



TRIALS FOR ODOUR CONTROL AT MOSHI GARBAGE DEPOT (27.07.2016 TO 01.08.2016)

LEMMOX

Aim:

To give a better solution to the burning concern for the Corporations with the paradigm shift in approach to the traditional practice of masking odour to removing odour from its source of the garbage, reduction of foul odour from the Garbage Vans moving in the Wards with a hygienic environment in the Van, less annoying smell to Public on the Roads / Wards and reducing flies problem from the dump site.

Concerns:

Dump sites are always opposed by the local residents because of the foul odor in the air, continued movement of garbage vehicles, again giving out foul smell which is health hazard for the people surrounding these areas.

A Better programme can be worked out jointly for odor control from the dump sites and for the vehicles transporting wet garbage to and fro from the city to dump site to arrive at a logical solution which could be a win-win situation for the corporation, keeping citizens less complaining and carrying out important solid waste management activity on.

The solution shall be economical, when the overall benefits are considered as mentioned under the observation parameters. Public opposition for the odor surrounding the dump site will be overcome, stench from the air will be reduced and importantly, Solid Waste Management activity can be carried out smoothly.

Present Status:

The dumping site receives garbage continuously from morning 6.00 am till 4.00 pm daily. The site is on the outskirts of the PCMC and surrounded by industries and residential areas. The incoming garbage is leveled with JCB's in the 4 different Bays and site is managed by the Outsourced Vendor. The odor control is consistent and it is a persistent problem of all the Dump Sites.

Proposal:

A request was put forward to Mr. Sanjay Kulkarni, Executive Engineer (Environment) to allow M/s S R, Pune to conduct trials for odor control with Biocide (a green chemical) namely LEMMOX – Dupont Proprietary Compound on the collected mixed garbage.

Permission:

A meeting was organized between Mr. Sameer Rupani (M/s S R), Mr. Amit Sakhare and Mr. Sanjay Kulkarni, Mr. Vikas Ghare (PCMC) and an offer to conduct trials were requested on 20.07.2016. Permission letter was issued on 22.07.2016 for the same and M/s S R agreed to carry out the trials on the Daily collected Mixed Garbage, Hotel Waste and Garbage Vans at the Moshi Depot.

Trials and Monitoring Team:

A trial was fixed from 25th July at Moshi Garbage Depot, for a period of 7 days along with the observations from the PCMC officials at site, Mr. Waghmare & Mr. Vairagar.

The trial was decided to be administered and monitored by Mr. Vairagar and Mr. Waghmare, SI respectively; also an opinion was sought from the Operations Manager of Outsourced Vendor.

M/s S R

A/01, MANTRI MEMORIES, 410, KOREGAON PARK, PUNE – 411 001

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Observation Parameters:

1. Reduction of odor from Mixed Garbage
2. Reduction of odor from Hotel Waste Collection Area
3. Reduction of odor from Garbage Vans (empty) – While moving around the Wards during Collection
4. Reduction of flies

Treatment:

A Biocide – Green Chemical was offered, which is **The Paradigm Shift in Approach** for strong Reduction of Foul Odour from the Mixed Garbage Waste, Hotel Waste & Garbage Vans.

1. 1st Day – Mixed Garbage Waste
 - a. Hotel Waste - Reduction of Foul Odour from Dhavale – 500 ml of LEMMOX in 600 litres of Water Tanker – **100 tons.**
 - b. Main dump - fogger system used - Effective but spray was being moved away due to wind blowing across the Dump yard – 2 litres of LEMMOX in 5000 litres of Water Tank – **700 – 800 tons.**
2. 2nd Day – Mixed Garbage Waste
 - a. Hotel Waste - Reduction of Foul Odour from Mr. Dhavale – 500 ml of LEMMOX in 600 litres of Water Tanker – **100 tons**
 - b. Main Dump - 1st Bay – Manual Spray of 5000 litres Tanker - very effective as there was no foul odour in a few minutes – **400 tons.**
3. 3rd Day - Mixed Garbage Waste
 - a. Garbage Vans were sprayed with 600 litres Tanker (500 ml of LEMMOX) - 11 nos.
 - b. River Waste was sprayed with Lemmox along with the Hotel Waste received at the back side of the Bays.
 - c. Garbage in the 1st Bay was moved upside down for almost 2 hours, Spray started by 12.00 noon, till around 3.00 pm, with 3000 litres Tanker(2 litres of LEMMOX) – **200 Tons.**
4. 4th Day - Mixed Garbage Waste
 - a. Garbage in the 1st Bay was sprayed with Lemmox for almost 2 hours with the Balance 2000 litres.
 - b. Garbage Vans / Vehicles (13 vehicles) were sprayed, with 600 litres Tanker (500 ml of LEMMOX). Instructions were passed to collect feedback from SI in the Wards to experience the difference in the foul odour being moved around the ward by the Garbage Compactors.
5. 4th Day – **400 – 600 tons** of Mixed Garbage Waste in 2nd & 3rd Bay
 - a. Garbage in the 2nd Bay & 3rd Bay was sprayed with Lemmox manually with help of 5000 litres Tanker (2 litres of LEMMOX) in the presence of the PCMC officials. Considerable reduction of foul odour was experienced immediately.
 - b. River Waste was not sprayed as there was no foul odour experienced; the same was also accepted by Mr. Ghare during his visit.
6. 5th Day - **400 – 600 tons** of Mixed Garbage Waste in 2nd & 3rd Bay
 - a. It was found that no foul odour was experienced in the 1st Bay, hence no spraying was carried out. It was informed by the Workers at site, about there was good reduction in flies menace too. They were able to work better on the Conveyor Belt and had ease in handling Waste.

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- b. Garbage in the 2nd Bay & 3rd Bay was sprayed with Lemmox manually with help of 2000 litres in the Tanker. There was no sign of foul odour from 2nd & 3rd Bay, even after reducing the Quantum of Water. It was also understood that 2000 litres shall be sufficient for 2 Bays.
 - c. Garbage Vans / Vehicles were sprayed with 600 litres Tanker - 11 nos.
7. 6th Day - **600 – 800 tons** of Mixed Garbage Waste in 1st, 2nd & 3rd Bay
- a. It was noticed that considerable reduction of foul odour was experienced from all the Three Bays. 5000 litres of Water Tanker was arranged to spray on all the Three Bays (1st, 2nd & 3rd). It was again informed by the Workers at site, about reduction of flies menace.
 - b. Garbage Vans & Hotel Waste was sprayed with 600 litres Tanker - 15 nos, River Waste was not sprayed as there was no foul odour experienced.
 - c. Trials were concluded at 2.00 pm

Observations:

A perceptible reduction in odour was reported within minutes after application. The officers and supervisor of the dumping site had many years of experience of dump site, confirmed odour reduction within couple of hours, so agreed by the workers.

PCMC officials, Mr. Sanjay Kulkarni, Mr. Vikas Ghare and Ms. Swati Wadzirkar also experienced significant reduction of foul odour from the Mixed Garbage Depot during their visit on the 4th Day of the Trial period.

The observation, after the demo, was jointly monitored by Mr. Waghmare & Mr. Vairagar and our Team of Mr. Sameer Rupani, Mr. Hiren Pancholi, Mr. Amit Sakhare and Mr. Nishanth Nair during the Trial period along with the Operations Staff of the Outsourced Agency.

A report was collected from the respective Sanitary Inspectors of the Wards on the spraying of LEMMOX on the Garbage Pick-up Vehicles, who had observed a noteworthy reduction of Foul Odour from the Garbage Vehicles, plying through the Wards.

With the application of **LEMMOX** on the Garbage Waste, there was considerable and noticeable reduction of flies in the Work area.

Results:

The application of Lemmox for Odour Control was achieved to its best limit. Reduction of Flies menace created a better environment at Work Area. All the parameters set for trials were achieved to the best satisfaction of corporation's officers and site supervisors and workers.

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Figure 1: Moshi Garbage Depot – 1st Bay



Figure 2: Spraying on Garbage Vans





Figure 3: Spray on Bay 1

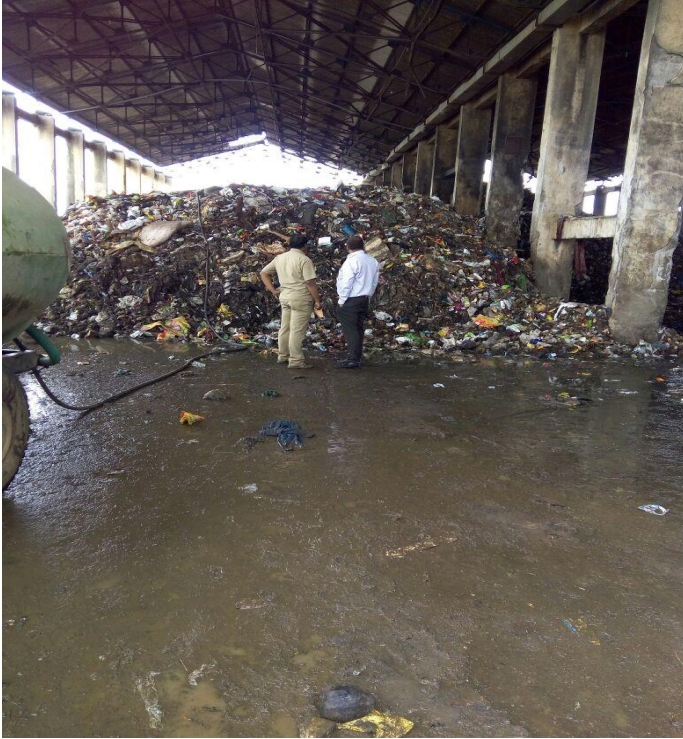


Figure 4:

