

## A Fact-Finding Report

# Exposing the Violations of Emission Norms of the 50MTPD Waste Incinerator in Kodungaiyur, Chennai



**February 2026**

Report by:  
Alliance for Incinerator Free Chennai (AIFC) and Federation for North Chennai Residents Welfare  
Association (FNCRWA)

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## INTRODUCTION

The announcement of two massive Waste-to-Energy (WTE) incineration plants in Chennai Metropolitan Development Authority (CMDA), estimated at about ₹3,450 crore, is being framed as an "innovative technological solution" to Chennai's mounting waste crisis. The proposed project, intended to process about 3,600 tons of waste/day is part of a larger, aggressive push towards incineration of waste that threatens to transform Chennai into a permanent "toxic zone" akin to that of the metropolitan city of Delhi, which has the most polluted air in the world and has reduced the lifespan of its citizens by about 12 years<sup>1</sup>.

The justification for this multi-thousand crore rupee gamble rests on a dangerous assumption: that the process of waste incineration is safe and environmentally sound. However, numerous publications<sup>2</sup> around the world have produced evidence on the multitude of environmental, social, economic and health impacts of incineration technologies. The Federation of North Residents Welfare Association (FNCRWA), the Alliance for Incinerator Free Chennai and numerous other groups have been continuously appealing to the government to scrap the incineration project. Furthermore, the FNCRWA also organised peaceful human chain demonstrations in which over 10,000 citizens had participated to oppose the toxic incinerator facility. This report examines the environmental and regulatory compliance of the existing 50MTPD (Metric Ton Per Day) incinerator facility currently operating in Kodungaiyur, Chennai.

The findings of the report reveal that about 90% of the emission parameters mandated under the Solid Waste Management rules (SWM rules) 2016 including emissions of flue gas, hazardous bottom ash, hazardous fly ash and leachate water, were not monitored even once since the commissioning of the plant by the company, endangering the environment and health of the entire locality. Furthermore, the Tamil Nadu Pollution Control Board (TNPCB) inspections have confirmed open waste accumulation, improper fly ash and bottom ash handling, and effluent mismanagement. Yet, the authorities have failed to penalize the toxic incinerator facility for these violations. If the current incinerator with the capacity of processing 50 MTPD, a mere fraction of the proposed 3,600-ton plants, has not been monitored with respect to basic environmental and safety protocols, the implications for lack of monitoring the larger incinerators will be catastrophic for the entire city and its residents.

The environmental and health impacts of the 10-ton incinerator in Manali, Chennai was brought to light in April 2025 via a similar fact-finding report<sup>3</sup> by the AIFC. The results of the fact-finding report were also confirmed by the TNPCB, in its own admission before the National Green Tribunal<sup>4</sup>. Subsequently, the 10-ton incinerator was permanently shut down by the GCC in December 2025, following the non-compliance of environmental and regulatory norms. This fact-finding report on the 50MTPD incinerator facility in Kodungaiyur provides evidence and independent analysis from the ground to urge the government to reject the toxic "waste incinerators" and instead prioritize strengthening decentralized "zero waste" management infrastructure and community-led solutions for managing Chennai's waste that prioritizes public health, environment, climate and waste reduction goals.

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<sup>1</sup> <https://aqli.epic.uchicago.edu/post/delhi-pollution-up-to-12-years-of-life-expectancy-at-stake-the-real-cost-of-breathing-polluted-air-calculated-check-en>

<sup>2</sup> <https://www.nytimes.com/2024/11/09/world/asia/india-air-quality-trash.html>

<sup>3</sup> <https://www.cenfa.org/waste-incineration-zero-pollution-or-zero-truth/>

<sup>4</sup> <https://www.thehindu.com/news/cities/chennai/tnpcb-report-flags-dangerously-high-levels-of-toxic-metals-in-manali-waste-incinerator-ash/article70144120.ece>

## OBJECTIVE

The objective of this report is to examine whether the facility has demonstrated compliance with relevant laws, whether mandatory monitoring and enforcement of above-mentioned Rules and laws have been conducted and published, and whether such violations are documented in official records available in the public domain.

## METHODOLOGY

The report relies on information obtained through Right to Information (RTI) applications, field visits to the incineration facility, interviews with the communities living in the vicinity of the waste incinerator and the Solid Waste Management Rules, 2016.

### Project background and site context

The 50MTPD waste incinerator is a “Red Category” industry located in Kodungaiyur. It is to be noted that Kodungaiyur is already considered to be a "sacrifice zone" for the city's waste and is also located in the highly polluted area of North Chennai which already has about 40 red-category thermal, petrochemical and other industries, and also the city's largest waste dump site. The incinerator facility is operated and maintained by M/s MAK Controls and Systems Pvt. Ltd through an open tender by the Greater Chennai Corporation. The TNPCB granted Consent to Establish followed by Consent to Operate, with renewals valid until 31 March 2025. From an administrative perspective, the project is lawfully sanctioned. However, environmental compliance under relevant laws requires continuous demonstration through monitoring, record maintenance, and adherence to consent conditions.

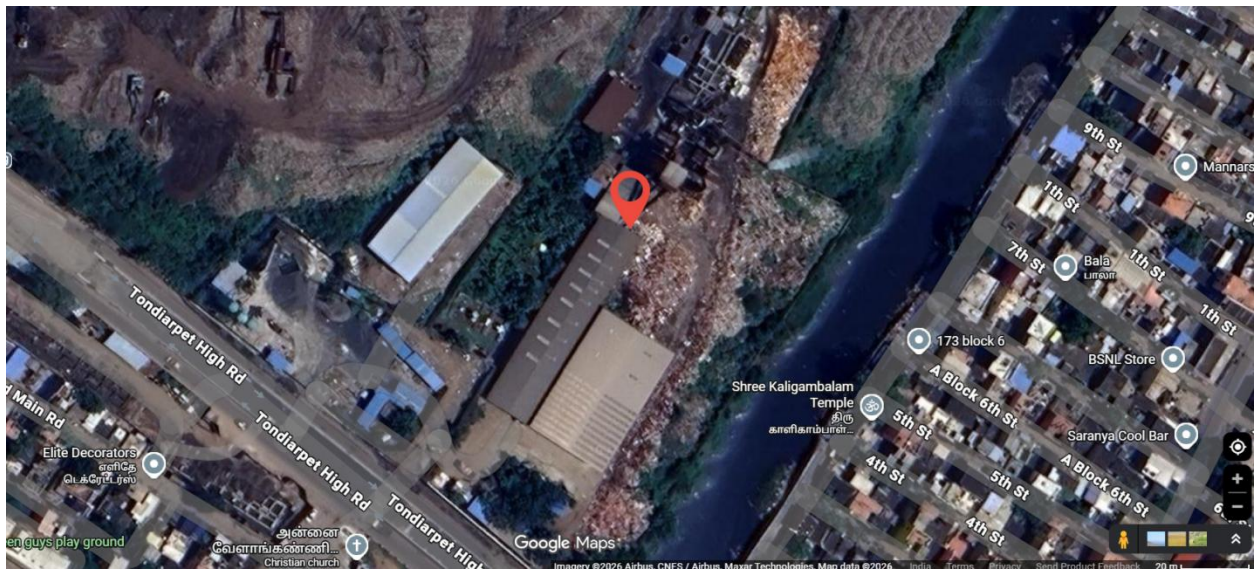


Fig 1: Location of the 50MTPD waste incinerator in Kodungaiyur

## FINDINGS AND CONCERNS

The incineration process in the 50MTPD incinerator involves the burning/combustion of the dry fraction of the municipal solid waste within the furnace, treatment of flue gases through air pollution control systems, discharge through a stack, generation of bottom ash and fly ash, and handling of wastewater generated from scrubber systems and washings. However, the RTI applications seeking information on the TNPCB inspections recorded an alarming number of non-compliance at multiple points along this process. The details of the findings and the concerns are documented below-

### *Flue Gas Emission Monitoring Mandate According to SWM Rules 2016:*

S.no	Parameter	Emission Standard	Status of 50MTPD waste incinerator
1	Particulates	50 mg/Nm <sup>3</sup>	Monitored only once in the last 5 years
2	Hydrochloric Acid (HCl)	50 mg/Nm <sup>3</sup>	Not monitored
3	Sulphur Dioxide (SO <sub>2</sub> )	200 mg/Nm <sup>3</sup>	Monitored only once in the last 5 years
4	Carbon Monoxide (CO)	100 mg/Nm <sup>3</sup>	Not monitored
5	Total Organic Carbon	20 mg/Nm <sup>3</sup>	Not monitored
6	Hydrogen Fluoride (HF)	4 mg/Nm <sup>3</sup>	Not monitored
7	Nitrogen Oxides (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	400 mg/Nm <sup>3</sup>	Monitored only once in the last 5 years
8	Total dioxins and furans	0.1 ngTEQ/Nm <sup>3</sup>	Not monitored
9	Cadmium (Cd) + Thorium (Th) + their compounds	0.05 mg/Nm <sup>3</sup>	Not monitored
10	Mercury (Hg) and its compounds	0.05 mg/Nm <sup>3</sup>	Not monitored
11	Antimony (Sb) + Arsenic (As) + Lead (Pb) + Chromium (Cr) + Cobalt (Co) + Copper (Cu) + Manganese (Mn) + Nickel (Ni) + Vanadium (V) + their compounds	0.5 mg/Nm <sup>3</sup>	Not monitored

The RTI replies have revealed that 9 of the 11 emission parameters have never been monitored and only 3 parameters have been monitored, but that too only once on 26.04.2024, since its inception in the year 2021.

**Effluent Water Emissions Monitoring Mandate According to SWM Rules 2016:**

S. No	Parameter	Inland Surface water Standards	Status of 50 ton waste incinerator
1.	Suspended solids, mg/l, max	100	Not monitored
2.	Dissolved solids (inorganic) mg/l, max	2100	Not monitored
3.	pH value	5.5 - 9.0	Not monitored
4.	Ammoniacal nitrogen (as N), mg/l, max	50	Not monitored
5.	Total Kjeldahl nitrogen (as N), mg/l, max	100	Not monitored
6.	Biochemical oxygen demand (3 days at 27°C) max. (mg/l)	30	Not monitored
7.	Chemical oxygen demand, mg/l, max	250	Not monitored
8.	Arsenic (as As), mg/l, max	0.2	Not monitored
9.	Mercury (as Hg), mg/l, max	0.01	Not monitored
10.	Lead (as Pb), mg/l, max	0.1	Not monitored
11.	Cadmium (as Cd), mg/l, max	2.0	Not monitored
12.	Total Chromium (as Cr), mg/l, max	2.0	Not monitored
13.	Copper (as Cu), mg/l, max	3.0	Not monitored
14.	Zinc (as Zn), mg/l, max	5.0	Not monitored
15.	Nickel (as Ni), mg/l, max	3.0	Not monitored
16.	Cyanide (as CN), mg/l, max	0.2	Not monitored

17.	Chloride (as Cl), mg/l, max	1000	Not monitored
18.	Fluoride (as F), mg/l, max	2.0	Not monitored
19.	Phenolic compounds (as C <sub>6</sub> H <sub>5</sub> OH) mg/l, max	1.0	Not monitored

In gross violations of the SWM Rules 2016, none of the parameters for the leachate generated are monitored in the incinerator facility. This raises serious concerns on the capacity of the treatment plant to remove pollutants from the leachate. During the inspection of the incinerator plant by TNPCB and during the inspection of the fact-finding team, the scrubber bleed off was not properly managed indicating inadequate handling of trade effluent.

***Fly Ash and Bottom Ash Emissions Monitoring Mandate According to SWM Rules 2016:***

S. No.	Parameter	Standard	Status of 50 ton waste incinerator
1	Loss on Ignition	< 5%	Not monitored
2	Arsenic	5 mg/l**	Not monitored
3	Cadmium	1 mg/l**	Not monitored
4	Chromium	5 mg/l**	Not monitored
5	Manganese	10 mg/l**	Not monitored
6	Lead	5 mg/l**	Not monitored
7	Selenium	1 mg/l**	Not monitored
8	Copper	25 mg/l**	Not monitored
9	Nickel	20 mg/l**	Not monitored
10	Zinc	250 mg/l**	Not monitored
11	Cobalt	80 mg/l**	Not monitored
12	Vanadium	24 mg/l**	Not monitored
13	Antimony	15 mg/l**	Not monitored

As per the evidence collected via the RTI queries, it was revealed that none of the mandatory toxicity parameters for the bottom ash and fly ash generated during the process has been monitored. Furthermore, no steps were taken by the operator despite TNPCB instructions to comply with the same during their inspections of the incinerator facility on 21.04.2025 and 02.06.2025. The unit was issued a show cause notice on 11.06.2025 for various violations. Furthermore, the unit had “not furnished the chemical constituents of the incinerated ash” and its method of disposal was also not furnished.

### Equipment/technology failures-

- A closer analysis of the technical specifications of the Air Pollution Control equipment furnished in the RTI reply reveals that it uses only wet scrubbers that are effective only in capturing dust particles. Filtration of dioxins and furans, HF, Cd +Th + their compounds, Hg and its compounds, Sb + As + Pb + Cr + Co + Cu + Mn + Ni + V+ their Compounds etc need more sophisticated filtration equipment such as Activated Carbon Filters<sup>5</sup> that inject powdered activated carbon to adsorb gaseous heavy metals and Dioxins/Furans etc.
- The Central Pollution Control Board mandates that the temperature of the furnace be maintained at a minimum of 950°C, but the 50MTPD incinerator in Kodungaiyur has failed to establish it.
- Online Continuous Emissions Monitoring System (OCEMS) has not been installed/connected to the servers of TNPCB/CPCB as required for red category industries such as incinerators.<sup>6</sup>
- The incinerated ash is to be converted into paver blocks, but the paver block making machine was non-operational during the TNPCB inspection of the facility. This raises serious concerns that the toxic bottom ash and fly ash could be dumped in open landfills or waterbodies.
- The incinerator facility had promised to generate 10 kg of “pure carbon valued at several crores/kilogram” free of cost during their incineration process. However, the TNPCB in its show-cause notice has mentioned that the company had failed to furnish details of the characteristics of the carbon.

## VIOLATIONS OF SWM RULES, 2016

Parameters to be monitored	No of parameters to be monitored according to SWM,2016	Actual parameters monitored
Air emissions	11	3 (only once)
Leachate emissions	19	0
Fly ash and bottom ash emissions	13	0
Others	5	0

Thus, the findings reveal that 45 out of the 48 mandatory parameters have never been monitored even once. Only 6% of the mandatory parameters have been monitored and that too only once since the operation of the plant in 2021. Despite these violations, the plant has been granted consent to operate till March 31, 2028 by the TNPCB.

<sup>5</sup> <https://mpcb.gov.in/sites/default/files/focus-area-reports-documents/hwincinerator.pdf#:~:text=Therefore%2C%20requires%20specific%20treatment%20for,mercuric%20sulphide%20etc.>  
<sup>6</sup> <https://tnpcb.gov.in/glens/#/publicPortal/categoryList>

## FIELD VISIT AND LIVED EXPERIENCES

The 50MTPD incinerator in Kodungaiyur and the area beside it was visited twice by a fact-finding team; once in the month of April 2025 and again on Jan 9, 2026. The fact-finding team included elected representatives, public health experts, researchers and concerned citizens. The observations during the visit to the incinerator facility exposed some of the major operational failures, which are listed in the report.



*Figure 2: Toxic leachate overflowing from the effluent treatment plant*



*Figure 3: Improper storage of incinerator ash risking contamination of groundwater, surface water and air*

## HEALTH IMPACTS

People living near in the vicinity of the incinerator noted unpleasant odours, visible smoke, and constant black dust settling on homes and surroundings. There were also fears about possible contamination of local soil and groundwater due to waste residues and ash disposal. They also complained about the increase of respiratory illness, asthma, skin and eye discomfort, and long-term health impacts such as cancer. Residents also expressed anxiety about living close to the facility and its potential effects on their well-being and daily living conditions.

Kumar (name changed) of Ezhil Nagar noted that the black smoke emitted by the incinerator was so bad that once it had painted the entire road black and they had reported it to the local media.

“The doctor told me that living near an incinerator would surely cause wheezing, and even advised pregnant women to move away until their babies are born,” said Rani (name changed) of the same area. “The incinerator that started operating four or five years ago has completely changed how we live. There is always a burning smell, and when the wind shifts, black soot settles on the clothes we dry on the terrace,” the resident said.

Logesh Raja (name changed) of Nethaji Nagar said that, “We experience chronic cough and wheezing because of the plant. My own father got cancer and we strongly suspect that it is because of this toxic facility.” He further added that “Children, women and elderly people in our homes are impacted the most as they are exposed to these toxic fumes for longer periods.”



Figure 4: Toxic fumes emitted by the incinerator facility on Jan 10,2026

## DIOXINS, FURANS, AND UNVERIFIED TOXIC RISKS

The Solid Waste Management Rules, 2016 explicitly require periodic monitoring of dioxins and furans from incinerators, with an emission limit of 0.1 ng TEQ/Nm<sup>3</sup>. RTI replies do not contain any reference to dioxin or furan monitoring, heavy metals monitoring, laboratory testing, or results. According to the World Health Organisation, Dioxins and furans are one of the most toxic pollutants

known to mankind and waste incineration is one of the major sources for dioxins and furans emissions.<sup>7</sup> It is appalling to note that an incinerator has been functioning in the capital of the state even without dioxin and furan pollution control equipment for 5 years!

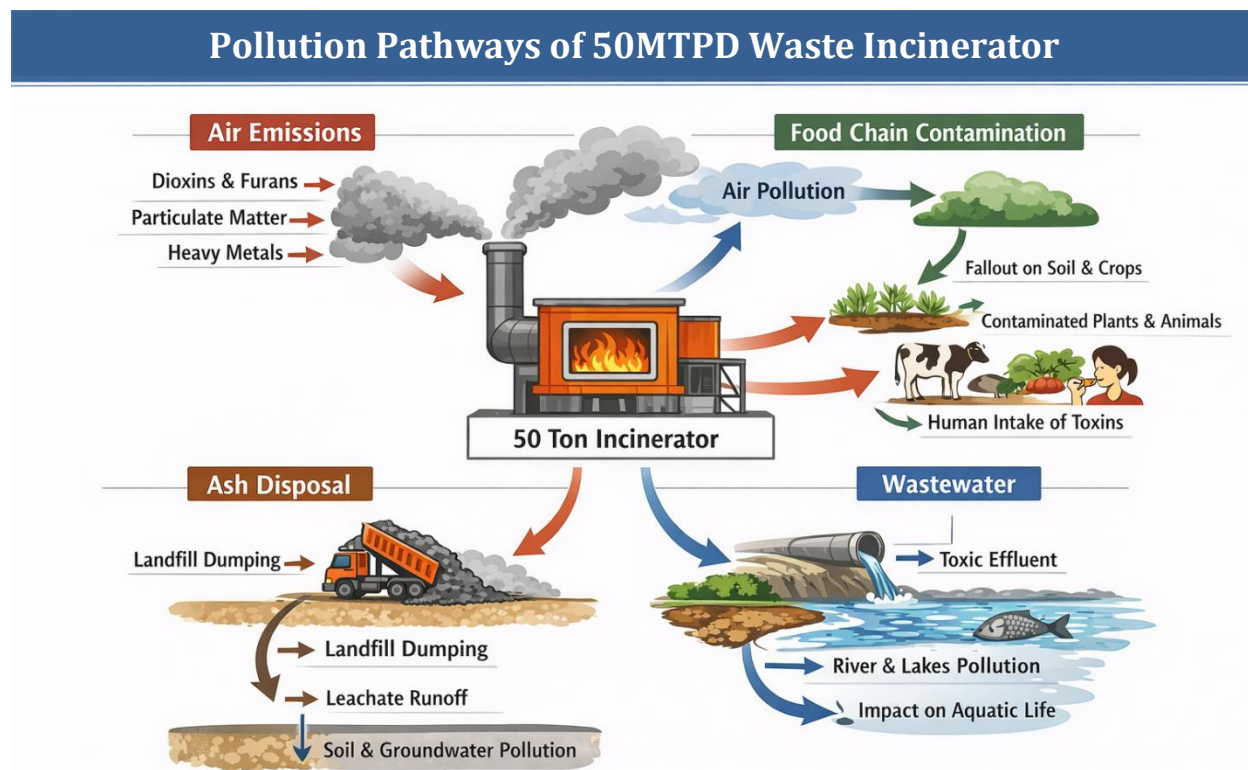


Figure 5: Pollution pathways of the 50MTPD waste incinerator in Kodungaiyur

## SIGNIFICANCE AND IMPLICATIONS

The environmental pollution and other socioeconomic impacts as a result of lack of compliance by the 50MTPD incinerator and the lack of monitoring by the TNPCB acts as grave warning to the policymaker’s intent on operationalising the larger incinerators. By opting for waste incineration, we will be trading the current problem for a much bigger and an expensive one. Our field visits, public records and community testimonies show routine lack of monitoring, improper ash disposal and unmitigated toxic discharges that have already degraded local air, soil and water and harmed nearby residents. These are not minor teething problems: they are systemic design and governance failures that will be multiplied if incineration is scaled.

Allowing two WTE incinerators to burn 3,600-tons would concentrate toxic pollution in the most vulnerable communities in Chennai, destroy livelihoods tied to recycling and composting, and lock the city into a high-carbon, high-cost path. Chennai must halt all plans to expand waste incineration,

<sup>7</sup> <https://www.who.int/news-room/fact-sheets/detail/dioxins-and-their-effects-on-human-health#:~:text=Dioxins%20are%20mainly%20by%2Dproducts,incineration%20with%20low%20dioxin%20emissions.>

immediately freeze permits and contracts, and redirect funds to decentralised zero-waste, community-led solutions that protect health, livelihoods and climate.

The two proposed WTE incinerators will together spew 6,120 tons of CO<sub>2</sub> everyday which is equivalent to the emissions from about 15,30,000 cars<sup>8</sup> having huge climate implications.

The Green Chennai Initiative<sup>9</sup> proposed by FNCRWA and AIFC offers a democratic, zero-waste roadmap: waste reduction, source segregation, in-situ and community composting, biogas, Bio-CNG, material recovery, phasing out of problematic plastics, waste entrepreneurs, livelihood support for waste workers. During a meeting with the representatives of the Federation of North Chennai Residents Welfare Association, the Hon'ble Chief Minister of Tamil Nadu, Thiru. M.K. Stalin had assured that the constitution of a committee to oversee the implementation of the “Green Chennai Initiative” would be considered.

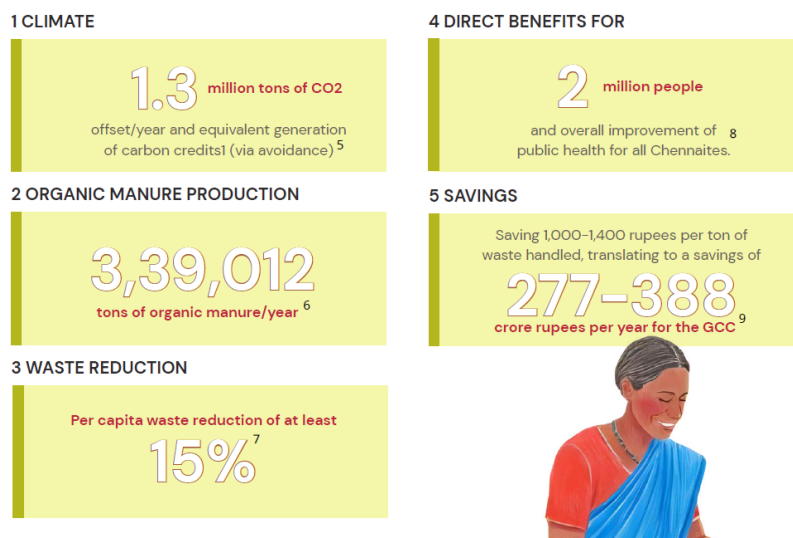


Figure 6: A picture depicting the key benefits of a “zero waste city” plan

## RECOMMENDATIONS

The fact-finding team comprising of Civil Society Organisations (CSOs) and experts urge the state government to:

1. Appoint an independent, multi-disciplinary committee to conduct a thorough inquiry into environmental, public health, and regulatory violations linked to the 50-ton incinerator in Kodungaiyur, Chennai and shut down the facility immediately.
2. Apart from closure, take immediate action against the operator of the 50-ton incinerator in Kodungaiyur for various environmental and regulatory violations.
3. Provide adequate compensation to the impacted communities and remediate the impacted areas due to incineration.
4. Scrap the proposed WTE incineration project in Kodungaiyur and Tambaram which will cumulatively burn 3,600 tons of unsegregated MSW or more than 50% of the waste generated in Chennai which could potentially impact the health of 1.8 million people.
5. Implement the “Green Chennai Initiative” proposal that shows a transition path towards a “zero waste Chennai” plan.

<sup>8</sup> [https://docs.google.com/document/d/1OPwyqMezSiX3JifpZhrTXtbYuJqSJhe\\_6bn1h96YuyM/edit?usp=sharing](https://docs.google.com/document/d/1OPwyqMezSiX3JifpZhrTXtbYuJqSJhe_6bn1h96YuyM/edit?usp=sharing)

<sup>9</sup> [https://www.cenfa.org/wp-content/uploads/2025/08/Green-Chennai-Initiative-GCI\\_Final\\_compressed.pdf](https://www.cenfa.org/wp-content/uploads/2025/08/Green-Chennai-Initiative-GCI_Final_compressed.pdf)

## Annexure I

RTI reply from TNPCB on the 50MTPD incinerator

BY RPAD



O/o District Environmental Engineer,  
Tamil Nadu Pollution Control Board,  
No. 950/1, Poonamalle High Road, Arumbakkam,  
Chennai 600 106

**Proc. No.F.02742/TNPCB/RM/DEE/CHN/W/2025/dt.11.06.2025**

Sub:	TNPC Board- Industries-Issue of show cause notice under Section 25 of the Water (Prevention and Control of Pollution) Act, 1974 as amended in 1988 to the unit of M/s. MAK CONTROLS AND SYSTEM PVT LTD, Survey No. 79 Part of Block No. 48, Kodungaiyur Landfill Site, Chennai - 600118
Ref:	1. Proc. No.F.2726CHN/RM/JCEE-M/TNPCB/CHN/A&W/2024 Dated:10/10/2024 2. Inspection of your unit on 21.04.2025 by EE & AE of O/o. EE (FS) Manali & Chennai 3. Inspection of your unit on 02.06.2025 by AE of O/o. DEE Chennai

Tamil Nadu Pollution Control Board serves this notice on you as occupier of the unit M/s. MAK CONTROLS AND SYSTEM PVT LTD, Survey No. 79 Part of Block No. 48, Kodungaiyur Landfill Site, Chennai – 600118 for contravening the conditions imposed in the consent order issued under Section 25 of the Water (Prevention and Control of Pollution) Act, 1974 as amended in 1988 (herein after referred to as the Act).

Renewal of consent was issued to the unit vide reference first cited subject to the following conditions inter alia:

1. The unit shall incinerate the non-biodegradable municipal solid wastes obtained from Greater Chennai Corporation without accumulation within the site.
2. Only municipal solid wastes shall be brought to the site and no other wastes shall be processed in the site.
3. The unit shall abide the action to be contemplated under the provisions of the Water and Air Acts for commencing the construction activity without obtaining Consent of the Board.
4. The unit shall furnish the chemical constituents of the ash generated (fly ash and bottom ash) and methodologies adopted for the treatment of the same before utilization for manufacturing paver blocks within one month time. If the concentration of toxic metals in incineration ash exceeds the limits specified in the Hazardous Waste (Management, Handling and Trans boundary Movement) Rules, 2008, as amended from time to time, the ash shall be sent to the hazardous waste treatment, storage and disposal facility.
5. The unit shall furnish the characteristics of Carbon within a month's time in order to decide on the utilization of the same for other beneficial use.

Arrived on 16-08-2025

Whereas the EE & AE of O/o. EE (FS) Manali & Chennai has inspected the unit on 21.04.2025 and the Environmental Engineer of O/o. EE (FS) Manali & Chennai has recommended to take appropriate action against the unit.

In this regard, the unit was again inspected on 02.06.2025 by AE of O/o. DEE Chennai and the following observations were made:

1. The unit is in the process of installing additional equipment to incinerate diapers and sanitary napkins.
2. Non-biodegradable municipal solid waste received from the Greater Chennai Corporation is being stored haphazardly in open areas, posing the risk of fugitive emissions.
3. Incineration ash is being stored in open areas, which may result in leachate formation and contribute to fugitive dust emissions.
4. Thermocol waste, which is not suitable for incineration, was observed stored within the premises following raw material segregation.
5. Approximately 100 tons of non-biodegradable waste was accumulated and stored in both open areas and closed sheds within the premises.
6. Non-biodegradable waste that cannot be incinerated was accumulated near the southern boundary of the unit in an open area leading to poor house keeping.
7. The paver block manufacturing unit, which utilizes incinerator ash, was found to be non-operational at the time of inspection.
8. The scrubber bleed-off is not being properly managed, with spillage observed near the Effluent Treatment Plant (ETP) area, indicating inadequate handling of trade effluent.
9. The unit has not furnished the chemical constituents of the ash generated (fly ash and bottom ash) and methodologies adopted for the treatment of the same before utilization for manufacturing paver blocks.
10. The unit has not furnished the characteristics of Carbon in order to decide on the utilization of the same for other beneficial use.


The above observations clearly indicate that the unit is violating the provisions of the Section 25 of the Act, which are offences punishable under Section 44 read with Section 45-A of the Act with imprisonment for a term which shall not be less than one year and six months, but which may extend to six years and with fine.

Hence, you are directed to show cause within 7 days from the date of receipt of this notice as to why penal action for an offence punishable under section 44 read with Section 45-A of the Act should not be initiated against you, as occupier for contravention of the conditions imposed in the consent order already issued to the said unit under the provisions of the section 25 of the Act and also to show cause as to why

directions under section 33-A of the Act should not be issued for closure of the unit, stoppage of power supply, water supply etc. to the unit.

It is informed that non-receipt of any reply within the prescribed period will be construed that you have no satisfactory explanation to offer for the above said contravention and action will be taken against you on merits in accordance with law.

The receipt of this proceeding shall be acknowledged.

  
District Environmental Engineer (i/c),  
Tamil Nadu Pollution Control Board,  
Chennai.

To  
The Chairman,  
M/s. Mak Controls and System Pvt Ltd  
Survey No. 79 Part of Block No. 48,  
Kodungaiyur Landfill Site,  
Chennai - 600118

Full copy of the RTI reply can be found here -  
[https://drive.google.com/file/d/1WZO5Mdgjf2WfkG-xaP66cWZV60FwbCrH/view?usp=drive\\_link](https://drive.google.com/file/d/1WZO5Mdgjf2WfkG-xaP66cWZV60FwbCrH/view?usp=drive_link)