

## **CENTRAL POLLUTION CONTROL BOARD**

(Hazardous Waste Management Division)

**DELHI – 110 032**

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**Subject: Status and Issues on implementation of Bio-medical Waste (Management & Handling) Rules, 1998 and as amended**

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### **1. Introduction to the Bio-medical Waste (Management & Handling) Rules, 1998 and amendments made thereof:**

The Bio-medical Waste (Management & Handling) Rules, 1998 and amendments thereof (hereafter referred as BMW Rules) were notified under the Environment (Protection) Act, 1986 by the Ministry of Environment & Forests (MoEF) in the year 1998 and further amendments were made in the year 2000 and 2003. As per BMW Rules, 1998, State Pollution Control Boards (SPCBs)/ Pollution Control Committees (PCCs) in the respective States/UTs and Director General Armed Forces Medical Services (DGAFMS) in respect of the Health Care Establishments (HCEs) under the jurisdiction of the Ministry of Defence have been notified as the 'Prescribed Authority' for overall enforcement of the said Rules. As per Rule 10 of the BMW Rules, 'SPCBs and PCCs as well as DGAFMS are required to submit annual report information in a compiled form to the Central Pollution Control Board (CPCB), for the preceding year by 31<sup>st</sup> March of every year.

### **2. Bio-medical Waste Management Scenario:**

Annual report information for the year 2013 is not received from the Lakshadweep Pollution Control Committee. As per the annual report information received from the State Pollution Control Boards (SPCBs)/ Pollution Control Committees (PCCs) and Director General of Armed Forces Medical Services (DGAFMS) for the year 2013, there are 1,68,869 no. of HCFs having 17,13,742 beds and generating bio-medical waste at about 484 tons/day. 1,05,270 no. of HCFs have obtained authorization under the BMW Rules. There are 198 no. of CBWTFs in operation (28 under construction) as well as 22,245 no. of HCFs are having captive bio-medical waste treatment and disposal facilities and 447 Tons per day (TPD) out of 484 TPD of bio-medical waste generated is treated and disposed of by these facilities. About 7,894 no. of HCFs/CBWTFs violating the provisions of the BMW Rules. The detailed bio-medical waste management scenario in the Country (**Annexure-I**) is given below:

- No. of healthcare facilities : 1,68,869
- No. of beds : 17,13,742
- No. of Common Bio-medical Waste Treatment Facilities (CBWTFs) : **198\* + 28\*\***
- No. of healthcare facilities (HCFs) using CBWTFs : 1,31,837

➤ No. of HCFs having treatment & disposal facilities	: 22,245
➤ No. of healthcare facilities applied for authorization	: 1,06,805
➤ No. of healthcare facilities granted authorization	: 1,05,270
➤ Total no. of on-site/captive treatment equipment installed (excluding CBWTFs) by the HCFs:	
• No. of incinerators	
i) With Air Pollution Control Device	: 331
(ii) Without Air Pollution Control Device	: 217
• No. of autoclaves	: 3,112
• No. of microwaves	: 250
• No. of Hydroclave	: 15
• No. of Shredders	: 5,179
➤ Total no. of treatment equipment installed by the CBWTFs:	
• No. of incinerators	: 198
• No. of autoclaves	: 189
• No. of microwaves	: 06
• No. of Hydroclave	: 03
• No. of Shredders	: 202
➤ Quantity of bio-medical waste generated in Tons/day	: 484
➤ Quantity of bio-medical waste treated in Tons /day	: 447
➤ No. of HCFs violated BMW Rules	: 7,894
➤ No. of Show-cause notices/Directions issued to defaulter HCFs	: 4,391

**Note:**

(i) \* - **CBWTFs in operation**

(ii) \*\* - **CBWTFs under installation**

(iii) **The information in respect of the Lakshadweep State has been included as per the Annual Report submitted for the year 2012.**

### 3. Annual Report Information – A Comparison:

<u>Particulars</u>	<u>As per Annual Report Information for the year 2012</u>	<u>As per Annual Report Information for the year 2013</u>
No. of healthcare facilities	1,59,838	1,68,869
No. of beds	16,12,600	17,13,742
No. of Common Bio-medical Waste Treatment Facilities (CBWTFs)	190* + 29**	198*+28**
No. of healthcare facilities (HCFs) using CBWTFs	1,21,279	1,31,837
No. of HCFs having treatment & disposal facilities	21,870	22,245
No. of healthcare facilities applied for authorization	1,02,086	1,06,805

<b>No. of healthcare facilities granted authorization</b>	98,074	1,05,270
<b>Total no. of on-site/captive treatment equipment installed (excluding CBWTFs) by the HCFs:</b>		
• No. of incinerators		
i) With Air Pollution Control Device	431	331
(ii) Without Air Pollution Control Device	233	217
• No. of autoclaves	4,158	3,112
• No. of microwaves	186	250
• No. of Hydroclave	21	15
• No. of Shredders	6,477	5,179
<b>Total no. of treatment equipment installed by the CBWTFs:</b>		
• No. of incinerators	194	198
• No. of autoclaves	157	189
• No. of microwaves	05	06
• No. of Hydroclave	02	03
• No. of Shredders	163	202
<b>Quantity of bio-medical waste generated in Tons/day</b>	416	484
<b>Quantity of bio-medical waste treated in Tons /day</b>	380	447
<b>No. of HCFs/CBWTFs violated BMW Rules</b>	12,990	7,894
<b>No. of Show-cause notices/Directions issued to defaulter HCFs/CBWTFs</b>	11,583	4,391

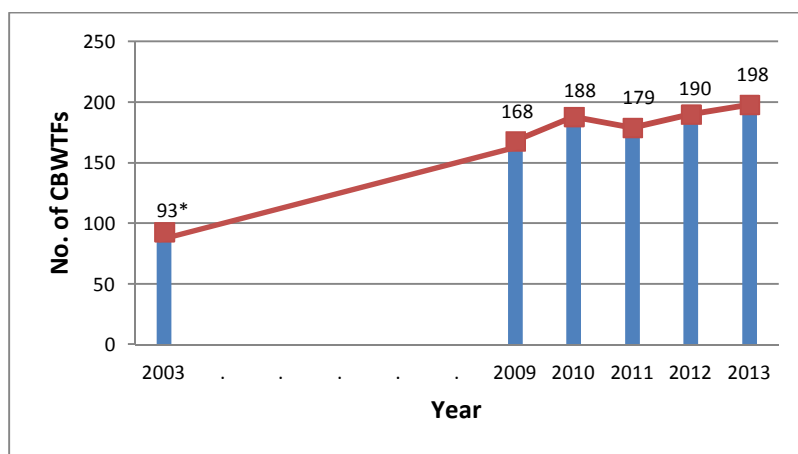
The comparison between the Annual Report Information for the year 2012 and 2013 indicates the following:

- There has been an increase of 9,031 (5.65 %) in number of Healthcare Facilities (HCFs) in the year 2013 as compared to the no. of HCFs reported for the year 2012.
- Simultaneously, there has been an increase in total bio-medical waste generation as it was reported as 484 tons/day for the year 2013 and 416 tons/day for the year 2012 as there is an increase in total no. of HCFs.
- As per the AR-2013, about 92.35 % of bio-medical waste is treated & disposed off.
- To facilitate the treatment and disposal of bio-medical waste generated from the HCFs, there are 198 no. of Common Bio-medical Waste Treatment Facilities (CBWTFs) in operation and 28 no. of CBWTFs under construction. Eight additional CBWTFs have added for the year 2013 which are catering the treatment and disposal services to Healthcare Facilities, as compared to 2012.

- Increase in no. of HCFs having captive treatment & disposal facilities for bio-medical waste is observed, as it was reported as 21,870 in the year 2012 and 22,245 is reported for the year 2013.
- Decrease in number of incinerators installed by HCFs operating without Air Pollution Control Devices from 233 to 217, however, SPCBs/PCCs has to ensure closure of said 217 incinerators who are in operation without APCDs or having single chamber.
- No. of HCFs/CBWTFs violating the provisions of BMW Rules in 2013 has decreased by approx. 39 % as compared to 2012, due to regular follow-up with the HCFs/CBWTFs regarding implementation of BMW Rules as well as CPCB guidelines.

#### 4. Common Bio-medical Waste Treatment Facilities:

There has been an increase in number of CBWTFs over the years. Figure indicating growth in CBWTFs is shown in **Figure 1**. At present there are 198 no. of CBWTFs in operation and 22 no. of CBWTFs under construction, as reported by SPCBs/PCCs. Though CBWTFs are widely accepted by the HCFs for the treatment & disposal of bio-medical waste, still there are some States/Union Territories which are yet to develop the CBWTFs in their respective States/UTs.



Note: \* Approximately

CPCB has carried out joint inspection of CBWTFs to verify compliance to the provisions of BMW Rules & CPCB guidelines wherein various non-compliances have been observed. Following are the major observations in CBWTFs which are not complied w.r.to the BMW Rules & CPCB guidelines:

1. Some of the CBWTFs are in operation without having valid authorization as required under Bio-medical Waste (Management & Handling) Rules, 1998;
2. Collection of mixed waste from the member HCFs & manual segregation of waste inside the facilities;

3. Separate spacing for storage of treatment equipment, bio-medical waste storage room etc.;
4. Interlocked Programmable Logic Control (PLC) based waste feeding system and recording system with the incinerator;
5. Devices for measuring negative draft in primary chamber, air flow rate in the incinerator chamber and pressure drop across venturi scrubber;
6. Operation of the incinerator in accordance with the provisions as stipulated under BMW Rules;
7. Stack monitoring provision (such as platform, porthole etc.) with the incinerator stack;
8. Procurement of Flue gas analyser for measurement of CO, O<sub>2</sub> & CO<sub>2</sub> level in the stack gases;
9. Recording system for autoclave for operational parameters such as batch number, temperature, pressure, start and end of sterilization of the autoclave as well as validation test to check the efficacy of autoclave;
10. Provision for mechanical feeding system with the autoclave is not installed as required under CPCB guidelines;
11. Provision for disposal of sharp waste in sharp-pit/encapsulation facility and pit for disposal of ash etc.

Respective SPCB/PCC is required to ensure that all the Common Bio-medical Waste Treatment Facilities (CBWTFs) comply with the provisions of Bio-medical Waste (Management & Handling) Rules, 1998 as well as CPCB guidelines.

## **5. Bio-medical Waste Management in Armed Forces Medical Healthcare Establishments:**

Rule 7 (1) of the Bio-medical Waste (Management & Handling) Rules, 1998 as amended, stipulates that "the prescribed authority for enforcement of the provisions of these rules in respect of all health care establishments including hospitals, nursing homes, clinics, dispensaries, veterinary institutions, Animal houses, pathological laboratories and blood banks of the Armed Forces under the Ministry of Defence shall be the Director General, Armed Forces Medical Services". Further, as per Rule 9 A of the said Rules, CPCB shall monitor the implementation of BMW Rules in respect of all Armed Forces Medical Healthcare Establishments under the Ministry of Defence.

As per the Annual Report Information for the year 2013 submitted by Director General Armed Forces Medical Services, there are 361 Armed Force Medical Healthcare Establishments (AFMHCEs) which are generating 11031 kg/day of bio-medical waste. All the AFMHCEs are having their own treatment& disposal facility for the bio-medical waste. Also, all the AFMHCEs have obtained authorization under Bio-medical Waste (Management & Handling) Rules, 1998. As reported by DGAFMS, no incinerator installed by the AFMHCEs is in operation without having Air Pollution Control Devices.

Also, Member Secretary, CPCB has taken a meeting with the officials of Director General Armed Forces Medical Services (DGAFMS) on 05.12.2014 at CPCB, Delhi and following decisions were taken for ensuring effective implementation of the BMW Rules by the Armed Forces Medical Healthcare Establishments (AFMHCEs):

1. DGAFMS is required to provide list of AFHCEs (having > 45 no. of beds) to CPCB for carrying out periodic inspection by CPCB as per BMW Rules.
2. DGAFMS has to verify compliance to all the Healthcare Facilities fall under the DGAFMS, for which CPCB will provide the 'Check List' for verification of all AFHCEs.
3. Based on the inspection reports of 56 AFHCEs carried out by CPCB, a consolidated compliances issues will be communicated by CPCB including the main action points for which corrective issues will be communicated by CPCB including the main action points for which corrective measures need to be taken by the DGAFMS in a time bound manner for ensuring compliance to the BMW Rules;
4. Upon receipt of the action points, DGAFMS has to submit point-wise time bound action plan for ensuring compliance by all the AFHCEs;
5. Subsequent to receipt of the time bound action plan, CPCB will give necessary directions for ensuring complete compliance by all the AFHCEs, by 2017.
6. DGAFMS has to submit AFHCE-wise corrective actions taken against the recommendations communicated by CPCB in respect of 56 no. of AFHCEs, along with photographs and relevant documents as proof of compliance for the purpose of preparation of a document by CPCB.
7. DGAFMS in consultation with CPCB has to organize four workshops/trainings (in north, south, east and west regions) for the medical, para-medical, engineers, treatment equipment operators and other workers involved in handling of bio-medical waste in AFHCEs;
8. DGAFMS may collect information on the international practices being followed in the armed forces healthcare facilities in developed countries with regard to the bio-medical waste management.

#### **6. State-of-art-treatment-technologies for the treatment of Bio-medical Waste:**

As per Schedule I of the Bio-medical Waste (Management & Handling) Rules, 1998 & as amended, any Health Care Facility (HCF) or Common Bio-medical Waste Treatment Facility (CBWTF) Operator wishing to use other Stat-of-the-art-technologies other than stipulated under Schedule I of the said rules, shall approach the Central Pollution Control Board (CPCB) to get the standards laid down to enable the prescribed authority to consider grant of authorization. For the purpose of evaluation of new technologies for treatment of bio-medical waste and to suggest suitable standards for any such technologies, an Expert Committee was

reconstituted by CPCB. During the last five years, CPCB have granted provisional approval to the following new Technologies for treatment of bio-medical waste, under the BMW Rules:

- i. Plasma Pyrolysis;
- ii. Waste Sharps Dry heat sterilization and encapsulation; and
- iii. Shredding cum Chemical disinfection (Static/Mobile)'.

## 7. Issues and Recommendations on Bio-medical Waste Management:

S. No.	Particulars	Issues	Recommendations
1	<b>Non-submission of Annual Report within the due date (i.e., by 31<sup>st</sup> March of every year)</b>	The annual report information is not submitted regularly within the due date (by 31 March every year) as stipulated under the Bio-medical Waste (Management & Handling) Rules, 1998 by most of the SPCBs/PCCs thereby making it difficult to compile the national status on bio-medical waste management and its submission to MoEF by 30 <sup>th</sup> June of every year. CPCB has given time frame for ensuring submission of Annual Report on BMW Management within the due date i.e. 31 <sup>st</sup> March of the every year by all the concerned so that compiled information can be submitted to MoEF by CPCB by 30 <sup>th</sup> June of every year.	SPCBs/PCCs should direct all the HCFs/CBWTFs located in the respective State/UT for submission of Annual Report in light of the format circulated by CPCB, by 30 <sup>th</sup> of January of every year in accordance with BMW Rules.
2	<b>Operation of Healthcare Facilities without Authorization under BMW Rules</b>	As per Annual Report Information for the year 2013, there are 63,599 out of 1,68,869 no. of Healthcare Facilities (HCFs) which are operating without obtaining Authorization under BMW Rules which are also violating the BMW Rules. Such HCFs needs to obtain authorization under BMW Rules.	All the HCFs which are in operation without obtaining authorization as required under BMW Rules, 1998 should be directed to obtain authorization from the prescribed authority.  The HCFs which generate bio-medical waste but not require authorization as per BMW Rules should be directed to take adequate steps and to take a membership from the nearby CBWTF for safe disposal of bio-

			medical waste generated by such HCFs.
<b>3</b>	<b>Captive Incinerators in violation of BMW Rules</b>	There are 548 no. of captive incinerators and 217 no. of captive incinerator are operating without APCD or may be having single chamber which are in violation of BMW Rules, in the States like Andaman & Nicobar, Arunachal Pradesh, Assam, Himachal Pradesh, Jharkhand, Jammu & Kashmir, Kerala, Lakshadweep, Madhya Pradesh and Maharashtra. Such, captive incinerators need to be closed by the respective SPCB.	All the Captive BMW Incinerators operated by the HCFs, which are either single chamber or not connected with adequate APCD should be directed to upgrade within immediate effect, failing which action should be taken for closure of such captive incinerators.
<b>4</b>	<b>States/UTs which are yet to develop CBWTFs in the respective State/UT</b>	06 States namely Arunachal Pradesh, Goa, Manipur, Mizoram, Nagaland & Sikkim and 02 UTs namely Andaman & Nicobar Islands, Lakshadweep where, are yet to develop CBWTFs in the respective State/UT.	Action should be taken by the States/UTs of Andaman & Nicobar Islands, Arunachal Pradesh, Goa, Lakshadweep, Manipur, Mizoram, Nagaland & Sikkim for Development of Common Bio-medical Waste Treatment and Disposal Facilities (CBWTFs) in the respective State/UT.
<b>5</b>	<b>Improper implementation of guidelines for CBWTFs by the SPCBs/PCCs</b>	Some of the States like Haryana, Gujarat and Karnataka are allowing more number of CBWTFs violating the location criteria and coverage area as stipulated under CBWTF guidelines due to which mushrooming of CBWTFs is taking place and leading to Court Matters.	Additional CBWTFs be allowed in the States/UTs only after examining the gap between the bio-medical waste generation & the existing treatment capacities as well as techno-economic viability and feasible operation of the CBWTFs.
<b>6</b>	<b>Installation of ETP/STP by the Healthcare Facilities</b>	Many of the HCFs have not installed ETPs/STPs for ensuring proper treatment of liquid waste generated the HCFs in compliance to the discharge norms stipulated	All the HCFs be directed to ensure compliance to the liquid waste discharge norms stipulated under Schedule V of the BMW Rules, by installing



		under BMW Rules. CPCB already requested all the SPCBs/PCCs for initiating further necessary action.	adequate STP/ETP as required under the BMW Rules to ensure compliance to the discharge norms.
<b>7</b>	<b>Bio-medical Waste Handling by the Healthcare Facilities</b>	During the inspection of the Healthcare Facilities, it has been observed by CPCB that some of the HCFs are not properly handling and disposing the bio-medical waste generated in respect of the segregation of bio-medical waste including disposing off of the mercury waste.	All the SPCBs and PCCs should ensure that the HCFs have adequate facilities for on-site segregation, intra-mural movement and safe storage of Bio-medical waste, prior to sending the waste to the CBWTFs. The HCFs be directed to 'phase out use of mercury based medical instruments' by the year 2020 in line with the 'Minamata Convention for Mercury Phase out'. Also, mercury waste disposal should be in accordance with CPCB guidelines on 'Environmentally Sound Management of Mercury Waste generated from Healthcare Facilities'.

## Annual Report Information on Bio-medical Waste Management for the Year 2013 (as submitted by SPCBs/PCCs and DGAFMS) (as on 26.03.2015)

S.No.	Name of the State/UT/DGAFMS (Date of submission of Annual Report)	Total no. of Healthcare Facilities (HCFs)	Total no. of Beds (Approx.)	No. of Common Bio-medical Waste Treatment Facilities (CBWTFs)/Private agencies		No. of HCFs utilizing CBWTFs/private agencies	No. of HCFs having own Treatment and Disposal facilities	Authorization Status				Total no. of on-site treatment equipment (Excluding CBWTF) installed by HCFs					Total no. of treatment equipment installed at CBWTFs					Total Quantity of BMW generated (kg/day) (Approximately)	Total Quantity of BMW treated (kg/day) (Approximately)	No. of HCFs/CBWTFs violated BMW Rules	Total No. of Show cause notices/Directions issued to defaulter HCFs/CBWTFs	
				Operational	Under Construction			No. of HCFs require Authorization under BMW Rules	No. of HCFs does not require Authorization under BMW Rules	No. of HCFs applied for Authorization	No. of HCFs granted Authorization	Incinerator		Autoclave	Microwave	Hydroclave	Shredder	Incinerator	Autoclave	Microwave	Hydroclave					Shredder
												With APCD	Without APCD													
(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	(viii)	(ix)	(x)	(xi)	(xii)	(xiii)	(xiv)	(xv)	(xvi)	(xvii)	(xviii)	(xix)	(xx)	(xxi)	(xxii)	(xxiii)	(xxiv)	(xxv)	(xxvi)	(xxvii)
1	Andaman & Nicobar (27.05.2014)	29	1035	Nil	Nil	Nil	29	35	INP	01	01	Nil	06	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	250	250	Nil	Nil	
2	Andhra Pradesh and Telangana (04.04.2014)	7973	168362	17	02	6923	01	6423	INP	5546	5143	01	Nil	Nil	Nil	Nil	Nil	18	17	Nil	Nil	17	15361	14800	482	450
3	Arunachal Pradesh (18.02.2014)	01	222	Nil	Nil	Nil	01	INP	INP	01	01	Nil	01	02	Nil	Nil	13	Nil	Nil	Nil	Nil	159	159	Nil	Nil	
4	Assam (09.07.2014)	1012	19772	05 <sup>^</sup>	Nil	140	192	INP	INP	466	300	39 <sup>^</sup>	168 <sup>^</sup>	116	38	Nil	116	01	02	Nil	Nil	02	4306	4279	Nil	Nil
5	Bihar (22.04.2014)	190	3606	03	01	109	81	INP	INP	190	188	09	Nil	06	Nil	Nil	05	03	03	Nil	Nil	03	613.04	613.04	48	48
6	Chandigarh (03.04.2014)	720	3791	02	Nil	715	03	80	640	23	26	02 <sup>#</sup>	Nil	Nil	Nil	Nil	03	Nil	01	Nil	Nil	01	2091	2091	72	Nil
7	Chhattisgarh (09.02.2015)	1322	25882	05	Nil	671	424	222	Nil	1064	627	04	Nil	415	33	Nil	494	01	02	Nil	Nil	02	6513.61	6513.61	26	26

S.No.	Name of the State/UT/DGAFMS (Date of submission of Annual Report)	Total no. of Healthcare Facilities (HCFs)	Total no. of Beds (Approx.)	No. of Common Bio-medical Waste Treatment Facilities (CBWTFs)/Private agencies		No. of HCFs utilizing CBWTFs/private agencies	No. of HCFs having own Treatment and Disposal facilities	Authorization Status				Total no. of on-site treatment equipment (Excluding CBWTF) installed by HCFs				Total no. of treatment equipment installed at CBWTFs					Total Quantity of BMW generated (kg/day) (Approximately)	Total Quantity of BMW treated (kg/day) (Approximately)	No. of HCFs/CBWTFs violated BMW Rules	Total No. of Show cause notices/Directions issued to defaulter HCFs/CBWTFs		
				Operational	Under Construction			No. of HCFs require Authorization under BMW Rules	No. of HCFs does not require Authorization under BMW Rules	No. of HCFs applied for Authorization	No. of HCFs granted Authorization	Incinerator		Autoclave	Microwave	Hydroclave	Shredder	Incinerator	Autoclave	Microwave					Hydroclave	Shredder
												With APCD	Without APCD													
(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	(viii)	(ix)	(x)	(xi)	(xii)	(xiii)	(xiv)	(xv)	(xvi)	(xvii)	(xviii)	(xix)	(xx)	(xxi)	(xxii)	(xxiii)	(xxiv)	(xxv)	(xxvi)	(xxvii)
8	Daman & Diu and Dadra & Nagar Haveli (25.09.2014)	80	623	01	Nil	INP	Nil	80	Nil	80	79	Nil	Nil	Nil	Nil	Nil	Nil	01	01	Nil	Nil	01	115.66	115.66	Nil	Nil
9	Delhi (30.04.2014)	3999	49478	03	Nil	3993	08	2194	INP	403	480	04	Nil	16	02	Nil	17	05	03	Nil	Nil	05	13351	13351	INP	INP
10	Goa (08.05.2014)	397	5153	Nil	Nil	Nil	01	397	Nil	398	397	01	INP	177	(397 deep burial)			Ni	Nil	Nil	Nil	Nil	9268	9268	01	01
11	Gujarat (05.05.2014)	26745	150000	15	09	23648	237	20749	6333	28593	26198	Nil	Nil	Nil	Nil	Nil	Nil	18	17	Nil	Nil	20	33700	33700	44	44
12	Haryana (30.06.2014)	2452	36495	11	01	2451	01	2452	Nil	2452	2452	01	Nil	246	01	11	913	11	11	Nil	Nil	11	7860.48	7860.48	Nil	242
13	Himachal Pradesh (28.03.2014)	579	11750	02**	Nil	355	224	561	18	531	408	03	01	03	Nil	Nil	02**	02	02	Nil	Nil	02	2282.5	2282.5	54	54
14	Jharkhand (06.08.2014)	795	17134	01	Nil	300	21	973	INP	286	297	16	13	200	Nil	01	372	02	02	Nil	Nil	01	6308.80	6308.80	26	113
15	J&K (19.12.2014)	1146	10969	04	Nil	203	105	860	286	333	216	05	01	63	Nil	Nil	01	05	04	Nil	Nil	04	4433	3102	729	144
16	Karnataka (01.07.2014)	26927	170827	18	09	16643	9011	26927	Nil	26788@	26496@	12	Nil	(9070 deep burial)			20	17	Nil	Nil	16	83614	78866	1233	1233	

S.No.	Name of the State/UT/DGAFMS (Date of submission of Annual Report)	Total no. of Healthcare Facilities (HCFs)	Total no. of Beds (Approx.)	No. of Common Bio-medical Waste Treatment Facilities (CBWTFs)/Private agencies		No. of HCFs utilizing CBWTFs/private agencies	No. of HCFs having own Treatment and Disposal facilities	Authorization Status				Total no. of on-site treatment equipment (Excluding CBWTF) installed by HCFs					Total no. of treatment equipment installed at CBWTFs					Total Quantity of BMW generated (kg/day) (Approximately)	Total Quantity of BMW treated (kg/day) (Approximately)	No. of HCFs/CBWTFs violated BMW Rules	Total No. of Show cause notices/Directions issued to defaulter HCFs/CBWTFs	
				Operational	Under Construction			No. of HCFs require Authorization under BMW Rules	No. of HCFs does not require Authorization under BMW Rules	No. of HCFs applied for Authorization	No. of HCFs granted Authorization	Incinerator		Autoclave	Microwave	Hydroclave	Shredder	Incinerator	Autoclave	Microwave	Hydroclave					Shredder
												With APCD	Without APCD													
(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	(viii)	(ix)	(x)	(xi)	(xii)	(xiii)	(xiv)	(xv)	(xvi)	(xvii)	(xviii)	(xix)	(xx)	(xxi)	(xxii)	(xxiii)	(xxiv)	(xxv)	(xxvi)	(xxvii)
17	Kerala (01.01.2015)	5208	111267	01	Nil	5041	167	INP	INP	2022	1459	34	24	04	Nil	Nil	04	04	04	Nil	Nil	03	47223.84	44653.76	136	134
18	Lakshadweep (05.10.2013)	11	110	Nil	Nil	Nil	01	INP	INP	INP	INP	Nil	01	10	Nil	Nil	Nil	Nil	Nil	Nil	Nil	50	50	Nil	Nil	
19	Madhya Pradesh (11.08.2014)	2850	65428	14	Nil	2571	279	2850	Nil	2068	2042	05	01	346	Nil	Nil	800	14	12	Nil	01	14	8960	8691	191	130
20	Maharashtra (26.06.2014)	54030	257352	40	01	42854	8003	18472	15505	16049	20088	12	01	471	122	01	2304	35	36	01	01	37	65660.84	65446.74	757	602
21	Manipur (19.06.2014)	583	2565	Nil	Nil	15	539	55	528512	41	38	04	Nil	29	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	571.17	571.17	Nil	Nil
22	Meghalaya (20.03.2014)	699	6123	01	Nil	27	671	179	520	104	104	05*	INP	INP	INP	INP	01	01	Nil	Nil	Nil	Nil	631.48	631.48	INP	97
23	Mizoram (01.04.2014)	95	2906	Nil	Nil	Nil	94	95	43	41	54	04	Nil	09	02	Nil	Nil	Nil	Nil	Nil	Nil	Nil	440.4	391	Nil	Nil
24	Nagaland (27.02.2014)	129	2538	Nil	Nil	Nil	102	INP	INP	INP	102	INP														
25	Odisha (05.04.2014)	1488	34385	05	Nil	473	928	1488	Nil	355	271	05	Nil	928	07	Nil	39	06	03	04	Nil	06	9289.14	8288.52	54	52

S.No.	Name of the State/UT/DGAFMS (Date of submission of Annual Report)	Total no. of Healthcare Facilities (HCFs)	Total no. of Beds (Approx.)	No. of Common Bio-medical Waste Treatment Facilities (CBWTFs)/Private agencies		No. of HCFs utilizing CBWTFs/private agencies	No. of HCFs having own Treatment and Disposal facilities	Authorization Status				Total no. of on-site treatment equipment (Excluding CBWTF) installed by HCFs					Total no. of treatment equipment installed at CBWTFs					Total Quantity of BMW generated (kg/day) (Approximately)	Total Quantity of BMW treated (kg/day) (Approximately)	No. of HCFs/CBWTFs violated BMW Rules	Total No. of Show cause notices/Directions issued to defaulter HCFs/CBWTFs	
				Operational	Under Construction			No. of HCFs require Authorization under BMW Rules	No. of HCFs does not require Authorization under BMW Rules	No. of HCFs applied for Authorization	No. of HCFs granted Authorization	Incinerator		Autoclave	Microwave	Hydroclave	Shredder	Incinerator	Autoclave	Microwave	Hydroclave					Shredder
												With APCD	Without APCD													
(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	(viii)	(ix)	(x)	(xi)	(xii)	(xiii)	(xiv)	(xv)	(xvi)	(xvii)	(xviii)	(xix)	(xx)	(xxi)	(xxii)	(xxiii)	(xxiv)	(xxv)	(xxvi)	(xxvii)
26	Puducherry (09.05.2014)	130	9050	01	Nil	96	02	130	Nil	130	79	02	Nil	Nil	01	Nil	01	01	01	Nil	Nil	01	10851.22	10851.22	08	10
27	Punjab (28.03.2014)	3571	48025	04**	Nil	3571	Nil	3414	157	3414	3341	Nil	Nil	Nil	Nil	Nil	Nil	05	06	Nil	Nil	09	10900	10900	177	179
28	Rajasthan (10.11.2014)	4165	83949	12	03	2733	405	INP	INP	1576	1059	Nil	Nil	(405 by deep burial)				12	12	Nil	Nil	12	16837	12617	334	428
29	Sikkim (29.08.2014)	69	1460	Nil	Nil	Nil	69	69	Nil	24	24	08	INP	09	06	Nil	11	Nil	Nil	Nil	Nil	Nil	481	481	Nil	Nil
30	Tamilnadu (07.04.2014)	6246	143878	11	01	6246	Nil	6246	INP	5734	5679	Nil	Nil	Nil	Nil	Nil	Nil	10	11	Nil	Nil	12	38933	38933	69	69
31	Telangana	Combined data is given for Andhra Pradesh and Telangana State is given at S. No. 2																								
32	Tripura (17.02.2014)	1223	3842	01	Nil	197	01	1223	Nil	529	529	01	Nil	Nil (371 HCFs disposing by deep burial)				01	Nil	Nil	Nil	Nil	1270.5	1083.39	Nil	Nil
33	Uttarakhand (16.04.2014)	673	14033	02	Nil	820	250	673	Nil	450	276	02	Nil	05	01	01	05	02	02	01	Nil	02	2257.41	2257.41	11	INP
34	Uttar Pradesh (06.03.2014)	6202	119101	14	Nil	5303	18	6202	Nil	3419	3144	18	Nil	11	Nil	01	09	14	14	Nil	01	15	28248	24048	2783	INP
35	West Bengal (26.05.2014)	6769	99075	05	01	5738	16	3371	3398	3333	3311	01	Nil	12	03	Nil	11	06	06	INP	INP	06	40407.72	22970	659	335

S.No.	Name of the State/UT/DGAFMS (Date of submission of Annual Report)	Total no. of Healthcare Facilities (HCFs)	Total no. of Beds (Approx.)	No. of Common Bio-medical Waste Treatment Facilities (CBWTFs)/Private agencies		No. of HCFs utilizing CBWTFs/private agencies	No. of HCFs having own Treatment and Disposal facilities	Authorization Status				Total no. of on-site treatment equipment (Excluding CBWTF) installed by HCFs					Total no. of treatment equipment installed at CBWTFs					Total Quantity of BMW generated (kg/day) (Approximately)	Total Quantity of BMW treated (kg/day) (Approximately)	No. of HCFs/CBWTFs violated BMW Rules	Total No. of Show cause notices/Directions issued to defaulter HCFs/CBWTFs	
				Operational	Under Construction			No. of HCFs require Authorization under BMW Rules	No. of HCFs does not require Authorization under BMW Rules	No. of HCFs applied for Authorization	No. of HCFs granted Authorization	Incinerator		Autoclave	Microwave	Hydroclave	Shredder	Incinerator	Autoclave	Microwave	Hydroclave					Shredder
												With APCD	Without APCD													
(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	(viii)	(ix)	(x)	(xi)	(xii)	(xiii)	(xiv)	(xv)	(xvi)	(xvii)	(xviii)	(xix)	(xx)	(xxi)	(xxii)	(xxiii)	(xxiv)	(xxv)	(xxvi)	(xxvii)
36	DGAFMS (17.06.2014)	361	33556	Nil	Nil	01	361	361	Nil	361	361	133	Nil	34	34	Nil	58	Nil	Nil	Nil	Nil	Nil	11031	11031	Nil	Nil
Total		168869	1713742	198	28	131837	22245	106781	555412	106805 @	105270 @	331	217	3112	250	15	5179	198	189	06	03	202	484271	447456	7894	4391

**Note:**

- (1) \* Only one on-site incinerator with APCD is in operation
- (2) \*\* CBWTF at Pathankot, Punjab is utilized to cater services to some HCFs located in Himachal Pradesh and Jammu.
- (3) # Incinerator installed by HCFs is acting as CBWTF
- (4) ^ Total number CBWTF is 01 remaining 04 are treatment facilities installed by HCFs which are also used by other HCFs.
- (5) INP: Information not provided
- (6) \$ Annual Report for the year 2013 is not submitted by Lakshadweep PCC and hence the information in respect of the Lakshadweep UT has been included as per the Annual Report for the year 2012.
- (7) @ The information further updated as per the Karnataka SPCB letter dated 18.03.2015.
- (8) Disposal of BMW by deep burial (9872 nos.) is allowed in the States of Goa (379 nos.), Karnataka (9070 nos.) and Rajasthan (405 nos).