



Srishti

MEDWASTE UPDATE

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New Srishti Survey: 25 Medical Waste Incinerators in Delhi closed since Sept. 2000

Srishti conducted the survey of 16 medical waste incinerators in Delhi hospitals during July to September 2002. (There are five other hospitals that were not covered) These 21 hospitals have 29 incinerators. This shows a marked decline in number of incinerators, as compared to 51 that operated in 2000. This can be attributed to greater awareness and availability of the centralized facilities.

Findings of the Survey:

1. Hours of Operation: On an average an incinerator is operated for 4 hours per day.

2. Pollution Control: Most of the hospitals did not have pollution control devices nor could provide information regarding frequency of emission testing.

3. PVC still being burnt : On investigating the incinerator ash glass vials, pieces of glass, burnt tubes and blood bags were found. This indicates hospitals continue to illegally burn glass and plastic stressing the need for better waste segregation. Gloves, syringes etc were also seen lying around in the open at the incinerator site.

4. Occupational safety and Awareness: Awareness levels in terms of safety for the workers have increased since the last survey. Some incinerator operators have been provided with safety gear such as gloves and facemasks however most of the times waste is fed into the incinerator by hand.

5. Sharps management: Even though most of the hospitals are using needle destroyers for destruction of sharps, still some of the hospitals do not have a sharps management policy. Sharps are the most dangerous of all medical waste and all hospitals require a proper management policy for their sharps. Sharps were observed at the incinerator site as well.

6. Cost of incinerators Data collected revealed the high cost of running and maintaining onsite incinerators. As per our survey hospitals can spend over almost Rs 3,00,000 annually just on diesel for its incinerator and Rs. 55,000 on manpower, besides other operating and maintenance expenses .

7. Temperature: Accurate data regarding temperature could not be obtained for most of the incinerators, as they were not running at the time of the visit. The data on temperatures as logged is doubtful .

...Fact for Thought...

The Delhi Government is planning to disallow any new incinerators in the city and phase out the remaining incinerators, which are not complying with the standards.

Recommendations of the survey: -

1. No new incinerators to be allowed.
2. Immediate shutting down of incinerators not complying with standards.
3. It should be made mandatory for all hospitals to install pollution control equipment .
4. Regular inspections to the hospitals by the Prescribed Authorities for stringent application of rules.
5. Ensure implementation of Occupational safety
6. The services provided by the centralized facilities should be improved to encourage more institutions join these facilities.

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INCINERATORS EXCEED EMISSION LIMIT

The Delhi Pollution Control Board (DPCC) has found that incinerators installed in some major government hospitals are exceeding the permissible emission levels. The maximum limit for suspended particulate matter is 150 ppm but the hospitals emit more than 300 ppm.

Earlier this year the DPCC had set out writing letters to hospitals with such incinerators asking them to install air pollution control devices but this step is yet to yield change. Hospitals with defaulting incinerators are Lok Nayak Jayaprakash Narayan, Deen Dayal Upadhyay, Lady Hardinge Medical College, Safdarjung, and All India Institute of Medical Sciences. As a policy decision the DPCC has decided to shut down some of worst of the 40 incinerators in the city by 2005.

Source: The Times of India, 23 September, 2002

9YR OLD PLAYS DOCTOR, COURTESY MEDICAL WASTE

Nine-year-old Vijay Kumar may not know the difference between a dispensary and a hospital but he does know how to use a disposable syringe and the function of a vial. These are the toys he and his friends play with during lunch break at school. About 785 boys study in NCD primary boys school in Bawana and an MCD dispensary is being run inside the school premises for the last 5 years. Medical waste such as disposable syringes, vials, bottles containing liquid medicines are carelessly thrown around and there is no barricade separating the dispensary from the school. A case in this regard is also pending in the court, The high court on July 10 issued a notice to the MCD asking it to move the dispensary before Aug 2 but no action was taken by that date. *Urgent action needs to be taken by the local governing bodies to protect the children who are unaware of the dangers they face as they play 'doctor-doctor' with such waste.*

Source: August 5, 2002, The Statesman

AIIMS FLOUTS RULES ON BIO-MEDICAL WASTE DISPOSAL

According to a survey conducted by the DPCC the All India Institute of Medical Sciences (AIIMS) has not been following any aspect of the bio medical waste management rules.

Besides the waste that spills out of the garbage bags near the dump, there are small dumping grounds at every corner of the hospitals premises and none of it is separated before it goes into the incinerator. Most of it is directly disposed of. Disinfection and disposing of infectious waste in sealed containers is not a practice here. They have the facilities and the manpower but they still do not follow the system of segregation. AIIMS has a relatively new incinerator but nothing is done according to the manual. The temperature in the incinerator does not go beyond 500 degrees Celsius.

Source: 29 August, 2002, The Indian Express

HHD INVITES BIDDERS TO HANDLE BIO MEDICAL WASTE

The Haryana health department has invited and authorized agencies, consultants, and enterprises having experience of handling bio medical waste management to set up a common waste treatment facility. A spokesman of the department said the bidders would be provided with existing incinerators installed at various health institutions in the state on the leaseholder basis for 3 years.

Source: 6 Aug Financial Express

HOSPITALS FLOUTING WASTE MANAGEMENT NORMS TO BE FINED BY BMC PERSONNEL

Under the Swacha Mumbai Campaign the local ward office has drawn a strategy under which all the resources of the Ward Office is concentrated in one public place per day and the maximum amount of awareness about cleanliness is being spread by the BMC through this drive. BMC has decided to crack down on those private and public hospitals in the City that do not dispose their medical waste properly. BMC plans to impose a fine on such hospitals and are also contemplating about taking stronger measures like cancellation of the registration of hospitals.

Source: Free Press Journal Mumbai, 4 September, 2002

LUDHIANA MC TO SET UP TREATMENT PLANT

The municipal corporation has been the first to install a common treatment facility in the state. The facility can charge up to Rs 2.70 per bed it extends its services to all health care facilities in the area.

Source: Financial Express, Chandigarh, September 2, 2002

INCINERATION HARMS CHILDREN

According to a report from a symposium held in Yokohama, there are at least 3000 municipal, and 6000 industrial incinerators in Japan, which are installed in the densely populated city areas. Recently an 'Actual study of school children's illness' has been conducted by School Health Bureau of Yokohama. The data are based on respective primary schools' actual record of diseases among children. Among all diseases, the worst is, asthma, which is very painful and sometimes fatal causing suffocation. Strangely enough, the three schools having the highest number of asthma cases in Yokohama, boast of its greenery environment having no factories around...except huge incinerators on the windward.

Needless to say, the cause is incinerators. The air full of harmful toxic gases and vaporized heavy metals are creeping into children's lungs, and making them weak, mentally deranged. But, the government would not admit causal relationship between incineration and health damage, rather they are seeking business chances for private sectors to streamline all existing facilities.

Source: Setsuko Yamamoto : Peoples group of Anti-Incineration, Privatisation of Waste Management (Japan)

UPDATE FROM NEPAL

In order to manage hazardous medical wastes, the Kathmandu Metropolitan City (KMC) have imported an incinerator approved from Ministry of Population and Environment (MOPE). A Teku Transfer Station and Tribhuvan University Teaching Hospital site have been proposed, which are not as both the sites falls in an area having dense population .Due to typical geographical situation of the valley, toxic chemical fall out from the incinerator will further add on to the already alarming condition of severe air pollution of Kathmandu valley.

Thus priority should be given to non-burning technology of medical waste management rather than incineration. The ministry needs to immediately stop the importation and use of incinerator for management of medical waste of Kathmandu Valley and look for the other non-burn alternatives.

Source: Mr Ram Charitra Sah, Staff Scientist , PRO PUBLIC

PUERTO RICAN HEALTH OFFICIALS WARN AGAINST INCINERATORS

The Puerto Rican Surgeons' College (CMCPR) warned about the adverse health and environmental effects for the island and the entire Caribbean region of a proposed incinerator that would process 840,000 tons of trash annually. The proposed incinerator, which would be the largest in the world and would cost \$ 400 million to build. The CMCPR environmental health committee president Carmen Ortiz said the emissions would affect the whole of Caribbean because pollutants would be carried and spread by winds.

Source: July 23, 2002, EFE News Service

VICTORIES TO CELEBRATE...

Ban on Mercury The Duluth City Council unanimously passed a first-ever ban on the sale of mercury-containing medical equipment, the sale and purchase of mercury thermostats and mercury-containing products in K-12 schools. The new Duluth law is the most comprehensive ban on mercury products passed to date in North America. 'It formalizes mercury elimination practices that have been adopted at nationally recognized institutions," said. Jamie Harvie, P.E., project director at Duluth-based Institute for a Sustainable Future and Mercury Co-coordinator for HCWH. The follow up of this has been that at least 82% of chain pharmacies have stopped selling mercury fever thermometers as a result.

Hazardous waste incinerator scrapped in Sasolburg, South Africa! The Free State Department of Environmental, Tourism, and Economic Affairs disapproved the proposal on 2ND October 2002. The members and allies of GAIA earlier wrote to President. Thabo Mbeki urging his government to scrap the project. The letter was signed by 109 public interest groups from 45 countries. The citizens' victory in Sasolburg is yet another proof that global unity helps!

Deal negotiated to store chemical in Wisconsin 80 metric tons of mercury left behind after the closure of the Holtra Chem Manufacturing Co. plant are on its way to a secure storage facility in Wisconsin. It's a move environmentalists say will prevent the mercury from being sold for export to developing countries, where its reuse could have contributed to global pollution.

Q&A :Can we afford a plasma based incinerator?

Facilitation Centre for Industrial Plastic Technologies (FCIPT), a unit of Institute for Plasma Research, Gandhinagar have developed technology based on plasma arc for treating medical waste. It claims that this technology can deal with all types of hospital waste and eliminates the need for segregation of waste into different categories. Technology Information Forecasting Assessment Council (TIFAC), Department of Science and Technology is now supporting the installation of this technology at Shimla, Goa, Ahmedabad, Andaman and Gangtok. Similar projects are coming up in Chandigarh (Terrasafe Technologies, Osaka, Japan). The first unit is being installed at Andaman and Nicobar Islands.

Plasma arc technologies have been used in a limited way to destroy nuclear, toxic military and hazardous industrial waste. Although there have been attempts to commercialize this technology for use in municipal solid waste management in the US, there Plasma arc technology is disapproved incineration and there are other United Nations review of disposal that "the technology is complex and still



Incineration Medical Waste Treatment August 2001 include:
* despite lower emissions than conventional medical waste incinerators, plasma technologies may still emit dioxin .
* the plasma systems do not have much of an operating track record at a health care facility or regional treatment center.
* plasma systems have a high capital and operating costs, as they have a limited life span.
* because of their high-energy consumption, facilities should consider total environmental impact to include not just emissions on site and also environmental emissions associated with high electrical usage, * many (but not all) of the plasma technologies are designed for large-scale operations may not be suitable for on-site use at a hospital.

are no full-scale MSW plasma arc facilities. because it is technically similar to technologies which inherently safer. A technologies for obsolete pesticides found very expensive." According to "Non-Technologies" by Jorge Emmanuel, HCWH

Given the complexity of the process, it will require high quality operators, adding to its expense. Therefore, it is advisable to follow the precautionary principle since *the Central Pollution Control Board is yet to give its approval to this technology.*

World Bank Promotes Polluting Technology!!!

As many of you know, Incineration is dangerous, costly and an unsustainable method of treating waste. In its role as lender and policy advisor, the World Bank (WBG) however continues to fund incineration in many projects around the globe in a wide array of sectors including medical, municipal, industrial, and agricultural projects. Atleast 156 projects in 68 countries since 1993 and 26 projects since 2001 have included incineration according to documents on their website. In India there are 6 projects promoting incineration.

Economics and health concerns have incineration's viability around the under attack in countries that are such as USA and Japan, and borrowers such as India. In Southern environmental problems are further of facilities to monitor and test and greater budget uncertainties, of facilities.

The Global Anti Incinerator Alliance international alliance of individuals, incinerations of all forms of waste management practices. They have for many years -- but in order to be needs to have strong international countries that are going into debt to



forced a reexamination of world. Incinerators have come large-scale lenders to the WBG countries that are large scale Countries, especially economic and magnified. Reasons for this are lack emissions, different waste content, which adversely affect maintenance

(GAIA) is an expanding NGOs and others working to end and to promote sustainable waste been working to stop this funding more effective, this campaign support especially from those in get incineration.

If you would like to be part of this international campaign, help develop strategies, and take action in your country and region, or view the full report please visit the GAIA site at: <http://www.no-burn.org>.



Syringe disposal: point of order

Welcoming Bill Gates, Chandrababu Naidu , chief minister of Andhra Pradesh, announced that the ongoing immunisation program will be carried out using a new kind of safer plastic syringe, the auto disable or A/D (which can be used only once), in place of the 'unsafe' glass syringe. However he did not address the serious question of what will happen to all the plastic waste which will be generated at scattered at rural and district health centres as a consequence of this. In India alone over 4.2 billion injections are administered annually. Some 4.2 billion A/D syringes can result a lot of plastic and sharps waste! Injection safety experts argue that A/D Syringes will prevent reuse but when it comes to the disposal of waste they resort to the obsolete and polluting technology of incineration. Unquestionably, better immunisation practices will save lives and are critical for protecting us from deadly diseases like measles and Hepatitis B but this does not have to be at the cost of the environment. Among the growing number of cleaner and safer solution are a combination of deep burial, steam sterilisation, needle cutter devices and innovations like the needle puller device by PATH. From all evidence improving medical waste practices needs a combination of staff training, improved housekeeping, utilisation of multiple technologies and safe final disposal. Otherwise, the 23,000 primary health care centres in India will be saddled with extremely polluting incinerators at the cost of Rs 700 crore-more than the \$100 Bill Gates has donated.

By Mr.Ravi Agarwal, Indian Express, 25th November 2002

The India Injection Safety Coalition- An Update.

The India Injection Safety Initiative coalition was formed to set up a national injection safety network and has gained momentum with the expansion of core group and has generated a lot of interest among the key players. The coalition meets regularly and PATH India functions as the secretariat for the coalition. The members include Govt. of India, WHO, UNICEF, World Bank, Indian Medical Association, Indian Academy of Paediatrics, India Clinicians Association (INCLIN), Srishti etc. Three main operational areas identified for the coalition are *immunization injections; curative injections; and injection waste disposal*. The Coalition is also working to leverage the reach and infrastructure of some of the partners (UNICEF, European Commission) in India to effectively percolate the Injection safety messages to state and district levels.

By Mr. A. Balaji. (Programme for Appropriate Technology in Health) PATH- India

EVENTS

SAFE INJECTION GLOBALNETWORK (SIGN) ANNUAL MEET

At the recently concluded SIGN meeting held in Phnom Penh, Cambodia from the 23-25th October 2002, the issue of waste disposal of sharps was discussed in great detail. Health Care Without Harm had four representatives at the meeting to present agencies like WHO and UNICEF for providing information against hazards of waste incineration and adoption of safer technologies. The agenda of this meeting, participant list and updates are available at www.injectionsafety.org

12th OCTOBER, MUMBAI

A workshop was organised on Biomedical Waste Management Training by Help Organisation for People, Environment, and Society. (HOPES). The focus was on the ill effects of incineration and the target audience included health care facility owners and administrators, waste managers and

key implementers of the waste management programme.

27TH SEPTEMBER, GUWAHATI

The Institute of Public Health Engineers (IPHE), Guwahati Regional Center conducted a 2 day workshop on 'Solid waste management and Bio Medical Waste Management in the context of city and town of the NE region. Delegates and experts from different parts of the country attended the different technical sessions and group discussions. The workshop expressed the need for creating awareness about the disposal of various wastes among the civic population.

30th JULY, JAMMU

On the completion of the WHO funded and the Central Pollution Control Board sponsored project on development of an ideal system for segregation of bio-medical waste at the Government Medical College and Hospital, a demonstration was organized at the institution where the participants were acquainted with the do's and don'ts of segregation.

HEALTH & US- MEDICAL ACTION NETWORK (HU-MAN)

In continuation of the process, which we started with our previous newsletter, we are profiling the Hu-Man members as an attempt towards better understanding of their organization and the kind of work that they do.

THE SOCIETY OF JYOTSNA CHAUHAN (JCA)

The Society of Jyotsna Chauhan is a grass root level Non Governmental Organization striving to attain the objective of a biohazard free environment. JCA has been working in the field of bio-medical waste management for the last 3 years and deals with capacity building and training of health personnel. They have trained a large number of health care establishments in Andhra Pradesh and also regulatory bodies like the State Pollution Control Boards and the Municipal Corporations. They also undertake studies on various issues to self sustain a waste management program, develop IEC material, and disseminate information via regular fact sheets on various issues. JCA is also a member of the Andhra Pradesh Pollution Control Board Task Force to monitor the medical waste management in the state.

THE INDIAN SOCIETY OF HEALTH ADMINISTRATORS (ISHA)

ISHA is a large society of over thousands of individual members and over 400 institutional members. Their primary focus in medical waste management is to elevate and establish a standard of managerial competence of health care professionals, training, and system development and infection control. It has been in existence for the last 21 years and has been working in this field for 6 years

You or your organization can be a part of this coalition by becoming an Active Member (Involved with Hu-MAN on a regular basis) or a Member in Principle (No active participation but endorsing Hu-MAN Principles). Contact us and introduce yourself with the following information:

- 1.Name
- 2.Occupation and designation
- 3.Address Phone, Fax, and Email
- 4.Past experience/ interest in medical waste.

Once you have sent us this information, we will then send you more comprehensive form to sign-on as a member.

ABOUT OUR ORGANIZATION...

Srishti is a non- profit society working on the environmental issues of waste and its management. As a part of our research, we have initiated a campaign towards better medical waste management throughout the country. Our emphasis is on moving away from polluting technologies towards safer ones. We have been working on issues of occupational health and safety and waste management.

A special thanks to all who have sent us information and suggestions. We look forward to sharing your experiences through our newsletter!

We have come out with a revised edition of "Hospital Waste, Time To Act, and Srishti's fact sheets on 14 priority areas." This edition covers the following new topics:

1. Disinfectants against the microbes
- 2.Exploring Mercury and its alternatives
- 3.Radioactive waste
- 4.Treatment technologies
- 5.Safety for healthcare workers
- 6.Cytotoxic drugs .

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