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KERALASTATE POLLUTION CONTROL BOARD
കേരളസംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്

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PCB/HO/EE4/CS/NGT/MEETING/2019

Date: 24 /07/2019

From,
The Member Secretary

NGT
OA.No. 606/2018

To,
Directorate of Health Services
Thiruvananthapuram

Sub: Progress report to be filed by the Chief Secretary, Kerala as per order dated 25-04-2019 in O.A.No. 606/2018

Ref: Order dated 25-04-2019 in O.A No. 606/2018

Sir,

As per order dated 25-04-2019 in O.A.No. 606/2018, quarterly progress report is to be submitted before NGT. The following extracts of the report are enclosed for urgent progress report.

- 2.4. Status on compliance of Biomedical Waste Management Rules, 2016

Yours faithfully

[Signature]

✓ MEMBER SECRETARY

Encl. msp, - 62933 / 2019 / D.H.S Dated - 17-8-2019

Copy of the letter communicated for immediate action before 19th August 2019

To All DNO's ~

V.K.D.
For D.H.S

2.4 Status on compliance of Biomedical Waste Management Rules, 2016

2.4.1 General

Kerala has numerous healthcare institutions (HCIs) such as Medical colleges, hospitals, specialty hospitals, clinics, clinical laboratories, bio-research institute etc. Health care facilities in the Government sector comprising primary and community health centers and having only out patients facilities are counted as clinics. Veterinary hospitals and AYUSH centers fall under the purview of the Biomedical Waste Management Rules.

2.4.2 Status of health care institutions in Kerala

In Kerala, there are 9,331 HCIs: 2,011 are hospitals, 1,335 are clinics, 3,222 are clinical laboratories, and 2,732 are dental institutions. Of the 9,331 HCIs identified, 759 are in Government sector and 8,572 in private sector. There are 2,967 institutions with in-patient facilities with 118,649 beds. All others except clinical laboratories and dental institutions are considered clinics. Thus, this category includes nursing homes, dispensaries, primary health centers without inpatient facilities, sub centers under primary health centers etc. There are 28 hospitals (2%) with capacity of 500 beds and more, of which 17 are in the private sector and 11 in the Government sector. 108 hospitals (5%) have capacities between 200 and 499. 76 of them are in the private sector and 32 in the Government sector. The majority of hospitals (79%) have less than 50 beds and majority of them are in private sector.

2.4.3 Compliance of the Rules

Submission of annual report(Rule 24)

Annual report for the year 2017-18, was submitted to the Central Pollution Control Board on 26-9-2018 (Rule13).

Sl. No.	Type*	No
a)	Bedded hospitals and nursing homes	2130
b)	Clinics and dispensaries	5280
c)	Veterinary institutions	150
d)	Animal houses	1
e)	Pathological laboratories	882
f)	Blood banks	14
g)	Clinical establishments	955
h)	Research institutions	0
i)	AYUSH	216
	Total	9,628

2.4.4 State Level Advisory Committee for Biomedical Waste Management

SLAC was constituted in the State vide order G.O. (Ms). No.02/0/Env. dated 6-3-2010 and again re-constituted vide G.O. No. (Rt) No. 15/1/Env dated 24-10-2011. Meeting of the SLAC was conducted.

In pursuance to the order of Hon'ble NGT dated 25.04.2019 in OA No.606/2018 and in compliance of the Rule 11 of the BMW Rules,2016, a State Level Monitoring /Advisory Committee was constituted by the Health & Family Welfare (M) Department, Kerala vide G.O.No.1354/2019/H&FWD dated 05.06.2019 and also a District Level Monitoring Committee was constituted vide G.O.No.1353/2019/H&FWD dated 05.06.2019.

2.4.5 Category-wise biomedical waste generated in Kerala

In Kerala, 13,771.4 tonnes of biomedical wastes is generated annually. Details are as follows:

Category	Production
Red*	6,364 tonnes
Yellow	4,705.8 tonnes
White	1,613 tonnes
Blue	1,088 tonnes

**red category wastes are recyclable after treatment such as autoclaving.*

The maximum quantity is produced in Ernakulum district (4277 tonne/annum) followed by Thrissur(1669 tonne/annum), Kozhikode (1164 tonne/annum), Kottayam(50 tonne/annum), Thiruvananthapuram(1122 tonne/annum) and Malappuram(977 tonne/annum). The minimum quantity is produced in Wayanad (120 tonne/annum) and Idukki(137 tonne/annum).

The total quantity of biomedical wastes generated is 13,771 tonne per annum of bio-medical waste. Around 11,361 tonne per annum of bio-medical wastes is generated in hospitals. 82.5% of biomedical waste is generated in hospitals.

2.4.6 Common biomedical Waste treatment facility in the State (CBMWTF)

Existing facility

The common biomedical waste treatment facility is located at Kanjikode, Palakkad. It has a capacity of 37TPD. There are 5 incinerators, and 5 autoclaves in the plant. Around 13,000 institutions are disposing the biomedical wastes into the common biomedical treatment facility.

- IMAGE started Bar-code based biomedical waste collection as per the directions of Central & State Pollution Control Boards as well as the Biomedical Waste Management Rules 2016; from 5th January 2018 onwards
- Tracking of bar-codes will be started right from receiving the order for purchase of colour coded bar-coded bags from the Healthcare Institutions. As bar-code will be printed against each bags

supplying; the monitoring will be continuously carried out from the collection point till disposal at IMAGE Plant.

- c) IMA PEPS has developed the software for Bar-coding and has authorized four Regional Dealers to implement and to supply the colour coded bar-coded bags to all Health Care Institutions affiliated with IMAGE
- d) Kerala State Pollution Control Board can monitor the movement of all the bar-coded bags & containers from each Health Care Institution to the Bio-medical Waste Treatment Plant of IMAGE with the help of online link provided to them.
- e) IMAGE runs 53 GPS installed covered vehicles for collection of biomedical waste within 24 hours
- f) All these vehicles are monitored through GPS Satellite Monitoring using AVL View Software Application. The movement of waste collection vehicles is monitored through GPS system and the waste collection is monitored through the mobile application system
- g) Phasing out of plastic bags has been implemented
- h) The affiliation process for joining IMAGE by Healthcare establishments has been made online through www.imageima.org
- i) Online Continuous Stack Emission Monitoring System (CSEMS) are being installed in IMAGE plant as per the request of Pollution Control Board authorities for the measurement of pollutants within the stack emission. Monitoring within the stack presents a number of problems due to extreme of temperature, velocity of sample and pressure. CSEMS is used for continuous emissions monitoring in waste incinerators. Typically, concentrations of CO₂, CO, NO, NO₂, O₂, primary temperature and secondary temperatures are continuously measured.

2.4.7 Facilities proposed

The Government proposes to set-up Common Biomedical Waste Treatment Plants in

- Ambalamedu, Ernakulum,
- Kinalur, Kozhikode
- Unidentified site, Thiruvananthapuram

A) CBMWTF facility at Kinalur, Kozhikode

- Integrated Consent to Establish having validity upto 31-12-2016 was issued to Sri. P. S. Deepthikumar, Director, Malabar Enviro Vision Private Limited, on 4-4-2014 for setting a Common Biomedical Waste Treatment Facility (Incinerator – 100kg/hr; autoclave -1000l; shredder of 100kg/hr) in the industrial estate of Kerala State Industrial Development Corporation (KSIDC) in Re-survey No. 95/1, Kinalur village, Koyilandy taluk, Kozhikode district. Consent was renewed on 5-9-2017 for a term upto 31-12-2020.
- Environmental Clearance was issued on 26th June 2015 for CBMWTF with two numbers of incinerators 200 and 300kg/hr.; two numbers of autoclave (2Nos) of 400kg/hr. each and a shredder of 700kg/hr.

- Due to public resistance to construction, several meetings were conducted at the level of District Collector and the level of Minister. In the meeting conducted by Hon'ble Excise Minister, relocating the location CBWMWF to a location within the KSIDC Industrial estate was suggested. The Board was directed to identify a new location for Common Biomedical Treatment plant within the Kinalur Industrial Estate.
- Based on the direction received from office of the District Collector on 21-5-2018, inspection was conducted on 22-5-2018 by Tahasildar, Thamarassery Taluk, Assistant Manager, KSIDC and a new location was identified by KSIDC officials.
- The proposed new location is 1 km away from the previous approved location for which Integrated to Establish was issued. This land is being surveyed by KSIDC.
- The applicant will have to apply for consent Variation order for the new location and to amend the Survey no in the EC.

B) CBMWTF facility by Kerala Enviro Infrastructure Limited, Ambalamedu, Ernakulum

- Consent was issued vide consent No. PCB/HO/EKM/ICE/08/204 dated 10-3-2014 to Kerala Enviro Infrastructure Limited for setting up CBMWTF in 3.5 acres of land within 50 acres of land owned by KEIL. The waste handling capacity for which consent issued was for 14-16TPD with two incinerators, two autoclaves and a shredder. It was renewed for a term upto 30-6-2019 vide Consent No. PCB/HO/EKM-II/ICE-R/02/2017 dated 5-10-2017.
- Public hearing was conducted on 7-11-2016 at District Collectorate, Ernakulum and there was strong public protest at that time and report was submitted to MoEF on 14-1-2016. Environment Clearance was issued in 2017.
- Loan facility from KSIDC/banks will be availed and the project execution will start immediately on financial closure.

C) CBMWTF facility by Indian Medical Association at Peringamala, Thiruvananthapuram

- Consent was issued vide consent No. PCB/HO/PLKD/ICO/2009 dated 4-4-2009 with validity upto 30-6-2012 for setting up CBWTDF to manage and handle biomedical wastes for an incinerator of 200kg/hour.
- Two public hearings were conducted in February 2017. The minutes of the public hearing submitted to SEIAA. There is public resistance to the project at Peringamala.

2.4.8 Authorization from the Board

7314 Health care institutions have obtained authorization from the Board.

2.4.9 Hon'ble NGT Order dated 12.03.2019 in the matter of O.A No.710 of 2017

The Central Pollution Control Board vide letter dated 22.03.2019 directed to submit Action Plan for compliance of BWWM rules, 2016 within one month. The Action plan by Kerala State Pollution control Board for the compliance of Bio-Medical Waste Management Rules, 2016 was submitted to CPCB on 29.04.2019.

2.4.10 Others

SI No.	Action Points	Action taken
a)	Inventory of healthcare facilities	The Inventory of healthcare facilities for the year 2017 was submitted to CPCB vide letter No.PCB/HO/RULES/BMW-INVENTORY/2017/48/2017 dated 5.01.2019.
b)	Submission of Annual Reports to CPCB	The annual report for the period 2017 was submitted to CPCB vide Letter No.PCB/HO/BMW/EE-1/AR-2017/10/2018 dated 26.12.2018.Annual report for the year 2018 is under preparation.
c)	Constitution of State Advisory Monitoring Committee and District Level Monitoring Committee	A State Level Monitoring /Advisory Committee was constituted by the Health & Family Welfare (M) Department, Kerala vide G.O.No.1354/2019/H&FWD dated 05.06.2019 and also a District Level Monitoring Committee was constituted vide G.O.No.1353/2019/H&FWD dated 05.06.2019.
d)	Authorization to all Healthcare facilities including non-bedded HCFs.	As per the Bio Medical Waste Inventory 2017, there are 9331 Health Care Facilities operating in Kerala out of which Board has issued authorisation to 7,314 HCFs including non-bedded HCFs. Action is being taken to bring all the HCFs under the purview of Authorisation.
e)	Implementation status of Barcode system	Barcode system has been implemented.
f)	Monitoring of compliance to BMWM Rules 2016 by Healthcare facilities including Veterinary Hospitals, Animal Houses, AYUSH Hospitals	Authorization has been issued to 150 Veterinary hospitals and one Animal House. Direction has been issued to Department of Animal Husbandry to bring all these institutions to manage Bio Medical Waste as per BMW Rules 2016 and to obtain authorisation. 216 AYUSH hospitals have been brought under the authorisation of the Board.
g)	Coverage of Common Biomedical Waste Treatment Facilities(CBWTFs)in the entire State/UT.	One CBMWTF operational at Palakkad, having a capacity of 37 Tonnes/day. The total quantity of biomedical waste generated in the state is 13771 TPA. Three more CBMWTFs have been have been proposed in order to comply with distance norms from source to plant.
h)	Compliance of CBWTFs to new emission standards prescribed BMWM Rules 2016	Periodical inspection is being carried out by the Board officials for compliance verification at IMAGE. Show Cause Notice has been served to IMAGE for not upgrading their existing incinerators to the emission standards prescribed under the BMW Rules 2016.
i)	Capacity Building programmes/training programmes to SPCBs/PCCs officials and HCFs	18 trainings on Bio Medical Waste have been conducted by the Board. More training will be conducted in this regard.
j)	Notice for Environmental Compensation issued to health care institutions in Idukki	Notice for environmental compensation has been issued to 70 Health Care Institutions in Idukki.
k)	Antimicrobial resistance	State Level Action Plan for Antimicrobial resistance has been published. National level seminars conducted. Kerala State Pollution Control Board initiated action on establishing an Antibiotic Residue Laboratory.