

Observations and Recommendations on Bio Medical Waste (Management and Handling) Rules 1998.

Submitted to the Honourable Rajya Sabha
Subordinate Legislation Committee,
Government of India.

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I. Introduction

Safe management of bio-medical wastes requires a robust national legislation and its effective implementation. The Bio Medical Waste (Management and Handling) Rules 1988 was notified by the Central Government in exercise of the powers conferred by Section 6, 8 and 25 Environment (Protection) Act 1986. The implementation of the Rules during last 10 years paint a dismal picture, since very few States have been able to put in place an apparently fool proof systems in management of Bio Medical Waste. In Kerala, the State which is admired by many for the best Health-Care systems among Indian States, only in 2007 a NGO `IMAGE has come forward to handle the Bio Medical Waste and establish a common bio medical waste treatment facility.

The categorisation, treatment and disposal option as given in the Rules further weaken the implementation. The main reason is the treatment and disposal options as per Schedule I and standards for treatment and disposal is not possible for implementation by all institutions due to the cost of equipment and availability of space.

After a decade of emergence of the Rule, several issues remain unaddressed and there is a confusion exist in the operators, agencies and even Governments. We are inviting your attention to the following concerns and observations on Rules.

II. Observations

A. Limitations

i. Scope and Definitions

Establishments like Poultry farms, Aqua culture farms and Dairy farms generate bio-medical wastes since they use antibiotics and other medicines including syringes. Any diseases like bird flu, foot & mouth diseases and its control measures have a bearing on sudden increase of bio-medical wastes. Treatment and disposal options to such eventualities are not addressed in the Rules

Handling of biomedical waste generated during mass immunization camps / other special medical camps are not covered under the Rules since these wastes generally get mixed up with municipal solid waste or result in water/ air/ land pollution due to open burning / dumping.

The Rule has not addressed the issue of generation of Persistent Organic Pollutants (POPs) (Dioxins and Furans) generally released during incineration of materials which have chlorine in it.

The definitions given in the Rule is not effective in defining hazardous waste (radio active, mercury etc.), infectious waste etc.,

ii. Procedure / Methods / Technology

1. Material use

The Rule do not have provisions to address the proliferation of disposable plastics and other materials used un necessarily.

Globally, equipments containing mercury is being replaced for its toxicity and complexity in management. The Rule do not provide for such technology updation.

2. Collection

The Rule is unclear on the procedure of collection of different types of wastes generated in a health care facility.

3. Disinfection

The Rule is silent about the time and place of disinfection which is misinterpreted and untreated bio medical waste is stored for a long time till it gets to the final place of disposal. This results in accumulation of dangerous bio medical waste and may harm public health when exposed.

4. Storage

The provision for storing untreated bio medical waste upto 48 hours is dangerous, since it paves way for multiplication of germs.

5. Transportation

Rule do not specify about maximum distance for a disposal site from the generation of bio medical waste is not specified. Central Pollution Control Board prescribes 150 Km. as maximum distance for transportation.

6. Disposal

Section 6(6) of the Rule is not practical since dumping of waste is not waste disposal technology.

It is not fair to name a single technology ("Common disposal / incineration site" Section 14) when there are alternatives are available for handling health care waste. Incineration is solving only a part of the bio medical waste and not a short cut for all bio medical waste, since highlighting incineration as an ultimate solution is unjustifiable.

7. Residue Management

The rule is silent about the safe disposal of residue which may arise from incineration, dumping or landfilling. Incineration of materials other than body parts will leave toxic ash and dust which are hazardous in nature. Toxic leachates from dumpsites penetrate into ground water sources.

8. Public Awareness / Training

The Rule is silent about the need for public awareness or training for health care personnel to handle bio medical waste.

iii. Roles and Responsibility

1. Operator / Owner

The Rule is not strong enough to hold the operator/ occupier or owner of the health care facility in case of failure bio medical waste management.

2. LSGs

The Rule do not provide any power to LSGs in licensing / monitoring the health care institutions, however responsibility for bio medical waste management is with LSGs. This is not practical since responsibility without power or authority will not work.

III. Recommendations

A. World Health Organisation guidelines

WHO have laid down the 10 steps for Health Care Waste Management Plan. (www.healthcarewaste.org/en/127_hcw_steps.html)

1. Raise Awareness of the problem
2. Define a policy
3. Set up a strategy (steps to achieve objectives listed in the policy)
4. Conduct an assessment of the current situation
5. Draft a health care waste management plan
6. Consolidate the legal and regulatory frameworks
7. Standardise Health Care Waste Management Practices
8. Strengthen the institutional capacities
9. Set waste management plan at all levels
10. Establish a monitoring plan.

Keeping this as broad guideline the following should be made mandatory for every Health Care facilities.

1. Baseline assessment of Waste Stream
2. Health Care Waste Management Manual containing Policy, goals, strategy and techniques used. The manual should also contain the plan for periodical training / refreshment courses for capacity building for the staff on Health Care Waste management. This manual should be a public document.
3. A person / Committee / Team should be made responsible for Waste Management in the Health Care Institution. The name(s) of people in charge should be displayed along with the flow chart of process followed in waste management in the institution.

B. Policy Framework

National level policy on Health Care Waste Management have to be developed through a consultative process. The following elements should be considered while framing the National Policy.

ii. Precautionary approach

Precautionary Principle should be followed in the management of Bio medical waste since the impact of processes followed in handling of waste and the impact of bio medical waste is still unknown to medical science.

iii. Waste Minimisation

Commercialisation of Health Care Sector paved way for unnecessary material use and procedures which resulted in complex waste issues. Waste Minimisation should be a target, where areas of intervention should be identified to curtail the proliferation of toxic materials such as plastics. For example Waste minimization techniques may include, Source Reduction and recycling with emphasis on product changes and source control.

iv. Material use policy / Material substitution

There should be a standard material use policy for health-care facilities based on health standards. There is a need for limiting the use of disposable products to some important areas / purposes only. Use of disposable plastic beddings etc should be discouraged. Use of mercury should be eliminated as much as possible by introducing non mercury products. Time bound phasing out of Mercury should be a priority in the Rules.

X-ray films and film processing may get outdated in the couple of years time, hence transferring images in digital format and storing them in CDs can be thought of to avoid highly toxic process of X-Ray photography and films.

v. Transparency

It should be made mandatory for every health-care facility to make all processes and procedures of their bio medical waste management transparent to public.

vi. Extended Producer Responsibility

For chemicals, equipments, complicated materials etc, the producer / manufacturer / supplier be made responsible for the post consumer waste. They should be held responsible for take back and safe disposal.

vii. Public Awareness

Awareness programme should be launched nation wide to educate people about the impacts of bio medical waste.

Every health care facility should have its own programmes to create awareness among its consumers regarding the harmful effects of bio medical waste.

viii. Training

Special training programmes have to be organised on a regional basis to give technical training for building capacity in hospital staff for Bio Medical Waste Management. Bio medical waste management should be made part of curriculum in academic courses related medical and para medical sciences.

C. Standards for Operation / Procedure / Technology / Pollution

- Set up council / committee to form standards, standard practices, etc in managing health care waste to avoid confusions and vagueness.

D. Scope and Definitions

- The scope of the Rules should be extended to areas where bio medical waste is created. For example dairy farms, poultry farms, aqua culture farms are nowadays using anti biotics, injections etc in the open environment. They have to be bring under the purview of the Rule
- Hazardous waste, infectious waste have to be defined clearly

E. Roles and Responsibility

▪ **Occupier and Operator**

The operator should be held liable for the segregation, disinfection, storage, transportation and safe disposal of bio medical waste emerging from his / her facility. The Occupier and operator have to ensure that the management of the bio medical waste is done as per the Rules. The primary responsibility should be on the occupier / operator in case of outsourcing of bio medical waste management to a service provider.

- **Local Self Governments**

The role of the LSG should be as a licensing authority to ensure that the Rule is being followed.

- **State Pollution Control Board**

It should be their duty to prescribe standards, norms periodically on a regional basis.

F. Human Resources / Organisational system

- It should be made mandatory that large health care facilities should have a well defined organisation system containing bio safety engineers and technical staff to handle bio medical waste. Also continuous documentation should be made mandatory and it should be made available for periodical inspection.

G. Classification

- **Classification of regions**

Population should not be the only criteria to prescribe a technology option for bio medical waste management. Geographical and social characters have to be considered in site selection and classification of regions.

IV. Conclusion

The important points which forms part of the Bio-medical waste management can be summarised as waste minimization, segregation, codification, handling, treatment and disposal. When Biomedical waste (management & handling) Rules 1998 was published, Municipal Solid Waste was not considered a serious issue. However there is a strong link between the two, since inadequate segregation completed with inefficient handling can complicate the municipal solid waste management or viceversa (bio-medical waste management) resulting infectious waste getting mixed with other solid waste which could possibly lead to disaster.



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