB) has constituted Local Area Committee (LAC) for regular follow up and review the implementation of the Action Plan of Baikampady Industrial Cluster, Mangalore.

The Fourth meeting of the Local Area Committee is re-scheduled for **28<sup>th</sup> March 2013 (11 am) at the Regional Office, KSPCB, # 10B, Baikampady Industrial Area, Mangalore 575 011.**

You are requested to kindly depute concerned senior officer for the meeting. The agenda notes for the meeting are enclosed.

Encl. Agenda notes

Yours faithfully

  
Senior Environmental Officer/  
Member Convener

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AC 55  
[Signature]  
01/4  
[Signature] (5/4/13)

**Fourth Meeting of Local Area Committee (LAC)  
Baikampady Industrial Cluster  
Mangalore**



**Regional Office, KSPCB**

**Mangalore 575011**

**March 28, 2013**

**Agenda Notes**

- 1. Read and confirm the proceedings of third meeting**
- 2. Action taken Report on the proceedings of the third meeting**
- 3. Assessment of the progress achieved in implementation of CEPI Action Plan by GPCB**
- 4. Present Status of action taken on Action Plan by**
  - A. Identified Major Industries**
  - B. Other Industries/Agencies**
  - C. KSPCB**
- 5. Any Other Issues**

## **AGENDA 1: Read and confirm the proceedings of third meeting**

The proceedings of the third LAC meeting were communicated to all the Members and other stakeholders for information on 26.03.2012.

## **AGENDA 2: Action Taken Report (ATR) on the proceedings of the Third Meeting held on 01.03.2012**

|    | <b>Decision taken</b>   | <b>Action</b>   |
|----|---|---|
| 1  | KSPCB Should carry out monitoring of ambient air quality (AAQ) of the cluster through SGS lab of Chennai to validate the results.   | <ul style="list-style-type: none"><li>• Decision communicated to Head Office. Approval is awaited</li></ul>               |
| 2  | KIADB to identify suitable site in the cluster area for safe disposal of non-hazardous waste.   | <ul style="list-style-type: none"><li>• Reply awaited</li></ul>   |
| 3  | KSPCB to conduct a study to inventorise the quantity of non-hazardous waste likely to be generated in the cluster.  | <ul style="list-style-type: none"><li>• Requested NITK, Suratkal to take up studies</li></ul>                             |
| 4  | DHO to identify medical institutions for conducting preliminary study to identify the normal diseases reported and to establish relationship if any with industrial activity in the cluster | <ul style="list-style-type: none"><li>• Reply awaited</li></ul>   |
| 5  | CPCB to validate the web enabled software which will be made available to KSPCB and other stakeholders for calculation of CEPI score.   | <ul style="list-style-type: none"><li>• Action awaited</li></ul>  |
| 6  | KSPCB to insist to LNG as a fuel in future for the projects coming up in SEZ  | <ul style="list-style-type: none"><li>• Issue is being examined by the Board to evolve suitable policy</li></ul>          |
| 7  | NMPT to take necessary action to avoid spillage of urea and other cargo in NH   | <ul style="list-style-type: none"><li>• Appropriate remedial action has been taken by NMPT to prevent spillages</li></ul> |
| 8  | Establishment of CAAQM stations in cluster area with assistance from CPCB   | <ul style="list-style-type: none"><li>• Recently M/s MCF has installed one CAAQM station in cluster area</li></ul>        |
| 9  | Status of truck parking facility provided by oil companies in terminals and an action plan to avoid truck parking outside.  | <ul style="list-style-type: none"><li>• Oil companies invited to present the status before the committee</li></ul>        |
| 10 | Action plan for safe management of sludge generated by petroleum oil companies.   | <ul style="list-style-type: none"><li>• Oil companies invited to present the status before the committee</li></ul>        |

**AGENDA 3: Assessment of the progress achieved in implementation of CEPI action plan by CPCB**

The Central Pollution Control Board (CPCB), Delhi has directed its South Zonal Office to assess the progress and impact on implementation of the Action Plans in critically polluted areas. Accordingly G.Thirumurthy, Environmental Engineer from CPCB Zonal Office, Bangalore inspected the industrial units in Mangalore along with C.D.Kumar, Senior Environmental Officer, KSPCB, Mangalore during May 22-23, 2012 and submitted report to CPCB, Delhi. The observations/remarks made during visit to the industries are enclosed as **Annexure - I** for deliberations.

**AGENDA 4: Present Status of action taken on Action Plan by**  
**A. Identified Major Industries.**  
**B. Other Industries/Agencies.**  
**C. KSPCB.**

Detailed status report is enclosed as **Annexure - II**

**AGENDA 5: Any Other Issues**



South Zonal Office, Bangalore

## INSPECTION REPORT

### ASSESSMENT OF THE PROGRESS ACHIEVED IN IMPLEMENTATION OF CEPI ACTION PLANS - KARNATAKA

## ANNEXURE - I

1. **Background:**

The Ministry of Environment & Forests had imposed a moratorium on consideration of projects for environmental clearance to be located in critically polluted areas / industrial clusters identified by Central Pollution Control Board. It was envisaged that during the period of moratorium, time bound action plans will be prepared by the respective State Pollution Control Boards (SPCBs) / Pollution Control Committees (PCCs) for improving the environmental quality in the industrial clusters/ areas. The action plans so prepared would be finalized by CPCB.

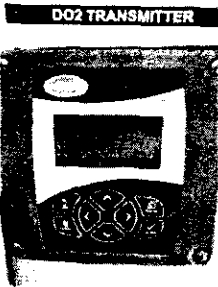
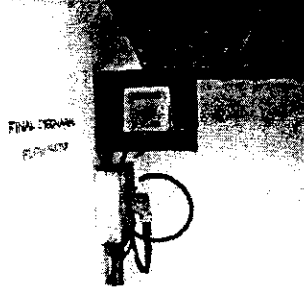
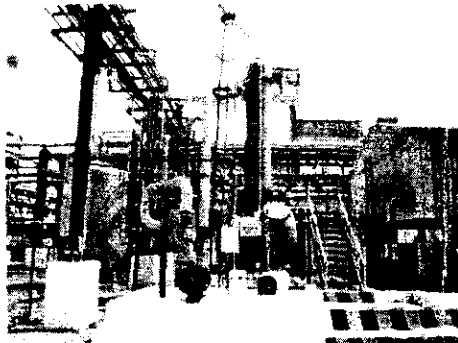
The industrial clusters / areas having aggregated CEPI scores of 70 and above were considered as critically polluted clusters/ areas. Accordingly, in the state of Karnataka the following two industrial clusters were declared as critically polluted area vide MoEF office Memorandum No. J-11013/5/2010-1A.II (i) dated 13.01.2010:


1. **Bhadravathi with CEPI score of 72.33 and**
2. **Baikampady Industrial Cluster, Mangalore with CEPI Score of 73.68**

In view of above Karnataka State Pollution Control Board (KSPCB) in co-ordination with CPCB Zonal Office (South) and industries located in the respective cluster / area developed Action Plans for the enhancement of pollution control measures to bring town the prevailing pollution loads.

The CPCB vide their communication B-29016/ESS/CPA/2010 dated 13.05.2011 have informed MoEF, based on the statements received from KSPCB that action have been initiated on the action plans in the critically polluted areas of Karnataka. In view of the recommendations of the CPCB, it has been decided to lift the moratorium on consideration of projects for environmental clearance in respect of projects to be located in the above clusters / areas, with certain conditions.

|  |  |               |   |
|--|--|---------------|---|
| <p>With reference to above, the competent authority of CPCB, directed this office to assess the progress and impact on implementation of the Action Plans in critically polluted areas vide CPCB letter No. B-29016/ESS/CPA/2011-1 dated April 04, 2012.</p> <p>In case of Mangalore, <b>Mr. G.Thirumurthy, Environmental Engineer</b> from CPCB Zonal Office, Bangalore inspected the industrial units in <b>Mangalore</b> along with <b>Mr. C.D. Kumar, Senior Environmental Officer, KSPCB, Mangalore</b> during <b>May 22-23, 2012</b> to assess the status of implementation of action plans.</p> <p>The status of implementation for respective industrial clusters/ areas as follows:</p> |  |               |   |
| <b>B MANGALORE - BAIKAMPADY INDUSTRIAL CLUSTER, KARNATAKA</b>  |  |               |   |
| <p>I. <b>Constitution of Local Area Committee for Mangalore:</b> The Karanataka State Pollution Control Board (KSPCB) has constituted the Local Area Committee (LAC) for Mangalroe under the Chairmanship of Dr. Sandeep Sancheti, NITK. The Regional Office, Mangalore l conducted three review meeting at a regular interval to review the status of implementation of CEPI action plans. The copy of proCeedings of 3<sup>rd</sup> meeting is attached as <b>Annexure 2</b> for ready reference.</p>  |  |               |   |
| <p>II <b>Status of Action Plans:</b> There are five numbers of industries (17 category) located in 10 Sq. Km area of Baikampady Industrial Cluster, Mangalore, viz.</p>  |  |               |   |
| <p>1. <b>BASF India Ltd, Bala Village</b></p> <p>M/s BASF India Ltd, is manufacturing the following: Dyes (2,225 TPA), Dispersions (70,000 TPA), Micronutrient (15,000 TPA), Automotive Coatings (13,000 TPA), Construction Chemicals (94,000 TPA).</p>  |  |               |   |
|  | <b>ACTION PLANS</b>  | <b>STATUS</b> | <b>OBSERVATIONS / REMARKS</b>   |
| i  | Installation of diffused aerator system for biological treatment | Complied      | The ETP comprises Primary -Chemical, Secondary -Biological and tertiary treatment system - filtration system. The unit has installed diffused aeration system for the treatment of effluent. The unit is discharging its treated effluent (800 M <sup>3</sup> /Day) in to sea for sea disposal. The DO, Flow rate, Temperature are monitored with online measuring. |

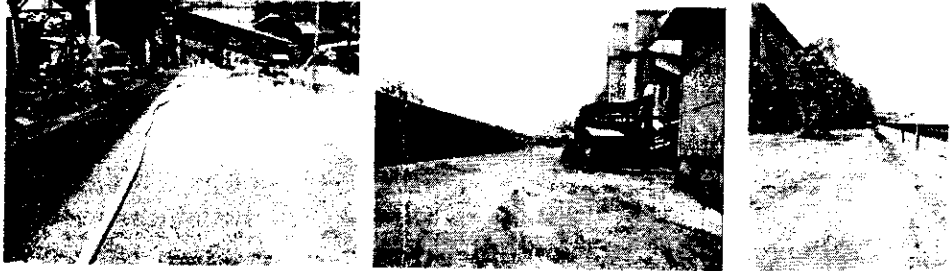
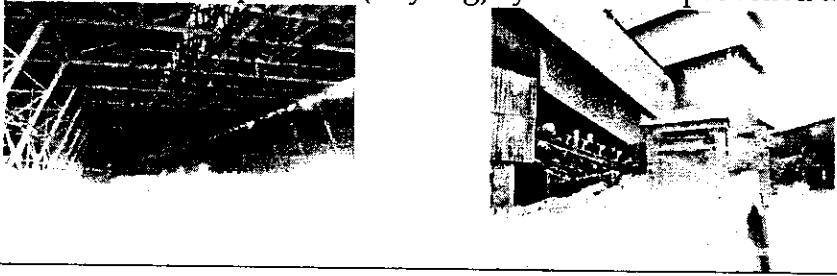
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|-----|--|----------|--|
|     |  |          |   <p>DO Meter</p> <p>Flow Meter</p> <p>Presently, the volume of sludge generated is high due to high moisture - slurry type; the unit has taken step to install filter press to reduce the volume of sludge.</p>   |
| ii  | Installation of Scrubber for monomer storage tanks to control fugitive emissions | Complied | <p>Packed column scrubber installed in the monomer tank farm for scrubbing the vent gases emanating from the storage tanks during the unloading of raw materials into the storage tank. Scrubber contains a packed bed with the circulation of diluted caustic solution as scrubbing medium. Caustic with 2-3% strength is used with pH value above 10. The connecting lines from tank to scrubber are provided with Flame arrestor.</p>  <p>Installation of Packed Scrubber</p> <p><b>LEL detectors:</b> The unit has installed LEL detectors at strategic locations to identify the leakage of Butadiene if any. This is linked to our distributed control System (DCS).</p> |
| iii | Planting of 1000 saplings  | Complied | <p>The unit has planted 35,000 trees in 60 acres of land, which is earmarked to cover 33% of area for green belt development.</p>  |



|    |  |   |   |
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| iv | Other observation  | As per the direction of Local Area Committee (LAC) for Mangalroe under the Chairmanship of Dr. Sandeep Sancheti, NITK, the NITK has conducted Water Auditing study for the said unit and given recommendation that to recycling of treated water after salt removal.  |   |
| 2. | <b>Sequent Scientific Ltd., Baikampady</b>   |   |   |
|    | M/s Sequent Scientific Ltd is a Basic Drugs and Pharmaceutical Manufacturing unit located in industrial area. The unit has its own incinerator for the incineration of hazardous wastes. Unit has installed closed loop system for handling of solvent and has solvent recovery plant. The unit is directed to do regular monitoring of VOC. |   |   |
|    | <b>ACTION PLANS</b>  | <b>STATUS</b>   | <b>OBSERVATIONS / REMARKS</b>   |
| i  | Monitoring of VOCs   | Complied  | The unit has purchased handy sampler (Entry RAE) for total VOC measurement and started monitoring total VOC. On the day of monitoring the total VOC measured was 6 ppm.<br>                            |
|    |  |   | Handy VOC sampler   |
| ii | Other Observations   | <ul style="list-style-type: none"> <li>The unit shall be directed and consent condition may be updated to monitor the incinerator stack emission monitoring as per Incinerator Standard for Bulk Drug industry.</li> <li>As per NITK study on Water Audit, recommended to install water meters at each plant to quantify the consumption of water and waste water generation, same shall be implemented.</li> </ul> |   |
| 3. | <b>Mangalore Refineries &amp; Petrochemicals Ltd., Kuthethur</b>   |   |   |
|    | <b>ACTION PLANS</b>  | <b>STATUS</b>   | <b>OBSERVATIONS / REMARKS</b>   |
| i  | ETP with RO plant  | In progress, Not  | The time limit given for installation of RO Plant is October 2011. The wastewater generation from Phase I & II is 240 M <sup>3</sup> /Hr and additional of 600 M <sup>3</sup> /Hr is expected from Phase III. M/s MRPL is installing RO with a capacity of 1000 M <sup>3</sup> /Hr. It is |




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|     |  | complied       | planned to utilize the RO permeate for cooling tower make-up.  |
| ii  | Condensate Recovery System - 2 units                             | Complied       | It is informed that condensate from re-boiler, steam heater are recovered and condensate from several steam traps in process unit collected together and pumped to condensate heater. There are 2 nos of Crude Distillation Units (1& II), where steam traps (Flash Steam Recovery System) are provided to recover the condensate, the rate of recovery is about 3 T/Hr. Condensate Recovery System at CDU -1 is commissioned during October 2011, and commissioning at CDU -2 is in progress.   |
| iii | Installation of Continuous Ambient Air Quality Monitoring System | Complied       | M/s MRPL has commissioned 2 Nos of Continuous Air Quality Monitoring Systems (CAAQMS) and 7 nos of Ambient Air Quality Monitoring Stations. The number of parameters monitored are 10 at CAAQMS -II, and 4 at CAAQMS-I.  |
| iv  | Installation of sulphur pastillation unit for phase III          | Under progress | M/s MRPL has installed 3 trains of sulphur pastillation unit for Phase III of 185 T/D each. The unit informed that about 98% of the work completed.  |
| v   | Planting of 10,000 saplings                                      | Under progress | M/s MRPL awarded the work to Karnataka Forest Department for 45,000 saplings (Secondary nursery), which are grown at Forest Department site, will be shifted to MRPL complex. After Phase III the total plantation area will be 344.8 acres  |
| vi  | <b>Other Observation</b>   |                | <ul style="list-style-type: none"> <li>• On the day of inspection it was observed that there was no proper record kept at MRPL pumping station about the quantity of wastewater discharged in to sea and no pumping activity on the day of inspection. The pump operator could not able to give right information. No Flow meter at the pumping station to keep the record of discharge.</li> <li>• MRPL may be directed to do Water Audit and to submit the detailed report about water management and recycling.</li> <li>• As per NITK study, recommended to have a quality checking of effluent generated from individual process so as to have onsite treatment and require water metering to prepare strategies for total recycling of treated wastewater, the same shall be directed to implement by MRPL.</li> </ul> |

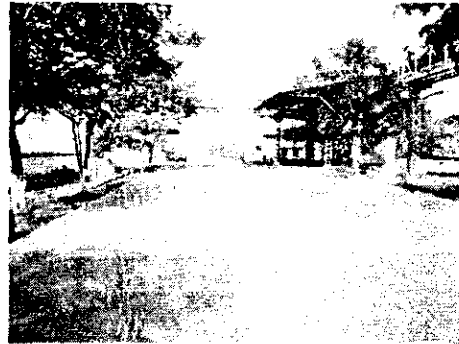
| <b>4. Mangalore Chemicals &amp; Fertilizers Ltd., Panambur</b> |   |                |  |
|--|---|----------------|--|
|  | <b>ACTION PLANS</b>   | <b>STATUS</b>  | <b>OBSERVATIONS / REMARKS</b>  |
| i  | Changeover of fuel from Naphtha and Furnace oil to Natural Gas and Re Liquefied Natural Gas | Not complied   | Only MCG has signed Gas Sales Agreement with IOC and Gas Transmission Agreement with GAIL on 16.02.2011. At present Naphtha and Furnace oil is used as raw material, which has sulphur in the order of 0.08% and 1.5% respectively. Based on consumption, the SO2 emission is 3540 tons per annum, ones NG is introduced, it will be reduced to 15.35 tones per annum.   |
| ii   | Planting of 4000 saplings   | Complied       | M/s MCF informed that 5000 sampling done in 2011 -12, in the total green belt area of 55 acres and planned for additional 5000 sampling in this year 2012-13. The total built up area is 75 acres.   |
| <b>5. Kudremukh Iron Ore Company Ltd (KIOCL), Pamanbur</b>     |   |                |  |
|  | <b>ACTION PLANS</b>   | <b>STATUS</b>  | <b>OBSERVATIONS / REMARKS</b>  |
| i  | Up gradation of the existing STP with latest technology                                     | Under progress | The work order was issued to M/s Pollution Technologies Ltd, Noida for design, supply erection and commissioning of STP of 80 KLD adopting Membrane Bio Reactor (MBR) along with sewage networking for pumping the raw sewage to the centralized treatment unit at Pellet Plant. On the day of inspection, it was observed that the civil construction of STP tanks and to have sewage network earth excavation for lying of gravity pipe line of about 1349 M and also pumping line of 783 M are in progress. The KIOCL shall be directed to complete timely. The progress of work is slow. |
| ii   | Installation of ETP for treatment of effluent generated from Desulphurisation plant of CPP  | Complied       | The M/s KIOCL has submitted revised action plan to treat CPP flue gas desulphurization scrubbed effluent in place of installation of ETP. The revised action plan is to switch over to low sulphur oil furnace oil (sulphur content <2% Max) in place of furnace oil with sulphur content 3.2% Max in CPP. As per revised action plan, the CPP is presently operated with low sulphur furnace oil from 30.4.2012.  |
| iii  | Asphalting of all internal  | Partially      | Dense Bitumen Macadam Road for 350 M X 5 M is completed. However, some of  |

|    |  |   |  |
|----|--|---|--|
|    | roads  | complied  | <p>the internal roads used for transportation and handling area of Coal need to be asphalted. M/s KIOCL shall be directed to submit action plan for the same too.</p>  <p>Bitumen Road 350 M      Road to be asphalted      Road to be asphalted</p> |
| iv | Providing of closed sheds for raw material storage | In progress   | Work order issued to M/s Visaka Industries, the fabrication work of trusses just started. In the existing storage the sprinkler need to be improved to arrest any fugitive emission during handling operation.   |
| v  | Plantation of 10,000 saplings                      | Not complied  | Only 1500 saplings completed and planned for next 1100 sapling during rainy season.  |
| vi | Other Observations                                 | <ul style="list-style-type: none"> <li>• The internal road used for transportation and handling of Coal and the service road near tank form need to be asphalted immediately. May be asked to submit action plan. Also dry fog system shall be provided at coal handling area.</li> <li>• Up gradation of STP shall be completed immediately.</li> <li>• The Road at the entrance gate of KIOCL shall be repaired.</li> <li>• The storm water drain shall be desilted before monsoon.</li> <li>• Raw material storage - damaged site cover shall be repaired to minimize fugitive emissions. The sprinkler (Dry fog) system to be provided at the entrance of shed.</li> </ul>  |  |

|  |  | Site covers - Damaged      Need of dry fog system at Coal handling |  |
|--|--|--|--|
| 6. New Mangalore Port Trust (NMPT), Panambur |  |  |  |
|  | ACTION PLANS   | STATUS   | OBSERVATIONS/REMARKS   |
| i  | Mechanization of Iron Ore Cargo Handling   | Not complied   | M/s NMPT estimated the cost of 277 crores, but the proposal is on hold since the State Govt. has banned export of iron ore. NMPT shall be directed not to handle Iron ore Cargo until the Mechanization of Iron Ore Cargo Handling system is provided / installed.   |
| ii   | Concretization of roads to minimize spillage of cargo  | Partially complete d.  | <p>Most of the internal roads are concreted, but some of the roads / portion are not concreted i.e K.K. Gate to Panampur Beach road and SICAL operation area. The action plan for the same is asked from NMPT.</p> <div style="display: flex; justify-content: space-around;">   </div> <p>Concreting work in progress      Beach Road need to be concreted</p> |
| iii  | Green belt development along the NH 17 and Beach Road for One Km length, Near VTMS building and at Meenakaliya village | Complied   | M/s NMPT informed that they have planted about 10,000 saplings during 2010-11 and about 10,000 saplings during 2011-12. NMPT shall be asked to do more plantations because the land area available with NMPT is about 2350 acres.  |
| iv   | Providing permanent sprinkling system along the concrete roads 600 M   | Under progress   | M/s NMPT is installing sprinkler system along the concrete roads. The NMPT shall be asked to procure road sweeping machine too, because in the sprinkler system the accumulated dust over the period may not be possible to remove, which only helps   |

|     |   |                    |  |
|-----|---|--------------------|--|
|     |   |                    | in arresting suspension of dust.<br>   |
| v   | Providing bunds to settling tanks and extension of settling tank  | Complied           | Bunds provided.  |
| vi  | Providing acoustic enclosures for 2nos of 1000 KVA DG set   | Complied           | M/s NMPT has provided acoustic enclosures for 2 nos of D.G. sets, the work completed during July 2011.   |
| 7.  | <b>Ruchisoya Industries ltd, Baikampady Industrial Area</b><br><br>M/s Ruchisoya Industries Ltd. is an edible oil manufacturing unit. |                    |  |
|     | <b>ACTION PLANS</b>   | <b>STATUS</b>      | <b>OBSERVATIONS / REMARKS</b>  |
| i   | Concreting of roads   | Complied           | As per action plan, the unit concreted the road from main gate to inside the plant.  |
| ii  | Planting of 625 saplings  | Partially complied | The unit has planted about 500 saplings last year, the unit has to identify the area and do the more plantations this year. Also the unit shall keep the record of survival of plants. |
| iii | Other Observations:   |                    |  |

- The unit shall provide an action plan for paving of area, which is now open and vehicle movements are there in those areas.
- The unit shall extent the shed area for the storage of coal, the day of inspection it is found that considerable quantity of coal are stored outside the storage, due to excess.
- The unit shall ensure that there would be any oil and grease flow in the storm water drain.
- The house keeping in the raw material handling area and at ETP shall be improved. ETP should be maintained and operated properly.



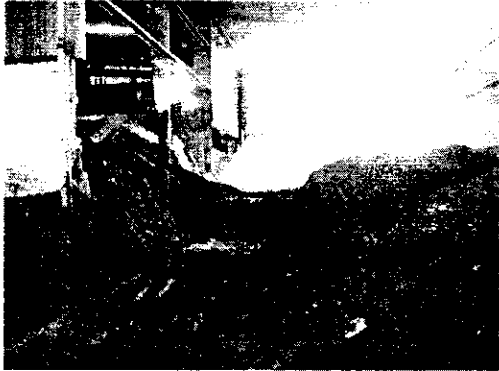


Concreted Road



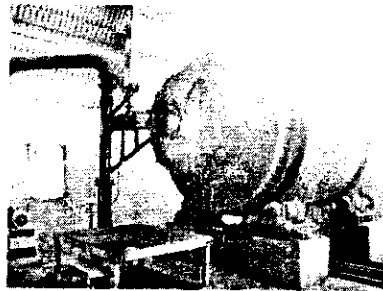
Coal storage outside the shed & Unpaved road

8. **Rajashri Packagers Pvt Ltd, Baikampady Industrial Area**  
 M/s Rajshri Packagers Ltd is an edible oil manufacturing unit. The unit was using rice husk in their boiler, causing dust pollution.

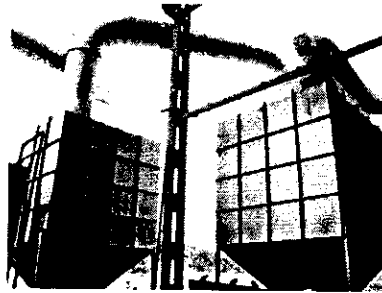
|     | ACTION PLANS   | STATUS   | OBSERVATIONS/REMARKS  |
|-----|--|----------|---|
| i   | Replacement of fuel from rice husk to imported coal    | Complied | The unit has replaced their fuel from rice husk to coal. The coal consumption per hour is 30 /hr, which will generate about 1 Ton of ash per day.   |
| ii  | Incorporating closed loop ash handling system (silo's) | Complied | The unit has provided dust collector followed with bag filter to control the dust emissions. All the ash collected from bag filter is routed to silo by closed loop system. The capacity of silo is 20 Tones. The unit has to improve the house keeping near the silo/ ash handling area. |
| iii | Facilities for in-house testing of ETP parameters      | Complied | The unit has established environmental lab - in house for analyzing Environmental parameters.   |

|  |   |               |  |
|--|---|---------------|--|
| iv   | <p><b>Other observations:</b></p> <ul style="list-style-type: none"> <li>• The unit has complied as per action plan.</li> <li>• However, there is some area need to be improved like ash handling near silo. Pavement of road up to silo for handling of ash needs to be developed. Also the unit has to provide a sprinkler system to arrest dust emission during handling operation of ashes.</li> </ul> <div style="display: flex; justify-content: space-around; align-items: center;">    </div> <p style="text-align: center;"> <i>Coal storage in a closed shed      Closed loop dust collection      Silo of 20 T capacity</i> </p> |               |  |
| 9.   | <p><b>Eshwari Metal Industries (Unit 1), Baikampady Industrial Area</b></p> <p>M/s Eswari Metal Industries is manufacturing lead ingots from used Lead Acid Battery Plates, Lead Ash, Lead Slag, Lead Dross, Solder Dross and Other Lead Bearing Wastes. The installed capacity of rotary kiln is 10 tones per Batch. The unit takes about 5 batches per day i.e. 50 Tones /Day processed.</p>  |               |  |
|  | <b>ACTION PLANS</b>   | <b>STATUS</b> | <b>OBSERVATIONS / REMARKS</b>  |
| i  | Installation of Rotary kiln furnace with scrubber   | Complied      | Installation of new Rotary Kiln Furnace with bag filters and scrubbers has been commissioned. Stack of 30 m height is installed. The unit required to dismantle / remove the old furnace from the industrial premises. |
| <p><b>The unit shall improve in the following areas:</b></p> |   |               |  |

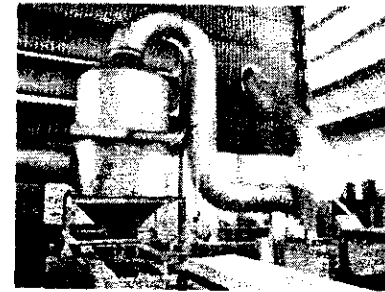
- The unit has to handle acid batteries at separate designated place, and has to place the acid proof tiles with collection pit at acid battery handling area.
- The unit has to dismantle / remove old furnace
- The unit has to provide ventilation system in the work area (battery dismantling / breaking area)
- The unit has to lay pipe line to transfer the acid to neutralization tank
- The unit shall explore the possibility of utilization of slag as useful by-product.
- The unit shall carryout performance of pollution control system installed and submit source monitoring results to SPCB



Rotary kiln



Bag filters



Scrubber

10

### **Mangalore City Corporation**

**Sewage:** The Mangalore city is having population of 5.5. Presently under ground drainage (UGD) network is not completed in the entire area of city. In the last Local Area Committee meeting, it was suggested for action on increase the flow of sewage to STPs besides early completion of UGD network. On the day of inspection, it is observed that Kavour STP was receiving only 14 MLD sewage against the design of 43.5 MLD based on UASBR. Still the STP at Jappina Mogaru is not commissioned. Similarly, the STP at Pachanadi based on extended aeration also receiving only 2 MLD against the design of 8.75 MLD. STP at Surathkal is not in operation.

The Mangalore city corporation should tap all the sewage generated by completing UGD System and shall bring all the 4 STP in operation to treat the entire quantity of sewage generated from the city. It is informed that the treated sewage will be utilized in SEZ requirement.



## A. Present Status of action taken by the Industries on Action plan

| Name of the industry | Action Plan Proposed   | Cost (Rs. in Laks) | Time Schedule                             | Benefit  | Status of action taken as reported by Industries  | Remarks/problems   |
|----------------------|--|--------------------|---|--|---|--|
| M/s MRPL Kuthethur,  | a) New ETP with RO Plant                                       | 14800              | Oct 11                                    | Reduction in Fresh Water Consumption (about 1.8MLD)      | <ul style="list-style-type: none"> <li>About 98% physical progress and the constructional progress is made. Pre commissioning activity is in progress</li> <li>Rs. 127 crores spent.</li> </ul>             | Proposed to be completed by March 2013   |
|                      | b) Condensate recovery system-2 Nos                            | 61                 | 31-12-11                                  | Fresh Water & Energy conservation                        | <ul style="list-style-type: none"> <li>CDU-I &amp; II completed</li> </ul>  |  |
|                      | c) Utilization of natural gas as internal fuel in the refinery | To be estimated    | As and when natural gas is made available | Reduction in SO <sub>2</sub> & CO <sub>2</sub> Emissions | <ul style="list-style-type: none"> <li>As per GAIL, Natural Gas to Mangalore is expected by March-2013</li> <li>Negotiating with M/s GAIL &amp; M/s Petro net LNG for sourcing and supply of Gas</li> </ul> | <ul style="list-style-type: none"> <li>Likely to finalize necessary agreements once the status of laying of pipeline from Kochi is become clearer</li> </ul> |
|                      | d) Installation of Sulphur pastillation unit for Phase-III     | 7000               | 31-10-11                                  | Reduction of Sulphur dust                                | <ul style="list-style-type: none"> <li>Physical progress and constructional progress is around 99%</li> <li>Pre commissioning activity is in progress</li> <li>Approximately Rs 612 crores</li> </ul>       | Interlinked with CDU   |

|                                       |  |       |          |   |   |   |
|---------------------------------------|--|-------|----------|---|---|---|
|                                       | e) planting of 10,000 saplings   | 50    | 2011     | Green belt development                  | <ul style="list-style-type: none"> <li>20,000 saplings have been raised and maintained in secondary nurseries.</li> <li>Mechanical completion declared</li> </ul>   | Agreement made with State Forest Dept to plant 35000 saplings in 4 years period at the cost of Rs 1.9 crores                  |
|                                       | f) commissioning of Sulphur pastillation unit - II   |       | 30.06.12 | To avoid open storage of molten sulphus |   |   |
| <b>BASF India Ltd., Bala village.</b> | a) Installation of Filter Press  |       | 31.03.13 | Reduce volume of sludge                 | <ul style="list-style-type: none"> <li>Installation completed</li> <li>Will be commissioned in March 13</li> </ul>  |   |
|                                       |  |       |          |   |   |   |
| <b>M/s MCF Ltd., Panambur</b>         | a) Changeover of fuel from Naphtha and furnace oil to Natural Gas and Re-Liquefied Natural Gas | 40000 | 2013     | Reduction in SO2 & CO2 Emissions        | <ul style="list-style-type: none"> <li>The LNG terminal work by M/s Petronet LNG at Kochi is almost completed. and gas pipeline connectivity is expected in March 2013.</li> <li>Industry has signed Gas Sale Agreement with M/s IOCL and M/s GAIL during Feb 2011.</li> <li>M/s Tata consulting Engineers, Mumbai has carried out EIA studies for the proposed NG conversion and the report has been submitted to MoEF for EC.</li> <li>MoEF has granted EC for the project and CFE from KSPCB is awaited.</li> <li>Engineering studies for conversion of feed stock and fuel to gas is</li> </ul> | <ul style="list-style-type: none"> <li>Submitted applications to KSPCB for CFE for the project during August 2011.</li> </ul> |

|                       |  |       |          |                                   |   |  |
|-----------------------|--|-------|----------|-----------------------------------|---|--|
|                       |  |       |          |                                   | completed. Detailed engineering study is in progress  |  |
| M/s KIOCL<br>Panambur | a) Up gradation of the existing STP with latest technology                                     | 50    | 30-06-11 | Improve quality of treated sewage | Installation of new sewage treatment plant based on MBR technology is completed and is under trial run. | The industry has submitted fresh commitment and time bound action plan to KSPCB and also deposited guarantee money.<br><br>Detailed status report for the action plan is enclosed as <b>ANNEXURE - III</b> |
|                       | b) Installation of ETP for treatment of effluent generated from De-sulphurisation plant of CPP | 65    | 31-12-11 | Treating of scrubbed waste water  |   |  |
|                       | c) Asphaltting of all internal roads   | 35    | 31-12-11 | Reduction of fugitive emissions   |   |  |
|                       | d) Providing of closed sheds for raw materials storage   | 30    | 30-09-11 | Reduction of fugitive emissions   |   |  |
|                       | e) Planting of 10,000 saplings   | 6     | 31-10-11 | Green belt development            |   |  |
| M/s NMPT,<br>Panambur | a) Mechanization of Iron Ore Cargo handling  | 27700 | Oct 12   | Reduction of cargo spills         | • Not taken up  | Since the State Govt. has banned export of iron ore mechanization proposal kept on hold.   |
|                       | b) Concretization of roads to minimize spillage  | 3000  | 31-12-11 | Reduction of fugitive emissions   | • Expenditure of Rs 30 Crores has been spent and 11 crores work under progress                          |  |

|   |  |     |          |                                     |   |  |
|---|--|-----|----------|-------------------------------------|---|--|
|   | of cargo   |     |          |                                     | <ul style="list-style-type: none"> <li>Expected date of completion March 2012.</li> </ul>   |  |
|   | c) Green belt development  | 80  | 2011     | Green belt development              | <ul style="list-style-type: none"> <li>About 10,000 saplings planted during 10-11 &amp; 10,000 saplings planted during 11-12</li> <li>Total amount spent Rs 80 lakhs</li> </ul>       |  |
|   | d) Providing permanent sprinkling system along the concrete roads 600 M              | 10  | 30-04-11 | Dust suppression                    | <ul style="list-style-type: none"> <li>Work completed and total cost is Rs 12.70 lakhs</li> </ul>   |  |
|   | e) Providing bunds to settling tanks and extension of settling tank                  | 60  | 30-06-11 | To stop entry of coal dust into sea | <ul style="list-style-type: none"> <li>Extension of settling tank - proposal is on hold due to ban on iron ore</li> </ul>   |  |
|   | f) Concretization of platform no.6 along with sprinkling system for platform 6,5,2,3 | 243 | 30.10.13 | Dust suppression                    | <ul style="list-style-type: none"> <li>Work in progress and till date Rs 60 lakhs spent</li> </ul>  |  |
|   | g) Resurfacing /asphalting of service road from KIOCL junction to main gate          | 68  | 31.03.13 | Dust suppression                    | <ul style="list-style-type: none"> <li>Work in progress and about Rs 60 lakh spent</li> </ul>   |  |
| <b>Eshwari Metal Industries, (unit 1), Baikampady</b> | a)Installation of Rotary Kiln with Scrubber<br>b)Tile flooring and ventilation for   | 40  | 30.06.12 | To minimize the emissions           | <ul style="list-style-type: none"> <li>Rotary Kiln with air pollution control system installed</li> <li>Expenditure Rs 106.22 Lakhs</li> <li>Tile flooring and ventilation</li> </ul> |  |

|   |  |  |          |  |   |  |
|---|--|--|----------|--|---|--|
|   | battery dismantling area   |  |          |  | provided for battery dismantling area at the cost of Rs 2.7 lakhs   |  |
| <b>Sequent Scientific Limited, Baikampady</b> | Monitoring of VOCs at ETP and FDC area   |  |          |  | <ul style="list-style-type: none"> <li>VOC monitoring has been started on weekly basis from May 2012 and reports are being submitted regularly</li> </ul>   |  |
| <b>Ruchi Soya Industries Ltd, Baikampady</b>  | a) Road works in plant premises<br>b) Oil Traps in all drains<br>c) Secured storage of coal<br>d) Fly ash disposal |  | 30.06.13 | Suppression of dust<br>Prevent entry of oil & grease to storm water drains | <ul style="list-style-type: none"> <li>Road work completed at a cost of Rs 116 lakhs</li> <li>Provided oil traps</li> <li>Provided boundary wall for coal storage at the cost of Rs 7 lakhs</li> <li>Scientific landfill created for fly ash storage</li> </ul> |  |

### B. Present Status of action taken by other industries/organizations on Action plan

| Sl. no | Name of the Industry/organization | Description of the Action Required/Proposed   | Present Status   | Remarks/problems   |
|--------|-----------------------------------|---|--|--|
| 1      | Mangalore City Corporation (MCC)  | <ul style="list-style-type: none"> <li>Commissioning of 4 STPs by December 2011</li> <li>Utilization of treated sewage</li> <li>Providing UGD for the entire city limits</li> </ul> | <ul style="list-style-type: none"> <li>2 STPs commissioned and remaining 2 will be commissioned before Dec 2011</li> <li>SPV with MSEZ formed for utilization of treated sewage from 3 STPs (18 MGD out of 22 MLD)</li> <li>Out of 363 KM of UGD line 350 KM completed. Balance will be completed before April 12</li> </ul> | Land disputes/issues<br>Geographical features like loose soil, water & rock<br><ul style="list-style-type: none"> <li>Not furnished progress report</li> </ul> |
| 2      | KIADB                             | <ul style="list-style-type: none"> <li>Preparation of DPR for UGD in</li> </ul>   | <ul style="list-style-type: none"> <li>Requested the Karnataka Urban Water</li> </ul>  |  |

|  |  |   |   |  |
|--|--|---|---|--|
|  |  | the industrial area and submit the same to MCC for implementation | Supply & Drainage Board to undertake necessary site survey/inspection followed by detailed estimate to seek technical and financial sanction vide letter dated 20.10.2011 |  |
|--|--|---|---|--|

### C. Present Status of action taken report by KSPCB on Action plan

| Sl. No | Action Points (including Source and mitigation measures)   | Responsible Stake Holders | Time limit | Approx. Cost in laks | Present Status of Action Taken   |
|--------|--|---------------------------|------------|----------------------|--|
| 1      | Monitoring of Air/water & soil in cluster for special parameters.  | KSPCB                     | 30-9-11    | 30                   | <ul style="list-style-type: none"> <li>• KSPCB is in the process of procuring few critical equipments</li> </ul>   |
| 2      | Source apportionment study from air/water pollution point of view within the cluster   | KSPCB                     | 30-12-11   | 10                   | <ul style="list-style-type: none"> <li>• Proposals obtained and are under scrutiny</li> </ul>  |
| 3      | Up gradation of Regional Laboratory, including strengthening of infrastructure of Regional Office.   | KSPCB                     | 31-12-11   | 100                  | <ul style="list-style-type: none"> <li>• Procurement of key instruments started</li> <li>• Recruitment process started</li> </ul>                                  |
| 4      | Continuous Ambient Air quality monitoring Stations-1 Nos   | PPP Model                 | 31-12-11   | 100                  | <ul style="list-style-type: none"> <li>• KSPCB, MCF, NMPT and KIOCL have agreed for contribution.</li> <li>• Awaiting response from CPCB for assistance</li> </ul> |
| 5      | Preparation of feasibility report for infrastructure development like, Storm water Management, underground drainage (UGD), common effluent treatment plant (CETP) within the industrial cluster. | KIADB                     | 30-9-11    | 15                   | <ul style="list-style-type: none"> <li>• Feasibility study is yet to be taken up</li> </ul>  |
| 6      | Preparation of feasibility report for infrastructure development of Common engineered landfill site for non-hazardous  | KSPCB                     | 30-9-11    | 10                   | <ul style="list-style-type: none"> <li>• Feasibility study is yet to be taken up</li> </ul>  |

|   |   |                  |          |    |   |
|---|---|------------------|----------|----|---|
|   | solid waste.  |                  |          |    |   |
| 7 | Monitored Data transfer from the industries to Board and creation of necessary infrastructure in the Board  | KSPCB/Industry   | 30-6-11  | 15 | <ul style="list-style-type: none"> <li>• 3 major industries identified and work in progress</li> <li>• Recently a team of KSPCB Officers and few industries visited TNPCB Air Care Centre where such facility is established</li> </ul> |
| 8 | Establishment of a centre to promote waste minimization and waste exchange in the industrial cluster, adoption of cleaner technologies & changeover to cleaner fuels. | KSPCB            | 31-12-11 | 10 | <ul style="list-style-type: none"> <li>• Modalities to be worked out</li> </ul>   |
| 9 | Avenue plantations in and around Baikampady Industrial Area   | KIADB & Industry | 31-12-11 | 10 | <ul style="list-style-type: none"> <li>• Avenue plantation has been taken up by KIADB</li> <li>• KIOCL assistance could be taken</li> </ul>   |

## **ANNEXURE III**

1. Recently the fuel used for captive power plant has been changed thus avoiding generation of trade effluents. Further planned to use LNG as fuel from 2014 onwards.

• KIOCL has switched over to use of low Sulphur ( $S < 2\%$ ) furnace oil from furnace oil containing 3.2 % max Sulphur. The change over has been done on 30.04.2012. The feasibility study with regard to use of LNG has been completed and the same will be used after the commissioning of the LNG terminal at Mangalore. We have already signed an MOU with M/s GAIL for gas transmission agreement, and we are also in consultation with M/s Autotec who are the OEM for the indurating machine for conversion of burners for using gas as fuel. Further, we have also requested M/s KPTCL to increase our maximum demand to 32 MVA from the existing 18 MVA so as to utilise the maximum grid power and reduce the operation of DG sets. KPTCL has already given consent in this regard.

2. The new sewage treatment plant which is under construction is to be completed at the earliest to prevent flow of untreated sewage into sea.

• The Civil works, erection of equipments, electrical works, laying of sewer lines have been completed. The installation of MBR unit has been installed and the initial trial running is under progress ..

3. The air pollution control equipments viz multiclones provided for the stacks are to be changed to bag filter for better performance. Also to verify the performance of low NOx burners provided.


• The performance of multiclones and Nox burners are being monitored.

4. For controlling fugitive emissions dry fog type to be provided instead of water jet.

• We have proposed to install atomised water sprinklers at the locations where fugitive dust emissions gets generated. The sprinklers will be operational in May 2013.

5. Storing of coke in open area to be avoided and if required more sheds to be constructed.

• Presently coke is being stored in closed sheds, and the practice of dumping of coke in open has been abandoned.

  
GAJANANARAJ T.  
Addl. General Manager (Projects & Pollution Control)  
KIOCL Limited Panambur, Mangalore



6. AAQM stations to be re-located at Coke handling area and near pellet storage area.

- The AAQM station at CPP has been relocated adjacent Coke shed and the AAQM station at Administration block has been relocated to Shed 1 & 2 area.

7. Storm water management needs improvement by providing more no of catch pits.

- The storm water drain for a length of 260 metres has been repaired and upgraded at Pellet Plant. Four catch pits have been constructed for arresting the silt in the run off during monsoon. We have also proposed to install slurry pumps before June 2013 at two major outlets to recycle the run off water in the Process.

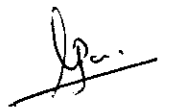
All the storm water drains will be desilted before monsoon season.

8. All the internal roads to be concreted before next monsoon. Also immediate attention to be paid to improve the housekeeping.

- We have proposed to concrete 365 metres of haul road in Shed 1 & 2 area. The formation of concrete road will be completed before December 2013.

The house keeping activities are being regularly carried out. The jobs such as weed removal, removal of construction debris, segregation and removal of metal scrap and wastes are being taken up on priority.

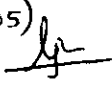
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KIOCL Limited Panambur, Mangalore

# KIOCL LIMITED

Panambur, Mangalore – 575 010.

## ACTION PLANS COMMITTED UNDER CEPI FOR THE YEAR 2013

| Sl. No. | Description   | Estimated Cost (Lakhs) | Physical Progress | Remarks  |
|---------|---|------------------------|-------------------|--|
| 1.      | Formation of Concrete road for a length of 365 Metres In II Phase.          | 50.00                  |                   | The proposal is under preparation for completion before 31.12.2013.  |
| 2.      | Installation of water sprinklers (Mist type) for fugitive dust suppression. | 5.00                   |                   | The proposal is under preparation for completion before 31.05.2013<br>(05)<br> |
|         |   |                        |                   |  |

