

**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL  
SOUTHERN ZONE, CHENNAI**

**Original Application No. 123 of 2017 (SZ)**

**IN THE MATTER OF:**

Dr. Krithika Gokulnath

.....Applicant

Versus

Registrar, Anna University and 8 Ors

.....Respondent(s)

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**Place: Bengaluru**

**Date: 16.11.2020**

*S Suresh*

**DEPONENT**

**S. SURESH**  
REGIONAL DIRECTOR  
CENTRAL POLLUTION CONTROL BOARD  
REGIONAL DIRECTORATE (SOUTH)  
MIN. OF ENV, FORESTS & CC, GOVT. OF INDIA  
BENGALURU - 560 079. MOB : 9480672128



BEFORE THE NATIONAL GREEN TRIBUNAL (SOUTHERN ZONE) CHENNAI

ORIGINAL APPLICATION NO. 123 OF 2017

IN THE MATTER OF:

Dr. KRITHIKA GOKULNATH

.....APPLICANT

Versus

REGISTRAR, ANNA UNIVERISITY AND 8 ORS

.....RESPONDENT(S)

REPORT FILED ON BEHALF OF 4<sup>TH</sup> RESPONDENT CENTRAL POLLUTION CONTROL BOARD (CPCB) WITH REGARD TO HON'BLE TRIBUNAL ORDER DATED JULY 7, 2020

I, S. Suresh, Son of S.R. Sathyanarayana, Hindu, aged about 58 years, having office at the Regional Directorate, Central Pollution Control Board, 1<sup>st</sup> & 2<sup>nd</sup> Floors, Nisarga Bhavan A-Block, Thimmaiah Main Road, 7<sup>th</sup> D Cross, Shivanagar, Bengaluru – 560 079 do hereby solemnly affirm and sincerely state as follows:

2. That I am presently working as Regional Director, Regional Directorate (South), Central Pollution Control Board (hereafter called as CPCB), Bengaluru and have been authorized to file the independent report of CPCB. I am fully conversant with the facts of the case and hence, competent and authorized to depose and swear the present report as under:
3. That the Hon'ble National Green Tribunal (Southern Zone), Chennai in Application No. 123 of 2017 order dated July 7, 2020 directed CPCB, Regional Directorate Chennai to inspect the Institutions and to submit an independent inspection and action taken report in respect of compliance / violations committed by the institutions in respect of the implementation of Bio Medial Waste Management Rules, 2016. Accordingly CPCB inspected the institutions during November 4 & 5, 2020. The report of the CPCB is enclosed as **Appendix**.

DEPONENT

S. SURESH  
REGIONAL DIRECTOR  
CENTRAL POLLUTION CONTROL BOARD  
REGIONAL DIRECTORATE (SOUTH)  
MIN. OF ENV, FORESTS & CC, GOVT. OF INDIA  
BENGALURU - 560 079. MOB : 9480672128

VERIFICATION

It is submitted that the report of CPCB is prepared based on field investigations carried out by an official of CPCB RD-Chennai. It is verified that the contents of the report are true and correct. Nothing has been concealed therein.

Signed and verified on this 16<sup>th</sup> day of November 2020 at Bengaluru

DEPONENT

S. SURESH  
REGIONAL DIRECTOR  
CENTRAL POLLUTION CONTROL BOARD  
REGIONAL DIRECTORATE (SOUTH)  
MIN. OF ENV, FORESTS & CC, GOVT. OF INDIA  
BENGALURU - 560 079. MOB : 9480672128

COUNSEL FOR

4<sup>th</sup> RESPONDENT



**Report of the CPCB on**

**Dr. Krithika Gokulnath**

**Vs**

**Registrar, Anna University and 8 Ors**

**In**

**Original Application No.123 of 2017**

**Submitted to**

**Before the National Green Tribunal  
South Zone, Chennai**



**Central Pollution Control Board  
Regional Directorate, Chennai  
November 16, 2020**



The Department has a large ensemble of instruments such as Bioreactors/ fermentors, High Performance Liquid Chromatography (HPLC), Flow cytometer, confocal microscope, MALDI-TOF mass spectrometry, gel electrophoresis apparatus for proteomics/ genomics, Gel documentation systems, Biosafety cabinets/ Laminar flow and various incubators. Research activities involving the above instruments/ apparatus invariably results in some chemical/ biotechnological wastes which needs to be disposed off properly. Proteomics/ genomic studies use gel electrophoresis and several toxic chemicals like polyacrilamide, ethidium bromide, several dyes are used in the preparation of gel. According to the relevant website, other major research instruments in the Dept. of Biotechnology are plate scintillation counter, various liquid handling system, gel documentation system, deep freezers, FPLC, HPLC, ultracentrifuge, refrigerated centrifuges, fluorescence spectrophotometer, freeze-dryer, fermenters, CO<sub>2</sub> incubator, fluorescence & absorbance ELISA reader, liquid chromatography, animal cell culture reactor, sonicator and animal house for test animals.

Bioprocess, proteomics and genomic research are generally considered to produce biotechnological research wastes such as spent microbiological media, spent bioprocess liquid, spent protein and DNA/ protein gels containing toxic chemicals and other chemicals used for various purposes. Animal house wastes management and disposal of experiment animals are also very critical. Anna University also have University Innovation Cluster and all the major biomedical/ biotechnological/ bioprocess research facilities are made available. However, there is no information in the website on the waste management aspect of the biotechnological/ biomedical waste.

## 2.2 Observations

- i. On the day of inspection, university means department of biotechnology at Taramani campus was not fully functional and was working with minimum faculty. It was informed that research activities / academic classes are not carried out in a full fledge manner due to prevailing COVID-19 pandemic situation. The classes are conducted through online and only 30 research scholars out of 50 are attending the classes and doing research activities.
- ii. Department of Biotechnology has obtained authorisation in the name of M/s SPIC BIOPROCESS LABORATORY, Taramani Campus, Chennai. M/s SPIC BIOPROCESS LABORATORY has one time Authorisation from Tamil Nadu Pollution Control Board (TNPCB) under sub-rule 1 of Rule 10 of Bio-Medical Waste Management Rules, 2016 on March 19, 2020. However, M/s. SPIC BIOPROCESS LABORATORY is associated with the University Innovation Cluster supported/ funded by Biotechnology Innovation Research and Assistance Council (BIRAC) and not with the Dept. of Biotechnology. It is presumed that the authorization is for this externally funded project institution and it is not for the university departments generating biotechnological research waste. The copy of the authorisation is annexed as *Annexure 2*.
- iii. According to Authorisation, M/s SPIC BIOPROCESS LABORATORY is permitted to

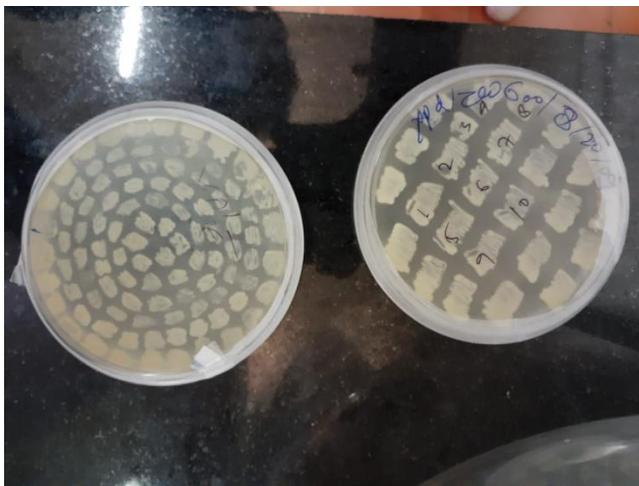


- handle chemical solid waste of 0.2 kg/day and Microbiology, biotechnology and other clinical laboratory waste of 2.5 kg/day. The Bio Medical Waste (BMW) generated from the laboratories has to be segregated and stored in yellow colour bags/bins.
- iv. As per the Schedule-I of BMW Management Rules, 2016; the department is segregating the waste in three bins viz. Red, Blue & Yellow bins. These bins are placed in each research laboratory for collection of BMW.
  - v. However the authorisation issued by the TNPCB is only for yellow category of waste, but as per the manifest copy given by M/s G.J. Autoclave is for yellow, red, blue and white category of BMW. TNPCB may once again review the category of waste generated by Anna university as per the schedule I of the BWM Rules, 2016 and issue the authorisation accordingly.
  - vi. The petri dish used for the cell culture, DNA recombinant stem cell are disposed in the yellow colour bins whereas the gloves, mask are disposed in red colour bins. The general waste such as plastic, food waste, plastic containers are disposed in green bins. However, no information provided regarding disposal of protein/ DNA gels containing toxic chemicals.
  - vii. M/s SPIC BIOPROCESS LABORATORY has entered into MoU with M/s G.J. Multiclave (India) Pvt. Ltd., Chennai in the November 1, 2017 to March, 2019. The agreement was renewed on April 10, 2019 and valid up to March 31, 2021 for the disposal of BMW through incineration.
  - viii. It was informed that the petri dish, vials, beaker, pipette used for cell culture of DNA is a sterilized plastic material and after the analysis it is disposed in yellow colour bins. The waste collected is pre-treated /disinfected in autoclave before giving to G. J. Autoclave for final disposal through incineration.
  - ix. It was informed that around 10 kg/month of biotechnology waste and 0.2-0.5 kg/month chemical waste is generated. The university has not maintained any records for the generation of the BMW to verify the actual quantity. The BMW generated is handled by individual research scholars and no dedicated person is identified for collection and pre-treatment.
  - x. The Department of Biotechnology has one type autoclave of capacity 2.1 kg/cycle and the BMW generated is pre-treated in autoclave. It was informed that, temperature of 120° C and 13 psi pressure is maintained and residence time of 14-20 minutes is given for disinfecting the waste. However, it should be operated to ensure temperature of more than 121° C and 15 psi pressure with disinfection time of 30 to 40 minutes and no records maintained on the disinfection to verify the operating condition of autoclave.
  - xi. During inspection, sufficient waste was not accumulated to verify the operating condition of the autoclave. The university claims that the validation test is done once in a week using streaking assay to ensure that autoclave is done properly. However, disinfection efficacy or validation of autoclave has to be done using standard spore test and again no record maintained in this regard.
  - xii. This clearly indicates that the university is not operating the autoclave as per the



Schedule II of the BWM Rules, 2016. The validation test for autoclave is also not carried as per the Schedule II of the BWM Rules, 2016.

- xiii. The university informed that most of the experiments in biology /biotechnology departments do not involve harsh or hazardous reagents as used in chemistry laboratory and most assays are carried out in disposal plastic wares, the washing liquid possibly contains diluted detergents or bleach and that itself is considered as a method of disinfection and no additional strategies are followed. Hence the liquid waste generated in the laboratory and the sewage from the department is channelized to the septic tank followed by soak pit. However, this statement is vague and misleading as it is well known that toxic carcinogenic chemicals are frequently used in many biotechnological manipulations. For example, the chemical Ethidium bromide a widely used DNA binding fluorescent dye used in agarose gel electrophoresis applications which are a basic molecular biology manipulation in all biotechnology labs employing DNA amplification. Ethidium bromide is a known mutagen with proven carcinogenicity.
- xiv. The biotechnology department has provided a space in the 1<sup>st</sup> floor between the laboratories as a central storage area for autoclave and to store the treated BMW. The area is accessible to all and is not in lock & key manner.
- xv. It was informed that, before the agreement with M/s G.J. Multiclave (in November, 2017), the BMW generated by the department was disposed in deep burial pit located inside the campus. At present the pit is closed with concrete and sealed, during inspection it was verified.



*Petri dish used for cell culture*



*Colour coded bins in Bioprocess laboratory*





*Autoclave for disinfection*



*Deep burial pit near the biotechnology department*

***Photograph no. 1: Management of BMW in Biotechnology department of Anna University***

### **2.3 Pondicherry University**

Pondicherry University was established in the year 1985. The University has 15 Schools, 39 Departments, 9 Centres and it was informed that the School of Life Sciences (Centre for Bioinformatics, Departments of Bio-chemistry & Molecular Biology, Biotechnology, Ecology & Environment Sciences, Food Science & Technology, Microbiology); Madanjeet School of Green Energy Technologies having Centre for Green Energy Technology and Nano Sciences & Technology; School of Engineering & Technology having centre for pollution control & environmental engineering; School of Physical, Chemical & Applied Sciences (Departments of Chemistry, Earth Sciences & Physics) are the source of biotechnological/ chemical research waste generation/BMW. Every school/ department has specific research programs and research project specific laboratories.

The Department of biotechnology has four well-equipped laboratories with all modern facilities for Plant tissue culture, Animal cell culture, Biosafety facility and Microscopy & Photo documentation facility. These laboratories have instruments such as High speed refrigerated centrifuges, UV-Vis spectrophotometer, Bioreactor system, Fermentor, CO<sub>2</sub> incubator, CO<sub>2</sub>-O<sub>2</sub> Incubator, Electrophoresis apparatus, Electroporator, Gel apparatus, Gel documentation and chemiluminescent system, ELISA reader, Multimode reader, PCR, Real-time PCR, Flash Chromatography, HPLC, GC, LCMS, Vacuum concentrator, TG and 2D Electrophoresis (IEF), Flow cytometer, Lyophilizer and Phase contrast, Luminometer, MACS (Magnetic Active Cell Sorter) Phase contrast, Fluorescence and inverted microscopes, -80o C deep freezers, Ultrasonicator, Luminescence Spectrometer and Microplate Spectrofluorimeter.

Every school/ department has specific research programs and research project specific laboratories. Some of the research projects carried out at the university are Synthesis, identification and isolation of chemicals/ compounds/ molecules for chemical/ biological activity, Development of green energy technologies, Drug discovery and development from



natural products, Synthesis and characterization of nano particles/ nano materials for various purposes, Identification of various pollutants - chemical/ biological nature, Effects of toxins on human and environment, Small molecule and novel–materials synthesis, Development of novel pharmaceuticals and therapeutics, Innovative healthcare solutions, Chemical biology , Microbial Cultures etc.

## 2.4 Observations

- i. On the day of inspection (November 5, 2020), the university was not fully operational, many departments were closed. It was informed that due to the COVID-19 pandemic situation, classes for Post Graduate students are conducted through online. It was also informed that from October 15, 2020 onwards, about 30 research scholars are doing the research activity and each laboratory is being utilized by average of 3-4 students per day.
- ii. Pondicherry University, Kalapet, Puducherry has obtained one time Authorisation from Puducherry Pollution Control Committee (PPCC) under sub –rule 1 of Rule 10 of Bio-Medical Waste Management Rules, 2016 on June 19, 2020. The copy of the authorisation is attached as *Annexure 3*.
- iii. Pondicherry University is authorised for generation, segregation, collection, storage and disposal of yellow category waste of 6 kg/day, 2 kg/day of red category waste, 0.5 kg/day of white category and 0.5 kg/day of blue category waste.
- iv. Pondicherry University has entered into MoU with M/s Pondicherry Solid Waste Management Company Pvt. Ltd., Thuthipet, Puducherry on March 17, 2020 valid up to March 16, 2021 for the disposal of BMW generated from four schools through incineration.
- v. During visit to Biotechnology department it was noticed that, in one of the cell culture laboratory there was no colour coded bins for disposing the waste. The waste was not segregated and disposed together in one bin. (Photograph no. 2)
- vi. There was no display of poster for disposing different category of waste in all the four laboratories. No records have been maintained for the generation of BMW to quantify.
- vii. One dedicated person has been identified for the disinfecting or treating the bio-medical waste. The generated from the laboratories is collected and disinfected.
- viii. During inspection, it was informed that the metal rack outside the autoclave room is used as an area for storing the BMW before treatment. The autoclave used for disinfecting in kept along with the other two autoclave used for sterilization. (Photograph no. 2)
- ix. The department of biotechnology has one vacuum type autoclave of capacity 150 litres of Technico make. During inspection, the autoclave was operating with a temperature of 105°C, pressure of 12 psi with residence time of 14 minutes. This indicates that the autoclave is not used for decontamination.
- x. As per the Schedule II of BWM, Rules 2016 the vacuum type autoclave, the waste should be subjected to the following conditions;
  - a temperature of not less than 121°C and pressure of 15 psi per an autoclave



- residence time of not less than 45 minutes; or
- a temperature of not less than 135°C and a pressure of 31 psi for an autoclave residence time of not less than 30 minutes;
- xi. This clearly indicates that the department is not disinfecting the waste according to the conditions mentioned in the schedule II of the BWM, Rules 2016. The log book for operating the autoclave is not maintained.
- xii. It was informed that spore test for the validation of autoclave is conducted every year, but according to the schedule II of BWM Rules, 2016, every week the test has to be conducted to ensure that the autoclave is carried out effectively. The records of the validation test have to be maintained for atleast five years.
- xiii. The treated waste is stored in a room along with other materials and has no dedicated storage facility/area.
- xiv. The university till today has not sent the waste to M/s Pondicherry Solid Waste Management Company Pvt. Ltd., it was informed that after obtaining the authorisation, the nationwide lockdown was imposed and due to prevailing COVID -19 pandemic situation, the departments were not operational.
- xv. However few quantity of wastes generated is disposed of in a deep burial pit after disinfection.
- xvi. In the other departments/laboratories were BMW/ biotechnological research waste are generated, there is no practise of segregation, storage and disinfection as per the BWM, Rules 2016.



*laboratory*



*Autoclave for disinfection*

***Photograph no. 1: Management of BMW in Biotechnology department of Anna University***



### 3.0 Views on best practises submitted by the applicant.

The applicant in the suggestions for the best practises to be adopted for the DNA recombinant research waste issued by the Department of Biotechnology (DBT), Ministry of Science and Technology, GoI was reviewed. The guidelines titled “Regulations and Guidelines for Recombinant DNA Research and Biocontainment, 2017” is applicable for research, development and handling of genetically engineer organisms and non-genetically engineered hazardous microorganisms. The regulations 2.3.5 titled decontamination and disposal is par with the CPCB Guidelines for Management of Healthcare Waste as per Biomedical Waste Management Rules, 2016. In the regulation, after the regulation 2.3.5, DBT has mentioned that *Selection of appropriate decontamination and disinfection strategies for biomedical waste treatment and disposal facilities should be in accordance to those mentioned in the “Revised Guidelines for Common Bio-medical Waste Treatment and Disposal Facilities”(2016) developed by Central Pollution Control Board (CPCB).*

During inspection, the Anna & Pondicherry universities informed that, the department of Biotechnology has an Institutional Biosafety Committee (IBSC) and reviews the day to day activity related to biotechnology research projects. The regulation and guidelines for Recombinant DNA Research and Biocontainment, 2017 is adopted and practised. However there are no indications that the universities followed the regulations issued by DBT in Decontamination and disposal of biotechnological research wastes.

The applicant has suggested the best practices document by the National Research Council of the National Academics, Washington DC titled “Prudent Practices in Chemical Laboratory – Handling and Management of Chemical Hazards” This document prescribes the guidelines for collection, storage and disposal of Hazardous, radioactive, biology hazards and chemical waste generated by the chemical laboratories in an research/educational institutes. These best practices may be adopted by the universities/ research laboratories for safe disposal of chemical, hazardous and radioactive wastes.

### 4.0 Suggestions and Recommendations

- i. The universities have to strictly follow the “Regulations and Guidelines for Recombinant DNA Research and Biocontainment, 2017” and Bio Medical Waste Management Rules, 2016 for handling, decontamination and disposal of the Bio Medical Waste generated from the departments.
- ii. Anna university has obtained one time authorisation from TNPCB for the M/s SPIC BIOPROCESS LABORATORY, Taramani Campus, Chennai. The university has to identify the departments generating the Bio Medical Waste and authorisation has to be obtained.
- iii. While obtaining the authorisation, the universities have to identify the category of waste generated from each department and clearly mention in the application.



- iv. In case of M/s SPIC BIOPROCESS LABORATORY, authorisation is issued only for the yellow category of waste, whereas the red, yellow, blue and white category of waste is disposed to the M/s G. J. Multiclave Pvt. Ltd.,
- v. TNPCB may once again review the category of waste generated by Anna university as per the schedule I of the BWM Rules, 2016 and accordingly authorisation may be issued.
- vi. The universities generating the BMW have to install a small weighing machine to quantify the waste generated from each laboratory/departments and recorded. So that the exact quantity of BMW generated, treated & disposed shall be submitted to SPCBs/PCCs in the Annual report.
- vii. The universities have to maintain log book/ records for the segregation, collection, treatment and disposal of BMW. The records maintained should be made available for the monitoring team.
- viii. Treatment of BMW through autoclave should be followed according to the schedule II of the BWM, Rules 2016. The validation test should be done every week to ensure that the waste is disinfected effectively and as per the methods mentioned in schedule II of the BWM, Rules 2016.
- ix. The universities shall identify one dedicated person responsible for segregation, collection, treatment and disposal of BMW. The concerned person responsible should be trained accordingly to manage & handle the BMW efficiently.
- x. As per the Bio Medical Waste Management Rules, 2016, it is mandatory that all the employees, staff and students need to be trained to handle & manage the BWM.
- xi. A designated central storage room shall be identified within the premises for storage of bio-medical waste, till the waste is treated and disposed to Common Biomedical Waste Treatment Facility. The room should under the responsibility of a designated person and should be under lock & key.
- xii. Pondicherry University to stop using the deep burial pit for disposing the BMW and sent the treated waste to the CBMTF as per the authorization.
- xiii. Most of the biotechnological waste generation is from externally funded projects funded by various Govt. funding agencies. However, funding essentially support research infrastructure development and currently no emphasis is given on disposal and waste management needed in these funded research projects. It is suggested that the funding agencies should ensure that the institutes being funded by them have proper waste disposal/ management facilities (Proper waste disposal/ management facilities shall be made mandatory for getting research grants/ funds) and adequate portion of grant/ fund shall be earmarked exclusively for the management/ disposal of biotechnological/ research wastes.

*Poornima*

**Smt. Poornima B M**  
**Scientist D**  
**Central Pollution Control Board**  
**Regional Directorate - Chennai**



**Item No.05:**

**BEFORE THE NATIONAL GREEN TRIBUNAL  
SOUTHERN ZONE, CHENNAI**

**Original Application No.123 of 2017 (SZ)**

*(Through Video Conference)*

**IN THE MATTER OF:**

Krithika Gokulnath,  
SNN Raj Serenity Apartmnets

...Applicant(s)

**With**

Registrar,  
Anna University,  
Guindy, Chennai and others.

...Respondent(s)

**Date of hearing: 07.07.2020.**

**CORAM:**

**HON'BLE MR. JUSTICE K. RAMAKRISHNAN, JUDICIAL MEMBER**

**HON'BLE MR. SAIBAL DASGUPTA, EXPERT MEMBER**

**For Applicant(s):**

Sri. Koushik N Sharma

**For Respondent(s):**

Smt. D. Latha represented R1.  
Sri. Abdul Saleem through  
Sri. Saravanan for R3.

M/s. Jayalakshmi for R4.  
Sri. S.N. Parthasarathi through  
M/s. Girija represented R8.  
Smt. Sathyabama for R9

**ORDER**

1. As per order dated 22.01.2020, this Tribunal had directed the Tamil Nadu State Pollution control Board as well as Puducherry Pollution Control Committee to submit the present status regarding the compliance of Bio Medical Waste Management Rules 2016, by the Laboratories and Research Institutes dealing with DNA analysis and posted the case to 26.02.2020, for consideration of report.
2. On 26.02.2020, the matter was adjourned to 20.03.2020. On 20.03.2020, this Tribunal had considered the report submitted by the Puducherry Pollution Control committee. They have been directed to submit a further report regarding the action taken for violation found including the recovery of the environmental compensation.
3. The counsel for the Tamil Nadu Pollution control Board wanted time to file a report regarding the inspection conducted by them. We have also directed the 6<sup>th</sup> respondent, Department of Bio Technology to submit a status report regarding further guidelines, if any, issued by them to deal with the disposal of Bio

Medical Waste that is likely to be generated by the Research Institutes and laboratories conducting DNA test before that is being discharged to an environment in a scientific manner.

4. We have also directed the applicant to submit her suggestions or best practices or deficiency if any in the guidelines issued in the year 1990 and further improvement if any to be done in this regard, in order to consider the feasibility of implementing the same by this Tribunal while disposing the case and posted the case to today for that purpose.
5. When the matter came for hearing for today through Video Conference, Sri. Koushik N Sharma represented the applicant. Sri. Abdul Saleem through Sri. Saravanan represented 3<sup>rd</sup> respondent, M/s. Jayalakshmi represented 4<sup>th</sup> respondent, Sri. S.N. Parthasarathi through M/s. Girija represented 8<sup>th</sup> respondent, Smt. Sathyabama represented 9<sup>th</sup> respondent and Smt. D. Latha represented 1<sup>st</sup> respondent.
6. Even today, there was no representation for the 6<sup>th</sup> respondent who is the department which is expected to deal with these issues and their report was directed to be filed by them.
7. We have also received suggestions on best practices of handling and management of bio-medical waste generated from Educational/Research Institutions filed by the applicant through e-mail.

8. The applicant is directed to serve the copy of the same to the counsel for the respondents including the counsel appearing for the 6<sup>th</sup> respondent. 9<sup>th</sup> respondent wanted some more time to file the further report as directed by this Tribunal.
9. We direct the Regional Office, Central Pollution Control Board, Chennai to inspect the institutions mentioned in the application and submit an independent inspection and action taken report in respect of compliance/ violations committed by the institutions in respect of the implementation of Bio Medical Waste Management Rules, 2016 and also the guidelines issued by the 6<sup>th</sup> respondent department regarding scientific disposal of bio medical waste generated in Research/Educational Institutions dealing with DNA analysis. If there is any deficiency found, they are directed to take action against that person in accordance with law in consultation with the respective State Pollution Control Board and also the Pollution Control Committee.
10. The Regional Office, Central Pollution Control Board is also directed to consider the feasibility of implementing the suggestions of best practices submitted by the applicant to this Tribunal and submit their views on the same to this Tribunal.
11. The counsel for the applicant is directed to serve a copy of the suggestions of best practices submitted before this Tribunal

to the officer of in charge of the Regional Office, Central Pollution Control Board, Chennai, so as to enable them to consider the same and submit the report on the same.

12. Two months time is granted to the committee and the authorities mentioned above to submit the report and also complying with the directions of this Tribunal in the earlier orders mentioned to this order and they are directed to submit the respective reports to this Tribunal on or before 15.09.2020 through e-mail @ [ngtszfilling@gmail.com](mailto:ngtszfilling@gmail.com) or by e-filing to this Tribunal.

13. The Registry is directed to communicate this order to the above mentioned officials immediately by e-mail so as to enable them to comply with the direction.

14. For consideration of further report, post on 15.09.2020.

.....J.M.  
**(Justice K. Ramakrishnan)**

.....E.M.  
**(Shri. Saibal Dasgupta)**

**O.A. 123/2017 (SZ)**  
**07th July 2020. Sr.**

**TAMILNADU POLLUTION CONTROL BOARD****FORM III**

(See Rule 10)

**AUTHORISATION No: 19BAD2056 Dated: 19.03.2020.****Proceeding No: TNPCB/F. 000792 /BWA/OS/CHN/2019 Dated: 19.03.2020**

**Sub:** Tamil Nadu Pollution Control Board – Bio-Medical Waste Authorization - One Time Authorisation-HCF – M/s. SPIC BIOPROCESS LABORATORY, Taramani Campus, CSIR Road, Chennai-600 113 - Authorization under Rule 10 of the Bio-Medical Waste Management Rules, 2016 enacted under Environment (Protection) Act, 1986 – Issued- Reg.

**Ref:** 1. Unit's application No. 000792 Dated: 19.03.2020 for Authorization.  
2. BMW-IR.No: F. 000792 /BWA/ OS /CHN/2019 Dated: 19.03.2020.

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**AUTHORISATION FOR OPERATING A FACILITY FOR GENERATION, COLLECTION, RECEPTION, TREATMENT, STORAGE, TRANSPORT AND DISPOSAL OF BIO-MEDICAL WASTES**

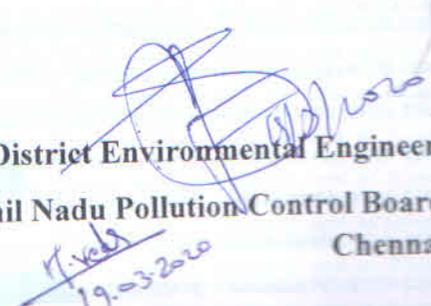
1. File number of authorization: 19BAD2056 and date of issue: 19.03.2020.
2. The Proprietor of M/s. SPIC BIOPROCESS LABORATORY, Taramani Campus, CSIR Road, Chennai-600 113 is hereby granted an Authorisation for Generation, Segregation, Collection, Storage, Packaging, Disposal of Bio-Medical Waste
3. M/s. SPIC BIOPROCESS LABORATORY is hereby authorized for handling of Bio-Medical waste as per the capacity given below.

i)	Number of beds of HCF	Non Bedded	Nos
ii)	Quantity of Bio-Medical Waste handled, treated or disposed		
	<b>Category</b>	<b>Type of Waste</b>	<b>Quantity permitted for handling</b>
	Yellow	a) Human Anatomical Waste	0
		b) Animal Anatomical Waste	0
		c) Soiled Waste	0
		d) Expired or Discarded Medicines	0
		e) Chemical Solid Waste	0.2
		f) Chemical Liquid Waste in KLD	0
		g) Discarded linen, mattresses, beddings contaminated with blood or body fluid	0
		h) Microbiology, Biotechnology and other clinical laboratory waste	2.5
			<b>Unit</b>
			Kg/day
			KLD
			Kg/day
			Kg/day

# TAMILNADU POLLUTION CONTROL BOARD

Category	Type of Waste	Quantity permitted for handling	Unit
Red	Contaminated waste (Recyclable)	0	Kg/day
White(Translucent)	Waste sharps including Metals	0	Kg/day
Blue	Glassware	0	Kg/day
	Glassware Metallic Body	0	Kg/day

- 4 This one time authorization is valid for the non-bedded Health Care facility only.
- 5 The authorization is issued subject to the conditions stated below and to such other conditions as may be specified in the rules for the time being in force under the Environment (Protection) Act, 1986.

  
District Environmental Engineer  
Tamil Nadu Pollution Control Board  
Chennai

## TERMS AND CONDITIONS OF AUTHORIZATION

1. The authorization shall comply with the provisions of the Environment (Protection) Act, 1986 and the rules made there under.
2. The authorization or its renewal shall be produced for inspection at the request of an officer authorized by the Tamil Nadu State Pollution Control Board.
3. The person authorized shall not rent, lend, sell, transfer or otherwise transport the Bio-Medical wastes without obtaining prior permission of Tamil Nadu State Pollution Control Board.
4. Any unauthorized change in personnel, equipment or working conditions as mentioned in the application by the person authorized shall constitute a breach of this authorization.
5. It is the duty of the authorized person to take prior permission of the Tamil Nadu Pollution Control Board to close down the facility and such other terms and conditions may be stipulated by Tamil Nadu Pollution Control Board.
6. Any other conditions for compliance as per the Guidelines issued by the MoEF&CC or CPCB from time to time.

## ADDITIONAL CONDITIONS

1. The unit shall comply with the provisions of the Bio Medical Waste Management Rules, 2016.
2. The unit shall dispose the bio medical waste then and there to the CBMWTDF and maintain proper records.

### SPECIAL CONDITIONS - HCF

1	All the provisions of the Bio-Medical Waste Management Rules, 2016 must be complied with.
2	The HCF shall take all necessary steps to ensure that bio-medical waste is handled without any adverse effect to human health and the environment and in accordance with the Bio-Medical Waste (BMW) Management Rules, 2016.
3	The HCF shall make a provision within the premises for a safe, ventilated and secured location for storage of segregated biomedical waste in colored bags or containers in the manner as specified in Schedule I of the BMW Rules, 2016. It shall be ensured that there shall be no secondary handling, pilferage of recyclables or inadvertent scattering or spillage by animals and the bio-medical waste from such place or premises shall be directly transported in the manner as prescribed in these rules to the common bio-medical waste treatment facility or for the appropriate treatment and disposal, as the case may be, in the manner as prescribed in Schedule I of the BMW Management Rules, 2016.
4	The HCF shall pre-treat the laboratory waste, microbiological waste, blood samples and blood bags through disinfection or sterilization on-site in the manner as prescribed by the World Health Organization (WHO) or National AIDs Control Organization (NACO) guidelines and sent to the common bio-medical waste treatment facility for final disposal.
5	The HCF shall phase out use of chlorinated plastic bags, gloves and blood bags within two years from the date of Notification of the BMW Management Rules, 2016.
6	The HCF shall dispose of solid waste other than bio-medical waste in accordance with the provisions of respective waste management rules made under the relevant laws and amended from time to time.
7	The HCF shall not give treated bio-medical waste with municipal solid waste.
8	The HCF shall establish a Bar-Code System for bags or containers containing bio-medical waste to be sent out of the premises or place for any purpose within one year from the date of the Notification of the BMW Management Rules, 2016.
9	The HCF shall ensure segregation of liquid chemical waste at source and also ensure pre-treatment or neutralization prior to mixing with other effluent generated from health care facilities
10	The HCF shall ensure treatment and disposal of liquid waste in accordance with the Water (Prevention and Control of Pollution) Act, 1974(6 of 1974).
11	The HCF shall maintain and update on day to day basis the bio-medical waste management register and display the monthly record on its website according to the bio-medical waste generated in terms of category and colour coding as specified in Schedule I of the BMW Management Rules, 2016.
12	The HCF shall inform to TNPCB immediately in case the operator of a CBMWTF does not collect the bio-medical waste within the intended time or as per the agreed time.
13	The HCF shall establish a system to review and monitor the activities related to bio-medical waste management by forming a new committee and the Committee shall meet once in every six months and the record of the minutes of the meetings of the committee shall be submitted along with the annual report to the prescribed authority.
14	It is the responsibility of the occupier of the HCF that the only segregated bio-medical waste as per the Schedule-I of the BMW Management Rules, 2016 shall be handed over to common bio-medical waste treatment facility for treatment, processing and final disposal.
15	It shall be ensured that no untreated bio-medical waste shall be mixed with other wastes.

16	The bio-medical waste shall be segregated into containers or bags at the point of generation in accordance with Schedule I of the BMW Management Rules, 2016 prior to its storage, transportation, treatment and disposal.
17	The containers or bags referred to in sub-rule (2) shall be labeled as specified in Schedule IV of the BMW Management Rules, 2016. The bar code and global positioning system shall be added by the Occupier and common bio-medical waste treatment facility in one year time.
18	Untreated human anatomical waste, animal anatomical waste, soiled waste and biotechnology waste shall not be stored beyond a period of forty-eight hours: Provided that in case for any reason it becomes necessary to store such waste beyond such a period, the occupier shall take appropriate measures to ensure that the waste does not adversely affect human health and the environment and inform the prescribed authority along with the reasons for doing so.
19	Dead Fetus below the viability period (as per the Medical Termination of Pregnancy Act 1971, amended from time to time) can be considered as human anatomical waste. Such waste should be handed over to the operator of common bio-medical waste treatment and disposal facility in yellow bag with a copy of the official Medical Termination of Pregnancy certificate from the Obstetrician or the Medical Superintendent of hospital or healthcare establishment.
20	Cytotoxic drug vials shall not be handed over to unauthorized person under any circumstances. These shall be sent back to the manufactures for necessary disposal at a single point. As a second option, these may be sent for incineration at common bio-medical waste treatment and disposal facility or TSDFs or plasma pyrolysis at temperature >1200C.
21	Residual or discarded chemical wastes, used or discarded disinfectants and chemical sludge can be disposed at hazardous waste treatment, storage and disposal facility. In such case, the waste should be sent to hazardous waste treatment, storage and disposal facility through operator of common bio-medical waste treatment and disposal facility only.
22	On-site pre-treatment of laboratory waste, microbiological waste, blood samples, blood bags should be disinfected or sterilized as per the Guidelines of World Health Organization or National AIDS Control Organization and then given to the common bio-medical waste treatment and disposal facility.
23	Syringes should be either mutilated or needles should be cut and or stored in tamper proof, leak proof and puncture proof containers for sharps storage.
24	The HCF shall maintain records related to the generation, collection, storage, transportation, treatment, disposal or any other form of handling of bio-medical waste.
25	The HCF shall submit an Annual Report to the prescribed authority (TNPCB) in Form-IV, on or before the 30th June of every year for the period from January to December of the preceding year.
26	The HCF shall make available the annual report on its web-site and all the health care facilities shall make own website within two years from the date of Notification of the BMW Management Rules, 2016.
27	In case of any change in the bio-medical waste generation, handling, treatment and disposal for which authorization was earlier granted, the occupier or operator of HCF shall intimate to the prescribed authority about the change or variation in the activity and shall submit a fresh application in Form II for modification of the conditions of Authorization.
28	In case of any major accident at any institution of HCF facility or any other site while handling bio-medical waste, the authorized person shall intimate immediately to the prescribed authority about such accident and forward a report within twenty-four hours in writing regarding the remedial steps taken in Form I.

29	The HCF shall ensure occupational safety of all its health care workers and others involved in handling of bio-medical waste by providing appropriate and adequate personal protective equipments.
30	The occupier of the HCF or an operator of a common bio-medical waste treatment facility shall be liable for all the damages caused to the environment or the public due to improper handling of bio- medical wastes. The occupier or operator of common bio-medical waste treatment facility shall be liable for action under section 5 and section 15 of the Act, in case of any violation.
31	The HCF shall adopt the following treatment and disposal methods as described in the BMW Management Rules, 2016 i. Chemical treatment using at least 10% Sodium Hypochlorite having 30% residual chlorine for twenty minutes or any other equivalent chemical reagent that should demonstrate Log104 reduction efficiency for microorganisms as given in Schedule- III. ii. Mutilation or shredding must be to an extent to prevent unauthorized reuse.

  
**District Environmental Engineer**  
**Tamil Nadu Pollution Control Board**  
**Chennai**

To  
The Head  
Department of Biotechnology,  
Anna University,  
Taramani Campus, CSIR Road,  
Chennai-600 113

Copy submitted to:

1. The Member Secretary, Tamil Nadu Pollution Control Board, Chennai for favour of kind information.
2. The JCEE-Monitoring, Tamil Nadu Pollution Control Board, Chennai for favour of kind information.

No. 9212/PPCC/BMW/AUTHO/JSA(PPCC)/2020/287  
**GOVERNMENT OF PUDUCHERRY**  
**DEPARTMENT OF SCIENCE, TECHNOLOGY & ENVIRONMENT**  
**PUDUCHERRY POLLUTION CONTROL COMMITTEE**  
**III FLOOR, PHB BUILDING, ANNA NAGAR, PUDUCHERRY - 605 005**  
**PH: 2201256 / 2203494; FAX: (0413) 2203494**

\* \* \*

Puducherry, the

**FORM -III**  
(See rule 10)

19 JUN 2020

(Grant of Authorisation for operating a facility for generation, segregation, storage and disposal of bio-medical wastes)

1. Authorisation is accorded to M/s. Pondicherry University, Kalapet, Puducherry for generation, segregation, storage, collection and disposal of Bio-Medical waste as per the capacity given below:

Sl. No.	Category	Type of Waste	Quantity (kgs/day)
1.	Yellow	Human Anatomical Waste, Soiled waste, chemical solid and liquid waste and microbiology, biotechnology and other clinical laboratory waste	6.0
2.	Red	Contaminated waste (Recyclable)	2.0
3.	White	Waste sharps including metals	0.5
4.	Blue	Glasswares, metallic body implants	0.5

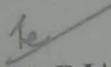
2. This authorisation is subject to the conditions stated below and to such other conditions as may be specified in the rules for the time being in force under the Environment (Protection) Act, 1986.
3. Bio-Medical waste shall not be stored in the premises beyond 48 hours as per Rule 8(7).
4. The authorised person shall submit an Annual Report to the prescribed authority in Form - IV by 30<sup>th</sup> June every year.
5. The authorised person shall submit Report on Accident, if any, to the prescribed authority in Form - I.
6. (a) The Bio-Medical waste should be collected in different colour bags as per the Schedule-I (See rules 3 (e), 4(b), 7(1), 7(2), 7(5), 7 (6) and 8(2)).  
 (b) The Label for Bio-Medical Waste container / Bags should be maintained as per Schedule-III (See rule 8 (3) (5)).
7. Pre-treat the laboratory waste, microbiological waste, blood samples and blood bags through disinfection or sterilisation on-site in the manner as prescribed by the World Health Organisation(WHO) or National AIDS Control Organisation (NACO) guidelines and then sent to the Common Bio-medical Waste Treatment Facility for final disposal.
8. Provide training to all its health care workers and others, involved in handling of bio medical waste at the time of induction and thereafter at least once every year and the details of training programmes conducted, number of personnel trained and number of personnel not undergone any training shall be provided in the Annual Report;
9. Immunise all its health care workers and others, involved in handling of bio-medical waste for protection against diseases.
10. Ensure segregation of liquid chemical waste at source and ensure pre-treatment or neutralisation prior to mixing with other effluent generated from health care facilities;

11. Ensure treatment and disposal of liquid waste in accordance with the Water (Prevention and Control of Pollution) Act, 1974 ( 6 of 1974);
12. **Conduct health check up** at the time of induction and at least once in a year for all its health care workers and others involved in handling of bio- medical waste and maintain the records for the same;
13. **Maintain and update on day to day basis the bio-medical waste management register** and display the monthly record on its website according to the bio-medical waste generated in terms of category and colour coding as specified in Schedule I;
14. **Inform the Prescribed Authority** immediately in case the operator of a facility does not collect the bio-medical waste within the intended time or as per the agreed time;
15. **Establish a system to review and monitor** the activities related to bio-medical waste management.

Terms and conditions of authorisation

16. The authorisation shall comply with the provisions of the Environment (Protection) Act, 1986 and the rules made there under.
17. The authorisation or its renewal shall be produced for inspection at the request of an officer authorised by the prescribed authority.
18. The person authorized shall not rent, lend, sell, transfer or otherwise transport the biomedical wastes without obtaining prior permission of the prescribed authority.
19. Any unauthorised change in personnel, equipment or working conditions as mentioned in the application by the person authorised shall constitute a breach of his authorisation.
20. It is the duty of the authorised person to take prior permission of the prescribed authority to close down the facility and such other terms and conditions may be stipulated by the prescribed authority.
21. For hot water and other requirements install Solar Water Heater in a phased manner within one year. Install Rain Water Harvesting structures to recharge Ground water.
22. Switchover to Energy Efficient lightings and also for the heating and cooling requirements

For and on behalf of PPCC,

  
(SMITHA. R IAS)  
MEMBER SECRETARY (PPCC)

D/C  
18/06/2020

To  
The Registrar,  
M/s. Pondicherry University,  
Kalapet,  
Puducherry - 605 014.

Copy to: Guard file.

S. Pradeep  
15/6/2020  
**DESPATCHED**