

**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL  
PRINCIPAL BENCH, NEW DELHI  
ORIGINAL APPLICATION NO. 514/2019**

Applicant(s) : State Level Monitoring Committee  
Versus  
Respondent(s) : The State of Kerala & others

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Dated this the 16<sup>th</sup> day of January 2021

**Jogy Scaria**, Advocate  
ADDITIONAL STANDING COUNSEL FOR THE RESPONDENT

**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL  
PRINCIPAL BENCH, NEW DELHI**

**ORIGINAL APPLICATION NO. 514/2019**

Applicant(s) : State Level Monitoring Committee

Versus

Respondent(s) : The State of Kerala & others

**ACTION TAKEN REPORT FILED BY CHIEF ENVIRONMENTAL ENGINEER AS  
PER THE ORDER DATED 16.09.2020**

**Advocate.Jogy Scaria**

**ADDITIONAL STANDING COUNSEL FOR THE RESPONDENT**

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**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL**

**PRICIPAL BENCH, NEWDELHI**

**ORIGINAL APPLICATION No.514/2019**

**Applicant(s) : State Level Monitoring Committee**

**Versus**

**Respondent(s) : The State of Kerala & others**

**REPORT FILED BY THE CHIEF ENVIRONMENTAL ENGINEER, REGIONAL OFFICE, ERNAKULAM FOR AND ON BEHALF OF THE KERALA STATE POLLUTION CONTROL BOARD AS PER THE ORDER DATED 16.09.2020 IN THE ABOVE APPLICATION**

I, M.A Baiju, 54 years, S/o M.K Aravindakshan, now working as Chief Environmental Engineer, Regional Office, Kerala State Pollution Control Board, Ernakulum. I am competent to and duly authorized to represent the Board. I know the facts and circumstances of the case. The factual submissions made here under are true and correct to the best of my knowledge, information and belief. In these circumstances, it is just and necessary that this Hon'ble Tribunal may be pleased to accept the accompanying report on file and it is so humbly prayed in the interests of justice in this case.

1. I may humbly submit that the order dated 16.09.2020 of the Hon'ble Tribunal specifically illustrating as follows,

*"From the above, it is clear that there is no meaningful action taken, as required under the law. There is serious dereliction of duties of the State authorities under the 'Public Trust Doctrine' to provide pollution free environment. No meaningful coercive measures have been adopted as expected from the State PCB as a regulator. The local bodies as well as the Urban Development Department have failed to take effective steps in the matter. We record our disapproval for the lack of sincerity and sensitivity of the authorities to the health of the citizens on flimsy grounds. There is noncompliance of orders of this Tribunal dated 28.02.2020, quoted earlier. Not even compensation has been recovered, as directed nor action taken against erring officers by way of entry in their ACRs. Under the NGT Act, 2010, violation of orders of this Tribunal is criminal offence, apart from an executable decree which can be enforced even by directing detention of violators in prison till compliance. This course of action may have to be considered even against highest erring officers, if the default continues. It is unfortunate that the State and its senior officers should not obey the law of the land. The Tribunal expects the State to enforce the law".*

and finally ordered as follows,

*"In view of above, we direct the Chief Secretary, Kerala to take the matter seriously and take remedial action by constituting a three-member team of Secretary, Urban Development Department, Chairman, State PCB and concerned Municipal*



  
 M.A. BAIJU  
 Chief Environmental Engineer

Commissioner. It should not be difficult, if there is willingness, to tackle the problem. Failure of the State Authorities in this regard is at the cost of public health of the citizens which a welfare State can ill afford. The Chief Secretary, Kerala may personally monitor the compliance of these directions at least on monthly basis and record the proceedings. The Chief Secretary may further direct that if the targeted actions are not taken, the erring officers will not be entitled to draw their salaries from a specified date till compliance. The Chief Secretary, Kerala may file his personal affidavit giving information about commencement of work relating to remediation of legacy waste site(s) and waste processing plant to handle day-to-day waste generation to avoid creation of legacy waste dump site before the next date by e-mail at [judicial-ngt@gov.in](mailto:judicial-ngt@gov.in) preferably in the form of searchable PDF/OCR Support PDF and not in the form of Image PDF".

"List again on 21.01.2021".

2. As directed by the Hon'ble Tribunal, a three-member committee comprising of the Chairman, SPCB and Secretary, Urban Development Department and concerned Municipal Commissioner was constituted.

3. It is dutifully submitted that in compliance with the order of the Hon'ble Tribunal, the Chief Secretary had convened a meeting on 22.09.2020 to discuss about the compliance status and action plans to be prepared to ensure that the Corporation is satisfactorily managing the solid wastes at Brahmapuram. It was also decided that the violations if any shall be addressed. The Chairman of the Board also convened a meeting on the same day to discuss about the actions already taken by the Board and Kochi Corporation and future course of actions to be planned. Copy of the minutes of meeting convened by the Chairman held on 22.09.2020 is produced herewith and marked as **Annexure R2(A)**.

4. It is respectfully submitted that a decision was taken during the meeting convened by the Chairman on 22.09.2020 for issuing of notice to Kochi Corporation regarding violations committed till date and to show cause why prosecution shall not be initiated against Corporation. Action is being taken for incorporating legal evidences in the notice for prosecution.

5. It is respectfully submitted that the dumping yard was inspected on 22.09.2020 by the Surveillance team of the office of this respondent and samples of leachate were collected from the dilapidated windrow composting yard and damaged drains. The results revealed that different parameters were exceeding the limit specified. It is significant to note that the temporary ETP installed for leachate treatment was seen not functional. It is respectfully submitted that this respondent had already started survey of solid waste management facilities provided by the Kochi Corporation and other Local Bodies who are utilizing this dump yard for the disposal of solid waste.

6. It is respectfully submitted that the Corporation vide letter dated 17.03.2020 reported that the quantity of legacy waste is 100000 Tonnes which need close scrutiny as the Corporation was continuing its unauthorized operation

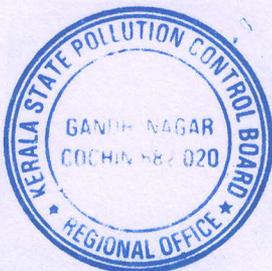


  
M. A. BAIJU  
Chief Environmental Engineer

of the dumping yard since 2010. 5 other Municipalities and 3 Grama Pachayaths are allowed to dispose biodegradable solid waste to windrow compost plant at Brahmapuram. Regarding bio mining, the State Government identified agency for bio mining through tendering and work is to be started soon by the Corporation and the agency.

7. It is respectfully submitted that a notice was already issued on 15.10.2020 asking the Secretary to explain why an amount of Rs 13.95 Crores shall not be imposed towards Environmental Compensation. Assessment of Environmental Compensation for the violations of SWM rule 2016 by the Corporation from 09.04.2018, was done and notice was issued. Copy of the notice is produced herewith and marked as **Annexure R2 (B)**. In the reply dated 02.11.2020 the Corporation requested to keep in abeyance any action against them with respect to imposition of EC and other penal procedures. They have also furnished certain details through the said letter that they have provided proper treatment at Brahmapuram for 206 MT/day of biodegradable fraction of collected solid wastes. But during several inspections it was found that there were no such facilities as the same is disposed at Brahmapuram dumping yard where no satisfactory windrow composting were seen provided. This was identified by the Chairman, SLMC also during inspections conducted along with this respondent where the fresh wastes were being dumped over the deposited legacy waste in the so-called windrow composting sheds. As reported earlier these sheds were found to be in a partially collapsed stage due to uneven settlement of the foundation. It may be pertinent to note that the Corporation also vide the reply dated 02.11.2020 admitted that the windrow composting plant is in a dilapidated condition. Copy of the reply dated 02.11.2020 submitted by the Corporation is produced herewith and marked as **Annexure R2(C)**. However, the revised assessment is done as on 31.12.2020 and the amount comes to Rs. 14.92 Crores. Based on the reassessment and in compliance with the precise direction of the Hon'ble Tribunal direction has been issued to the Corporation imposing Rs. 14.92 Crore towards EC. Copy of the direction is produced herewith and marked as Annexure R2 (D).

Dated this the 16<sup>th</sup> day of January 2021



**CHIEF ENVIRONMENTAL ENGINEER**

**M. A. BAIJU**  
Chief Environmental Engineer

**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL  
PRINCIPAL BENCH, NEW DELHI**

**ORIGINAL APPLICATION NO. 514/2019**

Applicant(s) : State Level Monitoring Committee  
Versus  
Respondent(s) : The State of Kerala & others

**VOLUME 2**

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Dated this the 16<sup>th</sup> day of January 2021

**Jogy Scaria**, Advocate  
ADDITIONAL STANDING COUNSEL FOR THE RESPONDENT

☎: General: 0471- 2312910, 2318153, 2318154, 2318155 Chairman: 2318150 Member Secretary: 2318151  
E-mail: ms.kspcb@gov.in FAX: 0471 – 2318134, 2318152 web: www.keralapcb.nic.in



**KERALA STATE POLLUTION CONTROL BOARD**  
**കേരള സംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്**

Pattom P.O., Thiruvananthapuram – 695 004  
പട്ടം പി.ഒ., തിരുവനന്തപുരം – 695 004

PCB/HO/SEE2/KOCHI CORPN/2019

Dated: 23 /09/2020

From

The Chairman

To

1. The Chief Environmental Engineer  
Regional Office, Ernakulam
2. The Senior Environmental Engineer  
Legal Cell, Ernakulam
3. Smt. Rema Devi.S  
Assistant Environmental Engineer  
Environment Monitoring Cell  
O/o Chief Secretary  
Secretariat

Sub: Minutes of the meeting held on 22/09/2020 in OA 514/2019- Reg

Sir,

Attention is invited to the subject matter. The Minutes of the meeting held on 22/09/2020 is enclosed for information and urgent action.

Yours faithfully

**CHAIRMAN**

Copy to:

1. The Chief Environmental Engineer, Head Office
2. The Environmental Engineer-3, Head Office

**MINUTES OF THE MEETING HELD ON 22/09/2020 IN OA 514/2019 IN THE  
CHAMBER OF CHAIRMAN**

Meeting was held in the chamber of Chairman on 22.09.2020 with Chief Environmental Engineer, Regional office, Ernakulam to discuss the action to be taken against Kochi Corporation and allied Municipalities and Panchayat based on the orders of Hon'ble NGT dated 03.07.2020 and 16.09.2020 in OA 514/2019. Member Secretary, Chief Environmental Engineer, Head office and Assistant Environmental Engineer-5 were also present in the meeting.

**The meeting discussed the action plan prepared by Chief Environmental Engineer, Regional office, Ernakulam and took the following decisions,**

- 1) **As per the orders of Hon'ble NGT dated 03.07.2020 and 16.09.2020 in OA 514/2019, notice shall be issued immediately to Kochi Corporation and allied municipalities for levying Environmental Compensation based on the report furnished by CEE, RO, EKM.**

**( Action : Head Office, TVM)**

- 2) **Chief Environmental Engineer, Regional office, Ernakulam shall take steps for Legal Sampling of leachate and other related sources in Brahmapuram.**

**(Action: CEE, RO, EKM)**

- 3) **Chief Environmental Engineer, Regional office, Ernakulam shall engage an Advocate immediately for initiating prosecution against Kochi Corporation .This shall be got ratified from the Head office.**

**(Action: CEE, RO, EKM)**

- 4) **Chief Environmental Engineer, Regional office, Ernakulam, who has been authorized to prosecute Kochi Corporation shall prepare notice and file complaint before appropriate court for prosecution against Kochi Corporation. This shall be done immediately.**

**(Action: CEE, RO, EKM)**

- 5) Chief Environmental Engineer, Regional office, Ernakulam shall take steps for conducting random survey for ensuring 100% door to door collection & source level segregation in household /establishment.

(Action: CEE, RO, EKM)

- 6) Regarding the quantification of legacy waste, a decision on the proposal submitted by Chief Environmental Engineer, Regional office, Ernakulam is a top priority. In view of the urgency, the possibility of engaging Uralunkal Labour Contract Co-operative Society for survey using drone for actual quantification/volume estimation of Legacy Waste at Brahmapuram Plant, shall be enquired and necessary sanction shall be obtained from the Principal Secretary, Environment Department.

(Action:Head Office, TVM)

- 7) The Chief Environmental Engineer, Regional Office, Ernakulam shall follow up with KSIDC and ensure timely processing of tenders on waste to energy plant and biomining. The Chief Environmental Engineer, Head Office shall immediately coordinate with KSIDC.

(Action:CEE, RO, EKM; CEE, HO, TVM)

- 8) Smt. Rema Devi S, Assistant Environmental Engineer attached to the Environment monitoring Cell at the Chief secretary's office shall ensure proper liaisoning on all matters concerning Urban Affairs Department, KSIDC and KSPCB and speed up matters relating to the follow up of the issue.

(Action:Head Office, TVM)

- 9) The Head Office of the Board (CEE/SEE) shall ensure constant follow up on all the matters mentioned above on a weekly basis and update the status. Constant interaction with the office of Urban Affairs and the concerned local bodies will also be ensured from the Head Office.

(Action : Head Office, TVM)

- 10) A meeting may be convened with Kochi Corporation, allied municipalities and stake holders for discussing the C& D waste collection and its

disposal. The corporation /agencies issuing building permit, shall impose a condition for proper disposal of C&D. The compliance of the Construction and Demolition Waste Management Rules, 2016 shall also be complied with by the Kochi Corporation and allied Municipalities

(Action: CEE, RO, EKM; EE-3, HO)

- 11) Chief Environmental Engineer, Regional office, Ernakulam shall regularly monitor and ensure that only segregated waste is treated in windrow composting plant, transportation of waste are through covered vehicles and leachate from collection tank is treated in septage treatment plant on regular basis.

(Action: CEE, RO, EKM)

- 12) Chief Environmental Engineer, Regional office, Ernakulam shall monitor and ensure that separate storage, collection, and transportation of construction and demolition waste as per Rule 22(6) of Solid Waste Management Rule, 2016 will be ensured by Kochi Corporation.

(Action: CEE, RO, EKM)

- 13) The Chief Environmental Engineer, Regional office, Ernakulam shall monitor the regional landfill and modern slaughter houses at Kaloor & Fort Kochi , in time bound manner.

(Action: CEE, RO, EKM)

- 14) Senior Environmental Engineer, Legal Cell, Ernakulam shall take immediate action for vacating the stay in WP© 36204/2018(A) filed by Kochi Corporation regarding bank guarantee.(Action:Senior Environmental Engineer, Legal Cell, Ernakulam)

(Action: SEE, Legal Cell, EKM)

23.09.2020

  
CHAIRMAN

☎: General: 0471- 2312910, 2318153, 2318154, 2318155 Chairman: 2318150 Member Secretary: 2318151  
E-mail: ms.kspcb@gov.in FAX: 0471 - 2318134, 2318152 web: www.keralapcb.nic.in



## KERALA STATE POLLUTION CONTROL BOARD

കരളസംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്

Pattom P.O., Thiruvananthapuram – 695 004  
പട്ടം പി.ഒ., തിരുവനന്തപുരം - 695 004

PCB/HO/SEE2/KOCHI CORPN/2019

Date:15/10/2020

**Regd. with A/D**

### NOTICE UNDER SECTION 5 OF THE ENVIRONMENTAL PROTECTION ACT, 1986

Sub: Non-compliance of Solid Waste Management Rules, 2016.

- Ref:
1. Order dated 23/10/2018 of the Hon'ble NGT in O.A. 533-535/2018
  2. Order dated 9/11/2018 of the Hon'ble High Court in WP(c) No. 36204/2018(A)
  3. Order dated 16/01/2019 in OA no. 606/2018
  4. This office notice No. PCB/HO/RULES/SWM-ERNAKULAM/2018 dated 12/10/ 2019
  5. Letter no. PCB/RO-EKM/GEN-221/19 dated 18/10/2019 from the Chief Environmental Engineer, Regional Office, Ernakulam
  6. This office notice No. PCB/HO/SEE2/KOCHI CORPN/2019 dated 11/12/2019
  7. Letter No. MOE2/10948/2017 dated 01/ 01/ 2020 and 06/01/2020 of Secretary, Kochi Corporation
  8. Order dated 30/01/2020 in OA no. 442/2013 by the Hon'ble NGT.
  9. Letter no. PCB/RO/EKM/GEN-258/19 dated 20/02/2020.
  10. Minutes of the meeting on 16-3-2020 with the Secretary, Kochi Corporation
  11. Minutes of the meeting on 17-3-2020
  12. Order dated 03/07/2020 in OA no.514/2019
  13. Letter No PCB/RO-EKM/GEN-258/19 D dated 23.07.2020 from the Chief Environmental Engineer, Regional office, Ernakulam
  14. Minutes of the video conference held on 17/08/2020 with Secretary , Kochi Corporation and allied municipalities
  15. Letter No. MOE2/10948/2017 dated 11/09/2020 of Secretary, Kochi Corporation.
  16. Order dated 22/11/2018 in O.A. No. 353/2016
  17. Order dated 20/11/2018 in O.A No. 117/2014, 499/2014 and 102/2014
  18. Letter No PCB/RO-EKM/GEN-258/19 D dated 11/08/2020 from the Chief Environmental Engineer, Regional office, Ernakulam
  19. Order dated 16/09/2020 in OA no.514/2019.

WHEREAS the Central Government notified the Environmental (Protection) Act, 1986 for the protection and improvement of environment and for matters connected therewith;

WHEREAS as per Section 3, 6, and 25 of the Environment (Protection) Act, 1986, the Central Government re-notified the Solid Wastes Management Rules, 2016 (hereinafter referred as SWM Rules) vide notification S.O. 1357(E) dated 8/4/2016;

WHEREAS as per Rule 22 (1) of the SWM Rules, suitable sites for setting up solid waste processing facilities are to be identified;

WHEREAS as per Rule 22(3) of the SWM Rules, suitable sites for setting up solid waste processing facility and sanitary landfill facilities are to be procured;

WHEREAS as per Rule 22 (5) of the SWM Rules, door to door collection of segregated waste and its transportation in covered vehicles to processing or disposing facility shall be ensured by 8-4-2019;

WHEREAS as per Rule 22 (7) of the SWM Rules, solid waste processing facilities for the complete quantity of waste generated from the local body at 0.4 to 0.5 kg/person/day, shall be set up by 8-4-2019;

WHEREAS facilities with the technologies specified in CPHEEO manual and SWM Rules are to be in place for the effective treatment and disposal of the solid waste generated in the local body;

WHEREAS as per Rule 22 (6) of the SWM Rules, separate storage, collection and transportation of construction and demolition waste shall be provided;

WHEREAS as per Rule 22(11) of the SWM Rules, bio-remediation or capping of old and abandoned dump site shall be ensured;

WHEREAS the Hon'ble NGT vide order dated 23/10/2018 read first above, ordered to complete the new integrated solid waste treatment processing plant in six months to commence the treatment of legacy waste, impose a penalty of Rs. 1 crore on Kochi Corporation and to deposit a performance guarantee of Rs. 3 crore with Kerala State Pollution Control Board and the Hon'ble High Court vide the order read 2<sup>nd</sup> above, ordered to place bank guarantee of Rs. 50 lakh each to Central Pollution Control Board and Kerala State Pollution Control Board and to exempt from depositing Rs. 3 crore towards bank guarantee and accordingly bank guarantee was placed by the Kochi Corporation;

WHEREAS during the second meeting on 15/3/2019 of the State Level Monitoring Committee constituted by the Hon'ble NGT vide the order under ref.3, resolutions were made to conduct bio mining of legacy waste part by part; keep ESCROW amount for handling emergency situation; provide adequate cover, leachate collection tank and log book for waste transporting vehicles and allow waste transportation only by those vehicles by Health Supervisor; engage Ex-service armed security at the segregation in the dump yard; to make the roads, NH Bypass, Sahodaran Ayyappan Road and Banerjee Road as Zero Waste road; to insist door to door collection and prohibit the deposition of waste on roads and other public places and insist for segregation of waste before disposal; ban the plastic carry bags below the prescribed limit and to proceed against violators under the law of penalization; to give adequate protective equipment namely gumboots, gloves, masks etc., proceed against the violators disposing sewage, septage and chicken waste in the water resources; apartments, hospitals, hospitals which are not operating their sewage treatment plants and to evolve methods for the effective disposal of plastics and not to dispose plastic by burning;

WHEREAS Chairman SLMC during their 4<sup>th</sup> meeting on 08/05/19 directed to submit specific detailed time bound action plan to the Kerala State Pollution Control Board, to adopt mechanized system for the disposal of legacy waste, to implement heavy fining, provide surveillance cameras/ strict squad to prevent waste dumping on roads, to insist on segregation of wastes at source, to transport vehicles with adequate cover, to provide proper leachate collection tank and logbook, to provide adequate personal protective equipments to workers and to compel

them to wear the same, to prohibit deposit of wastes on roads and other public places, to deploy haritha karma sena for door to door collection, to report on the action taken and to submit to the SLMC;

WHEREAS the fifth meeting of the State Level Monitoring Committee held on 14/06/2019, noticed with distress that a good number of directions issued are yet to be complied with and therefore expressed displeasure over the same and it was again directed to issue directions by the Corporation to the bulk generators to take steps to channelize their own wastes as the same is homogenous and clean, channelization can be done easily; to submit the details of wards, in which segregation is complete; segregated plastic waste for shredding is to be stored in areas attached to the zonal office of the Corporation; and to submit action plan in each ward for solid waste management, projects to be implemented and to improve the existing waste management facility, existing material collection facility and resource recovery facility; to publish the information on waste management in the website; to take legal action against open burning of non-biodegradable waste and dumping of waste in water bodies; to take steps to establish MCFs in all wards and RRF at least in six wards; issue identity card to all workers engaged in waste management and to prepare action plan for developing a business model for effective treatment of waste;

WHEREAS it is noted that you have not identified the land for managing Construction and Demolition waste and sanitary landfill;

WHEREAS noticed dated 12/10/2019 was issued vide reference 4<sup>th</sup> above for not taking steps to provide biomethanation plant for the food wastes generated within Kochi Corporation;

WHEREAS the Chief Environmental Engineer, Regional Office, Ernakulam vide the letter dated 18/10/2019 cited 5<sup>th</sup> above, reported about the improper functioning of solid waste plant including no action taken to install proper leachate treatment plant at the site;

WHEREAS the Board issued notice dated 11/12/2019 read 6<sup>th</sup> above to the Secretary, Kochi Corporation to show cause why the Environmental compensation of Rs. 1.122 Crore shall not be levied for not providing leachate treatment plant and the replies of the Kochi Corporation under ref. 7<sup>th</sup> above were ;

WHEREAS the Hon'ble National Green Tribunal vide the order read 8<sup>th</sup> above on 30-1-2020 directed that, on receipt of the explanation from the Corporation to the notice issued by Board, the Pollution Control Board is to pass appropriate orders and complete the proceedings initiated on the basis of their inspection and dispose of the same in accordance with law and come with compliance report before the Tribunal;

WHEREAS the Chief Environmental Engineer, Regional Office, Ernakulam in the report (ref. 9) dated 20/02/2020 to the Chairman, State Level Monitoring Committee, reported that the Corporation is not taking earnest steps to solve the issue which is a long pending case from the Corporation side and to assess environmental compensation as done on 18/10/2019;

WHEREAS the Chief Environmental Engineer, Regional Office, Ernakulam vide letter No. PCB/RO-EKM/GEN-258/2019 dated 28-2-2020 reported that the Corporation is allowing five municipalities and two grama panchayaths to bring their biodegradable waste in addition to Corporation's biodegradable waste and non biodegradable waste and the total actual quantity of waste estimated as 365.19TPD;

WHEREAS on receiving the reply from the Secretary, Kochi Corporation, hearing was conducted with the Secretary, Kochi Corporation on 16/3/2020 vide ref., 10 and 11 and reported

status to the NGT;

WHEREAS the Hon'ble NGT on 3/7/2020 in OA514/2019 (ref. 12) observed the delay in setting up of waste to energy plant and was doubtful whether leachate can be treated in an ordinary septage treatment plant as it contains heavy metals and the tribunal also observed that the progress appears to be very slow and in disregard to the statutory and constitutional obligation of providing clean environment;

WHEREAS it was reported by the Chief Environmental Engineer, Regional office Ernakulam vide letter No. PCB/RO-EKM/GEN-221/19 dated 23/07/2020 (ref. 13) reported that during the inspection conducted by the Board on various occasions, it was noticed that

- a) The facilities provided for the treatment and disposal of solid waste provided at Brahmapuram are not maintained properly;
- b) The windrow composting shed is in dilapidated condition and the mixed solid waste including plastic waste is dumped in the yard in open condition;
- c) The manure produced seems to be marginal compared to the daily waste collected at the plant;
- d) Manure produced did not meet the fertilizer standard as per the SWM Rule, 2016 and contain heavy metals;
- e) Due to the unscientific treatment of biodegradable solid waste, huge quantity of rejects have dumped at various places and which in turn got converted to legacy waste;
- f) Fire accident were occurred in the legacy waste dump yard at Brahmapuram 3 or 4 times during the period of 2019 and 2020 which lead to air pollution in and around the dump site
- g) Leachate from the windrow composting shed and the biodegradable solid waste dumping area is not collected and treated properly due to improper drains and there are chances of leachate reaches the Kadambrayar river, one of the polluted river stretch identified by CPCB;
- h) The leachate treatment plant provided prior to the visit of Regional Monitoring Committee (RMC) appointed by the Hon'ble NGT is not operational now;
- i) During the inspection conducted on 16.07.2020 it was noticed that no progress in the installation of leachate treatment plant except the construction of a new collection tank having capacity of 100 m<sup>3</sup> on which the Hon'ble Court made adverse remarks ;
- j) No effective steps were taken for construction activities for the installation of waste to energy plant and for the removal of legacy waste. The Corporation authorities are still not able to assess the quantum of legacy waste settled there;

WHEREAS hearing was conducted by the Chairman on 17/8/2020 with the Kochi Corporation (ref. 14) and accordingly details were submitted by you vide the letter under ref. 15;

WHEREAS from the above observations, it is noted that you have not fully complied with the directions of Hon'ble SLMC, provisions of Solid Waste Management Rules, 2016 and also not obtained authorization under SWM Rules, 2016;

WHEREAS the Hon'ble National Green Tribunal, Principal Bench, New Delhi in the order dated 22/11/2018 in O.A. No. 353/2016 (ref. 16) clarified that apart from prosecution, the statutory authorities under the Environment (Protection) Act, 1986, the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974, must, in exercise of their incidental powers, prescribed scale of compensation to be collected from the

polluters on the “Polluter Pay’s Principle”. Such scale which may be laid down at various levels, having regard to the local condition or as per direction in the hierarchy of the authorities;

WHEREAS in various other application also, the Hon’ble NGT passed similar orders, for instance, in the Order dated 20/11/2018 in O.A No. 117/2014, 499/2014 and 102/2014 (ref. 17) the Hon’ble NGT noted as; “Needless to say that statutory authorities under the Environment (Protection) Act, 1986, Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974 are entitled to assess and recover damages as “Polluter Pay’s Principle” in exercise of incidental powers to protect environment”.

WHEREAS as per Hon’ble NGT order dated 23/09/2019 in O.A 585/2018, if the rules are violated, the Pollution Control Board can independently proceed against local bodies who are not complying with the rules including initiation of prosecution of those persons who are not complying with the same and assessment of damage caused to the Environment;

WHEREAS the Hon’ble NGT vide order dated 16/9/2020 in OA 514/2018 (ref. 19), observed the failure in taking effective steps on the matter;

AND WHEREAS the Chief Environmental Engineer, Regional Office, Ernakulummade recommendation for levying Environmental Compensation against Kochi Corporation and forwarded the following assessment details vide the letter dated 11/8/2020 cited 18<sup>th</sup> above;

City	Kochi Corporation
Population(2011)	6,77,381
Class	Class I
Waste generation (kg per person per day)	-
Waste generation (TPD)	315.96
Waste disposed as per Rules (TPD)	31.60
Waste Management Capacity Gap(TPD)	284.36
Calculated EC(capital cost component) in lakhs, Rs.	682.47
Minimum and Maximum values of EC (Capital cost component) recommended by the Committee (lakhs, Rs.)	Min. 100 Max. 1000
Final EC (capital cost component) in lakhs, Rs.	682.47
Calculated EC (O&M component) in lakhs, Rs./day	5.69
Minimum and maximum values of EC (O&M cost component) recommended by the Committee	Min. 0.1 Max. 1.0
Final EC(O&M component) in lakhs, Rs./day	1.00
Calculated Environmental Externality (lakhs Rs./day)	0.01
Minimum and maximum values of Environmental Externality recommended by the committee(lakhs, Rs./day)	Min. 0.05 Max.0.1

Final Environmental Externality (Rs. Per day)	0.05
EC to be collected (Rs. in lakhs from 22/11/2018 to 30/9/2020 i.e.679 days)	1395.42

NOW THEREFORE, in exercise of the powers vested under Section 5 of the Environment Protection Act 1986, read with Government of India Notification S.O. 327(E) dated 10/04/2001, you are directed to show cause within 15 days of receipt of this notice, why the Board shall not recover Environmental Compensation of Rs. 1395.42 lakhs (Rupees One thousand three hundred and ninety five lakhs and forty two thousand only) from 22/11/2018 to 30/09/2020 towards the noncompliance of Solid Waste Management Rules, 2016.

  
CHAIRMAN

To

The Secretary,  
Kochi Corporation

Copy to:

1. The Chairman  
State Level Monitoring Committee with C/L
2. The Additional Chief Secretary  
Local Self Government Department with C/L
3. The Principal Secretary  
Environment Department with C/L
4. The District Collector, Ernakulam
5. The Director, Urban Directorate
6. The Chief Environmental Engineer, Regional Office, Ernakulam
7. The Environmental Engineer, District Office 1 and 2, Ernakulam



## KOCHI MUNICIPAL CORPORATION

Phone { 2369007, 2369196  
 2369143, 2369149  
 2369197, 2369069  
 Fax : 91-484-2369023

Corporation Office  
 P.B.No.1016  
 Ernakulam. Cochin 682 011

No.MOE2-10948/17

02/11/2020

From

Secretary

To

The Chairman  
 Kerala State Pollution Control Board  
 Pattom P.O Thiruvananthapuram  
 695004

Sir,

Sub: Explanation to the notice given under Environment Protection Act 1986

Ref. Notice No.PCB/HO/SEE2/Kochi Corpn/2019 dated 15/10/2020

The compliance in implementation of the Solid waste management rules 2016 is as given below:

1. *Rule 22(1): Identification of suitable sites for setting up solid waste processing facilities*

Kochi Corporation had identified, constructed, commissioned and is operating a 250 tonnes per day capacity Windrow compost plant at Brahmapuram for treating the biodegradable fraction of the waste since April 2008(Whereby the Rule 22(1) is complied) Corporation had also entered into an agreement for construction of a waste to energy plant in 2016 as part of upgrading the solid waste treatment and to treat the non-biodegradable portion of the waste as well. This has been cancelled by the Government Vide G.O(Rt) No.805/2020/LSGD dated 30/4/2020 due to the delay from the side of concessionaire and failure in submitting the details regarding the funding. New tenders have been floated for the project by KSIDC on 24/06/2020 with

last date of submission on 30/7/2020 and was extended upto 14/09/2020. The tenders received are being evaluated by KSIDC. It is expected that the tenders would be finalised by KSIDC in November 2020.

2. *Rule 22(2) identification of suitable sites for setting up common regional sanitary landfill facilities for suitable clusters of local authorities under 0.5 million population and for setting up common regional sanitary landfill facilities or stand alone sanitary landfill facilities by all local authorities having a population of 0.5 million or more .*

Corporation had identified land for solid waste processing facility way back in 2004 and had established a windrow composting plant in 2008 and had identified land for constructing landfill in the 110 acres of land. Vide letter No. PCB/RO-EKM/GEN-97/12 dated 22/08/2019 Chief Environmental Engineer, Regional Office Ernakulam had informed after inspection that the land identified by Corporation in Brahmapuram for construction of scientific landfill behind the security cabin is not suitable as per the guidelines of CPCB as 2m clearance to the ground water table from the bottom liner of the landfill cannot be ensured and to find some other place in the 110 acre land at Brahmapuram. In full compliance with the CPCB guidelines and the guidelines of the CPHEEO Solid waste management manual 2016 other land cannot be found in Brahmapuram as a minimum 100m clearance from water bodies is also mandated. A request has been placed with the Government vide letter No. MOE2/3760/18 dated 19/11/2019 to waive the conditions of siting landfill and to grant special permission. Vide G.O (Rt)No.1198/2020/LSGD dated 18/06/2020, Government have accorded sanction to Kerala Enviro Infrastructure Limited and Clean Kerala Company Limited for constructing regional sanitary landfill in the land purchased by KINFRA from FACT near Brahmapuram by utilizing 25 acres of land. (Whereby the intended spirit of the Rule is met)

3. *Rule 22(3) Procurement of suitable sites for setting up solid waste processing facility and sanitary landfill facilities*

Suitable site was procured in 2004 and Solid waste treatment plant was established in 2008 itself. Status regarding the establishment of scientific landfill is as given in the above paragraph.

4. *Rule 22(4) Enforcing waste generators to practice segregation of bio-degradable, recyclable combustible, sanitary waste domestic hazardous and inert solid waste at source.*

85% of Households in Kochi Corporation area store wastes in segregated form (Biodegradable waste and Non-biodegradable wastes separately). 5%

of HHs where source segregation was not practiced belongs to the areas in and around Fort Kochi. To promote source segregation of wastes, under the Cochin Smart Mission (Smart City Project) 30,000 bins were distributed to the HHs in Fort Kochi area. About 59.8% of shops/commercial establishments store wastes in segregated form. Rest of the establishments are either small outlets or shops which do not generate much wastes other than food waste.

5. *Rule 22(5) Ensure door to door collection of segregated waste and its transportation in covered vehicles to processing or disposal facilities.*

There are about 1,67,935 households in Kochi Corporation. Wastes are directly collected from about 1,50,730 HHs (90%) (Door to door collection of wastes). In about 7,262(4.32%)HHs source level treatment of wastes are adopted. And in another 8204 HHs(4.88%) CREDAI a real estate builders association is taking care of the waste management. In total 99.2% of the total wastes are either collected by door to door collection or processed at source. Only the remaining 0.8% (1343) of the households needs to be brought on board for 100% collection and processing of waste. This will be ensured by end of November 2020. Wastes are transported to treatment facility in compactor trucks and covered tipper trucks.

6. *Rule 22(6) Ensure separate storage, collection and transportation of construction and demolition waste.*

In compliance with the construction and demolition waste management rules 2016, the C&D wastes are not collected nor mixed with the other wastes collected, transported and treated by Corporation. C&D wastes are reused for filling low lying areas and filling of basement areas and for construction of pavement tiles and kerb stones. Such wastes are processed and reused by the builders itself and has never been a menace to public. It may be interesting to share that one of the agency engaged by Kochi Corporation to quantify the C&D waste commented that they couldn't find any C&D waste in Kochi.

7. *Rule 22(7) Setting up solid waste processing facilities by all local bodies having 100000 or more population*

Kochi Corporation had set up a 250 TPD capacity windrow composting plant (one of the technologies specified in CPHEEO manual and SWM Rules 2016) for solid waste processing in 2008 itself.

8. *Rule 22(8) Setting up solid waste processing facilities by local bodies and census towns below 100000 population.*

Not applicable to Kochi Corporation as the population of Kochi Corporation is above 100000.

9. *Rule 22(9) Setting up common or stand alone sanitary landfills or for all local bodies having 0.5 million or more population for the disposal of only such residual wastes from the processing facilities as well as untreated inert wastes as permitted under the Rules*

Status is same as furnished for Rule 22(2)

10. *Setting up common or regional sanitary landfills by all local bodies and census towns under 0.5 million population for the disposal of permitted waste under the rules.*

Not applicable to Kochi Municipal Corporation

11. *Rule 22(11) Bio-remediation or capping of old and abandoned dump sites*

A large portion of the dump site was capped in 2011 itself, and on 21/02/2019 Expression of Interest was called for capping the wastes in the dumping yard with closing date on 07/03/2019, later as per the direction of the State Level Monitoring Committee of NGT in its meeting on 06/04/2019 to bio-mine the legacy waste instead of capping, the EOIs obtained for capping were cancelled and fresh tender for bio-mining the legacy wastes was floated on 14/08/2019 after vetting of the tender document by Pollution Control Board and with closing date on 04/09/2019. As nobody participated in the tender the closing date was extended to 20/09/2019. Even then nobody participated in the tender. The work was re-tendered on 26/10/2019 with closing date on 18/11/2019; and was extended till 26/11/2019. Only one bidder participated in the tender, and the council that met on 13/12/2019 approved the bid evaluation report. Financial bid was opened on 24/11/2019 was placed before the council meeting scheduled on 13/01/2020 for approval of the financial bid with quoted rate of Rs. 597/m<sup>3</sup>. The council deferred its decision. Later when the matter was placed before the special council for Brahampuram on 03/03/2020 the council again deferred its decision.

Government intervened in the matter and took over the work of bio-mining the legacy waste at Brahmapuram from Kochi Municipal Corporation vide G.O (Ms)No.8/2020/DMD dated Thiruvananthapuram 05/03/2020 and assigned KSIDC to float fresh tenders after cancelling the tender floated by Kochi Corporation. On 20/03/2020 KSIDC invited tenders for bio-mining of legacy waste. As only 1 bidder was technically qualified the work was re-tendered on 24/06/2020 with last date for submission on 27/08/2020. Technical bids were opened on 03/09/2020 and after evaluation the financial bid of the responsive tender was opened on 12/10/2020. The quoted rate and the quantity are being analysed. It is expected that the work could be started in November 2020.

Regarding the proposed waste to energy project/integrated solid waste treatment plant, as the concessionaire could not demonstrate and submit the financial closure or financial plan for funding the project even after 1400 days of signing the agreement, Government vide G.O (Rt)No.805/2020/LSGD Dated 30/04/2020 cancelled the approval granted to the concessionaire M/s GJ Ecopower Pvt Ltd and directed Kochi Corporation to terminate the concession agreement. KSIDC was directed to float fresh tenders for the waste to energy project. The concession agreement was terminated by Kochi Corporation accordingly. The concessionaire was also heard by the Government as directed by Hon'ble High Court and Vide G.O (Rt)No.1064/2020/LSGD dated 05/06/2020 Government affirmed that the concessionaire would not be able to implement the project even if more time is granted and directed the MD, KSIDC to float new tenders. KSIDC floated fresh tenders on 24/06/2020 with last date for submission of bids on 04/09/2020. Tenders are being evaluated by KSIDC

Following directions given in the meeting of SLMC on 15/3/19 are complied:

1. Escrow account to meet emergency expenses was started.
2. Status of Biomining mentioned in the pre-para.
3. Construction of leachate collection tank of 1 lakh litre capacity completed
4. Log book of vehicles transporting waste to Brahmapuram plant are kept with the JHI-Brahmapuram plant.
5. Issuing of vehicle pass for waste transportation by Health Inspectors
6. Transportation of waste in covered trucks
7. Bulk waste generators were given notice to process waste on their own and most of the bulk waste generators have engaged agencies like M/s Green worm for processing their waste.
8. Cameras were installed at the Brahmapuram plant for surveillance and the all the cameras are in good working condition.

9. Laying of roads inside the legacy waste lying yard
10. Installation of fire hydrant to prevent spread of fire (Work awarded to M/s Freefire solutions. Work will be started soon after the water logged in the area dries up)
11. New security men (Ex-service men) were deployed for the security of the plant.
12. The details of solid waste management are published in the Kochi Municipal Corporation website and can also be accessed through [www.clickforkochi.kerala.gov.in](http://www.clickforkochi.kerala.gov.in)
- 13.6 Roads were made waste free
14. Banned the use of plastic carry bags
15. Personal Protective Equipments were given to the health workers
16. 20 flats in marine drive area were given notice for non-operation of sewage treatment plants and to install sewage treatment plant.
17. As mentioned in the pre-para there is no construction and demolition waste left out for collection as the builders are reusing it for various activities related to construction. The land identified by Kochi Corporation for landfill was found unsuitable by Pollution Control Board (Vide letter No. PCB/RO-EKM/GEN-97/12 dated 22/08/2019)

The council that met on 13/12/2019 had given approval for constructing biomethanation plants in markets and institutions and an agency has also been identified for construction of biomethanation plants of 1000kg/day capacity. Installation of 100TPD biomethanation plant at Brahmapuram is to be debated as an integrated solid waste treatment plant of 300TPD capacity is coming up in Brahmapuram. It would roughly incur an amount of more than 40 crores for installing a biomethanation plant of 100TPD capacity.-

On an average 250 tonnes per day of wastes are received at the windrow compost plant that includes waste collected from 5 municipalities and 3 grama panchayaths. 23 windrows of 4x4x80m size are usually formed. Due to space constraints in the dilapidated shed more number of windrows could not be formed and need have to be operated with the 23 windrows. The windrows such formed are regularly rotated for aeration and accelerate the composting.

Though the structure is completely collapsed, and there are issues related to available space, and storm water infiltration, Corporation has taken its earnest effort in operating the windrow compost plant. Biodegradable wastes are treated properly by forming windrows. The efficiency of the plant is maintained

at 8% when compared to the standard 12% (Ref.CPHEEO Manual on SWM) efficiency of windrow composting plants. It may be noted that the Regional Monitoring Committee vide its minutes dated 1/02/2019 has observed that Corporation has made considerable improvement over a period in the windrow composting plant. Repair of trommels and many other maintenance works were carried out in the plant in March 2019. On an average 250Tonnes of biodegradable wastes are processed in the plant daily and about 20 tonnes of finished 6mm sieved manure is produced which are sold to planters in idukki, Theni, Kambam and other parts of Tamil Nadu, Krishi Bhavans. It is also mixed with other fertilizer to increase the nutritional value. It is also to be noted that this dilapidated plant is taking care of the entire waste generated out of Kochi city.

The Brahmapuram plant though not visually appealing, it may be noted that amid all the difficulties and collapsed structure, it is this plant that keeps the entire Kochi City and surrounding local bodies clean.

Corporation was under the impression that the waste to energy project could be started immediately and thus refrained from parallel projects. But at this onset Corporation has initiated steps to rectify the structural deformities of the existing windrow compost plant shed.

Action plan was submitted to State Level Monitoring Committee of NGT and Pollution Control Board. The same was given as annexure by the SLMC in the minutes of the meeting held on 3/08/2019.

Construction of leachate collection tank of 100000litres has been completed.5 truck loads (5x5000litres) of leachate are taken to the septage treatment plant situated within the premises and treated there. Test result of raw leachate shows no excess heavy metals than the standard prescribed in the MSW Rules 2016 (Test result annexed) Though the work for preparation of DPR for leachate treatment plant was awarded after tendering process to the lowest bidder on 29/07/2019, GIZ a German collaboration agency who supports Corporation under the Sustainable Urban Development -Smart Cities project was also engaged to suggest suitable technology for the leachate treatment plant. As the technology proposed by GIZ that of Sequencing Batch Reactor was different from that proposed by Suchitwa Mission of Electrocoagulation, the council that met on 03/03/2020 referred the matter to the Health Standing Committee and the committee wanted to take a suggestion from Suchitwa Mission. Accordingly Suchitwa Mission was requested on 04/08/2020. The technical committee on liquid waste management constituted by Suchitwa Mission that met on 25/09/2020 in which Chief Environmental Engineer of Regional Office Pollution

Control Board Thiruvananthapuram is also a member suggested to opt for treating the leachate in the septage treatment plant. The technical committee also assessed that presence of heavy metals will not tamper the treatment efficiency.

The fact that the treatment plant at Brahmapuram is dilapidated is admitted. As mentioned in the pre-para. though the plant is in dilapidated condition the process of composting is carried out and manure/city compost is also produced from the plant. The quantity of manure produced is in the range of 8-10% compared to the standard 12%. The manure are mixed with other chemical fertilizer as well to increase the nutritional value. The wastes that are seen dumped near the windrow compost plant are rejects from the 16mm sieving trommels. It is as such taken as soil conditioner for landscaping and also sieved further in 6mm trommels for making finished manure. It is for drying the rejects are temporarily kept aside the plant.

All measures have been taken to prevent spread of fire including making of internal roads and fixing of pump sets to spray water into the legacy waste yard to keep the waste moist. Work of installing permanent fire hydrant system has also been awarded and will be started soon after the water logged area in the site dries up.

No leachate is now flowing into the Kadambayar as drains in full length have been constructed around the plant shed. The leachate gets drained only to the newly constructed leachate treatment plant of 100m<sup>3</sup> capacity from where it is taken tanker trucks to the nearby septage treatment plant.

Regarding the installation of leachate treatment plant we are being advised that as the septage treatment plant is having surplus volume, the leachate shall be treated in the septage treatment plant. Nevertheless after getting a final advice regarding the treatment technology from Suchitwa Mission it is intended to go ahead with installing a standalone leachate treatment plant.

Status related to biomining of legacy waste and waste to energy plant has already been mentioned in the pre-paragraphs.

It may be pertinent to note that most of the major directions have been complied. It is informed that application for renewal of authorisation obtained in 2008 was submitted to Pollution Control Board on 01/07/2016 with the processing fee of Rs.30000 (DD.No.400893 dated 01/07/2016) vide letter no.MOE2/21941/16 dated 01/07/2016 and vide letter no. MOE2/21941/16 dated 28/10/2016 proposal for leachate treatment plant was also submitted to the Environmental Engineer of Ernakulam District Office –II. On 28/07/2018 the

online application was returned by Pollution Control Board citing to submit the details of leachate treatment plant and present status of MSW plant and to remit the fees for the current year.

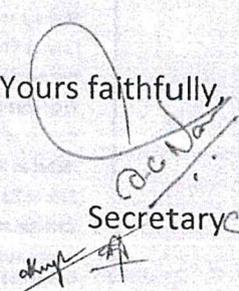
As the application was returned online and no alerts were received at this office we were unaware of the return of the application. The application will be resubmitted soon.

The total waste generated in Kochi Corporation is 326 TPD. Of this 9.5 TPD is processed at source and about 11 TPD is processed by the real estate builders association CREDAI. The remaining 306 TPD of wastes are collected, transported to Brahmapuram for processing. Of the 306 TPD 206 TPD of biodegradable wastes are processed in the Windrow composting plant. The non-biodegradable portion of waste is taken for recycling and recovery by the contractor engaged by Corporation. To bring down the quantity of non-biodegradable waste taken to Brahmapuram the 5 MRF centres will be operated shortly.

In the implementation of SWM Rules 2016, Kochi Corporation is much ahead than other LSGIs in Kerala though there are hitches. Kochi Corporation which was once the epitome of waste management in Kerala is now in a sorry state because of the unforeseen incidents and matters out of control of Kochi Corporation. Many projects aligned for the management of waste did not materialise including the waste to energy project. Now the projects are in track and will complete as soon as possible.

It is requested to kindly keep in abeyance any action against the Municipal Corporation including imposing of environmental compensation.

Yours faithfully,

  
Secretary (C/S)

## Annexure

SAMPLE 2

SGS

## Test Report

Print Date : 26/06/2019

SAMPLE NOT DRAWN BY SGS INDIA PVT. LTD.

Report No : CE19-002772.001

JOE No : CE19-002772

Report Control No : CER0000280889

Sample Described by Customer as : LEACHATE WASTE WATER

Client Name : ECOSAN SERVICES FOUNDATION  
 Client Address : 1st Floor,  
 : 24, Prashant Nagar,  
 City : 721/1 Navi Sadashiv Peth,  
 Postal Code : 411030  
 State : Maharashtra  
 Country : INDIA  
 Sample Type : LEACHATE WASTE WATER  
 Received : 13/06/2019  
 Sample Qty. : 5L  
 Recd. Site : ECOSAN SERVICES FOUNDATION, VISTAARA, DOOR NO.62/5543  
 : A4, CANON SHED ROAD, KOCHI-682011.  
 Marks on Sample : LEACHATE SAMPLE-2 DATE: 11.06.19  
 Test Start/End Date : 13/06/2019 - 26/06/2019

Analysis	Method	Result	Unit
Total suspended solids (Dried at 103 to 105°C)	APHA 2540 D	4850	mg/L
Ammonical nitrogen as NH <sub>3</sub> - N	APHA 4500 C (Semi-Micro-Kjeldahl/Titrimetric method)	2556	mg/L
Total Kjeldahl nitrogen as N (TKN)	APHA 4500 C (Semi-Micro-Kjeldahl/Titrimetric method)	2659	mg/L
BOD at 27 °C for 3 days	IS 3025 (Part 4) : 1993	7267	mg/L
COD as O <sub>2</sub>	APHA 5220 B (Open Reflux method)	14546	mg/L
Cyanide as CN	APHA 4500 F (Ion-Selective Electrode method)	BDL(DL:0.01)	mg/L
pH at 25°C	APHA 4500 B (Electrometric method)	8.27	
Arsenic as As	APHA 3125 B (By ICP-MS)	0.050	mg/L
Mercury as Hg	APHA 3125 B (By ICP-MS)	0.010	mg/L
Lead as Pb	APHA 3125 B (By ICP-MS)	0.077	mg/L
Cadmium as Cd	APHA 3125 B (By ICP-MS)	<0.001	mg/L
Total chromium as Cr	APHA 3125 B (By ICP-MS)	0.308	mg/L
Copper as Cu	APHA 3125 B (By ICP-MS)	0.085	mg/L
Nickel as Ni	APHA 3125 B (By ICP-MS)	0.739	mg/L
Zinc as Zn	APHA 3120 B (By ICP-OES)	1.93	mg/L
Chloride as Cl	APHA 4500 B (Argentometric method)	6626	mg/L
Total dissolved solids (Fixed or Inorganic) (Ignited at 550°C)	APHA 2540 E	19512	mg/L

Page 1 of 2

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 Head Office: 5/15 House, 4B, A.S. Road, Viharoli (West), Mumbai-400093, Tel: (022) 25796421 to 28 Fax: (022) 25768431 to 35 [www.sgs.com](http://www.sgs.com)

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**SGS****Test Report**

SAMPLE NOT DRAWN BY SGS INDIA PVT. LTD.

Print Date : 28/06/2019

Report No : CE19-002722.001

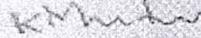
JOE No : CE19-002722

Report Control No : CER0000281436

Analysis	Method	Result	Unit
Fluoride as F	USEPA 1311 & APHA 4500 C (Ion-Selective Electrode method)	0.3	mg/L
Phenolic compounds	USEPA 3510C & 8041A (Sum of phenols)	<0.025	mg/L

Remark : BDL: Below detection limit, DL: Detection limit

Per pro SGS India Private Ltd



K\_MANOKARAN

Section Incharge

Authorized Signatory

\*\*\*\*End of Report\*\*\*\*

## Page 2 of 2

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E-mail: ms.kspcb@gov.in FAX: 0471 - 2318134, 2318152 web: www.keralapcb.nic.in



## KERALASTATE POLLUTION CONTROL BOARD

കരളസംസ്ഥാന മലിനീകരണ നിയന്ത്രണ ബോർഡ്

Pattom P.O., Thiruvananthapuram – 695 004  
പട്ടം പി.ഒ., തിരുവനന്തപുരം - 695 004

PCB/HO/SEE2/KOCHI CORPN/2019

Date: 13/01/2021

**Regd. with A/D**

### **DIRECTION UNDER SECTION 5 OF THE ENVIRONMENTAL PROTECTION ACT, 1986**

Sub: Non-compliance of Solid Waste Management Rules, 2016.

- Ref: 1. Order dated 23/10/2018 of the Hon'ble NGT in O.A. 533-535/2018.  
2. Order dated 9/11/2018 of the Hon'ble High Court in WP(c) No. 36204/2018(A)  
3. Order dated 16/01/2019 in OA no. 606/2018  
4. This office notice No. PCB/HO/RULES/SWM-ERNAKULAM/2018 dated 12/10/ 2019  
5. Letter no. PCB/RO-EKM/GEN-221/19 dated 18/10/2019 from the Chief Environmental Engineer, Regional Office, Ernakulum  
6. This office notice No. PCB/HO/SEE2/KOCHI CORPN/2019 dated 11/12/2019  
7. Letter No. MOE2/10948/2017 dated 01/ 01/ 2020 and 06/01/2020 of Secretary, Kochi Corporation  
8. Order dated 30/01/2020 in OA no. 442/2013 by the Hon'ble NGT.  
9. Letter no. PCB/RO/EKM/GEN-258/19 dated 20/02/2020.  
10. Minutes of the meeting on 16-3-2020 with the Secretary, Kochi Corporation  
11. Order dated 03/07/2020 in OA no.514/2019  
12. Letter No PCB/RO-EKM/GEN-258/19 D dated 23.07.2020 from the Chief Environmental Engineer, Regional office, Ernakulum  
13. Minutes of the video conference held on 17/08/2020 with Secretary, Kochi Corporation and allied municipalities  
14. Letter No. MOE2/10948/2017 dated 11/09/2020 of Secretary, Kochi Corporation.  
15. Order dated 22/11/2018 in O.A. No. 353/2016  
16. Order dated 20/11/2018 in O.A No. 117/2014, 499/2014 and 102/2014  
17. Order dated 16/09/2020 in OA no.514/2018.  
18. Show cause notice of even No. dated 15/10/2020.  
19. Letter No.MOE2-10948/17 dated 02/11/2020 from Kochi Corporation.

WHEREAS the Central Government notified the Environmental (Protection) Act, 1986 for the protection and improvement of environment and for matters connected therewith;

WHEREAS as per Section 3, 6 and 25 of the Environment (Protection) Act, 1986, the Central Government re-notified the Solid Wastes Management Rules, 2016 (hereinafter referred as SWM Rules) vide notification S.O. 1357(E) dated 8/4/2016;

WHEREAS as per Rule 22 (1) of the SWM Rules, suitable sites for setting up solid waste processing facilities are to be identified;

WHEREAS as per Rule 22(3) of the SWM Rules, suitable sites for setting up solid waste processing facility and sanitary landfill facilities are to be procured;

WHEREAS as per Rule 22 (5) of the SWM Rules, door to door collection of segregated waste and its transportation in covered vehicles to processing or disposing facility shall be ensured by 8-4-2018;

WHEREAS as per Rule 22 (7) of the SWM Rules, solid waste processing facilities for the complete quantity of waste generated from the local body at 0.4 to 0.5 kg/person/day, shall be set up by 8-4-2018;

WHEREAS facilities with the technologies specified in CPHEEO manual and SWM Rules are to be in place for the effective treatment and disposal of the solid waste generated in the local body;

WHEREAS as per Rule 22 (6) of the SWM Rules, separate storage, collection and transportation of construction and demolition waste shall be provided;

WHEREAS as per Rule 22(11) of the SWM Rules, bio-remediation or capping of old and abandoned dump site shall be ensured;

WHEREAS the Hon'ble NGT vide order dated 23/10/2018 read first above, ordered to complete the new integrated solid waste treatment processing plant in six months to commence the treatment of legacy waste, impose a penalty of Rs. 1 crore on Kochi Corporation and to deposit a performance guarantee of Rs. 3 crore with Kerala State Pollution Control Board and the Hon'ble High Court vide the order read 2<sup>nd</sup> above, ordered to place bank guarantee of Rs. 50 lakh each to Central Pollution Control Board and Kerala State Pollution Control Board and to exempt you from depositing Rs. 3 crore towards bank guarantee and accordingly bank guarantee was placed by the Kochi Corporation;

WHEREAS during the second meeting on 15/3/2019 of the State Level Monitoring Committee constituted by the Hon'ble NGT vide the order under ref.3, the resolutions were made to conduct bio mining of legacy waste part by part; keep ESCROW amount for handling emergency situation; provide adequate cover, leachate collection tank and log book for waste transporting vehicles and allow waste transportation only by those vehicles by Health Supervisor; engage Ex-service armed security at the site in the dump yard; to make the roads, NH Bypass, Sahodaran Ayyappan Road and Banerjee Road as Zero Waste road; to insist door to door collection and prohibit the deposition of waste on roads and other public places and insist for segregation of waste before disposal; ban the plastic carry bags below the prescribed limit and to proceed against violators under the law of penalization; to give adequate protective equipment namely gumboots, gloves, masks etc., proceed against the violators disposing sewage, septage and chicken waste in the water resources; apartments, hospitals, hospitals which are not operating their sewage treatment plants and to evolve methods for the effective disposal of plastics and not to dispose plastic by burning;

WHEREAS Chairman SLMC during their 4<sup>th</sup> meeting on 08/05/19 directed to submit specific and detailed time bound action plan to the Kerala State Pollution Control Board, to adopt mechanized system for the disposal of legacy waste, to implement heavy fining/insisted surveillance cameras/strict squad to prevent waste dumping on roads, to insist on segregation of wastes at source, to transport vehicles with adequate cover, leachate collection tank and logbook, to provide adequate personal protective equipments to workers and to compel them to wear the same,

to prohibit deposit of wastes on roads and other public places, to deploy Haritha Karma Sena for door to door collection, to report on the action taken to the SLMC;

WHEREAS the fifth meeting of the State Level Monitoring Committee on 14/06/2019, noticed with distress that a good number of directions issued were yet to be complied with and therefore expressed displeasure over the same and it was again directed to issue directions by the Corporation to the bulk generators to take steps to channelize their own wastes as the same is homogenous and clean, channelization can be done easily; to submit the details of wards, in which segregation is complete; segregate plastic waste for shredding to be stored in areas attached to the zonal office of the Corporation; and to submit action plan in each ward for solid waste management, projects to be implemented and to improve the existing waste management facility, existing material collection facility and resource recovery facility; to publish the information on waste management in the website; to take legal action against open burning of non-biodegradable waste and dumping of waste in water bodies; to take steps to establish MCFs in all wards and RRF at least in six wards; issue identity card to all workers engaged in waste management and to prepare action plan for developing a business model for effective treatment of waste;

WHEREAS it is noted that you have not identified the land for managing Construction and Demolition waste and sanitary landfill;

WHEREAS notice dated 12/10/2019 was issued vide reference 4<sup>th</sup> above for not taking steps to provide biomethanation plant for the food wastes generated within Kochi Corporation;

WHEREAS the Chief Environmental Engineer, Regional Office, Ernakulam vide the letter dated 18/10/2019 cited 5<sup>th</sup> above, reported about the improper functioning of solid waste plant and non installation of proper leachate treatment plant at the site;

WHEREAS the Board issued notice dated 11/12/2019 read 6<sup>th</sup> above to the Secretary, Kochi Corporation to show cause why the Environmental compensation of Rs. 1.122 Crore shall not be levied for not providing leachate treatment plant and the replies of the Kochi Corporation under ref. 7<sup>th</sup> above were received;

WHEREAS the Hon'ble National Green Tribunal vide the order read 8<sup>th</sup> above on 30-1-2020 directed that, on receipt of the explanation from the Corporation to the notice issued by Board, the Pollution Control Board is to pass appropriate orders and complete the proceedings initiated on the basis of their inspection and dispose of the same in accordance with law and come with compliance report before the Tribunal;

WHEREAS the Chief Environmental Engineer, Regional Office, Emakulam in the report (ref. 9) dated 20/02/2020 to the Chairman, State Level Monitoring Committee, reported that the Corporation is not taking earnest steps to solve the issue which is a long pending case from the Corporation side and to assess environmental compensation as done on 18/10/2019;

WHEREAS the Chief Environmental Engineer, Regional Office, Emakulam vide letter No. PCB/RO-EKM/GEN-258/2019 dated 28-2-2020 reported that the Corporation is allowing five municipalities and two grama panchayaths to bring their biodegradable waste in addition to Corporation's biodegradable waste and non biodegradable waste and the total actual quantity of waste estimated as 365.19TPD;

WHEREAS on receiving the reply from the Secretary, Kochi Corporation, hearing was conducted with the Secretary, Kochi Corporation on 16/3/2020 vide ref., 10 reported status to the NGT;

WHEREAS the Hon'ble NGT on 3/7/2020 in OA514/2019 (ref. 11) observed the delay in setting up of waste to energy plant and was doubtful whether leachate can be treated in an ordinary septage treatment plant as it contains heavy metals and the tribunal also observed that the progress appears to be very slow and in disregard to the statutory and constitutional obligation of providing clean environment;

WHEREAS it was reported by the Chief Environmental Engineer, Regional office Ernakulam vide letter No. PCB/RO-EKM/GEN-221/19 dated 23/07/2020 (ref. 12) that during the inspection conducted by the Board on various occasions, it was noticed

- a) The facilities provided for the treatment and disposal of solid waste provided at Brahmapuram are not maintained properly;
- b) The windrow composting shed is in dilapidated condition and the mixed solid waste including plastic waste is dumped in the yard in open condition;
- c) The manure produced seems to be marginal compared to the daily waste collected at the plant;
- d) Manure produced did not meet the fertilizer standard as per the SWM Rule, 2016 and contain heavy metals;
- e) Due to the unscientific treatment of biodegradable solid waste, huge quantity of rejects have been dumped at various places and which in turn got converted to legacy waste;
- f) Fire accident were occurred in the legacy waste dump yard at Brahmapuram 3 or 4 times during the period of 2019 and 2020 which lead to air pollution in and around the dump site
- g) Leachate from the windrow composting shed and the biodegradable solid waste dumping area is not collected and treated properly due to improper drains and there are chances of leachate reaching the Kadambayar river, one of the polluted river stretch identified by CPCB;
- h) The leachate treatment plant provided prior to the visit of Regional Monitoring Committee (RMC) appointed by the Hon'ble NGT is not operational now;
- i) During the inspection conducted on 16.07.2020 it was noticed that no progress in the installation of leachate treatment plant except the construction of a new collection tank having capacity of 100 m<sup>3</sup> on which the Hon'ble Court made adverse remarks;
- j) No effective steps were taken for construction activities for the installation of waste to energy plant and for the removal of legacy waste. The Corporation authorities are still not able to assess the quantum of legacy waste settled there;

WHEREAS hearing was conducted by the Chairman on 17/8/2020 with the Kochi Corporation (ref. 13) and accordingly details were submitted by you vide the letter under ref. 14;

WHEREAS from the above observations, it is noted that you have not fully complied with the directions of Hon'ble SLMC, Solid Waste Management Rules and also not obtained authorization under SWM Rules, 2016;

WHEREAS the Hon'ble National Green Tribunal, Principal Bench, New Delhi in the order dated 22/11/2018 in O.A. No. 353/2016 (ref. 15) clarified that apart from prosecution, the statutory authorities under the Environment (Protection) Act, 1986, the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974, must, in exercise of their incidental powers, prescribe scale of compensation to be collected from the polluters on the "Polluter Pay's Principle". Such scale which may be laid down at various levels, having regard to the local condition or as per direction in the hierarchy of the authorities;

WHEREAS in various other application also, the Hon'ble NGT passed similar orders, for instance, in the Order dated 20/11/2018 in O.A No. 117/2014, 499/2014 and 102/2014 (ref. 16) the Hon'ble NGT noted as; "Needless to say that statutory authorities under the Environment (Protection) Act, 1986, Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974 are entitled to assess and recover damages as "Polluter Pay's Principle" in exercise of incidental powers to protect environment".

WHEREAS as per Hon'ble NGT order dated 23/09/2019 in O.A 585/2018, if the rules are violated, the Pollution Control Board can independently proceed against local bodies who are not complying with the rules including initiation of prosecution of those person who are not complying with the same and assessment of damage caused to the Environment;

WHEREAS the Hon'ble NGT vide order dated 16/9/2020 in OA 514/2018 (ref. 17), observed the failure in taking effective steps on the matter;

WHEREAS based on the recommendation of the Chief Environmental Engineer, Regional Office, Ernakulum made for levying Environmental Compensation against Kochi Corporation Show Cause Notice was issued to the Corporation vide notice No. PCB/HO/SEE2/KOCHI CORPN/2019 dated 15/10/2020 (ref. 18) for furnishing reasons for not levying the Environmental Compensation of Rs. 1395.42 lakhs (Rupees One thousand three hundred and ninety five lakhs and forty two thousand only);

WHEREAS reply was received from Kochi Corporation vide letter No.MOE2-10948/17 dated 02/11/2020 (ref. 19);

ANDWHEREAS the Chief Environmental Engineer, Regional Office, Ernakulum made recommendations for reassessment of levying Environmental Compensation, vide letter No.PCB/RO-EKM/GEN-258/19 dated 10/01/2021 is as follows;

Population(2011)	6,77,381
Class	Class I
Waste generation (TPD)	315.96
Waste disposed as per Rules (TPD)	31.60
Waste Management Capacity Gap(TPD)	284.36
Calculated EC(capital cost component) in Lakhs, Rs.	682.47
Minimum and Maximum values of EC (Capital cost component) recommended by the Committee (Lakhs, Rs.)	Min. 100 Max. 1000
Final EC (capital cost component) in Lakhs, Rs.	682.47
Calculated EC (O&M component) in Lakhs, Rs./day	5.69
Minimum and maximum values of EC (O&M cost component) recommended by the Committee	Min. 0.1 Max. 1.0
Final EC(O&M component) in Lakhs, Rs./day	1.00

Calculated Environmental Externality (Lakhs Rs./day)	0.01
Minimum and maximum values of Environmental Externality recommended by the committee(Lakhs, Rs./day)	Min. 0.05 Max.0.1
Final Environmental Externality (Rs. Per day)	0.05
<b>EC to be collected (Rs. in Lakhs from 22/11/2018 to 31/12/2020 i.e 771 days)</b>	<b>1492.02</b>

NOW THEREFORE, in exercise of the powers vested under Section 5 of the Environment Protection Act 1986, read with Government of India Notification S.O. 327(E) dated 10/04/2001, you are directed to remit an amount of Rs. 1492.02 lakhs (Rupees One thousand four hundred and ninety two lakh and two thousand only) towards the Environmental Compensation for non-compliance of the Solid Waste Management Rules, 2016, for the period from 22/11/2018 to 31/12/2020 within 15 days of receipt of this direction.

  
CHAIRMAN

To

The Secretary,  
Kochi Corporation

Copy to:

1. The Chairman  
State Level Monitoring Committee with C/L
2. The Additional Chief Secretary  
Local Self Government Department with C/L
3. The Principal Secretary  
Environment Department with C/L
4. The District Collector, Ernakulam
5. The Director, Urban Directorate
6. The Chief Environmental Engineer, Regional Office, Ernakulam
7. The Environmental Engineer, District Office 1 and 2, Ernakulam