



10th February, 2017

Dr. A. B. Akolkar
Member Secretary,
Central Pollution Control Board
Parivesh Bhavan
East Arjun Nagar
Delhi – 110 032

Sub: Providing Comments on Draft Guidelines on “Pre-processing and Co-Processing of Hazardous and Other Wastes in Cement Plants as per H&OW (M&H) Rules, 2016, vide Reference No B-33014/7/PCI-II/2017 dated 27th January, 2017

Dear Sir,

This has reference to the above mentioned subject that, EIA Resource and Response Centre (eRc) is hereby submitting its suggestion.

EIA Resource and Response Centre (eRc) is a national level voluntary organization engaged in keeping a watch on the environmental clearance and forest clearance process across the country. We are presenting its opinion on the proposed draft guideline.

At the very outset, we would like to thank you for such a welcoming move. However, we believe that there are certain areas which remained unaddressed during the preparation of the draft guideline and henceforth we have come up with our suggestions on the same.

We are hoping that CPCB would consider and acknowledge the suggestions made herein below.

Thanks and Regards,

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Introduction:

Central Pollution Control Board vide Reference No B-33014/7/PCI-II/2017 dated 27th January, 2017 has come out with a draft guideline on “Pre-processing and co-processing of hazardous and other wastes in Cement Plants as per Hazardous and Other Waste (Management and Transboundary Movement) Rules, 2016 asking for suggestion and comments from the concerned stakeholders.

EIA Resource and Response centre, a national level voluntary organization engaged in keeping a watch on the environmental clearance and forest clearance process across the country is hereby presenting its opinion on the proposed draft guideline.

Background:

For the ages, Indian cement plants have been known to pollute even without co-incineration procedure. A study of 2014, named “Concrete troubles” showed the result of ambient dust samples taken in Himachal Pradesh and Tamil Nadu between 2008 and 2010, which showed presence of high levels of fine particulate pollution and toxic heavy metal contamination around plants using conventional fuel like coal. This has already pointed out the serious doubt on the regulatory mechanism which allowed this type of scenario to continue for years and also raised several questions about the capacity of the regulatory agencies especially the CPCB to ensure strict emission monitoring that was assured while sanctioning waste co-incineration process.

To further add to it, a 2012 analysis of RTI data on co-incineration of hazardous waste at cement plants revealed that in all together 11 states have allowed to run co-incineration of waste in the cement kilns on a trial or regular basis, where in 39 plants (within that 11 states) are burning a combination of hazardous and other wastes including waste from the automobile industries, rail coach factories, refineries, chemical plants, hazardous and municipal waste processing facilities, pesticide plants, Fast Moving Consumer Goods industries etc.

The picture becomes grave, when all of the 11 states failed to produce any systematic method of emission monitoring, recording and documentation. 7 states completely failed to provide records of any emission/environmental monitoring, where as 4 states provided some data on emissions testing conducted during the trial run but the regular monitoring records were not available.

Given this background, it is important to bring the issues wherein the draft guidelines demand considerable changes in order to ensure environmental protection from the cement co-processing and pre-processing units.

1. Alternative Fuel & Raw Materials (AFR) Vs Wastage of Recyclable Materials

The draft guideline mentions about the 65 MTPA of MSW, generated from the country, which contains about 15-20% of non-recyclable Segregated Combustible Fraction (SCF), which can be utilized for energy recovery.

The country still could not come up with an effective waste segregation practices. Rampant dumping of waste at landfill and/or burning of waste at landfills from all across the country are an example of the same. A study report, named Sustainable Solid Waste Management in India¹ by Ranjith Kharvel Annepu found that open burning of solid wastes and landfill fires emit nearly 22,000 tons per year of pollutants into the air in the city of Mumbai alone. The study also found that, composting of municipal solid waste failed as upto 60% of the input waste is discarded as composting rejects and finally landfilled.

In the absence of an effective waste segregation practice, it is hard to get the segregated combustible fraction (SCF). As a result, mixed waste comprising of plastics will be burnt which will result into the emission of dioxin and furan, the two known by-product of burning of toxic and urban waste.

Both these compound are carcinogenic and can cause cancer. It has been found that 0.006 pictograms of dioxin per kg of body weight per day is harmful and can lead to disruption of hormones; cancer; reduction of immunity; nervous system disorder; miscarriage; birth defects and deformation. A UN Factsheet on 'Dioxins and their effect on human health' updated in June 2014 revealed that, once dioxins enter the body, they last a long time because of their chemical stability and their ability to be absorbed by fatty tissue, where they are stored in the body. Their half-life in the body is estimated to be 7 to 11 years. In the environment, this pollutant tends to accumulate in the food chain. The higher an animal is in the food chain, the higher is the concentration of dioxin.

There are even examples from the countries about increase in the pollution level from the co-incineration of hazardous waste, rather than any betterment of environment. In Argentina, instead of decrease in pollution, the concentration of TCDD dioxin equivalents, a human carcinogen, increased by as much as 52% in 2009 and to the tune of upto 203% by 2010.

At the same time, burning of mixed waste in the co-processing plant will also result in the loss of valuable recyclable materials, present in the municipal solid waste stream.

2. Reconsider the use of plastics & other packaging materials as AFR

The guideline has asked to use plastic and other packaging materials as an alternative fuel and raw materials (AFR). This will again result in the wastage of huge plastic waste irrespective of their category. Therefore it is important to specify, which all types of plastic can be considered as AFR, so that recyclable plastic does not end up in combustion chamber.

Talking about the use of dried sewage sludge as a resource in terms of energy recovery will also entail economic viability of transportation of the same from the source of origin till

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http://www.seas.columbia.edu/earth/wtert/sofos/Sustainable%20Solid%20Waste%20Management%20in%20India_Final.pdf

destination. Therefore, the modality of connecting these two different arenas needs to be elaborated.

3. Waste Characterization & Presence of Heavy Metals

Co-processing of hazardous waste along with industrial and other municipal solid wastes in cement kilns releases high levels of fine particulate matter and toxic heavy metals like lead, mercury, nickel, manganese, silica etc, which are known neurotoxins and nephrotoxins.

Manganese is a neurotoxin and according to U.S. EPA “chronic (long-term) exposure to high levels of manganese by inhalation in humans may result in damage to the central nervous system. Visual reaction time, hand steadiness, and eye-hand coordination were affected in chronically- exposed workers. A syndrome named manganism may result from chronic exposure to higher levels.

Silicon, according to the California Office of Environmental Health Hazard Assessment (OEHHA), if inhaled in the form of crystalline silica initially causes respiratory irritation and an inflammatory reaction in the lungs, and acute silicosis. It also refers to the scientific reports that state that “chronic levels of silica dust that do not cause disabling silicosis may cause the development of chronic bronchitis, emphysema, and/ or small airways disease that can lead to airflow obstruction, even in the absence of radiological silicosis.

Lead is again a known neurotoxin, to which children are particularly susceptible to. Exposure to low levels of lead early in life has been linked to affect the IQ, learning, memory and behavior.

Mercury, another heavy metal and neuro and nephrotoxin once into the atmosphere can be converted into the organic form through the presence of bacteria into soil and water. Once converted, it has the capacity to penetrate through the active barriers (skin, blood-brain and placental barrier) of the body to enter into blood stream, where it gets deposited into the fatty tissues and cause damages to the brain, kidney and the central nervous system as a whole. Mercury can also affect the growth of newly developed child foetus, if the exposure happens during its presence in the mother’s womb.

Given this scenario, it is therefore necessary to first conduct the waste characterization study well in advance for each and every waste stream to be accepted, in order to make sure no emission of mercury, lead, cadmium, silica, nickel or any other heavy metals into air. Even if any particular industry and associated waste has got prior acceptance, the waste should not be put into the chamber without conducting the waste characterization of that particular stream.

4. Prior Environmental Clearance – a pre-requisite

The guideline has echoed the MoEF&CC Notification No. S.O.3518 (E) dated 23.11.2016 and has maintained the stand that the use of wastes for co-processing in cement kilns does not

warrant the requirement of environmental clearance . It is a gross violation of the provisions of the EIA Notification 2006 under the Environment (Protection) Act of 1986 and therefore should not be accepted as the cement plants tend to be converted into a hazardous waste landfill or a TSDF site, once the hazardous and other waste with toxic characteristics comes to the cement plants

It is also important to ensure that the trial runs of cement co-incineration plants must be carried out in a transparent and inclusive manner by seeking public comment or conducting public consultation with communities living around the cement plants. Otherwise, it will be resulted in the serious violation of the Principle 3 of Holcim- GIZ Guidelines on co-processing, which talks about the necessity of having a community advisory panel.

Therefore, any cement plant to operate as a co-processing and pre-processing unit must take environmental clearance through the preparation of EIA and organizing public hearing proceedings under the EIA notification of 2006, Para No. 4(ii), 6 and 7(ii) read with the Schedule at 7(d) which indicates that the facilities for treatment, storage and disposal of hazardous wastes, as inclusive in Category A, require an Environment Clearance (EC) from the MoEF on the recommendations of an EAC.

5. Monitoring of Cement Industries

In the draft guideline it has been stated that the monitoring of emission of certain parameters including Pm, SO₂ and NO_x will be based on the self-regulatory mechanism to be followed by the cement industries, which will be further verified by the State Pollution Control Board and the Pollution Control Committee. It has been stated further that, in case of absence of effective emission monitoring mechanism, the concerned SPCB/PCC can engage any EPA recognized / NABL accredited laboratory for the same.

RTI data analysis of 2014 showed that, there are only 10 Environmental laboratories recognized by the CPCB under Section 12 (1) b of the Environment (Protection) Act, 1986², out of which 2 are Central Laboratories of CPCB located in Delhi and Kolkata, 4 are Regional Laboratories of Maharashtra Pollution Control Board located in Pune, Nashik, Aurngabad and Nagpur and one is a Central Laboratory of Punjab Pollution Control Board. Other 3 recognized laboratories are of Educational and Research Institutions. This implies the fact that, except Maharashtra, 10 out of the 11 states engaged in trial or full-time co-incineration of hazardous waste in cement plants do not even have a recognized laboratory in their Pollution Control Board. This state of affairs raises a serious doubt about the credibility of the monitoring data generated by these labs in case they were monitoring the emissions from the cement plants.

The data came out from the “Concrete Troubles - A report on the emissions from Cement Plants in India and a critique of the ongoing co-incineration of Hazardous Wastes in the

² http://cpcb.nic.in/13_ListRecognizedEnvironmentalLaboratories.pdf

Cement Industries”³ also showed that, most of the SPCBs lacked basic equipment to monitor dust emissions and almost are never tested for the heavy metals in the cement dust, irrespective of the scientifically well-documented fact that cement dust contains heavy metals such as antimony, arsenic, barium, beryllium, cadmium, chromium, lead, mercury, nickel, selenium, silver thallium, and vanadium.

The report also stated that the co-incineration plants are operating in complete violation of the national and international environmental laws, and the lack of monitoring mechanism in the States has led to rapid increase in pollution levels and posing a threat to the human health.

6. Occupier’s responsibility

In the draft guidelines under Section 5.1, the occupier has been given with the responsibility of managing the environment by following ‘all adequate steps’. This very vague terminology gives the occupiers an escape route from fulfilling their requisite responsibility. This term will incur a tendency of ignorance towards the responsibility in the absence of specifications.

7. Precautionary Measures for Manual Handling of Hazardous Waste

Storage and handling requirement for hazardous and other waste specially while manually handling of waste in the storage area of pre-processing or co-processing facility did not specify any measures that are to be adopted. It needs detailing out of measures like use of PPEs by workers, shifting of workers after an interval so as to avoid long-term exposure and so.

8. Draft letter of intimation to SPCB

This must take into account the quantum of each and every waste, to be sent to the cement plant for co-processing. This will help the concerned SPCB to cross check with the respective cement plant, whether they have the capacity to handle such quantum of waste or they still have the potential to receive more such waste.

There were data mentioned in the report “Concrete Troubles - A report on the emissions from Cement Plants in India and a critique of the ongoing co-incineration of Hazardous Wastes in the Cement Industries”⁴, which says that, CPCB, the nodal authority in monitoring and maintaining the records pertaining to co-incineration around the country has no knowledge or records of the quantum of wastes being incinerated or the way in which co-incineration was being carried out, in at least 15 out of 39 plants where co-incineration is taking place.

³ <http://theothermedia.in/wp-content/uploads/2016/02/Report-on-Cement-Co-incin-Jan-2014.pdf>

⁴ <http://theothermedia.in/wp-content/uploads/2016/02/Report-on-Cement-Co-incin-Jan-2014.pdf>

Therefore in this situation, it is highly desirable that, the pre-processing and co-processing of hazardous and other waste in cement plants must be given a second thought before allowing them to be operational.