प्रो० स. प्र. गौतम
अध्यक्ष
Prof. S. P. GAUTAM
Chairman

केन्द्रीय प्रदूषण नियंत्रण बोर्ड
(भारत सरकार का संगठन)
पर्यावरण एवं वन मंत्रालय
Central Pollution Control Board
(A Govt. of India Organisation)
Ministry of Environment & Forests

D.O.No.B-19011/1/PCP/2008
Dated 24.03.09

Dear Shri Heera,

As you know the plastic wastes is causing many problems in the cities and Towns. The non-recyclable plastics is disposed in the landfills along with the municipal solid wastes, and remains on the dumping ground forever. The non-recyclable plastic is littered in most of the cities and towns thereby giving an ugly appearance. Recently an initiative has been taken by Madhya Pradesh SPCB for utilizing the plastic waste in the cement plants. The Madhya Pradesh SPCB has identified seven plants for utilization of plastic wastes from the nearby areas. I am enclosing a brief note prepared by the Madhya Pradesh SPCB for your information. I request you to kindly take up the issue of collection of plastic wastes with the local bodies by involving local agents and transferring such wastes to the nearby cement plants. You may identify the towns located nearby cement plants in your State in consultation with the concerned plant. The State Board may also undertake monitoring of stack emissions to check the levels of pollutants. In this context, CPCB can also provide necessary assistance.

I, therefore, request you to explore the possibility of utilization of plastic wastes in cement kiln and send me the actions taken and proposed by you in this regard within a month's time, preferably by 18-4-09.

With Regards,

Yours Sincerely,

(S.P.Gautam)

To:

Shri Harinder Heera,
Chairman
Himachal Pradesh State Pollution Control Board
Paryavaran Bhawan,
Phase-III
NEW SIMLA-171 009

Encl:a/a

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Roadmap for the Final Disposal of Plastic Waste adopted in the State of Madhya Pradesh.

The Plastic Waste generated from different activities in the township and city areas is a part of the Municipal Solid Waste. It is a subject of deep concern for the Environment. The Plastic Waste is a non-biodegradable and long lasting pollutant, which creates serious problems for the Environment. Plastic became an integral part of the life on one side; the improper management of the Plastic Waste became the source of the Water, the Air and the Soil Pollution on the other. The responsibility of management of the Plastic Waste lies with the local bodies. It is estimated that, 75% of the plastic waste generated is recyclable which is taken care by the rag pickers, but the non-recyclable part is a matter of concern. Specially, the polythene carry bags, pan mashala pouches and other such articles, which are not economically feasible for recycling, are the major problem for the Environment. The polythene carry bags made from the recycled plastic are responsible for the health hazards.

Most of the plastic manufacturing & recycling units in the State are engaged in the manufacture of toys, pipes and other molded articles and some units are manufacturing the polythene carry bags also. Most of the plastic manufacturing & recycling units in State are reported as confirming the prescribed norms. The polythene carry bags coming from the neighboring States are found in the non-confirming range. The sub-standard carry bags are being fluxed from the nearby States, which is causing nuisance.

It is estimated that the generation of Municipal Solid Waste in the state of Madhya Pradesh, from 342 local bodies is around 4500 MT/day and the quantum of the plastic waste in the State is around 196 MT/day out of which 148 MT/day is recyclable and around 48 MT/day is non-recyclable.

In the matter of writ petition (civil) no 6456 of 2004, Hon'ble High Court of Delhi constituted a committee in the Chairmanship of Justice R. C. Chopra (former judge), to study the issues regarding Environmental hazards including health hazards arising out of use of the plastic bags. It is recommended by the committee that the plastic waste can be used as partial fuel in the Cement Kilns. The matter discussed in the 54th conference of the Member Secretaries and Chairmen of the State Pollution Control Boards/Pollution Control Committees of the country in length. After discussion in the apex conference, the Board identified rotary Cement Kilns for incineration of non re-recyclable Plastic waste as co-fuel, as a roadmap for its final disposal. One of the major Cement industries in the State took lead in this regard. The trial carried out successfully from 29th – 31st march 2008 by M/S ACC Ltd. and ICPE in presence of the officials of the State Board. The Monitoring of stack Emission carried out by SGS India. The monitoring results are summarized as below:

For online application please visit www.mppcb.nic.in

Summary of Co-processing Trial Results

Parameter	Units	Stack emission during the trial		
		Pre Co-processing	During Co-processing	Post Co-processing
Dioxin and Furan	mgTEQ/Nm^3	0.004	0.0033	0.0029
TOC	mgC/Nm^3	5.5	7.36	6.01
HCl	mg/ Nm^3	ND	ND	ND
HF	mg/ Nm^3	ND	ND	ND
SO_2	mg/ Nm^3	77	27.75	12
SPM	mg/ Nm^3	44.9	48.6	48.9
CO	mg/ Nm^3	446	780	313
NOx	mg/ Nm^3	651	600.5	614
Mercury	mg/ Nm^3	0.014	0.046	0.006
Metals (except Cd & Tl)	mg/ Nm^3	0.047	0.041	0.037
Cd and Tl	mg/ Nm^3	0.002	0.004	0.004

The analysis results of the monitoring revealed that the emission values are found well below the standards set by regulatory authority for the Common Hazardous Waste Incinerators. On the basis of the study, the major Cement industries of the State applied for permission for the trial run to utilize plastic waste in cement kiln as co-fuel. The work is being done with the coordination of local kabadis and Cement Industries. Permission accorded to the following Cement Industries in this regard:

- M/s A.C.C Ltd, Kaymore, Katni for incineration of 7 to 15 MT/d plastic wastes.
- M/s Vikram Cement, Khore, Neemuch for incineration of 9125 MT/ year (approx 30 MT/d) plastic wastes.
- M/s Satna Cement Works, Satna, for incineration of 10 MT/d plastic wastes.
- M/s Maihar Cement, Maihar, Satna, for incineration of 10 MT/d plastic wastes.
- M/s Prism Cement, Manakhari, Satna, for incineration of 10 MT/d plastic wastes.
- M/s Diamond Cement, Narsinggarh, Damoh for incineration of 0.5 MT/d plastic wastes.
- M/s J. P. Rewa Cement, Rewa, for incineration of 25 MT/d plastic wastes.

As above, 07 major Cement Plants of the State have taken permission for co-incineration in the Cement Kiln of non re-recyclable Plastic wastes. Total capacity of co-incineration of plastic waste is 100.5 MT/d, while the present generation of such waste is estimated as 48 MT/d only. The process of the co-incineration in the Cement Kilns is in progress, around 300 Tonnes of Plastic Waste has been incinerated and no ill effects of this method of final disposal are reported till now. This method of final disposal seems to be ultimate solution of the problem.

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The trial of incineration and monitoring work has been done at ACC Kymore Cement and Vikram Cement. Two technical papers regarding above work have been accepted for the 24th international conference on **Solid Waste Technology and Management**, Philadelphia PA, USA, proposed in March 15-18, 2009. The papers are to be published in the Journal of Solid Waste Technology and Management. The papers are as follows:

- **Co-processing of Plastic waste with Coal in the Cement Kilns**, by Dr. S. P. Gautam and Dr P. S. Bundela, M. P. Pollution Control Board with Mr Vivek Chawla, ACC Kymore Cement, India.

- **Energy recovery from Solid Waste in Cement Rotary Kilin and its Environmental Impact,** by Dr. S. P. Gautam and R. K. Jain, M. P. Pollution Control Board with B. N. Mahapatra, S. M. Joshi, R. M. Gupta, Vikram Cement, India.