

MIZORAM POLLUTION CONTROL BOARD

TUIKHUAHTLANG, AIZAWL

ANNUAL REPORT INFORMATION ON BIO- MEDICAL WASTE MANAGEMENT FOR THE YEAR 2016

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| (1) | Name of the State Pollution Control Board . | Mizoram Pollution Control Board |
| (2) | Name of the nodal officer with contact :
telephone no. e.mail | C. Lalduhawma ,Member Secretary,
(0389) 2326173 / 91-9436142012 |
| (3) | Total No of HCF's | |
| (i) | Bedded. | 94 Nos |
| (ii) | Non- Bedded | 10 Nos (including 8 Nos of veterinary
hospitals) |
| (4) | Total No of Beds. | 2284 Nos |
| (5) | Status of authorization. | |
| a) | Total No of HCF's applied for authorization. | 34(fresh authorization) |
| b) | Total No of HCF's granted authorization. | 34 |
| c) | Total no. of application under consideration. | Nil |
| d) | Total No. of application rejected | Nil |
| e) | Total No. of HCF in operation without applying for authorization. | 38 Nos |
| (6) | Quantity of Bio- Medical waste generation(in kg/day) | |
| a) | Quantity of BMW generated in bedded hospitals
(in kg/day) | .425.539 kg/day (41 authorized HCF) +
9.781 kg/day (7unauthorized HCF) |
| b) | Quantity of BMW generated in non- bedded hospitals
(in kg/day) | : 5.67 kg/day (Report submitted by 1(one) HCF only) |
| c) | Any other: | |

Total. 440.099 kg/day

Note.

- i. The quantity of BMW generated & treated is based upon the total number of Annual Report submitted to MPCB for 2016. Quantity is comparatively low to last years report as only 48 HCF's submitted their Annual Report for 2015-2016 in stipulated time.
- ii. The Annual Report for 7 nos of hospitals without authorization is also enclosed. Intimation has been sent to 6 HCF's to apply for authorization under the Rule. The authorization for 1 HCF is in process.

(7) Bio- Medical waste Treatment & Disposal(For 41 bedded hospitals with authorization)

a) Captive Bio- Medical Waste Treatment & Disposal by HCF's (please enclose details as per Annexure I(a):

Sl. no	Healthcare Facility	Treatment & Disposal				
		No. of HCF's having Captive treatment facilities	Total Installed captive treatment facility			Total No. of BMW treated & disposed by Captive Treatment facilities kg/ day
		Type of treatment equipment		No	Capacity in kg/day	
(i)	Bedded		Incinerators	4*	50kg/day	Not in use
			Plasma Pyrolysis			
			Autoclaves	21		164.659 kg/day
			Microwave			
			Hydroclave			
			Shredder			-
			Needle tip cutter or destroyer	260		82.118 kg/day
			Sharps /encapsulation or concrete pit	41		
			Deep burial pits:	40		178.762kg/day
			Chemical disinfection			
			Any other treatment /equipment			
(ii)	Non-Bedded		Incinerators			
			Plasma Pyrolysis			
			Autoclaves	1		0.1kg/day
			Microwave			
			Hydroclave			
			Shredder			
			Needle tip cutter or destroyer	3		0.5 kg/day
			Sharps /encapsulation or concrete pit	1		
			Deep burial pits:	1		5.07kg/day
			Chemical disinfection			
			Any other treatment /equipment			
Total (kg/day)((i)+(ii)			368 •		431.209kg/day	

- Excluding 4 nos of incinerators.

Bio- Medical waste Treatment & Disposal (For 7 bedded hospitals without authorization)

b) Captive Bio- Medical Waste Treatment & Disposal by HCF's (please enclose details as per Annexure I(a):

Sl. no	Healthcare Facility	Treatment & Disposal				
		No. of HCF's having Captive treatment facilities	Total Installed captive treatment facility			Total No. of BMW treated & disposed by Captive Treatment facilities kg/ day
Type of treatment equipment	No		Capacity in kg/day			
(i)	Bedded		Incinerators			
			Plasma Pyrolysis			
			Autoclaves	5		
			Microwave			
			Hydroclave			
			Shredder			-
			Needle tip cutter or destroyer	32		0.681 kg/day
			Sharps /encapsulation or concrete pit	6		
			Deep burial pits.	7		9.1 kg/day
			Chemical disinfection			
			Any other treatment /equipment			
(ii)	Non-Bedded		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			
			Total (kg/day)	50		9.781 kg/day

c) Bio- Medical Waste Treatment & disposal by CBWTF's (please enclose details as per Annexure –I(b)).

Total No. of CBWTF's		Total installed treatment capacity			Total No. of BMW treated in kg/ day
In Operation	Under construction	Type of treatment equipment	No	Capacity in kg/day	
		Incinerators	NIL	NIL	NIL
		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			
		Total (kg/day)			

- (8) Total bio- medical waste generation: **440.099 kg/day**
- (9) Total bio- medical waste treated & disposed (kg/day)
- By Captive Treatment Facilities by the HCF's: **440.099 kg/day**
 - By CBWTF's: **NIL**
- (10) Total no. of violation
- HCF's: **38 Nos**
 - CBWTF's: **NIL**
- (11) Show cause notices/ directions issued to defaulters:
- HCF's: **1Nos**
 - CBWTF's: **NIL**
- (12) Any other relevant information:
- a) No. of workshops/ training conducted during the year: **90 Nos**
 - b) No. of HCF installed liquid treatment facility: **41+7=48 Nos** (All HCF's From where reports are received , reported installation of functional ETP)
 - c) No. of captive incinerators complying to norms. **Detail Information Annexure II**
 - d) No. of HCF's constituted Bio- Medical Waste Management committee: **18 Nos**
 - e) No. of HCF's submitted Annual Report: **4 1Nos**(HCF's with valid authorization) & **7 Nos** (HCF's without valid authorization)
 - f) No. of HCF's practicing pre- treatment of lab microbiology & Bio- technology waste: **NIL**

Sl. no	Name & add. Of the CBWTF with contact person name & telephone no	GPS coordination	Covered area by CMWTF's	Name of the cities/ areas covered by CBWTF	Total No of HCF being covered	Total No of beds covered	Total quantity of BMW collected & treated and disposed off (in kg/day)	Treatment equipment/ facility installed in CBWTF			Total BMW treated in kg/day	Method of disposal & treatment
								Equipment	Nos	total installed capacity in kg/day		
	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Incinerator			N/A	Incinerator ash. NIL Quantity disposed by NIL
								Plasma Pyrolysis				
								Autoclave	NIL	NIL		
								Hydroclave	NIL	NIL		
								Microwave shredder	NIL	NIL		
								Sharps /encapsulation or concrete pit	NIL	NIL		
								deep burial	NIL	NIL		
								Any other equipment	NIL	NIL		
								ETP	NIL	NIL		
								Sub- Total	N/A	N/A		

Annexure- I(b)

Sl. no	Name & add. Of the CBWTF with contact person name & telephone no	GPS coordi nation	Covered area by CMWTF's	Name of the cities/ areas covered by CBWTF	Total No of HCF being covered	Total No of beds covered	Total quantity of BMW collected & treated and disposed off (in kg/day)	Treatment equipment/ facility installed in CBWTF			Total BMW treated in kg/day	Method of disposal & treatment
								Equipment	Nos	total installed capacity in kg/day		
	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Incinerator			N/A	Incinerator ash. NIL Quantity disposed by NIL
								Plasma Pyrolysis				
								Autoclave	NIL	NIL		
								Hydroclave	NIL	NIL		
								Microwave	NIL	NIL		
								shredder	NIL	NIL		
								Sharps /encapsulation or concrete pit	NIL	NIL		
								deep burial	NIL	NIL		
								Any other equipment	NIL	NIL		
								ETP	NIL	NIL		
								Sub- Total	N/A	N/A		

No. of vehicles used for collection of BMW: N/A

List of HCF's not having membership with CBWTF's & neither having captive treatment: N/A

No. of training organized by CBWTF's: N/A

(i) No of accidents: Reported: N/A

(ii) Remedial measures taken: N/A

Annexure- I (a)

Sl.No	Name & Address of HCF	Quantity of BMW generation in kg/day					Total installed capacity kg / day				Total BMW treated in kg/day
		Yellow (kg/day)	Red (kg/day)	Blue (kg/day)	White (kg/day)	Total BMW generated (kg /day)	Incinerator	Auto-clave	Deep burial	Any other	
1	Kulikawn Hospital, Aizawl	0.15	0.74		0.3	1.19	-	-	1	Sharp pit- 1 Needle destroyer- 8	Incinerator: NIL Autoclave: 164.759 kg/day Deep Burial: 183.832 kg/day Any other: Chemical disinfection/ mutilation etc: 82.618 kg/day
2	Mizoram State Cancer Institute, Aizawl	0.027	0.41	0.21	0.021	0.668	-	-	1	Sharp pit- 1 Needle destroyer- 6	
3	Civil Hospital, Aizawl	45	67	30	7	149	1	-	1	Needle destroyer- 42 Sharp pit- 1	
4	New Life Hospital, Aizawl	2	1	1	2.5	6.5	-	1	1	Sharp pit- 1	
5	Vaivenga Hospital & Research Centre, Aizawl	28.39	0.86		0.22	29.47	-	-	1	Needle destroyer- 6	
6	Nazareth Hospital, Aizawl	3.9			0.03	3.93	-	-	-	Needle destroyer- 2	

7	Greenwood hospital, Aizawl	17.75	14.8	0.13	0.1	32.78	-	1	1	Sharp pit- 1 Needle destroyer- 10	
8	Grace Nursing Home & Research Centre, Aizawl	2.77	1.55			4.32	-	1	1	Sharp pit- 1 Needle destroyer- 6	
9	Aizawl Adventist Hospital, Aizawl	3.18	5.76	7.5		16.44	-	-	1	Sharp pit- 1 Needle destroyer- 8	
10	Alpha Hospital, Kulikawn, Aizawl	4.25	0.5	0.05		4.8	-		1	Sharp pit- 1	
11	Synod Hospital, Durtlang , Aizawl	13.33	5		60	78.33	-	1	1	Sharp pit- 1 Needle destroyer- 20	
12	Eye Care Community Research Centre,Aziawl	5.07	0.1		0.5	5.67	-	1	1	Sharp pit- 1 Needle destroyer-3	Non bedded hospital
13	Saitual Sub District Hospital	1.5	1.3		1.6	4.4	-	1	1	Sharp pit- 1 Needle destroyer-4	
14	Reiek PHC, Aizawl E CMO	1.96	0.03	0.1	0.03	2.12	-	-	1	Sharp pit- 1 Needle destroyer- 4	
15	Sakawrdai CHC, Aizawl E CMO	1.97	0.78	0.19	0.29	3.23	-	1	1	Sharp pit- 1 Needle destroyer- 4	
16	Darlawn PHC, Aizawl E CMO	0.21	0.41	0.04	0.04	0.7	-	1	1	Sharp pit- 1 Needle destroyer- 3	

17	UPHC Zemabawk, Aizawl E CMO	3	0.33	0.26	0.16	3.75	-	-	1	Needle destroyer- 1
18	Khawruhlian PHC, Aizawl E CMO	30	0.33	0.26	0.16	30.75	-	-	1	Needle destroyer- 3
19	Phullen PHC, Aizawl E CMO	0.16	0.13	0.01	0.03	0.33	-	-	1	Sharp pit- 1 Needle destroyer- 4
20	Thinsulthliah PHC, Aizawl E CMO	0.33	0.26	0.06	0.16	0.81	-	-	1	Sharp pit- 7 Needle destroyer- 12
21	Phuaibuang PHC, Aizawl E CMO	0.32	0.13	0.13	0.13	0.71	-	-	1	Sharp pit- 1 Needle destroyer- 2
22	Civil Hospital, Lunglei	0.1	0.08	0.13	0.1	0.41	1	2	2	Sharp pit- 2 Needle destroyer- 15
23	Sub District Hospital, Hnahthial, Aizawl	1.25	3	0.25	0.5	0.156	-	1	1	Sharp pit- 1 Needle destroyer- 7
24	Chhiphir PHC, Lunglei	0.09	0.05	0.006	0.01	5	-	1	1	Sharp pit- 1 Needle destroyer- 5
25	Christian Hospital Serkawn, Lunglei	5	3.33	3	3	14.33	-	3	1	Sharp pit- 1 Needle destroyer- 13

26	John Williams Hospital, Lunglei	1	Nil	3	2.5	6.5	-	1	1	Sharp pit- 1
27	District Hospital, Kolasib	1.89	0.49		2.3	4.68	1	1	1	Sharp pit- 1 Needle destroyer- 8
28	Lungdai PHC, Kolasib	4			0.05	4.05	-	-	1	
29	Vairengte CHC, Kolasib	1.25	0.3		0.01	1.56	-	1	1	Sharp pit- 1 Needle destroyer- 6
30	Bilkhawthlir PHC, Kolasib	0.44	0.42	0.03	0.03	0.88	-	-	1	Sharp pit- 1 Needle destroyer- 5
31	District Hospital, Champhai	0.13	0.17	0.17		0.47	-	-	1	Sharp pit- 1 Needle destroyer- 17
32	Biate CHC, Champhai	0.1	0.13	0.4	0.016	0.646	-	-	1	Sharp pit- 1 Needle destroyer- 4
33	Hnahlan PHC, Champhai	0.49	0.27	0.27	0.27	1.3	-	-	1	Sharp pit- 1 Needle destroyer- 1
34	NE Khawdungsei PHC, Champhai	0.016	0.016		0.003	0.035	-	1	1	Sharp pit- 1 Needle destroyer- 1
35	Ngopa CHC, Champhai	0.016	0.016		0.003	0.035	-	1	1	Sharp pit- 1 Needle destroyer- 1

36	Khawzawl CHC, Champhai	0.45	0.2	0.5	0.03	1.18	-	-	1	Sharp pit- 1 Needle destroyer- 1
37	District Hospital, Serchhip	0.96	0.66	0.17	0.33	2.12	-	-	1	Sharp pit- 1 Needle destroyer- 11
38	Ngengtiang PHC, Serchhip	0.02	0.019	0.027	0.013	0.079	-	-	1	Sharp pit- 1 Needle destroyer- 1
39	District Hospital, Lawngtlai	0.24	0.54	0.32	0.08	1.18	-	2	1	Sharp pit- 2 Needle destroyer- 8
40	Buarpui PHC, Lawngtlai	0.05	0.01	0.005	0.002	0.067	-	-	1	Sharp pit- 1 Needle destroyer- 7
41	District Hospital, Mamit	0.83	0.5	5	0.1	6.43	-	-	1	Sharp pit- 1 Needle destroyer- 4
	TOTAL	183.832	111.541	53.218	82.618	431.209	3	22	41	Sharp pit -44 Needle destroyer- 263

Annexure- II

INFORMATION ON CAPTIVE INCINERATORS IN MIZORAM

1. Only 2 captive incinerators, viz Referral hospital, Falkawn & District Hospital, Kolasib is in operation with the latter being non- operational most of the time. However, the incineration at District Hospital, Kolasib cannot be operated for 3 years as complaints has been lodged to the District Disaster Committee by the residents on ground of possible disaster due to the height of the chimney

2. The incinerators located at Siaha & Lawngtlai District have not functioned since its installatio

BMW REPORT BY HCF'S WITHOUT AUTHORIZATION FROM MPCB

Sl. No	Name & Address of HCF	Quantity of BMW generation in kg/day					Total installed capacity kg / day				Total BMW treated in kg/day
		Yellow (kg/day)	Red (kg/day)	Blue (kg/day)	White (kg/day)	Total BMW generated (kg /day)	Incinerator	Autoclave	Deep burial	Any other	
1	Lungsen PHC	0.1	0.13	0.06	0.03	0.32		1	1	Sharp pit- 1 Needle destroyer- 5	Incinerator: NIL Autoclave: Deep Burial: 9.1 kg/day Any other: Chemical disinfection/ mutilation / sharp pit etc. 0.681
2	Sialhawk PHC	0.1	0.03			0.13		1	1	Sharp pit- 1 Needle destroyer- 6	
3	Cherhlun PHC	0.1	0.06	0.03	0.06	0.25		1	1	Sharp pit- 1 Needle destroyer- 6	
4	TuipangPHC	0.33	0.26	0.43	0.06	1.08			1	Sharp pit- 1 Needle destroyer-1	
5	Chaklei PHC	0.06				0.06			1	Needle destroyer- 7	
6	Bungzung PHC	1.83	2	3.33	0.53	7.69		1	1	Sharp pit- 1 Needle destroyer- 6	
7	Bukpui PHC	1.83	2	3.33	0.53	7.69		1	1	Sharp pit- 1 Needle destroyer-1	
Total		2.71	2.54	3.85	0.681	9.781		5	7	Sharp pit-6 Needle destroyer- 32	

Note. i. The no. of beds in these HCF's ie Public Heath Centre (PHC) is 10 Nos each totalling to 70 beds for all 7 PHC's

ii. The authorization for Bungzung PHC is under process (2017-2018)