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# **BIO MEDICAL AND HAZARDOUS WASTE MANAGEMENT**

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A Policy for Rajiv Gandhi University



**RAJIV GANDHI UNIVERSITY**  
**RONO HILLS, DOIMUKH**  
**ARUNACHAL PRADESH**

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## **ABBREVIATION(S)**

RGU: Rajiv Gandhi University

PSUs: Public Sector Units

TPA: Tons Per Annum

BMHWM: Bio-Medical and Hazardous Waste Management

AYUSH: Ayurveda, Yoga and Naturopathy, Unani, Siddha, and Homeopathy

SDS PAGE: Sodium Dodecyl Sulphate-Polyacrylamide Gel Electrophoresis

DNA: Deoxyribonucleic acid

DGAFMS: Director General, Armed Forces Medical Services

## **ABOUT RGU**

The foundation stone of the Rajiv Gandhi University formerly known as Arunachal University was laid on 04<sup>th</sup> February 1984 by the then Prime Minister of India Smt. Indira Gandhi as a State University. However, in the year 2007, the University attained the status of a Central University and was renamed Rajiv Gandhi University, the nomenclature was done in the name of the former Prime Minister of India Shri Rajiv Gandhi. The University is on the hilltop of Rono Hills, Doimukh, Itanagar in the State of Arunachal Pradesh. The Rajiv Gandhi University is one of the oldest premier institutions for higher education in the state. Since its inception, the teaching and research programs of the University is focused on teaching, learning, and research. The research programs are designed with a view to playing a positive role in the socio-economic and cultural development of the State and the Nation. Despite infrastructural constraints and remote location, the University has been able to maintain its academic excellence. At present, the University has 43 departments under 12 faculties that offer various courses like Post Graduation, Diploma, Post Graduation Diploma, Certificate Courses, BFA, and PhD. with approximately 3200 students including research scholars. There are more than 30 colleges and institutions affiliated to the Rajiv Gandhi University which are in various locations of the State.

## **INTRODUCTION**

The Ministry of Environment & Forests (MoEF) notified the Bio-medical Waste (Management & Handling) Rules, 1998 under the Environment (Protection) Act, 1986. In exercise of the powers conferred by Sections 6, 8, and 25 of the Environment (Protection) Act, 1986 (29 of 1986), and in supersession of the Bio-Medical Waste (Management and Handling) Rules, 1998, and further amendments made thereto, the Central Government published the Bio-Medical Waste Management Rules, 2016 ([https://dhr.gov.in/sites/default/files/Biomedical\\_Waste\\_Management\\_Rules\\_2016.pdf](https://dhr.gov.in/sites/default/files/Biomedical_Waste_Management_Rules_2016.pdf)) via G.S.R. 343(E) dated March 28, 2016. These rules apply to anyone who generates, collects, receives, stores, transports, treats, disposes of, or handles biomedical waste in any form, including hospitals, nursing homes, clinics, dispensaries, veterinary institutions, animal

houses, pathological laboratories, blood banks, AYUSH hospitals, clinical establishments, research or educational institutions, health camps, medical or surgical camps, vaccination camps, blood donation camps, school first aid rooms, and forensic laboratories. These rules stipulate duties of the Occupier or Operator of a Common Bio-medical Waste Treatment Facility as well as the identified authorities.

According to these rules, every occupier or operator handling bio-medical waste, irrespective of the quantity is required to obtain authorization from the respective prescribed authority i.e., State Pollution Control Board and Pollution Control Committee, as the case may be. These rules consist of four schedules and five forms.

Improper practices such as dumping of bio-medical waste in municipal dustbins, open spaces, water bodies etc. leads to the spread of diseases. Emissions from incinerators and open burning also lead to exposure to harmful gases which can cause cancer and respiratory diseases. Exposure to radioactive waste in the waste stream can also cause serious health hazards. An often-ignored area is the increase of in-home healthcare activities. An increase in the number of diabetics who inject themselves with insulin, home nurses taking care of terminally ill patients etc. all generate bio-medical waste, which can cause health hazards.

With increase in population, rapid urbanization and economic requirements, the solid waste management has arisen as a major issue in the country. Not only has the quantity of garbage risen, but the characteristics of waste have also changed dramatically over time, with the introduction of so many new devices and technology. It is estimated that the country generates around 62 million tons of garbage per year, of which 5.6 million is plastic waste and 0.17 million is biomedical waste. Furthermore, hazardous waste creation is 7.90 million TPA, with e-waste accounting for 15 lakh tons. In Indian cities, per capita trash output ranges from 200 to 600 kilos per day (2011). 43 million TPA are collected, 11.9 million are processed, and 31 million are disposed of in landfills(Vikaspedia, 2020).

## **PURPOSE**

Rajiv Gandhi (Central) University, Rono Hills, Doimukh, Arunachal Pradesh recognizes the importance of Solid and Bio Waste Management showing their total commitment to the

environment and sustainability with regards to the disposal of unwanted and /or end of life products to be used inside the campus.

## **OVERVIEW**

- 1) This document provides an overview on collection and disposal of the Bio-Medical and Hazardous Waste products and their parts within the purview of RGU campus area as per the Bio-Medical Waste Management Rules, 2016
- 2) It is expected that this BMHWM policy shall provide a frame work to allow RGU to move towards the goal of environmental sustenance by strictly operating within the frame work of guidelines emanating out of Bio-Medical Waste Management Rules, 2016.

## **SCOPE**

This policy applies to all the activities being practiced under the virtue of RGU campus and the stake holders associated with the university inside the campus.

## **BMHWM SYSTEM POLICIES**

The salient features of BMHWM policies of RGU are as follows:

1. The ambit of the rules has been expanded to include vaccination camps, blood donation camps, surgical camps, or any other healthcare activity;
2. The university has initiated many awareness programmes for using different types of BMHWM dustbins as mentioned below:
  - a. Yellow: Eight different waste types are categorized in this category: soiled waste, expired or discarded waste, chemical waste, chemical liquid waste (separate collection system leading to effluent treatment system), discarded linen, mattresses, bedding contaminated with blood or body fluid, and microbiology, biotechnology, and other clinical laboratory waste.

- b. Red: It includes contaminated waste that is recyclable like waste generated from disposable items such as tubing, bottles, intravenous tubes and sets, urine bags, syringes, and gloves.
  - c. White (Translucent): It includes waste sharps including metals (includes used, contaminated, and discarded metal sharps)
  - d. Blue: It includes broken or contaminated or discarded glass and metallic body implants.
3. RGU will take many initiatives for scientific management of biohazard generated in the laboratories of academic departments, biomedical waste generated in the University Health Centre and sanitary napkins from Women's hostel.
4. The various types of bio-waste generated in the departments such as microbial culture, cell culture media, biological samples like unused blood, plasma, microbes, recombinant DNA waste, recombinant protein waste, cell culture waste, agarose gel waste, SDS-PAGE waste etc. will be incinerated.
5. Ash generated after incineration will be collected at regular intervals and stored in the facility for disposal at Municipality waste dumping site.
6. The method i.e., segregation, packaging, transportation, and storage of biomedical wastes will be improved and the waste has been classified into four categories discussed above.
7. The use of chlorinated plastic bags, gloves, blood bags, etc. will be gradually stopped and this phasing out will be done within 2 years.

This policy is to be communicated to the University Health Centers, staffs, students, faculty members and other stakeholders for the further implementation across the RGU campus.

## **REVIEW AND REVISION**

This BMHM policy will be reviewed periodically to ensure its effectiveness, relevance, and alignment with legal requirements. The University will engage relevant stakeholders,

including student and employee representative bodies, in the review process. Necessary revisions will be made to address emerging issues, changes in legal requirements, or feedback from the Rajiv Gandhi University community.



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