



केन्द्रीय प्रदूषण नियंत्रण बोर्ड
CENTRAL POLLUTION CONTROL BOARD
(पर्यावरण एवं वन मंत्रालय, भारत सरकार)
(MINISTRY OF ENVIRONMENT & FORESTS, GOVT. OF INDIA)

Speed Post

F.No.B-31011(BMW)/30/93/2014/HWMD/4550

November 11, 2014

To

Member Secretary
Maharashtra Pollution Control Board
Kalptaru Point, 3rd & 4th floor,
Sion Matunga Scheme, Road No.6,
Opp. Cine Planet, Sion Circle, Sion (E)
Mumbai - 400 022



Sub: Performance for
Performance Evaluation of Healthcare Facilities (HCFs) for verification of compliance to the Bio-medical Waste (Management & Handling) Rules, 1998 as amended - reg.

Sir,

Ever since the notification of Bio-medical Waste (Management & Handling) Rules, 1998 under the Environment (Protection) Act, 1986 State Pollution Control Boards (SPCBs)/Pollution Control Committees (PCCs) have been carrying out periodic inspection of Healthcare Facilities (HCFs) for assessment and for ensuring compliance to the BMW Rules.

In order to ensure uniformity in reporting compliance of HCFs, it is proposed that a common format be followed by all the SPCBs/PCCs. For this purpose, CPCB has prepared an indicative format for assessment of the HCFs. A copy of the same is enclosed as ready reckoner and for taking further action at your end.

Yours faithfully,

[A.B.Akolkar]
Member Secretary

PCO

Encl.: As above

'परिवेश भवन' पूर्वी अर्जुन नगर, दिल्ली-110032

'Parivesh Bhawan', East Arjun Nagar, Delhi - 110032

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CENTRAL POLLUTION CONTROL BOARD

(Hazardous Waste Management Division)

Parivesh Bhawan, East Arjun Nagar

DELHI -110 032

Checklists for Verification of Compliance of Provisions of BMW Rules in Health Care Facility (HCF)

I. General Information:											
(a)	Name & Address of the HCF	:									
			<input type="checkbox"/> Government <input type="checkbox"/> Private <input type="checkbox"/> Trust								
(b)	Contact person & Telephone No.	:									
(c)	Month & Year of Establishment of HCF	:									
(d)	Total no. of beds & average occupancy	:									
(e)	Consent under Water Act, 1974	:	<input type="checkbox"/> Applied for <input type="checkbox"/> Possess Valid Consent <input type="checkbox"/> Not renewed <input type="checkbox"/> No consent								
(f)	Consent under Air Act, 1981	:	<input type="checkbox"/> Applied for <input type="checkbox"/> Possess Valid Consent <input type="checkbox"/> Not renewed <input type="checkbox"/> No consent								
(g)	Authorization under Bio-medical Waste (M & H) Rules, 1998	:	<input type="checkbox"/> Applied for <input type="checkbox"/> Not Applied for <input type="checkbox"/> Valid Authorization <input type="checkbox"/> Not Renewed								
(h)	Annual Report submission for the preceding year	:	<input type="checkbox"/> Submitted before due date <input type="checkbox"/> Not submitted								
(i)	Staff involvement in BMW management (no. of persons)	:	<input type="checkbox"/> Separate BMW Cell exist <input type="checkbox"/> No identified cell or person								
II. Bio-medical Waste (Sources, Storage and Segregation)											
(a)	Sources of Biomedical Waste Generation (<i>indicate ward details</i>)	:									
(b)	Categories of bio-medical waste generation and its quantity	:	<table border="1"> <thead> <tr> <th>Waste generated</th> <th>Categories</th> <th>Total generated in Kg per Annum</th> <th>Quantity</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	Waste generated	Categories	Total generated in Kg per Annum	Quantity				
Waste generated	Categories	Total generated in Kg per Annum	Quantity								
(c)	Mode of intra-mural transportation of wastes within HCFs and for transportation of waste from wards to the temporary waste storage area	:	<input type="checkbox"/> Closed Trolley/Pull cart with bio-hazard symbol <input type="checkbox"/> No Closed Trolley/Pull cart <input type="checkbox"/> Others like								
(d)	Is Temporary Waste Storage area	:	<ul style="list-style-type: none"> • Away from the HCF : <input type="checkbox"/> Yes <input type="checkbox"/> No • Within the HCF : <input type="checkbox"/> Yes <input type="checkbox"/> No • Provided with lighting and ventilation : <input type="checkbox"/> Yes <input type="checkbox"/> No • Leachate and washwater from waste storage area connected to ETP provided : <input type="checkbox"/> Yes <input type="checkbox"/> No • Access is restricted : <input type="checkbox"/> Yes <input type="checkbox"/> No 								

III Infrastructure			
• Is waste treated by on-site or through CBWTF	On-site : <input type="checkbox"/> Yes <input type="checkbox"/> No Through CBWTF : <input type="checkbox"/> Yes <input type="checkbox"/> No		
• Adequate On-site Treatment equipment rooms provided (if applicable)	: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA If yes <input type="checkbox"/> Satisfactory <input type="checkbox"/> Not Satisfactory		
• Untreated waste storage room provided	: <input type="checkbox"/> Yes <input type="checkbox"/> No If yes <input type="checkbox"/> Satisfactory <input type="checkbox"/> Not Satisfactory		
• Treated waste storage room	: <input type="checkbox"/> Yes <input type="checkbox"/> No		
• Is DG Set with acoustic enclosure and stack as per DG Set norms provided	: <input type="checkbox"/> Yes <input type="checkbox"/> No		
• Is Washing room /platform for waste containers, trolleys or vehicles provided	: <input type="checkbox"/> Yes <input type="checkbox"/> No		
• Effluent Treatment Plant provided	: <input type="checkbox"/> Yes <input type="checkbox"/> No		
IV. On-site Treatment of Bio-medical Waste by HCF : (If applicable)			
(a) Total quantity of bio-medical waste treated within HCF (in kg per day)	Type of treatment	Pl. tick whichever is applicable	Quantity of waste treated in kg/day
	Incineration	<input type="checkbox"/>	
	Autoclaving	<input type="checkbox"/>	
	Microwaving	<input type="checkbox"/>	
	Shredding	<input type="checkbox"/>	
	Chemical disinfection	<input type="checkbox"/>	
	Deep burial	<input type="checkbox"/>	
	Sharp pit	<input type="checkbox"/>	
	Municipal landfill Disposal	<input type="checkbox"/>	
	Any other mode of treatment		
Total			
(b) On-site Treatment Provision - by Incineration (If applicable)			
• Capacity of Incinerator in kg/hour or kg/day	:		
• Daily Operation schedule (timings)	:		
• Consumption of auxiliary fuels	:	Fuel Used	Quantity in liters per Day
		a)	
		b)	
• Stack attached with the incinerator	:	Diameter: m	Height : m
• Monitoring provision attached with the stack	:	<input type="checkbox"/> Platform <input type="checkbox"/> Porthole <input type="checkbox"/> others	
• air pollution control systems attached with the incinerator	:	Venturi scrubber	: <input type="checkbox"/> Yes <input type="checkbox"/> No
		Droplet separator	: <input type="checkbox"/> Yes <input type="checkbox"/> No
		Mist eliminator	: <input type="checkbox"/> Yes <input type="checkbox"/> No
		ID Fan	: <input type="checkbox"/> Yes <input type="checkbox"/> No
		Any other	:
• Waste feeding mechanism	:	Manual feeding	: <input type="checkbox"/> Yes <input type="checkbox"/> No
		Automatic/mechanical feeding	: <input type="checkbox"/> Yes <input type="checkbox"/> No

<ul style="list-style-type: none"> Is Tamper Proof Programmable Logical Control System (PLC) and automatic recording system (for recording operating parameters of the incinerator) attached with the incinerator 	:	<input type="checkbox"/> Yes <input type="checkbox"/> No																								
<ul style="list-style-type: none"> Operational conditions of the Incineration as observed during the visit 	:	Temp. in PC in Primary Chamber : Temp. in SC in Secondary Chamber : Residence Time in seconds : Negative draft in Primacy Chamber : mm of WC Pressure drop in the venturi : mm of WC																								
<ul style="list-style-type: none"> Is on-line monitoring system attached with the incinerator for flue gas analysis (i.e CO, O₂ and CO₂) 	:	<input type="checkbox"/> Yes <input type="checkbox"/> No																								
<ul style="list-style-type: none"> Stack emissions monitoring results 	:	<table border="1"> <thead> <tr> <th>Parameter</th> <th>Standards prescribed under the BMW Rules</th> <th>Monitoring results *</th> </tr> </thead> <tbody> <tr> <td>a) * PM</td> <td>150 mg/Nm³</td> <td></td> </tr> <tr> <td>b) * NO_x</td> <td>450 mg/Nm³</td> <td></td> </tr> <tr> <td>c) * HCl</td> <td>50 mg/Nm³</td> <td></td> </tr> <tr> <td>d) Combustion efficiency</td> <td>99.00 %</td> <td></td> </tr> <tr> <td>e) O₂</td> <td>-</td> <td></td> </tr> <tr> <td>f) CO₂</td> <td>-</td> <td></td> </tr> <tr> <td>g) CO</td> <td>-</td> <td></td> </tr> </tbody> </table> <p>Note: * monitoring results with 12 % CO₂ correction except for combustion efficiency Date of monitoring:</p>	Parameter	Standards prescribed under the BMW Rules	Monitoring results *	a) * PM	150 mg/Nm ³		b) * NO _x	450 mg/Nm ³		c) * HCl	50 mg/Nm ³		d) Combustion efficiency	99.00 %		e) O ₂	-		f) CO ₂	-		g) CO	-	
Parameter	Standards prescribed under the BMW Rules	Monitoring results *																								
a) * PM	150 mg/Nm ³																									
b) * NO _x	450 mg/Nm ³																									
c) * HCl	50 mg/Nm ³																									
d) Combustion efficiency	99.00 %																									
e) O ₂	-																									
f) CO ₂	-																									
g) CO	-																									
<ul style="list-style-type: none"> Quantity of ash generation per day 	:																									
(c) On-site Treatment Provision - By Autoclaving /Microwaving and shredder (if applicable) :																										
<ul style="list-style-type: none"> Capacity of autoclave/microwave 	:																									
<ul style="list-style-type: none"> Capacity of shredder 	:																									
<ul style="list-style-type: none"> Operating conditions of autoclave/microwave as observed during the visit 	:	Temperature : in °C Pressure : in psi (autoclave) Residence time : in minutes																								
<ul style="list-style-type: none"> Provision made for the autoclave /microwave 	:	Trolley for waste feeding : <input type="checkbox"/> Yes <input type="checkbox"/> No Graphic or computer recording device attached: <input type="checkbox"/> Yes <input type="checkbox"/> No																								
<ul style="list-style-type: none"> Spore test or strip test conducted regularly 	:	<input type="checkbox"/> Yes <input type="checkbox"/> No																								
<ul style="list-style-type: none"> Performance of autoclaving by spore testing or routine test 	:	<input type="checkbox"/> Satisfactory <input type="checkbox"/> Not satisfactory																								
<ul style="list-style-type: none"> Working of shredder 	:	<input type="checkbox"/> Satisfactory <input type="checkbox"/> Not satisfactory																								
(d) On-site Wastewater Treatment:																										
<ul style="list-style-type: none"> Water consumption 	: KL/day																								
<ul style="list-style-type: none"> wastewater generation quantity 	: KL/day																								
<ul style="list-style-type: none"> Dedicated vehicle washing platform and container washing facility available 	:	vehicle washing platform: <input type="checkbox"/> Yes <input type="checkbox"/> No container washing facility: <input type="checkbox"/> Yes <input type="checkbox"/> No																								
<ul style="list-style-type: none"> Effluent Treatment Plant provided for treatment of wastewater (enclose flow chart of ETP) (or) Any other provision 	:	<input type="checkbox"/> Yes <input type="checkbox"/> No Pl. indicate																								

	<ul style="list-style-type: none"> Intake characteristics of ETP 	:	pH : SS :mg/l O & G: mg/l BOD: mg/l ; COD :..... mg/l Bio-assay:																					
	<ul style="list-style-type: none"> Final mode of disposal of treated wastewater 	:	Reused or recycled : <input type="checkbox"/> Yes <input type="checkbox"/> No Discharge through l drain: <input type="checkbox"/> Yes <input type="checkbox"/> No Any other mode of disposal of waste water: (pl. indicate)																					
	<ul style="list-style-type: none"> compliance to the regulatory requirements for final disposal of treated liquid effluent: 	:	<table border="1"> <thead> <tr> <th>Parameter</th> <th>Permissible limits in mg/l except pH and Bio-assay test)</th> <th>As per the analysis results</th> </tr> </thead> <tbody> <tr> <td>pH</td> <td></td> <td></td> </tr> <tr> <td>SS</td> <td></td> <td></td> </tr> <tr> <td>O & G</td> <td></td> <td></td> </tr> <tr> <td>BOD</td> <td></td> <td></td> </tr> <tr> <td>COD</td> <td></td> <td></td> </tr> <tr> <td>Bio-assay</td> <td></td> <td></td> </tr> </tbody> </table>	Parameter	Permissible limits in mg/l except pH and Bio-assay test)	As per the analysis results	pH			SS			O & G			BOD			COD			Bio-assay		
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pH																								
SS																								
O & G																								
BOD																								
COD																								
Bio-assay																								
	<ul style="list-style-type: none"> Is ETP sludge collection and storage provision provided 	:	<input type="checkbox"/> Yes <input type="checkbox"/> No																					
	<ul style="list-style-type: none"> Is ETP sludge drying provision provided 	:	<input type="checkbox"/> Yes <input type="checkbox"/> No																					
V	Type of wastes generated and its final mode of disposal :																							
	<ul style="list-style-type: none"> Incineration ash (if applicable) 	:																						
	<ul style="list-style-type: none"> Plastic wastes after treatment (if applicable) 	:																						
	<ul style="list-style-type: none"> Treated waste sharps/glass waste 	:	<input type="checkbox"/> Satisfactory <input type="checkbox"/> Not Satisfactory																					
	<ul style="list-style-type: none"> Mercury waste 	:	<input type="checkbox"/> Satisfactory <input type="checkbox"/> Not Satisfactory																					
	<ul style="list-style-type: none"> Outdated cytotoxic drugs 	:	<input type="checkbox"/> Stored safely <input type="checkbox"/> Not Stored safely <input type="checkbox"/> Returned to the manufacturer <input type="checkbox"/> Disposed through CBWTF Operator <input type="checkbox"/> Stored safely <input type="checkbox"/> Not Stored safely Records maintenance <input type="checkbox"/> Satisfactory <input type="checkbox"/> Not satisfactory																					
	<ul style="list-style-type: none"> Hypo-solution generated from X-ray ward 	:																						
VI	Check for the following																							
	<ul style="list-style-type: none"> Adequate designated color coded bins/bags labelled with bio-hazard symbol provided in each ward 	:	<input type="checkbox"/> Yes <input type="checkbox"/> No																					
	<ul style="list-style-type: none"> Whether adequate no. of needle cutters, chemical disinfection units available in wards 	:	Needle cutters : <input type="checkbox"/> Yes <input type="checkbox"/> No Chemical disinfection : <input type="checkbox"/> Yes <input type="checkbox"/> No																					
	<ul style="list-style-type: none"> Needle/syringe destroyer (s) provided at required places in adequate numbers 	:	<input type="checkbox"/> Yes <input type="checkbox"/> No If yes <input type="checkbox"/> Adequate <input type="checkbox"/> Needs Improvement																					
	<ul style="list-style-type: none"> Is segregation of waste is practiced in accordance with BMW Rules at the source of generation? 	:	<input type="checkbox"/> Yes <input type="checkbox"/> No																					
	<ul style="list-style-type: none"> Are posters with regard to the BMW provided in the wards 	:	<input type="checkbox"/> Yes <input type="checkbox"/> No																					
	<ul style="list-style-type: none"> Whether generated bio-medical waste is treated or ensured by adopting requisite treatment methods within 48 hours of 	:	<input type="checkbox"/> Yes <input type="checkbox"/> No																					

	waste generation?		
	• Whether a record of waste generation as well as the person who collects BMW from wards maintains a register?	:	<input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, <input type="checkbox"/> Satisfactory <input type="checkbox"/> Not Satisfactory
	• Type of vehicle used (closed type or open type) for intra-mural transportation within wards and upto final storage place or treatment facility is satisfactory?	:	<input type="checkbox"/> Yes <input type="checkbox"/> No
	• Has due attention been given in vehicles to prevent spillage/pilferage / loading/unloading etc.?	:	<input type="checkbox"/> Yes <input type="checkbox"/> No
	• The CBWTF operator collects waste daily or alternate day and the criterion of 48 hours is complied? (if applicable)	:	<input type="checkbox"/> Yes <input type="checkbox"/> No
	• Fire safety measures adopted	:	<input type="checkbox"/> Yes <input type="checkbox"/> No
	• Log book for operation of the treatment equipment is maintained as per BMW Rules? (if applicable)	:	<input type="checkbox"/> Yes <input type="checkbox"/> No
	• Whether awareness programmes conducted for the hospital staff/doctors w.r.t BMW Rules?	:	<input type="checkbox"/> Yes <input type="checkbox"/> No
	• Status of House Keeping in Wards and at sources of BMW generation	:	<input type="checkbox"/> Excellent <input type="checkbox"/> Very Good <input type="checkbox"/> Good <input type="checkbox"/> Not satisfactory
	• Overall status of waste segregation, storage, treatment and its disposal	:	<input type="checkbox"/> Excellent <input type="checkbox"/> Very Good <input type="checkbox"/> Good <input type="checkbox"/> Not satisfactory
VII	Mercury Spill and its management		
	• No. of Thermometers procured per year	:	
	• No. of Sphygmomanometers procured per annum:	:	
	• No. of breakage in a year	:	Thermometers : Sphygmomanometers :
	• Mercury Spill collection kits used	:	<input type="checkbox"/> Yes <input type="checkbox"/> No
	• Is storage provision made for collected mercury spill	:	<input type="checkbox"/> Yes <input type="checkbox"/> No
	• Final Disposal Method	:	<input type="checkbox"/> Sold waste to the authorized recyclers <input type="checkbox"/> Handed over to CBWTF operator <input type="checkbox"/> Final disposal through HWTSDF <input type="checkbox"/> Any other (such as)
VIII	Specific Observations and Recommendations	:	(pl. enclose as annexure)
IX	Name (s) of the visiting official (s) with address	:	(i) (ii)
X	Date of visit	:	
XI	Signature of the Officials with Date	:	(i) (ii)