

Action Plan
for
Bio-Medical Waste Management in the State



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**Directorate of Environment and Climate Change
Department of Science, Technology and Environment,
Government of Punjab**

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Chapter 1 - Introduction

1.1 Waste Management – A key challenge of rapid urbanization

- 1.1.1 There has been quantum increase in generation of solid waste and its quality with rapid population growth and urbanization. The composition of solid waste depends on number of factors such as lifestyle of people, their relative standards of living, general consumer patterns, and the level of technological advancement.
- 1.1.2 The lack of effective solid waste management creates serious health, safety, and environmental consequences. Poorly managed waste serves as a breeding ground for disease vectors, contributes to global climate change through methane generation, and even promotes urban violence.

1.2 About Bio-Medical Waste

- 1.2.1 Biomedical waste means any waste, which is generated during the diagnosis, treatment or immunisation of human beings or animals or research activities pertaining thereto or in the production or testing of biological or in health camps.
- 1.2.2 Bio-medical waste is generated from hospitals, nursing homes, clinics, dispensaries, veterinary institutions, animal houses, pathological laboratories, blood banks, ayush hospitals, clinical establishments, research or educational institutions, health camps, medical or surgical camps, vaccination camps, blood donation camps, first aid rooms of schools, forensic laboratories and research labs.
- 1.2.3 These biomedical wastes can spread infectious diseases in humans such as AIDS, Hepatitis B & C, Respiratory infections, Blood stream infections and skin infections and are thus considered as hazardous. Biomedical Waste generation is increasing day by day, in amount and type due to advances in scientific knowledge and spread of diseases due to growing urbanization & unhygienic lifestyle.
- 1.2.4 Various environmental impacts of mis-management of bio- medical waste are:
- i. Ground Water and Surface Water Contamination
 - ii. Contamination of Ambient Air Quality
 - iii. Contamination of Municipal Solid Waste
 - iv. Contamination of Soil

1.3 Need of Biomedical Waste Management

The reasons due to which there is great need of management of hospitals waste such as:

- i. Injuries from sharps leading to infection to all categories of hospital personnel and waste handlers.
- ii. Noso-comial infections in patients from poor infection control practices and poor waste management.
- iii. Risk of infection outside hospital for waste handlers and scavengers and at times general public living in the vicinity of hospitals.

- iv. Risk associated with hazardous chemicals, drugs to persons handling wastes at all levels. "Disposable" being re-packed and sold by unscrupulous elements without even being washed. Drugs which have been disposed of, being repacked and sold off to unsuspecting buyers.
- v. Risk of air, water and soil pollution directly due to waste, or due to defective incineration emissions and ash.

1.4 Directions issued by NGT

- 1.4.1 NGT vide its orders dated 20.08.2018 in matter of OA No. 606/2018 titled as Compliance of Solid Waste Management Rules, 2016 has constituted Apex Monitoring Committee, Regional Monitoring Committee and State Level Monitoring Committee for monitoring the implementation of Solid Waste Management Rules, 2016, Bio-medical Waste Management Rules, 2016 and Plastic Waste Management Rules, 2016.
- 1.4.2 The NGT vide its orders dated 16.01.2019 in matter of OA no. 606/2018 has directed that Regional Committee may be replaced by State Level Committee in the modified form.
- 1.4.3 The NGT vide its orders dated 07.03.2019 in matter of OA no. 606/2018 has directed to ensure compliance of Rules 22 and 24 of SWM Rules along with compliance of BMW Rules and PWM Rules.
- 1.4.4 The NGT vide its orders dated 12.03.2019 in matter of OA no. 710-713/2017 has directed to prepare action plan for compliance of BMW Rules within one month and furnish the same to the CPCB and CPCB has to give its comments on the action plan to this Tribunal within one month thereafter.

Chapter 2 – Management of Bio-medical Waste

2.1 Bio-Medical Waste Management Rules, 2016

GOI has notified Bio-Medical Waste Management Rules, 2016. The salient features of the rules are:

- (i) Health Care Facilities (HCFs) have to ensure proper segregation of the bio-medical waste.
- (ii) HCFs have to ensure pre-treatment and final treatment of liquid waste generated.
- (iii) HCFs & CBWTFs have to obtain authorization under the Rules and Consents under Act.
- (iv) CBWTFs have to ensure proper treatment and disposal of bio-medical waste.
- (v) PPCB shall be the prescribed authority for ensuring implementation of BMW Management Rules.
- (vi) State Advisory Committee and District Level Monitoring Committee to oversee the implementation of the Rules.

2.2 Major Stakeholders in Bio-Medical Waste Management

The State of Punjab envisages a comprehensive plan for management of bio-medical waste by involving all the Stakeholders namely:

- (i) Department of Health and Family Welfare and Punjab Health System Corporation
- (ii) Department of Animal Husbandry
- (iii) Department of Medical Education & Research
- (iv) Department of Environment through Punjab Pollution Control Board
- (v) Department of Local Government
- (vi) Department of Rural Development and Panchayat
- (vii) District Administration
- (viii) Medical Associations such as Indian Medical Association, National Integrated Medical Association, Indian Dental Association, Laboratory Association etc.
- (ix) Common Bio-medical Waste Treatment Facilities.
- (x) Non-Government Organizations

2.3 Role of Major Stake-holders

- i. Department of Health and Family Welfare and Punjab Health System Corporation**
 - a) To ensure implementation of Rules in all Health Care Facilities or occupier.
 - b) Grant of license to health care facilities with a condition to obtain authorization from PPCB for bio-medical waste management.
 - c) Monitoring, Refusal or Cancellation of license for health care facilities for violations of conditions of authorization or provisions under these Rules.
 - d) Publication of list of registered health care facilities with regard to bio-medical waste generation, treatment and disposal.

- e) Undertake or support operational research and assessment with reference to risks to environment and health due to bio-medical waste and previously unknown disposables and wastes from new types of equipment.
- f) Coordinate with State Pollution Control Board for organizing training programmes to staff of health care facilities on bio-medical waste.
- g) Organizing or Sponsoring of trainings for the health care facilities on bio-medical waste management related activities.
- h) Sponsoring of mass awareness campaigns in electronic media and print media.
- i) Allocation of adequate funds to Government health care facilities for bio-medical waste management
- j) Procurement and allocation of treatment equipments and make provision for consumables for bio-medical waste management in Government health care facilities.
- k) Constitute State or District Level Advisory Committees under the District Magistrate or Additional District Magistrate to oversee the biomedical waste management in the Districts
- l) Implementation of recommendations of the Advisory Committee in all the health care facilities
- m) Installation of Effluent Treatment Plants in all the Government bedded Health Care Facilities in concurrence with the timeline given in the action plan.

ii. Department of Animal Husbandry-

- a) Ensuring that all the Govt. Veterinary Institutions make agreement with the CBWTF operators for scientific disposal of bio-medical waste and obtain authorization from PPCB in concurrence with the timeline given in the action plan.
- b) Grant of license to veterinary establishments with a condition to obtain authorization from PPCB for bio-medical waste management.
- c) Monitoring, Refusal or Cancellation of license for veterinary establishments for violations of conditions of authorization or provisions under these Rules.
- d) Publication of list of registered veterinary health care facilities with regard to bio-medical waste generation, treatment and disposal.
- e) Coordinate with State Pollution Control Board for organizing training programmes to staff of veterinary health care facilities on bio-medical waste.
- f) Allocation of adequate funds to Government veterinary health care facilities for bio-medical waste management
- g) Procurement and allocation of treatment equipments and make provision for consumables for bio-medical waste management.
- h) Implementation of recommendations of the Advisory Committee.

iii. Department of Medical Education & Research-

- a) Installation of Effluent Treatment Plants in all the Government Medical Colleges & Hospitals.
- b) Organizing or Sponsoring of trainings for the Medical Colleges & Hospitals on bio-medical waste management in coordination with PPCB.
- c) Allocation of adequate funds to Government health care facilities for bio-medical waste management
- d) Procurement and allocation of treatment equipments and make provision for consumables for bio-medical waste management in Government health care facilities.
- e) Implementation of recommendations of the Advisory Committee.

iv. Department of Environment through Punjab Pollution Control Board-

- a) Making Policies concerning Bio-medical Waste Management in the State.
- b) Inventorization of Health-Care Facilities.
- a) Compilation of data and submission of the same in annual report to Central Pollution Control Board within the stipulated time period.
- b) Grant and renewal, suspension or refusal of authorization.
- c) Monitoring of compliance of Rules.
- d) Action against health care facilities or common biomedical waste treatment facilities for violation of these rules.
- e) Organizing training programmes to staff of health-care facilities and common bio-medical waste treatment facilities on management of bio-medical waste
- f) Hearing Appeals and give decision against order passed by the prescribed authority.
- g) Providing necessary technical and financial support in order to implement the action plan

v. Department of Local Government -

- a) Ensuring collection of bio-medical waste generated in house-holds and disposing it to nearest common bio-medical waste treatment facility.
- b) Collection of solid waste (other than the biomedical waste) from the health care facilities as per the Solid Waste (Management) Rules, 2016.
- c) Coordinate with NGOs for organizing/imparting training programmes to house-holds for segregation of bio-medical waste.
- d) Implementation of recommendations of the Advisory Committee.

vi. Department of Rural Development and Panchayat-

- a) Ensuring that all the Govt. Rural Dispensaries make agreement with the CBWTF operators for scientific disposal of bio-medical waste and obtain authorization from PPCB in concurrence with the timeline given in the action plan.
- b) Allocation of adequate funds to Government Rural Dispensaries for bio-medical waste management
- c) Procurement and allocation of treatment equipments and make provision for consumables for bio-medical waste management in Government Rural Dispensaries.
- d) Organizing or Sponsoring of trainings for the Govt. Rural Dispensaries on bio-medical waste management in coordination with PPCB.

vii. District Administration-

- a) Ensuring Regular meetings of the District Level Monitoring Committee (DLMC) to monitor and review the implementation of the Rules in the District.
- b) Submit report of the DLMC once in six months to the State Advisory Committee with a copy to State Pollution Control Board for taking further necessary action.
- c) Coordinate with State Pollution Control Board for organizing training programmes for house-holds on segregation of bio-medical waste.
- d) Organizing mass awareness campaigns in electronic media and print media.
- e) Implementation of recommendations of the Advisory Committee.

viii. Medical Associations such as Indian Medical Association, National Integrated Medical Association, Indian Dental Association, Laboratory Association etc.

- a) Coordinate with State Pollution Control Board for organizing training programmes for members on management of bio-medical waste.
- b) Organizing mass awareness campaigns in electronic media and print media.
- c) Undertake or support research or operational research regarding bio-medical waste management.

ix. Common Bio-medical Waste Facilities Operators

- a) Ensuring timely collection of bio-medical waste from the Health Care Facilities (HCFs) as per Rules.
- b) Ensuring that the bio-medical waste collected from the HCFs is transported, handled, stored, treated and disposed of, without any adverse effect to the human health and the environment
- c) Establishing bar coding and global positioning system for handling of bio- medical waste
- d) Informing PPCB regarding the HCFs which are not handing over the segregated bio-medical waste

- e) Ensuring Occupational Safety, medical examination (at the time of induction & atleast once in a year) and immunization of all the workers.
- f) Imparting training to all the workers (at the time of induction & atleast once in a year).

x. Non-Government Organizations

- a) Organizing mass awareness campaigns in electronic media and print media.
- b) Organizing/Imparting training to house-holds on management of bio-medical waste in coordination with Deptt. of Local Government.

2.4 Current Status of Management of Bio-Medical Waste

2.4.1 Inventorization

The Board has inventorized 8194 Health-care Facilities in the State. The Details of HCFs are as under:

| Sr. No. | Description | No. |
|----------------|--|------------|
| 1 | Total number of HCFs in Punjab | 8194 |
| 2 | Number of Private HCFs | 7155 |
| 3 | Number of Govt. HCFs | 1039 |
| 4 | Number of Bedded HCFs | 3775 |
| 5 | Number of Non-Bedded HCFs | 4419 |
| 6 | Number of Veterinary Institutions | 87 |
| 7 | Number of Beds | 70570 |
| 8 | Quantity of BMW Generation & treatment | 15.2 TPD |

2.4.2 Submission of Annual Reports to CPCB

As per Rule 13 of the Bio-Medical waste Management Rules, 2016, every SPCB is required to submit Annual Report on implementation of the Rules for the calendar year, by 30th July every year. PPCB is regularly submitting the Annual Return to CPCB as procedural activity and the same is being uploaded on the website of PPCB.

2.4.3 Constitution of State Advisory Monitoring Committee and District Level Monitoring Committee

As per the provisions of the BMW Rules, 2016, two monitoring committees, one at the State Level and one at District Level are required to be constituted by the State to monitor the

compliance of the Rules. Department of Health vide its office order no. PHSC/BMW(Vol-III)/17/60-192 dated 09.05.2017 has constituted both the committees with meeting frequency of once in 6 months. The State Level Committee has been constituted under Principal Secretary, Health and District Level Committee under Deputy Commissioner respectively.

2.4.4 Authorization to all Healthcare Facilities including non-bedded HCFs

As per Rule 10 of the BMW Rules, every Occupier of the HCF has to obtain authorization from PPCB. PPCB has already developed Online Authorization Monitoring and Management System for filing and processing the application of authorization for bedded as well as non bedded facility. The non bedded health care facilities are being granted one time authorization as per the Rules.

Out of total 8194 HCFs identified in the State, 4727 HCFs have obtained authorization under the Rules and 96 applications for grant of authorization are under process in PPCB. Further, out of the left over 3371 HCFs which have not yet obtained authorization, 2622 HCFs are non-bedded HCFs. The PPCB is initiating action against the defaulter HCFs, which have not obtained authorization or whose authorization has expired.

2.4.5 Coverage of Common Biomedical Waste Treatment Facilities (CBWTFs) in entire State/UT

Earlier there were 4 authorized CBWTF operators in the State located at District Ludhiana, Mohali, Amritsar and Pathankot for about 71000 healthcare beds and 3 out of these were catering to HCFs beyond 150 kms. But due to the expansion of the healthcare sector, the no. of HCFs and correspondingly no. of beds are increasing from time to time. As per CPCB guidelines of CBWTFs, a CBWTF shall be allowed to cater healthcare units situated at a radial distance of 75 KM. However, in a coverage area where 10,000 beds are not available within a radial distance of 75 KM, existing CBWTF in the locality may be allowed to cater the healthcare units situated upto 150 KM. Due to shortage of CBWTFs in the State, the CBWTFs were handling BMW for more than 10000 beds and were covering HCFs beyond 150 kms. Accordingly, PPCB in the year 2014 invited Expression of Interest for setting up of CBWTFs at Distt. Jalandhar and Distt. Sri Muktsar Sahib. Out of these two CBWTFs, one CBWTF at Distt. Sri Muktsar Sahib has been granted Authorization and Consent to Operate by the Board. Another CBWTF at Distt. Jalandhar is in process of setting up and is expected to start its operation by 31.03.2020. The bio-medical waste treatment capacity after the functioning of all these 6 CBWTF will be sufficient for next 4-5 years. However, up-gradation of the existing 6 facilities or new CBWTFs will be set up in the State depending upon future growth of healthcare sector.

2.4.6 Implementation status of Barcode system

PPCB was pioneer to implement the bar-coding based bio-medical waste collection system and the same is being implemented in the State since 2012. All the HCFs identified in the State are lifting the bio-medical waste to the authorized CBWTF operators through the bar-code based software system. The said system is compliant with the Bar-code software

guidelines issued by CPCB. The details of bar-code based software system being adopted by the 5 authorized CBWTF operators are as under:

- I. M/s Rainbow Environments Pvt. Ltd., Mohali**
 - a. Web Address: www.butterflysoftwares.com
 - b. User Id – PB01
 - c. Password – 113169
- II. M/s Amritsar Enviro-Care Systems Pvt. Ltd., Amritsar**
 - a. Web address:autocollect.medicareenviro.com
 - b. User Name: ppcbamritsar@email.com
 - c. Password: check
- III. M/s BMWT Plant, Pathankot**
 - a. Web address:autocollect.medicareenviro.com
 - b. User Name: ppcbpathankot@email.com
 - c. Password: wreck
- IV. M/s Medicare Environmental Management Pvt. Ltd., Ludhiana**
 - a. Web address:autocollect.medicareenviro.com
 - b. User Name: ppcb Ludhiana@email.com
 - c. Password: wreck
- V. M/s Med-Waste Solutions Pvt. Ltd., Sri Muktsar Sahib**
 - a. Web address: medwastesolution.com/panel/
 - b. User ID: medwastesol11@gmail.com
 - c. Password: sol@medwaste

Further, for ensuring effective operations of the CBWTFs, PPCB has taken some additional steps as under:

- i. Installing GPS System in all the collection vehicles of the CBWTFs to track the movement of the vehicles.
- ii. The stack of the Incinerator is equipped with Online Continuous Emission Monitoring System (OCEMS) to monitor the concentration of pollutants. The OCEMS system is connected with server of CPCB.
- iii. CCTV cameras have been installed in the processing areas of the CBWTF which are connected with PPCB.

2.4.7 Compliance of CBWTFs to new emission standards prescribed under BMWM Rules, 2016

There are 5 authorized CBWTF operators operating in the State at District Ludhiana, Mohali, Amritsar, Pathankot and Sri Muktsar Sahib. These 5 CBWTF operators have either upgraded the incinerators or installed new incinerators to comply with the new emission standards prescribed in Schedule-II of the BMW Rules, 2016. Out of these 5 CBWTF operators, 4 CBWTF operators have done stack monitoring for all the parameters (including dioxins & furans) given in the BMW Rules, 2016 from M/s Vimta Labs, Hyderabad and the results are within the prescribed limits. The reports of stack monitoring have been send to CPCB vide PPCB letter no. 684 dated 14.03.2019 for information. The 5th CBWTF operator has recently commissioned its facility in Feb'2019 and has yet to get the stack monitoring done.

2.4.8 Installation of ETP by the HCFs

Out of 8,194 HCFs, 4,419 HCFs are non-bedded institutions. As per Bio-Medical Waste Management (Amendment) Rules, 2018, such non-bedded HCFs have to provide chemical disinfection only for treatment of their liquid waste. 1319 HCFs are having bed capacity less than 10 beds and as per Bio-Medical Waste Management Amendment Rules, 2018, such HCFs have to provide ETP for treatment of liquid waste by 31/12/2019. Most of the Private HCFs with bed capacity of 50 & above have installed ETP for treatment of liquid waste. Regarding installation of ETPs in the Govt. HCFs with bed capacity more than 50 beds, the Health Department has initiated the tendering process for 15 HCFs with tentative completion time of one year. For remaining 47 HCFs, funds have been sought from the Govt. and tentative schedule for installation of ETPs has been given as 2 years. Further, PPCB has represented to MoEFCC for providing exemption for installation of ETPs in HCFs with bed capacity of less than 30 beds and the HCFs which are connected to terminal STP vide letter no. 163 dated 17.01.2019 and letter no. 794 dated 22.03.2019. The reply in the matter is awaited.

2.4.9 Monitoring of compliance to BMWM Rules, 2016 by Healthcare Facilities including Veterinary Hospitals, Animal Houses, AYUSH Hospitals etc.

PPCB has devised frequency of inspections of HCFs based upon the bed capacity to monitor the compliance of the provisions of the BMW Rules as under:

- i) Once in a year for HCFs \leq 50 beds
- ii) Twice in a year for HCFs 51-199 beds
- iii) Quarterly for HCFs > 200 beds
- iv) Quarterly for CBWTFs.

Besides above, the matter regarding coverage of around 2800 veterinary institutions under Department of Animal Husbandry and around 1200 Subsidiary Health Centres under Department of Rural Development & Panchayats under the purview of BMW Rules is being separately monitored by the State Level Monitoring Committee constituted by Hon'ble NGT in OA no. 606 of 2018.

2.5 Action Plan for Management of Bio-medical Waste

- 2.5.1 Department of Environment has devised a detailed plan for managing bio-medical waste. About 14-15 tons per day of bio-medical waste generated in the State is collected, transported, treated and disposed through 5 authorized Common Bio-Medical Waste Treatment Facilities (CBWTF) located at Ludhiana, SAS Nagar, Amritsar, Pathankot and Sri Muktsar Sahib. Further, all HCFs including Govt. HCFs under DAH & DRDP will be covered as per prevailing Rules by complying the following timelines:

| Sr. No. | Name of the activity | Concerned Department | Timelines / Targets | Responsible Officer |
|---------|---|--|----------------------------------|---|
| 1 | Setting up additional CBWTFs for treating the bio-medical waste | PHSC & PPCB | Will be required after 4-5 years | Director/Deputy Medical Commissioner, PHSC; Env. Engineers / Regional Officers (PPCB) |
| 2 | Covering HCFs under DAH, DRDP & DHS (Ayurveda) for proper treatment & disposal of BMW | Deptt. of Animal Husbandry, DRDP and Department of Health & Family Welfare | 30 th June 2021 | Director, DAH, Director, Ayurveda & Director DRDP, respectively |
| 3 | Setting up of effluent treatment plants by all Govt. HCFs | PHSC, DHS, DRME | 30 th June 2021 | Director, PHSC; DHS; DRME |
| 4 | Monitoring the HCFs and CBWTFs | PPCB | Regular Activity | Env. Engineer, PPCB |

2.5.2 Following measures will be undertaken to meet the challenges of pollution due to bio-medical waste:

- (i) Inventorization of Health-care Facilities
- (ii) Authorization to all Healthcare Facilities including non-bedded HCFs
- (iii) Submission of Annual Reports
- (iv) Meeting of State Advisory Monitoring Committee and District Level Monitoring Committee
- (v) Monitoring the HCFs and CBWTFs
- (vi) Monitoring of compliance to BMWM Rules, 2016 by Healthcare Facilities including Veterinary Hospitals, Animal Houses, AYUSH Hospitals etc.
- (vii) Installation of effluent treatment plants by all the HCFs.
- (viii) Capacity Building programmes / training programmes for HCFs

Chapter 3: Training and Capacity Building

3.1 Importance

It is important to enhance the capability and skills of the officers of stakeholder departments for effective implementation of Bio-medical waste Action Plan. Therefore, training and capacity building programmes related to various technical aspects are required to be conducted for different functionaries of relevant departments & organizations at various levels of hierarchies.

Besides this, PPCB is conducting regular training programmes for HCFs for management of bio-medical waste at Head office level and Regional Office level in coordination with Health Deptt. and IMA. PPCB has conducted 32 training programmes from Jan-March'2019, in which about 1250 medical professionals have been made aware about the provisions of the BMW Rules, 2016.

3.2 Objectives

- i) Raising awareness and changing the mindset.
- ii) Building trust and appreciation for the purpose of various Environment Protection Plans, environmental concerns, issues, roles and responsibilities of different stakeholders.
- iii) Improving skills regarding existing practices, procedures and methodologies.
- iv) Promoting an integrated and holistic approach for addressing the concerns.
- v) Enhancing core competencies of concerned stakeholders in relevant areas of environment improvement.
- vi) Strengthening institutional arrangements
- vii) Reinforcing accountabilities and identifying aspects that require improvement
- viii) Understanding new challenges and requirements

3.3 Need Assessment

Specific modules for training of nodal and other responsible officers of various line departments involved in implementation of Bio-medical waste Action Plan are required to be developed for which need assessment would be carried out.

3.4 Involvement of Institutions and Experts

Organizations of national & international repute having expertise in the area of environment in general and bio medical waste management in particular shall be involved for conducting need specific trainings & capacity building programmes for various target groups and officials of stakeholder departments. Experts would also be involved in developing knowledge products and information material on various issues & technologies for creating mass awareness to build a responsible society with an aim of having proper waste management.

Chapter 4 – Monitoring Requirements and Formats

4.1 Monitoring Requirements

There is need to monitor the progress of compliance of waste management as prescribed under various Rules and envisaged under Action Plan for management of different types of waste.

4.2 Monitoring of Management of Bio-Medical Waste

Monitoring of progress on various action items will be done as per the proformas given in **Annexure-A:**

(i) **Inventorization of HCFs**

Inventory of the Health Care Facilities operating in the State is being maintained by Punjab Pollution Control Board and the same is being updated on monthly basis.

(ii) **Authorization of the HCFs**

Monitoring of the HCFs which have obtained authorization under the Rules will be done on monthly basis.

(iii) **Monitoring of Annual Return to be filed by HCFs and CBWTFs**

Monitoring of the HCFs which have submitted Annual Return to the Regional Offices of the Board will be done on quarterly basis.

(iv) **Monitoring of the Meetings of the Committees constituted under BMW Rules, 2016**

Under the BMW Rules, two committees have been constituted by the State Health Department, one at District Level and one at State Level. Progress on frequency of the meetings of the committees will be monitored on bi-annual basis on the basis of data received from Health Department.

(v) **Monitoring of HCFs and CBWTFs**

PPCB is making inspections of the HCFs and CBWTFs to monitor the compliance of the BMW Rules, 2016. Progress will be reported by PPCB on quarterly basis.

(vi) **Monitoring of compliance to BMWM Rules, 2016 by Healthcare Facilities including Veterinary Hospitals, Animal Houses, AYUSH Hospitals etc**

Progress regarding authorization of HCFs under the jurisdiction of Department of Animal Husbandry, Department of Rural Development & Panchayats and Department of Health & Family Welfare will be monitored by PPCB on quarterly basis.

(vii) **Monitoring of the installation of the ETPs by Govt. HCFs**

Progress regarding installation of ETP/STP in Govt. HCFs will be reported by Punjab Health System Corporation on quarterly basis.

(viii) **Capacity Building programmes / training programmes for HCFs**

PPCB is organizing training programmes on management of bio-medical waste at Regional Office level and Head Office level. The Progress of the same will be reported by the Board on quarterly basis.

4.3 **Development of IT system**

IT system will be developed with the help of NIC for all the regulatory formats and monitoring information system. The monthly/ quarterly data will be incorporated by the stakeholder departments in the MIS, which will be helpful in assessing the progress of the activities w.r.t proposed timelines.

4.4 **Performance Assessment of Key Functionaries of the Departments**

- i. NGT in various orders directed the State Governments to ensure timely and speedy execution of various measures outlined in the Action Plans. It has also directed to take disciplinary and penal action against erring officers/officials.
- ii. The performance of key officials of stakeholder departments will be evaluated w.r.t. timelines/targets as given in action plan and certain weightage of KPI scores, as deemed appropriate by the concerned departments, will be included in their overall ACRs.
- iii. The State has already prepared draft KPI proformas for Waste Management for key officials and the same is being finalized.

Chapter 5 – Governance and Supervision

5.1 Monitoring of Progress and Compliance with the Rules

5.1.1 Concerned Departments/ Agencies

Monitoring will be done by the concerned Departments/ Agencies, which are executing or responsible for particular activities and it will be their primary responsibility to ensure compliance of the Rules and other actions.

Department of Environment

Department of Environment proposes three level of review to monitor the progress:

- (i) District Level Committee under Deputy Commissioner
- (ii) State Level Committee under Administrative Secretary, Department of Environment
- (iii) State Apex Committee under Chief Secretary

5.2 District Level Committee under Deputy Commissioner

District level Committee under Chairmanship of Deputy Commissioner and comprising of the following:

- (i) District Health Officer (CMO/ DMC)
- (ii) Senior Superintendent of Police
- (iii) Additional Deputy Commissioner
- (iv) Commissioner MC/ EO MC
- (v) Representative of District Legal Services Authority
- (vi) Environmental Engineer, PPCB – Convener

5.2.1 The Committee shall have the following functions:

- (i) Review of progress of various stakeholders department involved in the implementation of the Waste Management Rules.
- (ii) The Committee shall meet and shall submit its report to State Level Committee on monthly basis.

5.3 State Level Committee under Department of Environment

State Level Committee under Chairmanship of Administrative Secretary, Department of Environment and comprising of the following:

- (i) Director, Health & family Welfare
- (ii) Director, Local Government
- (iii) Director, Rural Development
- (iv) Director, Industries and Commerce
- (v) Director, Environment
- (vi) Chairman, PPCB

(vii) Joint Director, Environment – Convenor

5.3.1 The Committee shall have the following functions:

- (i) Review of Implementation of the Rules and NGT orders
- (ii) The Committee shall give its recommendations to Apex Committee on quarterly basis for effective implementation of the Waste Management Rules.

5.4 State Apex Committee under Chief Secretary

State Apex Committee under Chairmanship of Chief Secretary will be comprising of the following:

- (i) Administrative Secretary, Health & Family Welfare
- (ii) Administrative Secretary, Local Government
- (iii) Administrative Secretary, Rural Development
- (iv) Administrative Secretary, Industries and Commerce
- (v) Administrative Secretary, Housing and Urban Development
- (vi) Administrative Secretary, Environment
- (vii) Chairman, PPCB
- (viii) Additional Secretary, Environment – Convenor

5.5.1 The Committee shall have the following functions:

- (i) Taking Policy decisions as per recommendations received from State Level Committee.
- (ii) The Committee shall meet once in six months.

5.6 Standing Committees

The above Committees are standing committees. These will also work as Special Task Force or any other name given by NGT or other courts. They may invite any other officer as part of the committee as may be required and similarly the functions can be added as may be required.

Chapter 6 – Risk Mitigation Plan

6.1 Identification of Major Risks in the Action Plan

The Action Plan to manage bio-medical waste is a complex multi sectoral and multi agency action plan. Successful implementation would face many challenges. Following major risks have been identified:

- i. Accuracy and completeness of Baseline Data
- ii. Accuracy and completeness of Project timelines
- iii. Financial closure and timely releases of funds
- iv. Tracking the Progress and program management

It is important to devise strategies and plans to mitigate the identified risks. Action plan will remain on paper if the bottlenecks and the risks are not dealt satisfactorily. Mitigation plan for each of the identified risk has been prepared in the following paras.

6.2 Accuracy and completeness of Baseline Data

Due to non-development of IT system for all the regulatory formats and monitoring information system, the information about the inventorization, status of authorization, installation of ETP and meeting of State Advisory Committee & District Level Monitoring Committee could not be properly validated and there could be gaps in the same, which may lead to substantial alterations in the plans. In order to ensure accuracy and completeness of baseline data, the IT based MIS shall be developed.

6.3 Accuracy and completeness of Project timelines

Due to paucity of time, the information about the project timelines could not be properly validated and deliberated and there could be gaps in the same. In order to ensure accuracy and completeness of Project timelines, each Administrative Department has been asked to validate the project timelines carefully after taking into account all the relevant factors. The needful will be done in 45 days and Action plan updated accordingly.

6.4 Financial closure and timely releases of funds

Availability of funds for completing the activities on time is a major risk. The activities such as installation of ETP in all the Government HCFs and coverage of all the Veterinary Institutions and Rural Dispensaries have still not achieved financial closure. In case of non-timely renewal of agreement with Common Bio-medical Waste Treatment Facilities (CBWTF), substantial blame has been apportioned to lack of regular release of funds, which resulted in failure of environmentally sound treatment & disposal of bio-medical waste. In order to overcome the challenges, efforts will be made towards:

- i. Seeking a firm commitment of Department of Finance to release the funds for the activities on priority.

- ii. In case of installation of ETPs and timely renewal of agreement with CBWTF, seeking firm commitment of PHSC, DHS and DRME to treat this as committed expenditure on highest priority and release the funds regularly. Further, arrangement may be worked out with the Administrative Department and Department of Finance that in case of default of concerned Health Department to pay to the Govt. HCF, funds will be deducted from the grant to be released to concerned Health Department and paid directly to the Govt. HCF.

6.5 Tracking the Progress and program management

The action plan for management of bio-medical waste is a complex, multi department and multi agency program and the current capacity available in PPCB is not adequate to track the progress of various milestones and carry out effective program management for successfully implementing the activities. In order to mitigate the risk, a dedicated team with requisite Program Management and IT skills will be positioned to collate data, analyse the same, prepare status updates, escalate issues and assist various committees in review and issue resolution.

Annexure A – Monitoring Proforma for Bio-Medical Waste Management

1. Inventorization of HCFs (Monthly basis)

| Name of Regional Office | No. of HCFs | | | |
|-------------------------|--|---------------------------------------|--------------------------------|---------------------------------|
| | Identified at the end of previous month (a) | Newly identified in this month (b) | Closed during the month (c) | Total Identified (a)+(b)-(c) |
| | | | | |

2. Authorization of new HCFs(Monthly basis)

| Name of Regional Office | No. of HCFs | | | | |
|-------------------------|--|------------------------------------|---|--------------------------------|-------------------------------------|
| | Authorized at the end of previous month (a) | Authorized during the month (b) | Whose Authorization expired during the month (c) | Closed during the month (d) | Total Authorized (a)+(b)-(c)-(d) |
| | | | | | |

3. Monitoring of Annual Return to be filed by HCFs and CBWTFs (Quarterly basis)

| Name of Regional Office | No. of HCFs and CBWTFs under the jurisdiction | Whether Annual Return submitted or not by 30th June | Action taken against the HCFs/CBWTFs for not submitting Return |
|-------------------------|---|---|--|
| | | | |

4. **Monitoring of the Meetings of the Committees constituted under BMW Rules, 2016**(bi-annual basis by Health Department)

District Level

| Name of District | Date of Meeting of the District Level Committee | Issues discussed during the meeting | Date of Submission of Report to State Level Committee |
|------------------|---|-------------------------------------|---|
| | | | |

State Level

| Date of Meeting of the State Level Committee | Issues discussed during the meeting | Any improvements suggested |
|--|-------------------------------------|----------------------------|
| | | |

5. **Monitoring of HCFs and CBWTFs** (Quarterly basis)

| Name of RO, PPCB | HCFs with bed capacity of 200& above | | | HCFs with bed capacity of less than 200 beds but more than 50 beds | | | HCFs with bed capacity of less than and equal to 50 beds | | | CBWTFs | | |
|------------------|--------------------------------------|---------|---------------|--|---------|---------------|--|---------|---------------|--------|---------|---------------|
| | Total | Visited | Not complying | Total | Visited | Not complying | Total | Visited | Not complying | Total | Visited | Not complying |
| | | | | | | | | | | | | |

6. Monitoring of compliance to BMW Rules, 2016 by HCFs including Veterinary Hospitals, Animal Houses, Ayush Hospitals etc. (Quarterly basis)

| Name of Regional Office | Name of Department (DAH/DRDP/DH &FW) | No. of HCFs under DAH, DRDP and DH&FW | | |
|-------------------------|--------------------------------------|---------------------------------------|---|---|
| | | Total | which have obtained fresh authorization from the Board during the quarter | which have yet not obtained authorization |
| | | | | |

7. Monitoring of the installation of the ETPs by Govt. HCFs (Quarterly basis by PHSC)

| No. of HCFs under the Department | No. of Govt. HCFs | | Remarks/Reasons for non-installation of ETPs |
|----------------------------------|--|--------------------------------|--|
| | which were required to install ETP / STP as per the timeline | which have installed ETP / STP | |
| | | | |

8. Capacity Building programmes / training programmes for HCFs (Quarterly basis)

| Name of Regional Office | No. of awareness programs organized | No. of participants |
|-------------------------|-------------------------------------|---------------------|
| | | |