
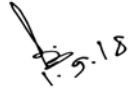
 <p>Govt. of Meghalaya</p>	<p>PRIMARY HEALTH CENTER NARTIANG WEST JAINTIA HILLS 793151 MEGHALAYA</p>	<p>Doc. No. NPHC/SOP/BMW/13</p>
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The Controlled Copy of the SOP bearing the red stamp 'CONTROLLED COPY' will be distributed to the following designated persons:

Sr.no.	Designation
1	MO
2	Lab Tech
3	Nursing Supervisor
4	Pharmacist

SOP 13: BIOMEDICAL WASTE

- I. Objective of the SOP:** To provide guidelines for management of Bio-medical waste.
- II. Purpose:** To define the guidelines for segregation, handling, storage, transportation and disposal of various kinds of biomedical waste.
- III. Scope:** This SOP applies to all employees who generate, collect, store, treat, dispose, or handle bio medical waste in any form. The scope of this SOP applies to biomedical waste only.
- IV. Definitions:**

Sr.No.	Term	Definition
1	Authorized Person	"authorized person" means an occupier or operator authorized by the prescribed authority to generate, collect, receive, store, transport, treat, process, dispose or handle bio-medical waste in accordance with these rules and the guidelines issued by the State Pollution Control Board, as the case may be.
2	Bio-medical waste	"bio-medical waste" means any waste, which is generated during the diagnosis, treatment or immunization of human beings or animals or research activities pertaining thereto or in the production or testing of biological or in health camps, including the categories mentioned in Schedule I appended to these rules.
3	Handling	handling in relation to bio-medical waste includes the generation, sorting, segregation, collection, use, storage, packaging, loading, transportation, unloading, processing, treatment, destruction, conversion, or offering for sale, transfer, disposal of such waste.
4	Adverse events	Large mercury spillage(>3 grams of mercury) or needle stick injuries should be considered as adverse event/accident or incident
5	Management	'management' includes all steps required to ensure that bio- medical waste is managed in such a manner as to protect health and environment against any adverse effects due to handling of such waste.
6	Occupier	Occupier means a person having administrative control over the institution and the premises generating bio-medical waste, which includes a hospital, nursing home, clinic, dispensary, veterinary institution, animal house, pathological laboratory, blood bank, health care facility and clinical establishment, irrespective of their system of medicine and by whatever name they are called.

V. Roles & Responsibilities:

- a. Role of MO I/C:BMW** management is under the supervision of the Infection Control Committee. Therefore, MO I/C is the overall supervising authority. The role of MO I/C is as follows:
- MO I/C. will see that the activities performed are in line with the procedures as laid down in this SOP and in compliance with the 2016 guideline of the Meghalaya State Pollution Control Board
 - He will conduct random check on the process that is being followed
 - He will ensure that activities are documented in the respective log books
 - He will ensure that Log Books are available.
 - He will ensure that Application for Renewal of Authorization is sent to the Meghalaya State Pollution Control Board on or before 31st January in Form-3
 - He will ensure that the Annual Report is filled up in Form-4 and sent to the MPSC by June of every year
 - He will ensure that accidents while handling waste sharps or mercury spill more than 30gms are filled up in Form-1 and sent to the MPSC immediately.
 - He will ensure that staffs get regular updates on the management of BMW.
 - He will ensure that PPEs for waste handlers are available and used by them
- b. Role of Sister In charge/ Sanitary inspector:**
- Senior staff nurse and sanitary inspector will supervise the activities daily.
 - Sister in charge will see that the logistics (bleaching powder/ mercury spill kit/blood spill kit) required to carry out the activities are procured regularly. Indents are placed to the store keeper in standard formats.
 - That, activities are documented accordingly and verification entered in the log book.
 - That, accidents resulting from handling of waste sharps/mercury spills are reported to the MO I/C. and duly fill up in Form-1. That Annual Reports and Application for renewal of Authorization are duly filled up and presented to the MO I/C. for verification.
 - That, PEP is provided to the waste handler/staffs in the event of needle stick injuries
- c. Role of Health Assistant:**
- Health assistant will oversee the day-to-day operation of the BIOWAT(Biomedical Waste Water Treatment)
 - He will maintain Log book of the BIOWAT
- d. Role of Lab technician:**
- Lab technician role is to conduct the Chlorine demand test of the liquid waste and also to determine the Free Residual Chlorine(FRC) of the liquid waste
 - Lab technician should maintain Log book of the Test reagents & Bleaching powder utilized for the treatment of liquid waste
- e. Role of Pharmacists:**
- Pharmacist will issue sub stocks (BMW) to the sister in charge.

- Will issue sub stock (BIOWAT) to the Health assistant
- f. Role of staff nurses/ANMs:**
 - Staff nurses/ANMs on duty must segregate the wastes as per the segregation protocol displayed at the point of generation
 - Must segregate into the color coded waste bins which are deployed at the point of generation
 - Must use the needle destroyer for needles & cannula
 - Should see that Grade-iv/chowkider/ staffs use PPEs for handling of waste
 - Staffs nurses/ANMs on duty must see that Grade-iv staffs collect the bins every day at schedule time from different point of generation and take the bins into the treatment room
 - In the treatment room staff nurses should take the weight of the wastes and documented accordingly in the respective log books
 - Should ensure that correct dose of chlorine solution are prepared by the grade-iv staffs for disinfection of the wastes.
 - Should ensure that following 1hour of disinfection of wastes the chowkider disposes off the wastes into the respective disposal facilities
 - Should see that fresh chlorine solution are prepared after every procedure or in case no procedure is performed then solution be changed after every 24 hours
 - In the event of blood spills/body fluid spills grade-iv staffs should manage the spills under supervision of staff nurses and as per printed protocol
 - In the event of mercury spills staff nurses /ANMs on duty should manage the spill in accordance with the Mercury spill protocol as laid down by MPSCB.
 - In the event of needle stick injuries sustain either by staff nurse or grade-iv or chowkider, they should take PEP and report the incident to the sister incharge or to the MO I/C directly.
 - Should ensure that universal precautions be strictly followed.
- g. Role of ANMs at sub centers:**
 - ANMs conducting immunization sessions should segregate the wastes right at the point of sessions.
 - Sharps waste should be segregated into a hub cutter and hand over to chowkider at the end of session, chowkider will take the hub cutter back to the PHC on the same day, along with the red category, and hand over to the staff nurse on duty, who should acknowledge receipt of the wastes by putting her signature in the receipt register. Once emptied into the translucent container, the hub cutter must be disinfected with 1% chlorine solution for 1 hour and then take back to sub center by the chowkider
 - ANMs should see that hub cutter is available, and red color liners for red category are available.
 - ANMs should ensure that sharps waste and red category wastes(RDTs) generated by the ASHAs performing malaria surveillance should be taken to the jurisdiction sub centers no later than 24 hours.
 - In case of needle stick injuries ANM must report immediately to the PHC.

h. Role of malaria workers:

- Malaria surveillance workers, including SWs and ASHAs, while performing RDTs for malaria or collecting blood slides from patients at the household must segregate the lancets (metallic sharps) into a 500ml used water bottle(which is translucent and puncture proof under normal circumstances) and appropriately labelled as Sharps. RDTs(red category) should be segregated into red colored liners and must be taken to the jurisdiction sub center no later than 24 hours.
- After emptying the container it must be disinfected with 1% chlorine solution for 1 hour and reuse.
- In the event of NSIs the incident must be reported to the concern ANM.

i. Role of Grade-IV Staffs/Chowkider:

- At the PHC level, grade-iv staffs on duty, must take their BMW round at 7 am daily. Waste bins containing wastes must be collected from the point of generation and taken into the treatment room. In the treatment room the waste bins are emptied into the respective color coded bigger bins.
- Needle destroyers should be emptied into the translucent bin in the treatment room.
- Under the supervision of staff nurse on duty, grade-iv takes the weight of the wastes as per the category.
- Under the supervision of staff nurse, grade-iv prepare 1 % chlorine solution for disinfection of the waste.
- Chowkider must don PPE and following 1 hour disinfection must dispose of the waste into the respective facility
- Universal precautions be followed strictly.

j. Role of ambulance staffs(108 EMRI)

- EMRI EMTs station at Nartiang PHC do generate sharps wastes, Red & Yellow (placenta & dressing) wastes during transfer of patients/mothers from periphery to the PHC and from PHC to higher center during referral. Therefore EMRI 108 ambulance is one point of generation wherein wastes must be segregated accordingly.
- EMTs must segregate the above categories of waste and hand over to staff nurse, on duty at the PHC, no later than 24 hours from the time the wastes are generated.

Following table depicts the process, functional responsibility and charge of the different processes of BMW.

<i>Sr.No.</i>	<i>Process</i>	<i>Functional Responsibility</i>	<i>Charge</i>
1.	Licensing	MO I/C	MO I/C
2	Orientation of staffs	Infection control committee	MO I/C
3	Segregation at point of generation	Doctors, staff nurses, ANMs, Lab technicians, Pharmacists, Malaria workers, ASHAs, EMTs.	MO I/C
4	Collection of waste bins from points of generation	Grade-iv/housekeeping staffs	Staff nurses on duty

5	Weighing of wastes in the treatment room	Grade-iv and staff nurses on duty	Staff nurse on duty
6	Preparation of chlorine solution and treatment of waste	Grade-iv and staff nurses on duty	Staff nurse on duty
7	Documentation of waste generated & treated daily	Staff nurses on duty	MO I/C
8	Disposal of wastes to the respective disposal facilities	Chowkidars on duty	Staff nurse
9	Preparation of monthly summary	Senior staff nurse	MO I/C
10	Reporting of adverse events during handling of waste	Doctors/Staff nurses on duty/Grade-iv/lab techs	MO I/C
11	Preparation of annual report	MO I/C	MO I/C
12	Oversight	BMW committee	MO I/C

VI. Process:

VI.1. Duties of an Occupier:

It shall be the duty of every occupier to-

- (a) 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 these rules
- (b) 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 program conducted, number of personnel trained and number of personnel not undergone any training shall be provided in the Annual Report;
- (c) Immunize all its health care workers and others, involved in handling of bio-medical waste for protection against diseases including Hepatitis B and Tetanus that are likely to be transmitted by handling of bio-medical waste.
- (d) Ensure segregation of liquid chemical waste at source and ensure pre-treatment or neutralization prior to mixing with other effluent generated from health care facilities;
- (e) Ensure treatment and disposal of liquid waste in accordance with the Water (Prevention and Control of Pollution) Act, 1974 (6 of 1974)
- (f) 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 equipment.
- (g) 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;
- (h) Report adverse events to the State Pollution control board in prescribed form
- (i) Review and monitor the activities related to bio-medical waste management, either through Infection Control Committee (Quarterly) or

by forming a BMW committee and the Committee shall meet once in every six months

- (j) Apply for renewal of authorization and prepare and submit annual report
- (k) Maintain and update on day to day basis the BMW Log books and keep the records for a period of 5 years.
- (l) Maintain all records of Liquid waste treatment facility, Sharps Pit, and Deep burial Pit for a period of 5 years

VI.2. Bio-medical Waste Categories

Bio-medical waste means any waste, which is generated during the diagnosis, treatment or immunization of human beings or animals or in research activities pertaining thereto or in the production or testing of biological, and including categories mentioned in Table 1.(Schedule-1 of BMW Rules 2016)

Category	Type of Waste	Type of Bag or Container to be Used	Treatment and Disposal options	Remarks
Yellow	(a) Human Anatomical Waste: Human tissues, organs, body parts and foetus below the viability period (as per the Medical Termination Act 1971, amended from time to time)	Yellow colored nonchlorinated plastic bags	Incineration or plasma pyrolysis or deep burial	Treatment in 1% Chlorine solution for 1 hour. Disposal is by Deep Burial as per approval of State Pollution control board
	(b) Animal Anatomical Waste : Experimental animal carcasses, body parts, organs, tissues, including the waste generated from animals used in experiments or testing in veterinary hospitals or colleges or animal houses.	-	-	-
	(c) Soiled Waste: Items contaminated with blood, body fluids like dressings, plaster casts, cotton swabs and bags containing residual or discarded blood and blood components.	Yellow colored nonchlorinated plastic bags	Incineration or Plasma Pyrolysis or deep burial* In absence of above facilities, autoclaving or micro-waving/ hydroclaving followed by shredding or mutilation or combination of sterilization and shredding. Treated waste to be sent for energy recovery.	Treatment in 1% Chlorine solution for 1 hour. Disposal is by Deep Burial as per approval of State Pollution control board
	(d) Expired or Discarded Medicines: Pharmaceutical waste like antibiotics, cytotoxic drugs including all items contaminated with cytotoxic drugs along with glass or plastic ampoules, vials etc.	Yellow colored non-chlorinated plastic bags or containers	Expired cytotoxic drugs and items contaminated with cytotoxic drugs to be returned back to the manufacturer or supplier for incineration at >1200 ⁰ C or to common biomedical waste treatment facility or hazardous waste treatment, storage and disposal facility for incineration at >1200 ⁰ C Or Encapsulation or Plasma Pyrolysis at >1200 ⁰ C. All other discarded medicines shall be either sent back to manufacturer or disposed by incineration	Return to District store
	(e) Chemical Waste: Chemicals used in production of biological and used or discarded disinfectants	Yellow colored containers or non chlorinated plastic bags	Disposed of by incineration or Plasma Pyrolysis or Encapsulation in hazardous waste treatment, storage and disposal facility	

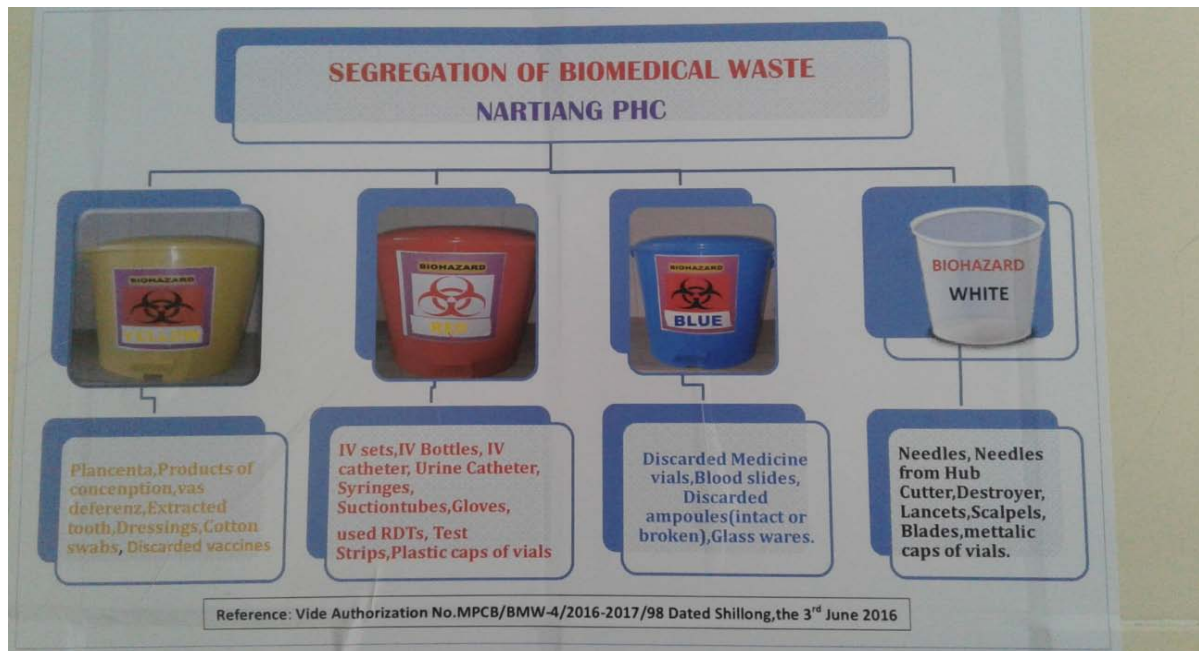
	(f) Chemical Liquid Waste: Liquid waste generated due to use of chemicals in production of biological and used or discarded disinfectants, Silver Xray film developing liquid, discarded Formalin, infected secretions, aspirated body fluids, liquid from laboratories and floor washings, cleaning, housekeeping and disinfecting activities	Separate collection system leading to effluent treatment system	After resource recovery, the chemical liquid waste shall be pre-treated before mixing with other wastewater. The combined discharge shall conform to the discharge norms given in schedule-iii	The PHC installed a Closed pipe collection system leading to The BLOWAT. The combined discharge shall conform to the discharge norms given in Schedule - II, to be ascertained by the Prescribed authorities
	(g) Discarded linen, mattresses, beddings contaminated with blood or body fluid.	Non chlorinated yellow plastic bags or suitable packing material	Non-chlorinated chemical disinfection followed by incineration or Plasma Pyrolysis or for energy recovery. In absence of above facilities, shredding or mutilation or combination of sterilization and shredding. Treated waste to be sent for energy recovery or incineration or Plasma Pyrolysis.	
	(h) Microbiology, Biotechnology and other clinical laboratory waste: Blood bags, Laboratory cultures, stocks or specimens of microorganisms, live or attenuated vaccines, human and animal cell cultures used in research, industrial laboratories, production of biological, residual toxins, dishes and devices used for cultures.	Autoclave safe plastic bags or containers	Pre-treat to sterilize with non-chlorinated chemicals on-site as per National AIDS Control Organisation or World Health Organisation guidelines thereafter for incineration	Treatment in 1% Chlorine solution for 1 hour. Disposal is by Deep Burial as per WHO norms for cold chain point.
Red	Contaminated Waste (Recyclable) (a) Wastes generated from disposable items such as tubing, bottles, intravenous tubes and sets, catheters, urine bags, syringes (without needles and fixed needle syringes) and vacutainers with their needles cut) and gloves	Red colored non chlorinated plastic bags or containers	Autoclaving or microwaving/hydroclaving followed by shredding or mutilation or combination of sterilization and shredding. Treated waste to be sent to registered or authorized recyclers or for energy recovery or plastics to diesel or fuel oil or for road making, whichever is possible. Plastic waste should not be sent to landfill sites. No	Treatment in 1% Chlorine solution for 1 hour. Mutilation and Kept in a holding space for collection by licensed vendor
White (Translucent)	Waste sharps including Metals: Needles, syringes with fixed needles, needles from needle tip cutter or burner, scalpels, blades, or any other contaminated sharp object that may cause puncture and cuts. This includes both used, discarded and contaminated metal sharps	Puncture proof, Leak proof, tamper proof containers	Autoclaving or Dry Heat Sterilization followed by shredding or mutilation or encapsulation in metal container or cement concrete; combination of shredding cum autoclaving; and sent for final disposal to iron foundries (having consent to operate from the State Pollution Control Boards or Pollution Control Committees) or sanitary landfill or designated concrete waste sharp pit.	Treatment in 1% Chlorine solution for 1 hour. Disposed in a sharps pit
Blue	(a) Glassware: Broken or discarded and contaminated glass including medicine vials and ampoules except those contaminated with cytotoxic wastes.	Cardboard boxes with blue colored marking	Disinfection (by soaking the washed glass waste after cleaning with detergent and Sodium	Treatment in 1% Chlorine solution for 1 hour. Kept in a

			Hypochlorite treatment) or through autoclaving or microwaving or hydroclaving and then sent for recycling	holding space for recycling.
	(b) Metallic Body Implants	Cardboard boxes with blue colored marking		

- Disposal by deep burial has been permitted by Meghalaya State Pollution Control Board.
- BMW will not be mixed with other non-infectious wastes. If by mistake this has occurred, this non-infectious waste will then be treated as BMW.
- BMW shall be segregated into containers/bags at the point of generation. The containers will be labeled with BIOHAZARD symbol which will be non-washable and prominently visible.
- Chemical treatment using at least 1% Chlorine solution for 1 hour or any other equivalent chemical reagent should demonstrate Log 4 reduction efficiency in microorganism removal.
- Mutilation or shredding must be to an extent to prevent unauthorized reuse.
- 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.
- Residual or discarded chemical wastes, used or discarded disinfectants and chemical sludge can be disposed at hazardous waste treatment, storage and disposal facility
- 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
- Spill management will be done as per hospital policy.
- Adequate and proper personal protective equipment (PPE) i.e., boots, apron, gloves etc. will be made available at user end wherever required, and worn at appropriate occasions.
- Hand washing facilities will be made available at all appropriate locations.
- BMW from patient care area & temporary storage site will be cleared regularly, preferably in each shift depending on the amount of waste generated.
- Untreated human anatomical waste, animal anatomical waste, soiled waste and, biotechnology waste shall not be stored beyond a period of forty –eight hours.

VI.3. Segregation of Bio-medical Waste:

- a. No untreated bio-medical waste shall be mixed with other wastes.
- b. The bio-medical waste shall be segregated as per categories applicable, into containers or bags at the point of generation e.g., all patient care activity areas, diagnostic service areas, operation theatre areas, treatment rooms etc. prior to its storage, transportation, treatment and disposal.
- c. Containers and bags are labeled with relevant bio-hazard symbol (Annexure 1)
- d. Bins used for holding the color coded bags should be of the same color. In case a bin of the same color is not available due to some reason, a neutral color bin may be used with a prominent sticker of the color of the bag pasted on the lid and/or body. The size of the sticker must be approximately of half the size of the lid of the bin.



e. Job responsibility has already been defined earlier in section V

VI.4. Waste Collection:

- Staffs handling the waste must use PPE
- The bins must be inspected and collected every day at 7 o'clock in the morning
- In case of spill, refer to Infection Control Policy of the hospital.
- All the waste bins must be taken to the waste treatment area.
- Bins collected from points of waste generation are emptied into the respected color coded bigger bins in the treatment room.

VI.5. Treatment:

- Prior to treatment the wastes in the bigger bins must be weighed by using an electronic weighing scale. And the quantity obtained must be recorded in the BMW Log book.
- The wastes must be treated with 1% chlorine solution prepared either from 4% sodium hypochlorite solution or from 25% calcium hypochlorite solution.
- Preparation of Chlorine solution from Sodium hypochlorite solution: Quantity (e) of stock chlorine solution, whose strength is (a), required to prepare a desired solution (b) of chlorine solution in any quantity of water (f), by using the formula:

$$e = \frac{f(b)}{(a-b)} \quad (f \text{ in ml, } a \text{ \& } b \text{ in \%})$$

- Quantity (e) of stock solution (4%) required to make 1% chlorine solution in 1 liter (1000ml) water is obtained by using above formula

Here $e = ?$, $f = 1000\text{ml}$, $a = 4\%$, $b = 1\%$

$$\text{Therefore, } e = \frac{1000(1)}{(4-1)} = 333 \text{ ml.}$$

WORK INSTRUCTIONS

PREPARATION OF 1% CHLORINE SOLUTION FROM A BLEACHING POWDER

FORMULA: Quantity of bleaching powder (25% available chlorine) required to make 1% chlorine solution in 1 liter of clear water is calculated by the formula : $\left(\frac{1}{25} \times 1000\right) = 40$ grams

REQUIREMENTS:

1. Digital weighing machine
2. Bleaching powder(25% available chlorine)
3. Used Mineral Water bottle (1 liter capacity)
4. Bucket (small size)

SEQUENTIAL STEPS:

1. Put on the digital weighing machine
2. Select the 'gram' mode
3. However, ready-pack sachets of 20 gram each of bleaching powder sachet is prepared beforehand for the convenience of the staff
4. Pour 1 liter of clear water into the bucket
5. Now, take **TWO** sachets of bleaching powder(20gram ready pack sachet) and add the powder into the bucket containing 1 liter of clear water
6. Stir the content gently with a bush stick till it forms a uniform solution
7. Now 1 % fresh chlorine solution is ready for use

USE OF 1% CHLORINE SOLUTION:

1% Chlorine Solution is used for Disinfection of Yellow, Red, and White category of Biomedical Waste

CONTACT TIME OF 1% CHLORINE SOLUTION

Process	Contact Time
Disinfection of Yellow, Red, and White Category of BMW	1 hour -2 hours

- The quantity of wastes so treated must be recorded in the BMW log book

VI.6. Disposal:

- After one hour of chlorine treatment, the chowkider on duty takes the wastes, by carrying in an improvised carrier.
- Chowkider must put on PPE and transport the waste to the waste disposal facilities using an improvised carrier.
- Yellow (a,c,h)category is disposed of into a deep burial pit. Yellow © is routed through a closed piped system and into the BIOWAT facility for treatment and disposal. White category is disposed of into the sharps pit. Red category is kept in a holding platform for recycling. The blue category is kept for recycling.
- The quantity of the waste disposed of must be recorded in the BMW Log Book

VI.7. Licensing and other requirements for Bio-medical waste management**1). Application for Authorization:**

- a. For grant of Authorization for management of BMW at the PHC the occupier, i.e., MO I/C. shall make an application in Form II (Annexure 4) to the prescribed authority i.e. Meghalaya State Pollution Control Board and the prescribed authority shall grant the provisional authorization in Form III (Annexure 7)
- b. Disposal of this application shall be done by the Prescribed authority

- c. In case of any change in the bio-medical waste generation, handling, treatment and disposal for which authorization was earlier granted, the occupier shall intimate to the prescribed authority about the change or variation in the activity and shall submit a fresh application in Form II (Annexure 4) for modification of the conditions of authorization.
- d. Occupier should apply for Renewal at least 3 months prior to expiry of the Authorization

2). *Annual Report:*

- Every occupier or operator of common bio-medical waste treatment facility shall submit an Annual Report to the prescribed authority in Form-IV (Annexure 5) on or before the 30th June of every year. The prescribed authority shall compile, review and analyze the information received and send this information to the Central Pollution Control Board on or before the 31st July of every year.
- The Annual Reports shall also be made available online on the websites of Occupier & all healthcare facilities shall make own website within two years from the date of notification of Bio-Medical Waste Management Rules, 2016
- The annual report shall also contain:

Number of Beds (#Interpretation – Census or Registered Beds)

- i. Category wise quantity of waste generated or disposed in Kg per annum (on monthly average basis). (#Interpretation – Month wise and Total Annual Quantity)
- ii. General Solid Waste (#Interpretation – Estimated Quantity is to be given)
- iii. Details of the Storage, treatment, processing and Disposal Facility
- iv. Minutes of Meeting of the Bio-Medical Waste Management Committee held during the reporting period.
- v. Records of all Trainings Conducted, including
 - Number of Trainings Conducted on BMW Management
 - Number of Personnel Trained
 - Number of Personnel Trained at the time of induction
 - Number of Personnel not undergone any training so far
 - Whether any standard manual for training is available
- vi. Report all accidents (adverse events) and the remedial actions taken, including Nil Report in Form 1 (Annexure 8) including
 - Number of Accidents occurred during the year
 - Number of persons affected
 - Remedial Actions taken with details (if any)
 - Details of any Fatality occurred
- vii. Liquid Waste generated and treatment methods in place including
 - Number of times in a year when the standards were not met

- viii. Whether disinfection method or sterilization meeting the log 4 standards including
- Number of times in a year when the standards were not met

3). *Accidents Reporting*: Report adverse events or accidents viz., Mercury spillage >3grams and needle stick injuries in Form-1 to the prescribed authority.

4). *Maintenance of Records*:

i). Maintain Log Book of Waste collection & treatment, Log book of chlorine solution and Log book of Waste Disposal facilities which are records of activities related to generation, collection, reception, storage, treatment, disposal or any form of handling of bio-medical waste for a period of 5 years in accordance with

ii) Maintain records of Sharps Pit, Deep burial pit and Liquid waste Treatment facility for a period of 5 years

iii). Maintain for five years all records pertaining to Bio-Medical Waste, including but not limited to:

- BMW Register (with at least including all elements of Annexure 4)
- On-site treatment
- Accidents with remedial actions taken
- Trainings
- Committee Meetings
- Health Check Ups
- Vaccinations
- Correspondence to Authorities

5). *Other requirements*:

- a. Copy of the Authorization certificate granted by the Meghalaya State Pollution Control Board
- b. Copy of any approval documents issued by the Meghalaya State Pollution Control Board from time to time
- c. Copy of inspection records by the Meghalaya State Pollution Control Board

VII. Biomedical Waste Audit

- The PHC will carry out weekly audit for assessing compliance to biomedical waste segregation and handling using the BMW Audit tool at all the waste generation points in annexure-8
- Audit will be the responsibility of a team nominated by the Hospital Infection Control Committee
- The checklist provided in Annexure 8 will be used for audits. The completed audit sheets are to be kept for a period of at least 5 years along with other Bio-Medical waste records.
- Audit findings are to be presented in the Infection Control Committee meetings and documented in the minutes of the meeting.

VIII. Reference Records:

Sl. No.	Name of Records	Record No.	Location of Storage	Minimum Retention Period
01	Log Book of Waste generation/collection/treatment	GA-BMW13-75	BMW Waste room	5 years
02	Log Book of Chlorine solution	GA-BMW13-76	BMW Waste room	5 years
03	Log Book of Waste Disposal	GA-BMW13-77	BMW Waste room	5 years
04	BMW Audit Sheet	GA-BMW13-78	MO IC	5 years
05	Renewal of Application	GA-BMW13-79	MO IC	10 years
06	BMW License	GA-BMW13-80	MO IC	10 years
07	Annual Report	GA-BMW13-81	MO IC	10 years
08	Adverse events record	GA-BMW13-82	MO IC	10 years


IX. ANNEXURE**ANNEXURE 2 : LABEL FOR BIO-MEDICAL WASTE CONTAINERS/BAGS**

Vinyl Sticker Biohazard label for waste bins

ANNEXURE: 2**STANDARDS FOR TREATMENT & DISPOSAL OF BIO-MEDICAL WASTES****1. STANDARDS FOR DEEP BURIAL**

- (1) A pit or trench should be dug about two meters deep. It should be half filled with waste, then covered with lime within 50 cm of the surface, before filling the rest of the pit with soil.
- (2) It must be ensured that animals do not have any access to burial sites. Covers of galvanized iron or wire meshes may be used.
- (3) On each occasion, when wastes are added to the pit, a layer of 10 cm of soil shall be added to cover the wastes.
- (4) Burial must be performed under close and dedicated supervision.
- (5) The deep burial site should be relatively impermeable and no shallow well should be close to the site.
- (6) The pits should be distant from habitation, and located so as to ensure that no contamination occurs to surface water or ground water. The area should not be prone to flooding or erosion.
- (7) The location of the deep burial site shall be authorized by the prescribed authority.
- (8) The institution shall maintain a record of all pits used for deep burial.
- (9) The ground water table level should be a minimum of six meters below the lower level of deep burial pit.

2. STANDARDS FOR SHARPS PIT:

Measurement: Depth: 2-5 meters (7 feet or 18 feet)
 Breadth: 1-2 meters (3 1/2 feet - 7 feet)

GI Pipe length: 1 meter, cover with lock

Shape: Rectangular/circular

Lined with concrete, covered with concrete slab

3. STANDARDS FOR EFFICACY OF CHEMICAL DISINFECTION

The efficacy of chemical disinfection(1% chlorine solution for 1 hour) is expressed in terms of Log Reduction Value (LRV), which is defined as the difference between the logarithms of number of test microorganisms before and after chemical treatment. Chemical disinfection methods shall demonstrate a Log 4 reduction or greater for *Bacillus Subtilis* (ATCC 19659) in chemical treatment systems.

4. STANDARDS FOR LIQUID WASTE

The liquid waste generated from the PHC must be treated before discharge into the nearby drain. And the effluent from the treatment facility must conform to the following standards as prescribed by the statutory authority.

Parameters	Prescribed Limits
pH	6.5-9
Suspended solids	100mg/L
Oil & Grease	10mg/L
BOD	30mg/L
COD	250mg/L
Bio-essay test	90% survival after 96 hours in 100% effluent

ANNEXURE 3:: LOG BOOKS FOR BMW

1. Log Book of Waste generation/collection/treatment

Daily Log of Waste Collection & Treatment *Primary Health Centre, Nartiang*

Date: _____

Category	Colour of Bin collected & type of waste	Waste Collection							Quantity, in kg, of waste generated today	Signature of staff on duty	Mode of treatment (by chemical disinfection)	Quantity, in kg, of waste treated today	Remarks/signature of staff on duty
		Labour room	Nursing station	Injection room	Laboratory	Dental	Minor OT	Immunization room / sub centre/108 ambulance					
Yellow	Yellow(a) (placenta, Dentures) Yellow (c) (dressings, swabs, (h) expired or discarded vaccines)										1% Chlorine solution		
Red	Red (IV sets, gloves, IV bottles, syringes, RDTs)										1% Chlorine solution		
Blue	Glass wares (ampoules, vials, slides)										1% Chlorine solution		
White	Sharps (needles, lancets, etc.)										1% Chlorine solution		
<i>Total waste generated today</i>													
Signature of Sister In-Charge			Remarks & signature of MO on duty:						Remarks & Signature of MO I/C.				

2. Log Book of chlorine solution

Daily Log of Bleaching Powder (Chlorine Solution) Primary Health Centre, Nartiang PHC

DATE: / /

Opening Stock of Bleaching powder in kg	Batch No.	Expiry Date	Strength of Available Chlorine in bleaching powder	Quantity of bleaching powder utilized today to make 0.5% chlorine Solution for Decontamination of instruments/HZO				Total quantity utilized for decontamination (E+F+G+H)	Signature of Staff	Quantity of Bleaching powder utilized today to make 1% chlorine solution for Chemical Disinfection				Total quantity utilized for treatment of waste (K+L+M+N)	Signature of Staff	Quantity utilized today (grand total) (I+P)	Closing Stock of Bleaching Powder in Kg	Signature of Staff
				Labour room	Dressing room	Dental room	Minor OT			Yellow BMW	Red BMW	Blue BMW	White BMW					
A	B	C	D	E	F	G	H	I	J	K	L	M	N	P	Q	R	S	T

Signature of Sister In-Charge Remarks & signature of MO on Duty: Remarks & Signature of MO I/C:

3. Log Book of Disposal Facilities

Logbook of Waste Disposal Facilities Primary Health Centre, Nartiang

DATE: / /

Method of Disposal as per Sub-section 3 of the Act as per section 35 of the Act	Quantity of waste, as per disposal as per section 35 of the Act	Remarks	Signature of assistant staff	Signature of sister in duty

Signature of Sister In-Charge Remarks & signature of MO on Duty: Remarks & Signature of MO I/C:

ANNEXURE 4:: FORM – II. (See rule 10)

APPLICATION FOR AUTHORISATION OR RENEWAL OF AUTHORIZATION

(To be submitted by occupier of health care facility or common bio-medical waste treatment facility)

To,
 The Member Secretary
 Meghalaya State Pollution Control Board
 Arden, Lumpyngad
 Shillong-793014

1. Particulars of Applicant:

(i) Name of the Applicant:

(In block letters & in full)

(ii) Name of the health care facility (HCF) or common bio-medical waste treatment facility (CBWTF) :

(iii) Address for correspondence:

(iv) Tele No., Fax No.:

(v) Email:

(vi) Website Address:

2. Activity for which authorization is sought:

Activity	Please tick
Generation,	
Segregation	
Collection,	
Storage	
Packaging	
Reception	
Transportation	
Treatment or processing or conversion, Recycling	
Disposal or destruction,	
use	
Offering for sale, transfer	
Any other form of handling	

3. Application for fresh or renewal of authorization (please tick whatever is applicable):

(i) Applied for CTO/CTE Yes/No

(ii) In case of renewal previous authorization number and date: -----

(iii) Status of Consents:

i. under the Water (Prevention and Control of Pollution) Act, 1974 -----

ii. under the Air (Prevention and Control of Pollution) Act, 1981: -----

4. Address of the health care facility (HCF) or common bio-medical waste treatment facility (CBWTF):

(ii) GPS coordinates of health care facility (HCF) or common bio-medical waste treatment facility (CBWTF):

5. Details of health care facility (HCF) or common bio-medical waste treatment facility (CBWTF): (i) Number of beds of HCF: (#Interpretation – Census or Registered Beds)

(ii) Number of patients treated per month by HCF:

(iii) Number healthcare facilities covered by CBMWTF: _____

(iv) No. of beds covered by CBMWTF: _____

(v) Installed treatment and disposal capacity of CBMWTF: _____ Kg per day

(vi) Quantity of biomedical waste treated or disposed by CBMWTF: _____ Kg/day

(vii) Area or distance covered by CBMWTF: _____

(pl. attach map a map with GPS locations of CBMWTF and area of coverage)

(viii) Quantity of Biomedical waste handled, treated or disposed _____

Category	Type of Waste	Quantity Generated or Collected, kg/day	Method of Treatment and Disposal (Refer Schedule-I)
Yellow	(a) Human Anatomical Waste:		
	(b) Animal Anatomical Waste :		
	(c) Soiled Waste:		
	(d) Expired or Discarded Medicines:		
	(e) Chemical Waste:		
	(f) Chemical Liquid Waste:, disinfecting activities		
	(g) Discarded linen, mattresses, beddings contaminated with blood or body fluid.		
	(h) Microbiology, Biotechnology and other clinical laboratory waste:		
Red	Contaminated Waste (Recyclable)		
White (Translucent)	Waste sharps including Metals		
Blue	Glassware:		
	Metallic Body Implants		

6. Brief description of arrangements for handling of biomedical waste (attach details):

(i) Mode of transportation (if any) of bio-medical waste:

(ii) Details of treatment equipment (please give details such as the number, type & capacity of each unit)

	No. of units	Capacity of each unit
Incinerators		
Plasma Pyrolysis:		
Autoclaves:		
Microwave:		
Hydroclave:		
Shredder:		
Needle tip cutter or destroyer		
Sharps encapsulation or		

concrete pit		
Deep burial pits:		
Chemical disinfection:		
Any other treatment equipment		

7. Contingency plan of common bio-medical waste treatment facility (CBWTF)(attach documents):
8. Details of directions or notices or legal actions if any during the period of earlier authorization.
9. Declaration

I do hereby declare that the statements made and information given above are true to the best of my knowledge and belief and that I have not concealed any information.

I do also hereby undertake to provide any further information sought by the prescribed authority in relation to these rules and to fulfil any conditions stipulated by the prescribed authority.

Date:

Place

Applicant

Sign of the Applicant.

Designation of the

ANNEXURE 5::FORM IV (See rule 13)

ANNUAL REPORT

(To be submitted to the prescribed authority on or before the 30th June every year for the period from January to December of the preceding year, by the occupier of health care facility(HCF) or common bio-medical waste treatment facility(CBWTF)

Sr.no.	Particulars	
1	Particulars of the Occupier	
	i)Name of the authorized person (occupier/operator):	
	ii)Name of HCF or CBMWTF	
	iii) Address for Correspondence	
	iv) Address of Facility	
	v) Tel. No. Fax.No	
	vi)E-mail ID	
	vii) URL of Website	
	viii) GPS coordinates of HCF or CBMWTF	
	ix) Ownership of HCF or CBMWTF	(State Government or Private or Semi Govt. or any other)
	x) Status of Authorization under the Bio-Medical Waste (Management and Handling) Rules	Authorization No..... Valid up to.....
xi) Status of Consent under Water Act and Air Act	Valid up to.....	
2	Type of Health Care Facility	
	i) Bedded Hospital	

		No. of Beds.....			
	ii) Non-bedded hospital (clinic or Blood Bank or Clinical Laboratory or Research Institute or Veterinary Hospital or any other)				
	iii) License number and its date of expiry				
3	Details of CBMWTF				
	i) Number of healthcare facilities covered by CBMWTF				
	ii) No. of beds covered by CBMWTF				
	iii) Installed treatment and disposal capacity of CBMWTF	_____ Kg/day			
	iv) Quantity of biomedical waste treated or disposed by CBMWTF	_____ Kg /day			
4	Quantity of waste generated or disposed in Kg per annum (on monthly average basis)	Yellow category			
		Red Category:			
		White:			
		Blue Category:			
		General Solid Waste:			
5	Details of the storage, treatment, transportation, processing and disposal facility				
	i) Details of the on-site storage facility	Size Capacity Provision of onsite (cold storage or any other provision)			
	Disposal facilities	Type of treatment	No. of units	Capacity Kg/Day	Quantity treated or disposed in Kg per annum
		Incinerators			
		Plasma Pyrolysis:			
		Autoclaves:			
		Microwave:			
		Hydroclave:			
		Shredder:			
		Needle tip cutter or destroyer			
		Sharps encapsulation			

		or concrete pit			
		Deep burial pits:			
		Chemical disinfection:			
		Any other treatment equipment			
	ii) Quantity of recyclable wastes sold to authorized recyclers after treatment in Kg per annum	Red Category (like plastic, glass etc.,)			
	iii) No. of vehicles used for collection and transportation of bio-medical waste				
	iv) Details of incineration ash and ETP sludge generated and disposed during the treatment of wastes in Kg per annum		Quantity generated	Where disposed	
		Incineration ash			
		ETP sludge			
	v) Name of the common Bio-medical waste treatment facility operator through which wastes are disposed of				
	vi) List of member HCF not handed over bio-medical waste				
6	Do you have bio-medical waste management committee? If, yes, attach minutes of the meeting held during the reporting period				
7	Details of training conducted on BMW management				
	i) Number of training conducted on BMW management				
	ii) Number of personnel trained				
	(iii) number of personnel trained at the time of induction				
	(iv) number of personnel not undergone any training so far				
	(v) whether standard manual for training is available?				
	(vi) any other information)				
8	Details of the accident occurred during the year				
	(i) Number of Accidents occurred				

	(ii) Number of the persons affected	
	(iii) Remedial Action taken (Please attach details if any)	
	(iv) Any Fatality occurred, details	
9	Are you meeting the standards of air Pollution from the incinerator? How many times in last year could not met the standards?	
	Details of Continuous online emission monitoring systems installed	
10	Liquid waste generated and treatment methods in place. How many times you have not met the standards in a year?	
11	Is the disinfection method or sterilization meeting the log 4 standards? How many times you have not met the standards in a year?	
12	Any other relevant information	(Air Pollution Control Devices attached with the Incinerator)

Certified that the above report is for the period from

Name and Signature of the Head of the Institution.

Date:

Place:

ANNEXURE 6::FORM 1

ACCIDENT REPORTING

1. Date and time of accident:
2. Type of Accident:
3. Sequence of events leading to accident:
4. Has the Authority been informed immediately?
5. The type of waste involved in accident:
6. Assessment of the effects of the accidents on human health and the environment:
7. Emergency measures taken:
8. Steps taken to alleviate the effects of accidents:
9. Steps taken to prevent the recurrence of such an accident:
10. Does you facility has an Emergency Control policy? If yes give details:

Date.....

Place.....

Signature.....

Designation.....

ANNEXURE 7:: FORM III
Grant of Authorization

MEGHALAYA STATE POLLUTION CONTROL BOARD		
Forests & Environment Department		
GOVERNMENT OF MEGHALAYA		
ARDEN, LUMPYNGNGAD, SHILLONG - 793014		
Email : megspcb@rediffmail.com		
Website : http://megspcb.gov.in		
☎ 0364 - 2521217	2522802	2521514
2521533	2522726	☎ 0364 - 2521784

No.MPCB/BMW-4/2018-2019/82

Dated Shillong, the 27th May, 2018**AUTHORISATION UNDER THE BIO-MEDICAL WASTE****MANAGEMENT RULES, 2016**

Authorisation under Rule 10 of the Bio-Medical Waste Management Rules, 2016, is hereby granted to **Nartiang, Primary Health Centre** located at **Nartiang, West Jaintia Hills District** with a capacity of **10 (Ten) beds** for generating, collecting, receiving, storing, transporting, treatment or processing or conversion, recycling, disposing or destruction, use, offering for sale, transfer and/or handling bio-medical waste in any manner and which expires on **31st January, 2018** is hereby renewed for a period of three years i.e., upto **31st January, 2021**.

This Authorisation shall be produced for inspection at the request of the officer authorised by the Prescribed Authority, i.e. Meghalaya State Pollution Control Board and 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.

TERMS AND CONDITIONS OF AUTHORISATION

1. The Authorised person/institution shall comply with the provision of the Environment (Protection) Act, 1986 and the relevant Rules made there under.
2. The Authorised person/institution shall not rent, lend, sell, transfer or otherwise transport the bio-medical wastes without obtaining the prior permission of the Prescribed Authority, i.e. Meghalaya State Pollution Control Board.
3. Any unauthorised change in the mode of handling, treatment or disposal as mentioned in the application by the Authorised person / institution shall constitute a breach of this Authorisation.
4. 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.
5. Bio-medical waste shall be segregated into containers/bags at the point of generation in accordance with Schedule-I. The containers/bags shall be labelled according to Schedule-IV Part-A.
6. Containers transported from the premises where bio-medical waste is generated to the waste treatment facility shall, apart from the label prescribed in Schedule-IV Part-A, also carry information prescribed in Schedule-IV Part-B.
7. The bio-medical waste shall be transported in covered vehicles which shall be labelled according to Schedule-IV Part-A.
8. No untreated bio-medical waste shall be kept / stored beyond a period of 48 hours.
9. Electric needle-destroyers shall have to be provided at all points of generation, preferably at every Nurses' Duty Room. Needles are to be destroyed immediately after use. Plastic syringe bodies shall be stored in a chemical disinfectant, in puncture proof containers, at the point of generation till their collection and transport for final treatment.

MEGHALAYA STATE POLLUTION CONTROL BOARD

Forests & Environment Department
GOVERNMENT OF MEGHALAYA

'GARDEN', LUMPYNGNGAD, SHILLONG - 793014


Email : megspcb@rediffmail.com
Website : <http://megspcb.gov.in>

☎ 0364 - 252121
252280
252151
252153
252277
☎ 0364 - 252171



113

10. Bio-medical waste shall be treated and disposed off in accordance with Schedule I and in compliance with the Standards prescribed in Schedule II.
11. Chemically disinfected waste sharps shall be disposed of in a specially constructed sharps pit within the hospital premises.
12. A waste autoclave shall have to be provided to disinfect all contaminated solid and soiled bio-medical waste, which cannot be incinerated, including the plastic syringe bodies.
13. Liquid and chemical waste shall be neutralized and disinfected before discharge into public drains.
14. Protective clothing like gloves, masks, overalls and rubber boots shall be provided to staff handling bio-medical waste.
15. **The Authorised person / institution shall submit an Annual Report in prescribed Form-IV on or before 30th June every year for the period from January to December of the preceding year, and shall report any accident in Form-I immediately.**
16. **The Authorised person / institution shall apply for renewal of the Authorisation in prescribed Form-II three months before its expiry date.**
17. Appropriate Sewage Treatment Plant should be installed to ensure the effluent is within the prescribed standards as per Scheduled II.


MEMBER SECRETARY
Meghalaya State Pollution Control Board
Shillong

Copy to:

1. The Director of Health Services (MI), Meghalaya, Shillong.
2. The District Medical & Health Officer, West Jaintia Hills District, Meghalaya.
- ✓ 3. The Medical & Health Officer, I/C., P.H.C., Nartiang, West Jaintia Hills District.

MEGHALAYA STATE POLLUTION CONTROL BOARD

Forests & Environment Department

GOVERNMENT OF MEGHALAYA

'ARDEN', LUMPYNGNGAD, SHILLONG - 793014

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☎ 0364 - 2521217

2522802

2521514

2521533

2522726

☎ 0364 - 2521764

NO.MPCB/ BMW-1(Pt-VI)/2017/2018-2019/176

Dtd: 29th May, 2018

To ✓

Dr. R. Pohsnem,
Sr. Medical & Health Officer,
I/C. Nartiang PHC,
West Jaintia Hills District

Ref: No. /NPHC/BMW/136/2018, Dated: 11th May, 2018.

Sub: Approval for New Deep Burial Pit in Nartiang PHC.

Sir,

In inviting a reference to the subject cited above, I am to inform you that permission is hereby granted for using the Deep Burial pit at Nartiang PHC, West Jaintia Hills. However, you are instructed to strictly follow the standards for deep burial as per schedule-II (copy enclosed) of the Bio-medical Waste Management Rules, 2016.

This is for your kind information and necessary action.

Enclosed: as stated.

Yours faithfully

MEMBER SECRETARY

Meghalaya State Pollution Control Board,
Shillong

ANNEXURE 8:: BIOMEDICAL WASTE AUDIT SHEET

Sr.no.	Checkpoint	Yes/No	Comments
1	BMW segregation chart prominently displayed at the point of generation		
2	Display of work instructions for segregation and management of BMW		
3	Valid license for BMW management		
4	Designated waste routes in the building		
5	On-site Disposal facilities		
6	Valid agreement with licensed vendors for recycling		
7	Color coded bins are present at point of generation		
8	PPE for waste handlers		
9	Functional Weighing(digital) machine available		
10	Liquid waste treatment facility installed		
11	Water testing kit available		
12	Availability of functional needle destroyers/hub cutters		
13	Availability of designated storage room/treatment room/documentation		
14	Functional Waste trolley available		
15	Log books available		
16	Sodium hypochlorite solution or bleaching powder available		
17	Lab tech for free chlorine/pH test available		
18	Availability of PEP		
19	Availability of puncture proof box		
20	Availability of staffs to manage specific tasks		
21	Bins carry the biohazard logo and date of first use		
22	All waste bins are visibly clean, externally & internally		
23	Staffs wear PPE		
24	Staffs segregate BMW as per chart/guidelines		
25	No mixing of infectious and general waste		
26	Removal of BMW before sharps bins are 3/4 th filled		
27	Waste bins are collected from points of generation at 7 am daily and taken		

	to the treatment room		
28	Staffs know how to operate the needle destroyers, destroying the tip of needles and cutting at the hub..		
29	Staffs knows what to do in case of needle stick injuries		
30	Staffs knows what to do in case of mercury spill		
31	Staffs take the weight of BMW before treatment		
32	Staffs know how to prepare 1% chlorine solution		
33	Disinfection of BMW with 1% chlorine solution before disposal		
34	Staffs aware of contact time for disinfection of BMW		
35	Staffs updates the log book daily in the treatment room		
36	Staffs transport the treated BMW to the disposal site by a BMW carrier/trolley		
37	Staff add a 10cm layer of soil to cover the waste being disposed of in the deep burial pit		
38	Staffs conduct the chlorine demand test before addition of chlorine to the waste water		
39	Staffs conduct the requisite tests before discharge of liquid waste effluent into a drain		
40	Effluent meet the discharge norms		
41	Samples of pre-disinfection and post-disinfection BMW subject to microbial (bacillus Subtilis) test for efficacy of the disinfection (1% chlorine) method		
42	Is disinfection of BMW with 1% chlorine solution meeting the Log4 reduction value		
43	Staff (due for training) have attended a training session on correct & safe disposal of BMW		
44	Has the Chemical Liquid Waste been pre-treated in the on-site Effluent/Sewage treatment Plant before discharge		
45	Has BMW management been discussed in the Infection Control Committee Meeting and minutes recorded (if the meeting was		

	scheduled to be held in the previous month as per the prescribed frequency)		
46	Has Induction training on BMW been provided to all newly joined (Health care workers) who joined during the previous month		
47	Has yearly training on BMW been provided to all Health care Workers due for the same during the previous month		
48	Has Health Check-up been done for all newly joined(Health care workers) who joined during the previous month		
49	Has Immunization been done for all Health care Workers due for the same during the previous month		
50	Are adverse events reported		
51	Hand washing technic followed		
52	Is recycling of Red & Blue waste to authorized vendors taking place		
53	Has the BMW been collected by the Vendor on each day (as agreed in the terms & conditions with the vendor) including holidays		
54	In case the vendor has not collected the BMW on a given day (as agreed in the terms & conditions with the vendor) including holidays, was the appropriate authority informed of the same		
55	Is a copy of the vendor's authorization by state authority (including list of authorized vehicles) available with the designated person in the unit?		

Note:

1-6: reflect the system's Capacity (Input) for BMWManagement

7-20: reflect the system's Resources (input) for BMWManagement

21-52: reflect the system's Process for BMWManagement

X. PROCESS INDICATORS: (goal is 100%)

1. Proportion of color coded bins available = $\frac{\text{No. of color coded bins available}}{\text{Total no. of color coded bins required}} \times 100$
2. Proportion of staffs having knowledge of BMW = $\frac{\text{No. of staffs trained on BMW}}{\text{Total no. of staffs handling BMW}} \times 100$
3. Proportion of needle stick injuries reported and attended to = $\frac{\text{No. received PEP}}{\text{No. of Needle stick injuries}} \times 100$
4. Proportion of BMW disposed of after treatment = $\frac{\text{Quantity disposed of after treatment}}{\text{Quantity generated}} \times 100$
5. Proportion of BMW treated within 48 hours = $\frac{\text{Quantity of BMW treated within 48 hours}}{\text{Quantity of BMW generated during the month}} \times 100$
6. Proportion of BMW treatment meeting the disinfection standard = $\frac{\text{No. of BMW treatment meeting } \geq \text{Log}_4 \text{ reduction}}{\text{Total no. of BMW treatment}} \times 100$

XI. REFERENCES:

1. Authorization under the Bio-Medical Waste (Management & Handling) Rules, 2016 No. MPCB/BMW-4/2016-2017/98 Dated Shillong the 3rd June 2016
2. Draft SOP NHSRC, QI Division MoHFW New Delhi.

 1.5.18