

**COMMUNITY MONITORING OF CHEMICAL ODOR INCIDENTS IN**  
**BARANGAY MAGUYAM, SILANG, CAVITE**

**EXECUTIVE SUMMARY**

For years, residents of Barangay Maguyam in Silang, Cavite have been continuously exposed to toxins and pollutants coming from different industries within their *barangay*. Among all the industries in the *barangay*, the hazardous waste treatment company Cleanway Environmental Management Solutions Inc. or CEMSI (formerly known as Cleanway Technology Corporation) has received the most consistent and highest number of complaints due to obnoxious and foul odors coming from its facility.

This report provides a snapshot of the gravity of chemical odor incidents in Maguyam as recorded by nine volunteer community environmental monitors in six weeks, from May 16 to June 26 2014. The monitors lived in five *sitios* around Meridian Industrial Park where CEMSI's hazardous waste facility is located.

During the conduct of this report the monitors recorded **129 chemical odor incidents**, one hundred twenty-five (125) of which came from the CEMSI facility and two (2) from another nearby facility Paintplus Corporation. The other two (2) are from still-unidentified sources.

**The report also recorded 21 different kinds of chemical odors**, indicators of the presence of different chemicals in the ambient air. Lastly, **128 of the 129 odor incidents were identified as medium to high in intensity**, with resulting health impacts noted as the following: splitting headache, nausea, dryness and itchiness of throat, and stomach ache, among others.

The high number and intensity of recorded chemical odors provide a clear evidence of continuous environmental violations of CEMSI, putting residents of Barangay Maguyam in constant and dangerous exposure to chemical odors and industrial pollution.

The residents and organizations involved in this report demand the immediate closure of CEMSI's facility in Barangay Maguyam, Cavite, the rehabilitation of contaminated sites in the *barangay* and the imposition of penalties against the polluting company. The groups also demand the creation of a pollution registry for all industries in the *barangay* that is easily accessible and available to residents, establishment of continuous ambient air monitoring in the area, and setting up of a long-term health care support system for affected residents.

# COMMUNITY MONITORING OF CHEMICAL ODOR INCIDENTS IN BARANGAY MAGUYAM, SILANG, CAVITE

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## I. BACKGROUND

Barangay Maguyam is one of the fastest growing *barangays* of Silang, Cavite. The *barangay* recorded a 15.22% population growth rate in the span of 5 years alone, from 1995-2000, due to massive in-migration from Metro Manila and nearby provinces.<sup>i</sup> The population boom in the *barangay* was mainly attributed to the increase in employment and other opportunities presented by industries and factories that sprouted in the *barangay* in the last two decades.

However, the rapid increase of medium to high industries in the area coupled by the government's inability to consistently monitor environmental compliance posed great hazards to the environment and public health. For years, residents of this *barangay* have been unwillingly exposed to pollution and other toxins emitted by these industries.

The most controversial facility in the barangay that has consistently received complaints since it began its operation in 2005 is the hazardous waste treatment facility Cleanway Environmental Management Solutions Inc.

The company's facility has permits from the Department of Environment and Natural Resources (DENR) to accept, transport, store and process different kinds of hazardous and infectious waste such as but not limited to acid and alkali wastes, cyanide-containing wastes, waste organic solvents, wastes with organic and inorganic chemicals, paints and other organic sludge, health care waste and pesticides,<sup>ii</sup> mercury-containing wastes<sup>iii</sup> and asbestos.<sup>iv</sup>

On the nights of October 14 and October 27 in 2009, more than 100 residents, mostly women and children, were rushed to different hospitals and clinics in Cavite because of fumes and strong odors coming from CEMSI's facility. Many of the victims complained of extreme dizziness, nausea, vomiting and diarrhea. The said incidents were the worst gas leak incidents in Maguyam.

After both incidents, the local government unit of Silang closed the facility. However, it was reopened after a few weeks after CEMSI was able to secure a court order allowing the resumption of their operation. But the incidents didn't compel the company to address the foul and obnoxious odors coming from their facility.

After years of consistent complaints from the residents, the DENR finally conducted a multi-sectoral onsite investigation on August 1, 2013. The investigation team recorded different smells emanating from CTC's compound: strong (muriatic) acidic smell from the plant's physico and chemical treatment facility; pungent and nauseating odors at the plant's pathogenic and infectious waste facility and solidification/stabilization facility, and; smell of undetermined solvent in the plant's solvent recovery facility. The inspection team also documented the open dumping of hazardous waste inside the facility and lack of proper protective gears for plant workers and operators.<sup>v</sup>

In September 3, 2013, DENR issued a Notice of Violation (NOV) against CEMSI for various violations such as but not limited to the company's failure to institute mitigation measures to contain foul odor releases, failure to properly handle and store hazardous wastes, lack of adequate drainage, sewage and wastewater treatment systems, and direct disposal of untreated hazardous waste in its landfill. The company was fined PhP 450, 000.00 (USD 10,000.00) for these violations.

Again, the company failed to address the foul and obnoxious odors coming from its facility despite receiving the NOV. Meanwhile, the DENR and local government of Silang remained supercilious on the issue and continued to treat the odor incidents as mere "nuisances" rather than as indicators of gas leaks or industrial pollution.

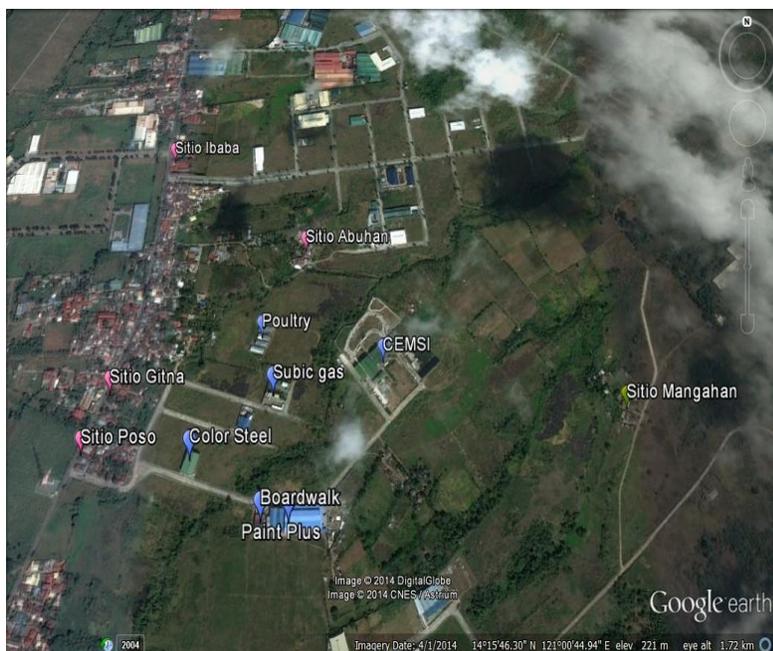
The lack of ambient air monitoring and inept response of the government moved the concerned residents of Barangay Maguyam to set up their own community environmental monitoring system and present a report of their findings. Through this report, they hope to present documentation of the frequency and intensity of CEMSI's odor incidents and its immediate impacts to their health, as well as record odor releases from other industries in the

*barangay*. The residents aim to provide solid proof that demonstrates the extent of industrial air pollution in their *barangay*.

## II. OBJECTIVES AND METHODOLOGIES USED

This report records a snapshot of the odor incidents recorded at five *sitios* in Maguyam (Sitio Gitna, Poso, Ibaba, Abuhan and Manggahan) from May 16 to June 26, 2014. The report also aims to identify the different smells, frequency of occurrences, and intensity of these smells as encountered by nine community environmental monitors while they perform their day-to-day tasks at home or within the community. The report also records the immediate health effects experienced by the community environmental monitors during the odor incidents. Lastly, the report aims to identify and verify the sources of these smells.

The community environmental monitors have all personally volunteered to be part of this study and they live in the following *sitios*: three (3) from Sitio Gitna, two (2) from Sitio Poso, two (2) from Sitio Manggahan and one (1) each from Sitio Abuhan and Ibaba.



In preparation for this report, the volunteer monitors underwent a training on community environmental monitoring, receiving a thorough orientation and instructions on the importance of proper, consistent and factual record-keeping, paying attention to different parameters and factors that may affect odor reporting such as wind direction and the monitor's location in relation to industrial sources, accepted international monitoring standards and

methodologies used in communities in other countries, chemicals and their effects, and other important relevant matters.

A "Chemical Odour Incident Monitoring Questionnaire" was also developed and pre-tested by members of the *Nagkakaisang Mamamayan ng Maguyam* and Cavite Green Coalition before being used for data collection for this report.

During the actual monitoring phase, the monitors recorded all odors that they encountered for 24-hours, seven days a week. They also conducted occasional “on-the-spot” visits inside the industrial parks to determine the sources of smells.

### **III. LIMITATIONS OF THE STUDY**

The Chemical Odor Incidents Report in Barangay Maguyam, Cavite is only an indicative report because it capitalizes on the monitors’ sensory perceptions as the primary recording tool. Data produced for this report are based on observations and may therefore be subject to personal or subjective interpretations. For instance, two monitors may experience the same chemical incident and report smelling a similar kind of odor but with different intensities. The same can be said for the exhibition of symptoms or health effects since sensitivity to chemicals and pollution differ from one person to another.

In addition, even if the monitors were distributed in five different *sitios*, the results covered a conservative area and represented just a small portion of all odor incidents in the entire barangay.

Despite these limitations, the results of this report present irrefutable proof of the presence of chemicals and other industrial pollutants in the air being breathed in by the residents of Barangay Maguyam.

The organizations involved in this undertaking produced this important paper to call the attention of the government, media and the public to the need for immediate action to address the serious pollution in Maguyam, and to have systematic and participatory health assessment and ambient air and environmental monitoring in the *barangay*.

### **IV. RESULTS**

From the period of May 16 to June 26, nine volunteer community monitors from five *sitios* recorded **129 chemical odor incidents**. One hundred twenty-five (125) of the recorded odor incidents came from the facility of CEMSI, two (2) from the nearby facility of Paintplus Corporation and other two (2) odor incidents from unidentified sources.

More than 46% of the odor incidents for the month of May were recorded at Sitio Gitna. This can be attributed to the proximity of the *sitio* to the facility of CEMSI and the consistency of monitoring since more volunteer monitors live in this area. Meanwhile, more than 47% of odor

incidents for the month of June were recorded at Sitio Manggahan (located east of CEMSI facility).

**Table 1: Number of Odor Incidents per Sitio**

	Abuhan	Ibaba	Poso	Gitna	Manggahan	Total
Week 1 (May 16 – 22)	6	7	8	24	--	<b>45</b>
Week 2 (May 23 – 29)	8	7	8	14	--	<b>37</b>
Week 3 (May 30 – June 5)	1	2	2	7	--	<b>12</b>
Week 4 (June 6 – 12)	1	2	0	2	--	<b>5</b>
Week 5 (June 13 – 19)	0	2	0	0	5	<b>7</b>
Week 6 (June 20 – 26)	1	3	1	1	17	<b>23</b>
<b>TOTAL</b>	<b>17</b>	<b>23</b>	<b>19</b>	<b>48</b>	<b>22</b>	<b>129</b>

The community environmental monitors recorded 21 different chemical odors.

**TABLE 2: Kinds of Odors Recorded**

Kind of Odor	Source of Odor
Mixed waste/dumpsite	CEMSI/ CTC
Intense rotten mixed waste	CEMSI/ CTC
Formaline	CEMSI/ CTC
Medicine or strong antibiotic	CEMSI/ CTC
Acid	CEMSI/ CTC
Car freshener	CEMSI/ CTC
Perfume	CEMSI/ CTC
Human feces	CEMSI/ CTC
Sewage	CEMSI/ CTC
Rotten egg	CEMSI/ CTC
Burning bones	CEMSI/ CTC
Dead mammal	CEMSI/ CTC
Intense dead mammal	CEMSI/ CTC
Sulfur	CEMSI/ CTC
Sour	CEMSI/ CTC
Nail polish	CEMSI/ CTC
Calcium carbide	CEMSI/ CTC

Rotten fruit	CEMSI/ CTC
Gas and kerosene	CEMSI/ CTC
Paint	Paintplus Corporation
Burning plastic waste	Unidentified

The community environmental monitors also recorded the presence of odors for 24 hours, every day for three weeks. The table shows that CEMSI is operating the whole day, 7 days a week. It only shows that residents are continuously exposed to different odors and chemicals in the air.

**TABLE 3: Frequency of Odor Incidents in a Day in Five Sitios**

	No. of Odor Incidents	Percentage
12:00 midnight to 6:00 morning	28	21.7%
6:00 morning to 12:00 noon	39	30.2%
12:00 noon to 6:00 evening	33	25.6%
6:00 evening to 12:00 midnight	29	22.5%
<b>TOTAL</b>	<b>129</b>	<b>100%</b>

**TABLE 4: Reported Odor incidents on a Daily Basis**

	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday
Week 1 (May 16- 22)	X	X	X	X	X	X	X
Week 2 (May 23- 29)	X	X	X	X	X	X	X
Week 3 (May 30- June 5)	X	X	X			X	
Week 4 (June 6- 12)			X	X			X
Week 5 (June 13- 19)			X		X	X	X
Week 6 (June 20- 26)	X	X	X	X	X	X	X

Lastly, 128 out of 129 odor incidents were rated by the monitors as medium to high in intensity because the presence of the smell has an immediate impact to their health and sensors. The top health impacts that were recorded by the monitors were the following: splitting headache, nausea, dryness of throat, throat itchiness, difficulty in breathing, eye irritation and stomach ache.

## **V. ANALYSIS**

The frequency, intensity and high number of recorded chemical odor incidents provide a clear evidence of the continuous violations of Cleanway and the company's non-action to mitigate the obnoxious and foul odors coming from its facility. The study also shows that residents of Barangay Maguyam are continuously exposed to chemical odors and pollution for 24 hours, 7 days a week and these various smells have direct immediate impacts to their health and welfare. It is troublesome and alarming to know that those belonging to the vulnerable sectors – children, pregnant women and the elderly – are consistently exposed to toxins and pollutants.

Finally, the study also showed that there are also other sources of industrial pollutants such as Paintplus Corporation.

## **VI. DEMANDS**

The Nagkakaisang Mamamayan ng Maguyam (United Citizen of Maguyam), concerned residents of the *barangay* and the organizations involved in this study demand the following action:

- For the Department of Environment and Natural Resources (DENR) to immediately cancel CEMSI's Environmental Compliance Certificate (ECC) and close the controversial hazardous waste facility, enforce the rehabilitation of contaminated sites and impose penalties against the polluting facility;
- For the Department of Health (DOH) and academe to immediately conduct community health assessments and provide long-term medical care for residents;
- For the national and local government to set up a pollution registry of all industries in the *barangay* and ensure that it will be made available to residents;
- For the Commission on Human Rights (CHR) to investigate CEMSI's outright disregard for people's rights to a healthy and safe environment; and
- For the government, academe, private and non-government organizations to establish continuous and participatory ambient air monitoring in the *barangay* to monitor industrial air pollution and publish the results periodically.

End

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## ENDNOTES

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<sup>i</sup> Barangay Profile, Municipal Government of Silang, 2011.

<sup>ii</sup> Environmental Compliance Certificate ECC-R4A-1106-0310, June 29, 2011.

<sup>iii</sup> Chemical Control Order No. R4A-1106-0310

<sup>iv</sup> Chemical Control Order No. R4A-2009-0031

<sup>v</sup> Report of Investigation Conducted at Cleanway Technology Corporation based on the complaint of Cong. Roy M. Loyola of the 5<sup>th</sup> District of Cavite, August 12, 2013.