

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL,
Principal Bench, New Delhi

Original Application No. 270/2020
(Earlier O. A. No. 50/2017 (WZ))

Anand Uttarkar

Applicant

Vs.

The Municipal Corporation of the
City of Pune & Ors.

Respondent(s)

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(Divya Sinha)

Scientist-E

Central Pollution Control Board,
Parivesh Bhawan, East Arjun Nagar
Delhi- 110032.

Date: 29.11.2021

Place: Delhi

REPORT OF THE COMMITTEE

in compliance with order dated 23.03.2021 of the Hon'ble National Green Tribunal (NGT) in the matter of
Original Application No. 270/2020; Anand Uttarkar Versus The Municipal Corporation of the City of Pune and Ors.

with

Original Application No. 269/2020 titled Dr. Harshwardhan Modak Applicant Versus P.M.C. Pune & Ors.

with

Original Application No. 271/2020 titled Sandip Aphale Applicant Versus State of Maharashtra & Ors.

We, the chairman and members of the Committee constituted by the Hon'ble National Green Tribunal, vide its order dated 23.03.2021 do hereby submit the Report of this Committee. We are all greatly honoured by the confidence placed in us by the Hon'ble National Green Tribunal and have made every effort to fulfil the task assigned to us.



(Justice S.M. Gavhane)
Former Judge
Bombay High Court
(Chairman)



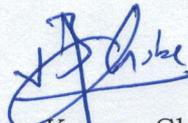
(Bharat K Sharma)
Regional Director
CPCB, Regional Directorate, Pune
(Member)



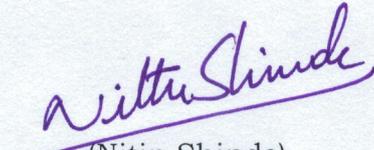
(Dr. Munish Chandel)
Associate Professor
Environmental Science and Engg. Dept.
IIT Bombay
(Member)



(Dr. Sunil Kumar)
Sr. Principal Scientist
NEERI, Nagpur
(Member)



(Vijay Kumar Chobe)
Tahshildar, Haveli, Pune
(Member as representative of DM,
Pune)



(Nitin Shinde)
Regional Officer, MPCB, Pune
(Member)

Report of the Committee in compliance with order dated 23.03.2021 of the Hon'ble National Green Tribunal (NGT) in the matter of Original Application No. 270/2020; Anand Uttarkar Versus The Municipal Corporation of the City of Pune and Ors. with Original Application No. 269/2020 titled Dr. Harshwardhan Modak Applicant Versus P.M.C. Pune & Ors. and Original Application No. 271/2020 titled Sandip Aphale Applicant Versus State of Maharashtra & Ors.

1.0 Background

In the matter of Original Application No. 270/2020 titled Anand Uttarkar Versus The Municipal Corporation of the City of Pune and Ors. (With Original Application No. 269/2020 titled Dr. Harshwardhan Modak Applicant Versus P.M.C. Pune & Ors. and Original Application No. 271/2020 titled Sandip Aphale Applicant Versus State of Maharashtra & Ors.) about illegality/violation of environmental norms in operation of waste processing plant set up by M/s Rochem Separations Systems Pvt. Ltd. (RSPM) at Pune, the Hon'ble NGT directed the following vide the order dated 23.03.2021:

“ . . .18. Accordingly , we constitute an independent six-Member committee headed by Justice S. M. Gavhane, former Judge Bombay High Court, presently available at Pune and comprising Central Pollution Control Board(CPCB), NEERI, IIT Mumbai, District Magistrate, Pune and Maharashtra PCB. CPCB and State PCB will jointly act as nodal agency for compliance. The committee may visit the site and give its report to the Tribunal. The committee will be free to take assistance of any other Expert/Institution. The committee may ascertain the compliance status of the waste processing plant in question on the grounds in terms of location, functioning and statutory compliances and other incidental issues. The report may particularly mention the status of management of Rejects and RDF including waste/ rejects piled up in the plant premises. The Committee may also mention the potential of fire incidents and whether the direction to remove 25 trucks of waste per day is being complied. The report may also mention the waste generation in PMC areas, existing processing facilities, gaps in processing, quantity of waste being landfilled and steps taken for Bio-Mining of legacy waste. It may make recommendations for remedial action. The chairman of the committee will be paid consolidated amount of Rs. 3 Lakhs by the state PCB (out of consent funds available with it), apart from logistics for functioning of the Committee. The State PCB and the District Magistrate will provide the necessary logistics Except for visit to the site once or twice or as found necessary, other proceedings can be conducted online which may be facilitated by the District Magistrate/ State PCB. The report may be furnished on or before 31.05.2021 by e-mail at judicialngt@gov.in preferably in the form of searchable PDF/ OCR Support PDF and not in the form of Image PDF. The report may also be simultaneously placed on the website of the State PCB for comments, if any, by any of the parties to be filed before the next date. It will be open to any aggrieved party to give their view point to the Committee through the State PCB. If any illegalities or damage to the environment are found, the Committee may also suggest the quantum of compensation...”

Copy of the aforesaid order dated 23.03.2021 of the Hon'ble NGT is given at Annexure-I.

In order to comply with the aforesaid order dated 23.03.2021, committee comprising of following officials were constituted:

Sr.No.	Name and Designation	Chairman/Member
1	Shri. Justice S.M. Gavhane, Former Judge, Bombay High Court	Chairman
2	Shri. Bharat Kumar Sharma, Regional Director, CPCB, Regional Directorate, Pune	Member
3	Dr. Sunil Kumar, Sr. Principal Scientist and Head, National Environmental Engineering Research Institute (NEERI), Nehru Marg, Nagpur	Member
4	Dr. Munish Chandel, Associate Professor, Environmental Science and Engineering Department, Indian Institute of Technology (IIT Bombay), Powai, Mumbai.	Member
5	Shri. Vijay Kumar Chobe, Tahshildar, Haveli, Pune (Representative of District Magistrate, Pune)	Member
6	Shri. Nitin Shinde, Regional Officer, Maharashtra Pollution Control Board (MPCB), Pune	Member

The committee held meetings through video conferencing on 08/4/2021 and 26/5/2021 also visited to the Waste Processing Plant of M/s RSPM, Pune on 17.09.2021. During visit Shri. Rajendra Tidke, Junior Engineer, Pune Municipal Corporation (PMC) and Shri. Ashwin Dsilva, Manager, M/s RSPM, were also present.

2.0 About the Project Operated by M/s Rochem Separations System Pvt. Ltd. (hereinafter referred as RSPM)

M/s Rochem Separations System Private Limited (RSPM) is a facility engaged in processing of municipal solid waste management located at Plot No. 86, TPS-2, Hadpsar Industrial Estate, Pune of land size 2.5 acres. The facility has been setup vide Concession Agreement dated 18/11/2010 between PMC and M/s RSPM. Details of the Detailed Project Report (DPR), Concession Agreement, Commissioning of the facility, Processes at the facility, Quantity of Mixed Solid Waste being processed at M/s RSPM and generation management of by products/ inert waste, Compost, RDF vis-à-vis provisions stipulated under the Solid Waste Management Rules, 2016, Siting of the facility are given below:

2.1 Detailed Project Report (DPR)

The Detailed Project Report (DPR) dated 26/08/2009 submitted by M/s Rochem Separation Systems Private Limited (RSPM) to PMC reveals that processing of 700 tons/day of municipal solid waste by M/s RSPM by subjecting it to shredding, sieving, magnetic separation etc. followed by pyrolysis and power generation of 10 MW [75000MW/ Annum] considering operating hours of 7500 hour/year.

2.2 The Concession Agreement

Salient features of the Concession Agreement dated 18/11/2010 between PMC and the concessionaire (RSPM) are as below:

- (a) The concessionaire shall own, operate and maintain the Plant for a period of 30 (thirty) years (“Concession Period”) from the Commencement Date.

[Clause 2.3.2 (ii) of the Concession Agreement]

- (b) PMC is responsible for ensuring availability of the Project site to the Concessionaire with due clearance from District Site Approval Committee. PMC shall within 7 days from the Appointed Date allot 2.5 acres or 10,000 sq.m.(approximately) of land situated at Final Plot No. 86 Hadapsar Industrial Estate (“Project Site”) having its boundaries as described as follows.

East: Remaining area of F Plot No. 86 Hadapsar Industrial Estate

West: 18 meter wide road

South: 18 meter wide road

North: 18 meter wide road & private plot No. 58, Hadapsar Industrial Estate

[Clause 3.1.1 of the Concession Agreement]

- (c) PMC shall deliver to the project site, a total of 700 Tons per day of Mixed MSW free of building debris (“Assured Waste Quantity”) to the concessioner (RSPM) at its cost and expenses

[Clause 3.2.1 of the Concession Agreement]

- (d) Without prejudice to the generality of the foregoing, the Concessionaire shall have the right to develop the Plant using such technology that it considers suitable and viable for the purpose of implementing the Project, in accordance with the terms of this Concession Agreement. It is acknowledged that it is the intention of the Concessionaire to use the technology associated with the concept of an integrated waste processing plant and the Concessionaire shall have the right to modify, adopt, upgrade or change the technology from time to time, based on actual operations of the plant and the requirements of the project.

It is generally agreed that the concessionaire shall implement suitable technology for Electric Power Generation from the MSW to ensure MSW disposal. The quantum of

Waste to Electricity is estimated to be 10 MW however the quantum shall be based on waste Calorific Value.

The concessionaire shall ensure that the implemented technology shall at all times have electricity as a byproduct.

[Clause 4.4 of the Concession Agreement]

- (e) Subject to the provisions of this Agreement and in consideration of the Concessionaire accepting the Concession and undertaking to perform and discharge its obligations in accordance with the terms, conditions and covenants set forth in this Concession Agreement, PMC agrees and undertakes to pay to Concessionaire, the Tipping Fee at the rate of Rs. 300 (Rupees Three Hundred Only) per metric tonne of MSW as constant till the Concession Period.

[Clause 8.1 of the Concession Agreement]

- (f) The concessionaire shall be responsible for segregation, drying and any other treatment required on MSW, prior to the commencement of treatment of MSW and PMC shall not be obligated to provide any financial or other such support.

[Clause 2.3.2 (iv) of the Concession Agreement]

- (g) Prior to the establishment of the Plant, the Concessionaire shall carry out a detailed study and analysis on the MSW generated/created within the PMC Limits and shall ensure that the Plant will be operated as per the features and characteristics of the MSW so generated/ created within the PMC Limits

[Clause 2.3.2 (iv) of the Concession Agreement]

PMC vide letter dated 15/4/2021 informed that they have issued several notices to M/s RSPM regarding processing the waste below designed capacity. Also on 05/10/2020, primary termination notice has been issued to M/s RSPM for processing under the capacity as well as breach of terms and conditions laid down in the agreement.

2.3 Commencement of the facility and operation by M/s RSPM

Construction of the waste processing plant started in July 2010 and it was commissioned in November 2011. As per clause 4.4 of the Concession Agreement, M/s RSPM was to ensure that the implemented technology shall at all times have electricity as a by-product. However, trial electricity generation could be carried out only for a short period in initial phase during July 2011 till about March 2012. It was informed during the discussion that electric generation was not economical and hence electricity generation was stopped and such supported plant & machineries were dismantled. Thereafter, the plant is processing municipal solid waste being received at its site only for production of RDF and not electricity.

2.4 Prior Environmental Clearance (EC) requirement under notification no. S.O.1533 (E) dated 14th September 2006 and status of obtaining the same

- (i) The notification no. S.O.1533 (E) dated 14th September 2006 and amendments there of notified under the Environment (Protection) Act, 1986, stipulates that the project or

activity i.e. Common Municipal Solid Waste Management Facility (CMSWMF), as listed at 7(i) of Schedule of the said notification, requires prior environmental clearance.

(ii) As per records provided by MPCB, it reveals that as per Minutes of 34th meeting of the State Level Expert Appraisal Committee (SEAC) held on 30th September 2010, the project was considered as *“11 MW solid waste-based power generation project at Pune for the Municipal Corporation, Pune”*. The SEAC decided that *“This project does not need prior EC in view of the amendment dated 01.12.2009 issued by the MoEF.”*

(iii) As per subsequent amendment vide notification no. S.O. 3067(E) dated 01.12.2009 in the said notification no. S.O.1533 (E) dated 14th September 2006 notified under Environment (Protection) Act, 1986, in case of Thermal Power Plant project or activity, the power plant up to 15 MW, based on non-hazardous municipal waste and using auxiliary fuel such as coal / lignite / petroleum products up to 15% are exempt. It also stipulates that Power plants using waste heat boiler without any auxiliary fuel are exempt.

(iv) With regard to the type of project or activity:

(a) Title of the Concession Agreement dated 18/11/2010 itself is *“Concession Agreement relating to 700 TPD MIXED MSW TREATMENT/ DISPOSAL PLANT (ON BOOT BASIS)”*; Recital Clause at paragraph C of the said Concession Agreement also stipulates that *“PMC desires to establish a 700 TPD Mixed Municipal Solid Waste Treatment Plant (‘Plant’) on Build, Own, Operate and Transfer (‘BOOT’) basis”*.

(b) Clause No. 4.4 of the Concession Agreement stipulates intention of the Concessionaire to use the technology associated with the concept of an integrated waste processing plant and the Concessionaire shall have the right to modify, adopt, upgrade or change the technology from time to time, based on actual operations of the plant and the requirements of the project.

It is generally agreed that the concessionaire shall implement suitable technology for Electric Power Generation from the MSW to ensure MSW disposal. The quantum of Waste to Electricity is estimated to be 10 MW however the quantum shall be based on waste Calorific Value.

The concessionaire shall ensure that the implemented technology shall at all times have electricity as a by-product.

(c) The term “plant” has been defined at page 12 of the Concession Agreement as *“Plant shall have the meaning ascribed to the said term in Recital C”*

The above clauses also read together with DPR infers that 700 Tons per day of mixed municipal solid wastes generated and collected from various sources within PMC were to be centrally processed by shredding, sieving, magnetic separation, etc. prior to subjecting the same for pyrolysis followed by power generation at the premises of M/s RSPM instead of their direct use as fuel for power generation. In view of the same, it appears that the project may not have been considered under the “Thermal Power Plant” project or category but instead under

“Common Municipal Solid Waste Management Facility (CMSWMF)” project or category which required prior EC. However, MoEF&CC may examine about applicability of EC notification no. S.O.1533 (E) dated 14th September 2006 and amendments thereof notified under the Environment (Protection) Act, 1986 and violations thereto, if any.

2.5 Current Process/ Operation at M/s RSPM

As stated in Paragraph 2.3 above, trial electricity generation could be carried out only for a short period in initial phase on trial basis during July 2011 till about March 2012 for about 250 MTD. Thereafter, the plant is processing municipal solid waste being received at its site only for production of RDF and not electricity. Details of various processes/operations at M/s RSPM as observed during visit of the committee are given below.

The mixed municipal solid waste received at the site is subjected to a shredder. The shredder waste is conveyed through conveyor belt through to rotary drum where waste is delumped using blades mounted at the internal periphery of the rotary drum. Wastes from rotary drum is conveyed through a conveyor belt to a rotary drum trommill and in between manual segregation from the conveyor belt is done for segregation of large/recognizable sized stones/glass/metal parts/etc. The (-) 50 mm size of the waste from the rotary trommill is subjected to fine screen. The (-) 8 mm output from fine screen is taken as by-product i.e. Compost. The (+) 8 mm size from the fine screen is taken as inerts/ rejects which are sent for land filling.

The rest (+) 50 mm sized waste as output from the rotary trommill are conveyed through two lines of conveyor belts. Each line of such conveyor belt has a magnetic separator (for separation of ferrous materials), Eddy current separator (for separation of non-ferrous materials) and finally a secondary shredder fitted within a screen so as to obtain by-product of less than 65 mm size.

The by-product i.e less than 65 mm is sold in the name of RDF in boilers and cement industries (Ambuja Intermediates Pvt. Ltd. Gate No 351, Behind Akashwani Sangli Village Tung, Taluka- Miraj- 4163301) and to one M/s Balasaheb Patil Hygiene Services 102/103 Village Moha -Sangamner, Nashik-422605 who appears to be dealer and further channelizes this RDF to M/s JVS Cosmatsco Industries (P) Ltd., Village-Moha, Taluka- Sinner, Dist- Nashik.

The (-) 8 mm sized waste (as output from the fine screen) is claimed to be supplied to farmers in the name of the compost. However, records in this regard is not being maintained about quantity being supplied and their end use i.e. either in the food crops or other purposes.

2.6 Quantity of Mixed Solid Waste being processed at M/s RSPM and generation management of by products/ inert waste

(A) Quantity of MSW processing and generation of by- products/ rejects

PMC informed that during January 2019-March 2021, total Municipal Solid Waste received at M/s RSPM facility premises is 78492.62 MT and the waste received during the operational months (except May 2019- September 2019) vary 809.43 MT per

month to 6770.94 MT per month. Other details provided by PMC are given in the table below:

Table 1: Details regarding generation of compost, reject materials, RDF and recyclable materials

Sr. No.	By-products/ Rejects	*Total Quantity	Average generation (MT/month)	Percentage (%)
1	Compost	12676.55	576.20	4.54
2	Reject Material	8229.20	433.11	5.26
3	Combustable fractions claimed as RDF	50679.47	2303.61	4.54
4	Recyclable Materials	2982.72	135.57	4.54

*During January 2019 to March 2021 except non-operational months (May 2019-September 2019)

M/s RSPM has never crossed per day processing of waste at its facility averagely beyond 250 MTD.

(B) Management of Combustable fractions claimed as RDF, Compost and Recyclable materials

- (a) **Combustable fractions claimed as RDF:** Maharashtra Pollution Control Board (MPCB) has been requested by the committee to verify about the end use/ supply to such boiler and cement industries. However, response from MPCB is yet to be provided to the committee.
- (b) **Compost:** Records in this regard is not being maintained about quantity being supplied and their end use i.e. either in the food crops or other purposes.
- (c) **Rejects:** Rejects from the plant are sent to landfill.
- (d) **Recyclable Materials:** Recyclable material (Ferrous material scrap and Nonferrous Scrap) is sold to vendor at Satish Matram Chowk Ramtekdi, Hadpsar, Pune.

Most of these ferrous and non-ferrous materials separated/segregated as by-product may fall under the category of hazardous or other waste as per the Hazardous Waste Management Rules, 2016 notified under the Environment (Protection) Act, 1986 and such other wastes require to be stored, packaged, transported, offered for sale, recycled or utilized or disposed to authorized occupier in accordance with the said rules. However, transportation in authorized vehicles, being selling/ handling over to authorized occupier, manifest documents there to, submitting annual returns to MPCB for such hazardous or other waste are not being followed as required under the said rules.

2.7 Compost, RDF vis-à-vis provisions stipulated under the Solid Waste Management Rules, 2016

- (a) **Compost:** In order to ensure the safe application of compost, specifications for compost quality have been prescribed under Schedule [II] of Solid Waste Management Rules, 2016.

The said schedule also stipulates that compost exceeding the prescribed concentration limits w.r.t. various heavy metals (arsenic, cadmium, copper, lead, mercury, nickel, zinc), pH, moisture, conductivity, etc. shall not be used for food crops. Only two analysis results of compost samples dated 05/01/2017 and 27/09/2017 provided to the committee reveal that not all stipulated heavy metals parameters have been carried out except zinc and copper (please refer Annexure-II). Further, the said two analysis results also reveal that composts do not meet the prescribed parameter limits for pH and particle size for use in food crops.

Standards for composting as stipulated, under the Schedule [III] of the Solid Waste Management Rules, 2016 also stipulates vide clause A(e) that “The windrow area shall be provided with impermeable base. Such a base shall be made of concrete or compacted clay of 50 cm thick having permeability coefficient less than 10^{-7} cm/ sec. The base shall be provided with 1 to 2 percent slope and circled by lined drains for collection of leachate or surface run-off”.

M/s RSPM has neither the prescribed facility for composting nor the end use of the compost not meeting the prescribed limits for usage in food crops is being monitored either by M/s RSPM or MPCB. MPCB is required to monitor such standards and adherence as per Rule 16 [B] of the said rules.

It was observed during the visit of the committee on 17/09/2021 that there was no such windrow area provided within the facility. The committee also noted that (-) 8 mm rejects as output from the fine screen and claimed as by product i.e. compost is collected and stored outside the premises of M/s RSPM in open.

- (b) **Refuse Derive Fuel (RDF):** The Refuse Derive Fuel (RDF) has been defined vide Rule 3, 38 of Solid Waste Management Rules, 2016 as “Fuel derived from combustible waste fraction of solid waste like plastic, wood, pulp or organic waste, other than chlorinated materials in the form of pellets or fluff produced by drying, shredding, dehydrating and compacting of solid waste”.

It was observed that the facility for drying, dehydrating or compacting were not available at the facility of M/s RSPM and therefore, the combustible fractions as by product being claimed as RDF is not RDF as defined under Solid Waste Management Rules, 2016 and the prescribed facility for RDF production are also not available at M/s RSPM.

2.8 Siting of the facility

The facility of M/s RSPM is located at Plot No. 86, TPS-2, Hadpsar Industrial Estate, Pune of land size 2.5 acres.

There is a multi-storey residential building named as “Hill side Society” within 200 m from tip of core waste processing facility of M/s RSPM. The said residential building society is on south and south western boundary of the said facility. Within 200 m distance from tip of core processing facility of M/s RSPM are – Forest area in the south side , industrial area on north and south west side and various waste processing facilities towards the eastern side besides the said residential building.

There is no green belt across periphery of the facility.

CPCB’s “Guidelines on Buffer Zone around waste processing and disposal facilities in April, 2017” prepared after notification of SWM Rules, 2016 recommends that that ideally a distance of 500 m from the boundary of solid waste processing facility should be maintained as Buffer distance. However, on case to case basis a distance of minimum 200 meter from the solid waste processing and Disposal facility (sanitary landfill) can be considered subject to the condition that such facility meets the stipulated standards prescribed by State Pollution Control Board with respect to ambient air as well as for stack emissions. Further, a green belt of minimum 10 metres within and all around the facility along the boundary has also been recommended. However, construction of the plant started in July 2010 and was commissioned in November 2011 prior to the said CPCB guidelines.

3.0 Consent to Establish and Consent to Operate and Authorization Granted by Maharashtra Pollution Control Board (MPCB)

Application dated 17/01/2010 was made for grant of authorization under Municipal Solid waste (Management and Handling) Rules, 2000. The authorization was granted on 23/05/2011 by MPCB. Thereafter, authorization has been granted/ renewed vide dated 09/12/2013, 27/03/2015 and 16/6/2016. The recent authorization dated 04/05/2017 is valid up to 31.12.2021. In all such authorizations, M/s RSPM has been stipulated as operating agency and authorized for pyrolysis/gasification of Municipal Waste of 700MT per day at Plot No.86, TPS-2, Hadapsar Industrial Estate, Pune. However, the plant has been operating with other processes instead of such authorized pyrolysis/gasification and thus, in violation of the said authorization.

With regard to consent to establish and consent to operate under the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act,1981, M/s RSPM made an application for Consent to Operate on 17/08/2017 for power generating plant- 11 MW per hour. MPCB has issued show cause notice for refusal on 30/03/2021 and the said application is under the process. Therefore, the unit has been operating without Consent to Establish/ Consent to Operate required under the said Acts.

MPCB has issued warning notices, proposed direction, show cause notices and M/s RSPM continued to operate the facility in violation of authorization granted under Solid Waste Management Rules, 2016 and without Consent to Establish/ Consent to Operate in violation of the Water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981.

4.0 Compliance status of the Hon'ble NGT order dated 05/12/2017 w.r.t removal of 25 trucks loads of compost and to take the same to the sanitary landfill site

About 25 trucks loads of compost lying with M/s RSPM have been lifted during lifting of about 6726 MT of compost from the site in 853 vehicles from 01/03/2018 to 31/12/2018; this includes the 25 truck load of compost. This compost was given free of cost to the farmers.

The committee during its visit on 17/9/2021 observed that there is no compost or processed waste or ferrous/non-ferrous waste or rejects stored in the facility premises.

5.0 Fire Clearance

Fire clearance certificate/NOC has not been obtained from the concerned authority. Further, fire fighting equipment were not found to be installed at facility of M/s RSPM during visit of the committee on 17/09/2021.

6.0 Other Observations

The committee visited the waste processing facility on 17.09.2021 and other observations made by the committee are as below:

- (a) The plant was found non-operational on the day of visit. It was informed that the plant is not operated from 16th June 2021 as electric power supply is cut due to non-payment of electricity bills by M/s RSPM. PMC has also stopped supply of municipal solid waste to the facility.
- (b) Approximately 1000-1200 MT of unprocessed municipal solid waste was found stored in the premises of M/s RSPM.
- (c) Leachate from the stored unprocessed municipal solid waste was observed near its storage area and primary shredding facility.
- (d) There is no facility provision for collection and management of leachate generated during storage of municipal solid waste being collected at the facility. It was informed that Reverse Osmosis (RO) unit was installed for treatment of leachate and the same has been shifted for maintenance work. However, no supporting document could be provided in this regard by M/s RSPM.
- (e) Mist spraying system was found to be installed however, the same was not operational. The committee members felt odour during the visit.

- (f) The area of 2.5 acres (about 10,000 sq.m.) appear to be not adequate for the current adopted municipal solid waste processing activities as it also requires adequate windrows areas, compost storage area, storage area for segregated combustible fractions as its by-product, etc. even for 250 Tons/day of waste input, whereas, M/s RSPM is obligated for 750 Tons/day along with installation of suitable technology for generation of electricity as per the Concession Agreement.
- (g) No Website has been made available to provide relevant details of the plant and the process that it operates in such reasonable detail as would enable awareness about the Plant operations to any person accessing the web site, as required under the clause 2.3.25 of the Concession Agreement.

7.0 Waste generation in PMC areas, existing processing facilities, gaps in processing and quantity of waste being landfilled

As informed by PMC, population of Pune city for the year 2021 is about 45-50 lakh and the quantity of municipal solid waste generated per day under PMC area is approximately about 2100-2200 MT. For processing both the type of wastes PMC has developed various facilities at various locations for managing the same. Of the said 2100-2200 MTD municipal solid waste generation, dry waste is about 1100-1200 MTD and wet (organic) waste is about 900 MTD.

Mechanical Composting, Bio CNG, Bio Gas and Mechanical Shredding (for coconut waste) facilities are installed for processing of wet waste whereas the facilities for processing of dry waste are - Waste to Energy Plants, RDF/Compost Facilities and Material Recovery Facilities. The details of designed capacity, actual quantity being processed and type of products/by-products for the said facilities, as provide by PMC vide letter no. SWM/2928 dated 08-10-2021 is given at Annexure-II, and the same is summarised in the Table No. 2 given below:

Table 2: Details of designed capacity, actual quantity being processed and type of products/by-products for various processing facilities in Pune

Sr. No	Type of Processing facilities	Nos. of Processing facilities	Total Designed Capacity (MT/day)	Quantity being processed (MT/day)	Products/ By- products
1	Wet waste Processing Facility				
	Mechanical Composting	04	212	231	Compost
	Bio CNG	01	300	80	Bio CNG is used in vehicles/industries
	Mechanical Shredding	01	03	02	Coires from coconut is used for rope making
	Bio Gas Plants	13	65	63	Bio Gas is used in captive power generation/street lighting

	Bulk Waste Generator Processing	-	-	150	Compost
	Composting by independent house owners	-	-	70	Compost
	Segregated wet waste sent to farmers without plastic	-	-	300	Compost in farm pits
	Total	19	580	896	
2	Dry waste Processing Facility				
	Waste to Energy Plant	02 (01 is currently non-operational)	1450	300	RDF and Compost
	Refuse Derive Fuel (RDF) / Compost	04 (01 is currently non-operational)	650	500	RDF and Compost
	Material Recovery Facility (MRF)	07 (01 is currently non-operational)	325	290	Recyclable items (plastics/card board paper/rubber/etc) to recycling facilities
	Dry waste Recycled through "Swachh"	-	-	110	Recyclable items (plastics/card board paper/rubber/etc) to recycling facilities
	Total	13 (03 non-operational)	2425 (of which 950 MTD is non-operational)	1200 (excluding non-operational plants)	

The inert from the dry waste facilities are disposed into sanitary landfills located at Survey Number 191 to 195, Uruli/ Fursungi Pune.

The table 2 reveals that there are 19 wet waste processing facilities besides composting of wet waste is also done by bulk waste generators, independent house owners and farmers. The cumulative processing of wet waste per day is about 896 MTD against generation of 900 MTD of wet waste in Pune.

For dry waste, there are 13 processing facilities of which 03 are currently non-operational besides processing by rack pickers affiliated with PMC under “Swachh”. The cumulative processing of dry waste per day is about 1200 MTD. The cumulative dry waste processing capacity of 10 operational processing facilities (where M/s RSPM facility has also not been included being non-operational) is 1475 against generation of 1200 MTD of dry waste in Pune.

MPCB has granted authorisation for various processing facilities and the same may be examined by MPCB in terms of quantity & processes.

8.0 Sanitary Landfill

As per information provided by PMC vide letter no. SWM/2928 dated 08-10-2021 (copy given at Annexure- II), a sanitary landfill has been commissioned in 08 acres land w.e.f. 23/11/2020 at Survey No. 191 to 195, Uruli/Fursungi, Pune to dispose inerts/rejects generated from various municipal solid waste processing plants. Details of the said sanitary landfill are as below:

- (i) Capacity of Sanitary Landfill: 3,65,000 MT
- (ii) Quantity of reject disposed per day: 400-500 MT per day
- (iii) Till August 2021 around 90,000 MT rejects were disposed in sanitary landfill

It has also been informed that PMC has stopped open dumping since 02/1/2020. The rejects generated from the processing facilities during 02/1/2020 till commissioning of the aforesaid sanitary landfill in Nov. 2020, were stacked temporarily at Uruli/Fursungi Depot and Disha Ramtekdi and the same of about 55000 MT have been disposed into the newly commissioned sanitary landfill. Cumulative quantity of rejects disposed into sanitary landfill from November 2020 to September 2021 is about 1,05,000MT.

9.0 Legacy Wastes and their Management

As informed by PMC, from 1985 to 1997 municipal solid waste in the Pune city was disposed at Paud Road (Kothrud) Depot having an area about 29 Acres. During these years the quantity disposed was approximately about 2.5-3 Lakh MT. This land was handed over to Pune Metro for construction of shed and remediation process was carried out on the municipal solid waste at the said location by Pune Metro and a car shed is constructed on this land.

As per information provided by PMC vide letter no. SWM/2928 dated 08-10-2021 (copy given at Annexure-II), PMC was allocated a dump site by the District Collector in 1989 for using it as disposal site. It is spread on total 163 acres of area at Survey No. 191 to 195, Uruli/Fursungi, Pune, out of which PMC has developed cement ground on 8 Acres of land and details of the remaining area of 155 acres are as below:

- (i) 45 acres have old legacy wastes which are scientifically capped using HDPE Liner, Geo Membrane, Gas Collection and flaring system, leachate collection system and covered with vegetation (small shrubs) and it is maintained with annual maintenance contract.

- (ii) On 20 Acres land where about 09 lakh metric tons (MT) were lying, phase-I bioremediation/ bio-mining is going on since 18/4/2019. 7.5 MT of legacy wastes have been processed and the remaining 1.5 lakh MT will be processed in next 06 months.
- (iii) On approx 15 acres where approximately 08 lakh MT are lying, Phase-II bio-mining is proposed. PMC is carrying out contour survey of area to ascertain exact quantity of legacy waste remaining on this area, once the quantum is finalized, processing of remaining quantity of legacy waste will be started to free this land for which tender is also proposed in upcoming months.
- (iv) 65 acres of land was given to M/s Hanjer Bio Tech Company for setting up 02 processing plants of each 500 MT per day capacity to produce RDF/ Compost and engineered sanitary landfill on 6 acres land for disposing inerts/reject materials. These plants were operated during 2009-2013 and are not operational now due to contract agreement termination and arbitration process is going on between the PMC and M/s Hanjer Bio Tech Company. The said sanitary landfill having 1.25-1.5 lakhs MT of disposed waste has been covered only with soil cover.
- (v) On 8 acres land, PMC has developed sanitary landfill and it is made operational since 23rd November 2020 to dispose inerts/rejects generated from various solid waste processing plants.
- (vi) 2 acres consist of internal roads and buffer zone.

Thus, Wastes dumped about 25 Lakh MT during 1997-2008 have been scientifically capped in the aforesaid 45 acres sites. During 2009 till 2013, wastes were processed in processing plants and rejects were dumped into sanitary landfill operated by M/s Hanjer Bio Tech Company and the same has been covered with only soil cover.

During 2014-Dec 2019, about 17 lakh MT wastes were dumped in the aforesaid 20+15 acres land.

- Out of 09 lakh metric tons (MT) lying on the aforesaid 20 acres land, 7.5 MT of legacy wastes have been bioremediated/bio-mined processed and the remaining 1.5 lakh MT will be processed in next 06 months under Phase-I.
- For the other estimated 08 lakh MT lying in the aforesaid 15 acres, bio-mining is proposed as Phase-II. PMC is carrying out contour survey of area to ascertain exact quantity of legacy waste remaining on this area, once the quantum is finalized, processing of remaining quantity of legacy waste will be started to free this land for which tender is also proposed in upcoming months.

Bio-Mining/ Bio-Remediation

The work of bio-mining/bio-remediation, as the aforesaid Phase-I of 09 Lakh MT of legacy waste, has been given to M/s Bhumi Green Energy on 1/11/2018. After the plant erection was completed, the processing of legacy waste started w.e.f. 18/4/2019. MPCB has granted authorization dated 3rd March 2020 under the Solid Waste Management Rules 2016. PMC has appointed NEERI (National Environmental Engineering Research Institute) as the project consultant for the bio-mining project. It was also informed by PMC that NEERI is taking samples of bio-soil, RDF, legacy waste and inerts on regular basis to ascertain if parameters are within the limit and the analysis results have been reported to be satisfactory.

In bio-mining/bio-remediation process, the area of legacy waste is divided into cells, around two third cells are converted into heaps of around 8000-10000 square feet through excavator, Bio-culture is spread on these heaps to contain foul odour and it is turned using excavator after 7-8 days for aeration and after around 15 days the stable legacy waste is taken to processing plants through trucks. In the processing plant, legacy waste is separated in sizes through different size trommills (Size and Density separation) for separation including shredding to obtain RDF, Bio Soil and other parts like recyclables, stones, broken glasses, etc. The non-recyclables/rejects are disposed into sanitary landfill.

10.0 CONCLUSIONS

(i) Waste processing plant operated by M/s RSPM

- (a) As per the Concession Agreement dated 18/11/2010, M/s RSPM was to develop the Plant using such technology that it considers suitable and viable for the purpose of implementing the Project for Electric Power Generation from 700 Tons per day of mixed municipal solid waste free of building debris to be delivered by PMC to the project site awarded to M/s RSPM at Plot No. 86, TPS-2, Hadpsar Industrial Estate, Pune to ensure MSW disposal. The implemented technology were to have at all times electricity as a byproduct. M/s RSPM is also responsible for segregation, drying and any other treatment required on MSW as per the said Concession Agreement. (Please refer para 2.2 of this report)

However, since commencement of its operation in November 2011, electricity generation could not be carried out as by-product except trial electricity generation only for a short period during July 2011 till about March 2012 and such supported plant & machineries were dismantled. Thereafter, the plant is processing municipal solid waste being received at its site only for production of combustable fractions of waste being claimed as RDF and not electricity which is in violation of the said Concession Agreement.

- (b) M/s RSPM has never crossed per day processing of waste at its facility averagely beyond 250 MTD. Shredding and various segregation/separation are being imparted so

as to obtain combustable fractions (claimed to be RDF) and other recyclables, (-)8 mm fractions claimed as compost and rejects. The plant is non-operational w.e.f. 16/6/2021 and supply of municipal solid waste to the facility is also stopped.

- (c) The facility for drying, dehydrating or compacting were not available at the facility of M/s RSPM and therefore, the processed combustable fractions by-product being claimed as RDF is not RDF as defined under Solid Waste Management Rules, 2016 and the prescribed facilities for RDF production are also not available at M/s RSPM. Response from MPCB is awaited about verification of such combustable by-product (claimed as RDF by M/s RSPM) usage in cement plant/boilers.

It was observed that (-) 8 mm rejects as output from the fine screen and claimed as by product i.e. compost is collected and stored outside the premises of M/s RSPM in open. M/s RSPM has neither the prescribed facility for composting nor the end use of the compost not meeting the prescribed limits for usage in food crops (for which standards have been prescribed under the Solid Waste Management Rules 2016) is being monitored either by M/s RSPM. Records in this regard are not being maintained about quantity being supplied to farmers and their end use i.e. either in the food crops or other purposes by the farmers.

Most of ferrous and non-ferrous materials separated/segreated as by-product may fall under the category of hazardous or other waste as per the Hazardous Waste Management Rules, 2016 notified under the Environment (Protection) Act, 1986 and such wastes require to be stored, packaged, transported, offered for sale, recycled or utilized or disposed to authorized occupier in accordance with the said rules. However, transportation in authorized vehicles, being selling/ handling over to authorized occupier, manifest documents there to, submitting annual returns to MPCB for such hazardous or other waste are not being followed as required under the said rules.

- (d) M/s RSPM has obtained authorization under Municipal Solid waste (Management and Handling) Rules, 2000/ Solid Waste Management Rules 2016 notified under the Environment (Protection) Act, 1986, for pyrolysis/gasification of municipal waste of 700 MT per day. However, the plant has been operating with other processes/activities instead of such authorized pyrolysis/gasification and thus, in violation of the said authorization.

M/s RSPM has commissioned & operated plant without Consent to establish and Consent to operate required under section 25 of the Water (Prevention and Control of Pollution) Act, 1974 and under section 21 of the Air (Prevention and Control of Pollution) Act, 1981, though an application for Consent to Operate was made on 17/08/2017 for power generating plant- 11 MW per hour. MPCB has refused the said application for grant of consent on 05/10/2021. Therefore, the unit is also in violation the said Acts.

- (e) About 1000-1200 MT of unprocessed municipal solid waste was found stored in the premises of M/s RSPM on the day of visit on 17/9/2021.
Leachate from the stored unprocessed municipal solid waste was observed near its storage area and primary shredding facility. There is no facility for collection and management of leachate generated during storage of municipal solid waste being collected at the facility.
- (f) The other required facilities such as composting, compost storage area, covered storage area for segregated combustable fractions as its by-product, etc. are not available at the site.
- (g) Fire clearance certificate/NOC has not been obtained from the concerned authority. Further, firefighting equipment were not found to be installed at facility of M/s RSPM during visit of the committee on 17/09/2021.
- (h) Mist spraying system was found to be installed however, the same was not operational. The committee members felt odour during the visit.
- (i) No Website has been made available to provide relevant details of the plant and the process for public, as required under the clause 2.3.25 of the Concession Agreement.
- (j) About 25 trucks loads of compost lying with M/s RSPM, as referred in the Hon'ble NGT order dated 05/12/2017, have been lifted during lifting of about 6726 MT of compost from the site in 853 vehicles from 01/03/2018 to 31/12/2018; this includes the 25 truck load of compost. This compost was given free of cost to the farmers.

(ii) Waste generation in PMC areas, existing processing facilities, gaps in processing, quantity of waste being landfilled

- (a) About 2100-2200 MT quantity of municipal solid waste is generated per day under PMC area as informed by PMC and given at Annexure-II.
Mechanical Composting, Bio CNG, Bio Gas and Mechanical Shredding (for coconut waste) facilities are installed for processing of wet waste whereas the facilities for processing of dry waste are - Waste to Energy Plants, RDF/Compost Facilities and Material Recovery Facilities.
- (b) The cumulative processing of wet waste per day at 19 wet waste processing facilities (Mechanical composting/Bio CNG/Biogas) besides bulk waste generators, independent house owners and farmers is about 896 MTD against generation of 900 MTD of wet waste in Pune as per information provided by PMC and given at Annexure-II.
For dry waste, there are 13 processing facilities of which 03 are currently non-operational besides processing by rack pickers affiliated with PMC under "Swachh". The cumulative processing of dry waste per day is about 1200 MTD. The cumulative dry waste processing capacity of 10 operational processing facilities (where M/s RSPM

facility has also not been included being non-operational) is 1475 MTD against generation of 1200 MTD of dry waste in Pune.

The inert from the dry waste facilities are disposed into sanitary landfills located in 08 acres land at Survey Number 191 to 195, Uruli/ Fursungi, Pune, and commissioned w.e.f. 23/11/2020 having capacity of 3,65,000 MT. Cumulative quantity of rejects disposed into the sanitary landfill from November 2020 to September 2021 is about 105000MT.

- (c) MPCB has granted authorisation for various processing facilities and the same may be examined by MPCB in terms of quantity & processes.
- (d) The current practice of managing 300 MTD of wet waste by handing over to individual farmers may not be appropriate due to its unregulated use especially w.r.t. their application in food crops and that Rule 15(v) stipulates PMC to facilitate construction, operation and maintenance of solid waste processing facilities and associated infrastructure on their own or with private sector participation or through any agency for optimum utilisation of various components of solid waste adopting suitable technology.
- (e) Waste deposition centres for domestic hazardous waste have not been established as stipulated under Rule 15(i) of Solid Waste Management Rules, 2016.

(iii) Steps taken for Bio-Mining of legacy waste

- (a) It has been informed that PMC has stopped open dumping since 02/1/2020. [please refer para 9 and Annexure-II]
- (a) PMC has informed about identification of legacy waste dumpsites since 1985. The dumpsite used during 1985-1997 at Paud Road (Kothrud) Depot has been handed over to Pune Metro for construction of shed and remediation process was carried out on the municipal solid waste at the said location by Pune Metro and a car shed is constructed on this land. [please refer para 9 and Annexure-II]
- (b) About 25 Lakh MT dumped during 1997-2008 have been claimed to be scientifically capped in 45 acres sites at Survey No. 191 to 195, Uruli/Fursungi, Pune.
- (c) During 2009 till 2013, wastes were processed in processing plants and about 1.25-1.5 lakhs MT of rejects were dumped into sanitary landfill operated by M/s Hanjer Bio Tech Company in 06 acres within the said Survey No. 191 to 195, Uruli/Fursungi, Pune. The sanitary landfill is not operational due to contract agreement termination and on-going arbitration process. It has been covered with only soil cover which needs to be properly managed. [please refer para 9 and Annexure-II]

(d) Of about 17 lakh MT wastes dumped in 20+15 acres land during 2014-Dec 2019 at the same Survey No. 191 to 195, Uruli/Fursungi, Pune:

- Out of 09 lakh metric tons (MT) lying on the aforesaid 20 acres land, 7.5 MT of legacy wastes have been bioremediated/bio-mined processed and the remaining 1.5 lakh MT will be processed in next 06 months under Phase-I.
- For the other estimated 08 lakh MT lying in the aforesaid 15 acres, bio-mining is proposed as Phase-II. PMC is carrying out contour survey of area to ascertain exact quantity of legacy waste remaining on this area, once the quantum is finalized, processing of remaining quantity of legacy waste will be started to free this land for which tender is also prosed in upcoming months.

[please refer para 9 and Annexure-II]

11.0 RECOMMENDATIONS

(i) Waste processing plant operated by M/s RSPM

(a) In view of the various violations of provisions under the Solid Waste Management Rules, 2016 and Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 - notified under the Environment (Protection) Act, 1986, Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981; Concessions Agreement dated 18/11/2010 and that the required facilities are not available for the current adopted municipal solid waste processing activities, the plant may not be allowed to operate.

(b) Estimation of environmental damage and damage cost thereto is difficult to assess due to lack of data/information availability. However, an attempt has been made by this committee to assess the environmental compensation using the formula prescribed in the "Report of the CPCB In-house Committee on Methodology for Assessing Environmental Compensation and Action Plan to Utilize the Fund" which has also been referred by the Hon'ble NGT in its order (para 14 to 16) dated 28/8/2019 in the matter of Original Application No. 593/2017 titled Paryavaran Suraksha Samiti & Anr. Versus Union of India & Ors. The formula takes into account of number of days violation took place, pollution index of unit, scale of operation, location factor based on population and an amount factor in Rupees. Using the said formula, as given at Annexure-III of this report, the environmental compensation comes out to be Rs. 12,49,87,500/- (Rupees Twelve Crores Forty-nine Lakhs Eighty-seven Thousands and Five Hundred Only).

In case the Hon'ble NGT finds appropriate, it may consider imposing the aforesaid amount of Rs. 12,49,87,500/- (Rupees Twelve Crores Forty-nine Lakhs Eighty-seven Thousands and Five Hundred Only) or other amount, as deemed fit by the Hon'ble NGT, on M/s RSPM as environmental compensation OR as damages for contravening provisions under the Solid Waste Management Rules, 2016 and Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 - notified under the

Environment (Protection) Act, 1986, Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981 OR both.

(ii) Waste generation in PMC areas, existing processing facilities, gaps in processing, quantity of waste being landfilled

- (a) The current gap of processing 300 MTD of wet waste being sent to individual farmers be discouraged. PMC to explore on-site/decentralised processing of wet waste at community level subject to control of odour and maintenance of hygienic conditions or enhance capacity or existing wet processing facilities or install additional facilities in accordance with Solid Waste Management Rules 2016 also taking into account of future generation of wet waste.
- (b) MPCB shall monitor environmental standards and adherence to conditions as specified under the Schedule I and Schedule II for all waste processing and disposal sites, in compliance with provisions as stipulated under Rule 16 [B] of the said Solid Waste Management Rules 2016. MPCB may also examine compliance of authorisation to various facilities ensuring compliance of the Solid Waste Management Rules 2016.
- (c) PMC shall establish waste deposition centres for domestic hazardous waste within a time bound manner (preferably within 03 months) and give direction for waste generators to deposit domestic hazardous wastes at this centre for its safe disposal. Such facility shall be established in a manner that one centre is set up for the area of twenty square kilometers or part thereof and notify the timings of receiving domestic hazardous waste at such centres, as stipulated under Rule 15(i) of Solid Waste Management Rules, 2016. Necessary awareness programme may also be carried out upon setting up the same by PMC.

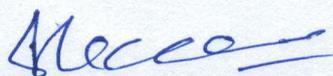
(iii) Bio-Mining of legacy waste

- (a) PMC to expedite bio-mining/bio-remediation of 08 lakh MT lying in the 15 acres at Survey Number 191 to 195, Uruli/ Fursungi, Pune.
- (b) With regard to the sanitary landfill in 06 acres operated during 2009 till 2013 where 1.25-1.5 Lakhs MT of rejects have been disposed and not operational due to contract agreement termination and on-going arbitration process, cover with only soil cover attracts various environmental concerns.
There is, therefore, need of immediate intervention to expedite arbitration process so that work of bio-remediation/ bio-mining or closure of landfill, as appropriate, meeting the prescribed norms may be initiated at the earliest to address various environmental concerns due to improper closure of the same.
- (c) The ground water quality in and around within 50 meter of the periphery of the capped old legacy sites in 45 acres including the newly commissioned sanitary landfill in 08

acres and non-operational sanitary landfill in 06 acres land, be periodically monitored by PMC covering different seasons in a year that is, summer, monsoon and post-monsoon period to ensure that the ground water is not contaminated, as stipulated under clause (E) read with clause (H) of Schedule I of Solid Waste Management Rules, 2016. Usage of groundwater in and around landfill sites for any purpose (including drinking and irrigation) shall be considered only after ensuring its quality. Further, monitoring of leachate collection system be also regularly conducted by PMC.

The concentration of methane gas generated at the said 03 landfill sites shall also be regularly monitored ensuring that the same do not exceed 25 per cent of the lower explosive limit (LEL). Further, ambient air quality at the landfill site and at the vicinity shall also be regularly monitored ensuring that ambient air quality do not exceed the standards prescribed for industrial area, as stipulated under clause (F) read with clause (H) of Schedule I of Solid Waste Management Rules, 2016.

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(Justice S.M. Gavhane)
Former Judge
Bombay High Court
(Chairman)



(Bharat K Sharma)
Regional Director
CPCB, Regional Directorate, Pune
(Member)



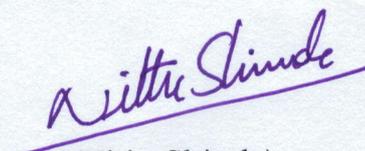
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IIT Bombay
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(Dr. Sunil Kumar)
Sr. Principal Scientist
NEERI, Nagpur
(Member)



(Vijay Kumar Chobe)
Tahshildar, Haveli, Pune
(Member as representative of DM,
Pune)



(Nitin Shinde)
Regional Officer, MPCB, Pune
(Member)

Dated 17/11/2021

Item Nos. 08 to 10

Court No. 1

**BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI**

(By Video Conferencing)

Original Application No. 270/2020
(Earlier O. A. No. 50/2017 (WZ))

(With affidavit dated 18.03.2021)

Anand Uttarkar

Applicant

Versus

The Municipal Corporation of the City
of Pune & Ors.

Respondent(s)

WITH

Original Application No. 269/2020
(Earlier O.A.No.194/2016 (THC)(WZ)
(M.A. No. 246/2017)

Dr. Harshwardhan Modak

Applicant

Versus

P.M.C. Pune & Ors.

Respondent(s)

WITH

Original Application No. 271/2020
(Earlier O.A. No. 32/2019 (WZ))

Sandip Aphale

Applicant

Versus

State of Maharashtra & Ors.

Respondent(s)

Date of hearing: 23.03.2021

**CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON
HON'BLE MR. JUSTICE SHEO KUMAR SINGH, JUDICIAL MEMBER
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER**

Applicant: Mr. R.B. Mahabal, Advocate for Applicant in OA 269/2020
Mr. Asim Sarode, Advocate for Applicant in OA 271/2020

Respondent: Mr. Rahul Garg, Advocate for PMC
Ms. Manasi Joshi, Advocate
Mr. Subit Chakrabarti, Advocate
Mr. Aniruddha S. Kulkarni, Advocate
Ms. Gauri Kawade, Advocate

ORDER

1. This order will deal with the above three matters as all the three matter overlap and raise issue of violation of environmental norms by Rochem Separations Systems Pvt. Ltd. (RSPM) at Pune under a contract from the Pune Municipal Corporation (PMC). We may give brief pleadings and procedural history of the three matters as follows.

Original Application No. 270/2020 (Earlier O. A.No. 50/2017 (WZ))

2. The O.A. No. 270/2020 alleges illegality in operation of Waste to Energy Plant set up by RSPM resulting in pollution and generation of foul odour. Though PMC proposed to terminate the agreement, it has failed to do so. This has resulted in garbage being dumped in the premises in question which remains unprocessed. The garbage is not being converted to energy as was proposed under the agreement granted in favour of RSPM by the PMC.

3. The application was filed on 11.04.2017 and was admitted on 13.04.2017. Subsequently, matter was ordered to be heard with O.A. No. 269/2020 (second matter). Vide order dated 05.12.2017, the stand of the Maharashtra State PCB was considered that the compost in the premises was not of the requisite quality. The air quality was beyond norms. The Tribunal directed the RSPM to remove 25 truckloads of compost and to take the same to the sanitary landfill site. The matter was further considered on 05.09.2019 and RSPM was directed to mention whether the waste has been transported. Finally, vide order dated 13.10.2020, the matter was directed to be placed before the Principal Bench.

4. As per stand of the PMC in affidavit dated 22.06.2017, the RSPM is to generate electricity and Refuse Derived Fuel (RDF) on Build, Own, Operate and Transfer (BOOT) basis. Since, it failed to do so, penalty was imposed.

5. The stand of the State PCB dated 07.07.2017 is that there are violations of norms for which warning was issued to the RSPM.

6. The stand of the RSPM in its affidavit filed on 24.07.2017 is that it is functioning under agreement dated 07.07.2011 for waste management. It has invested Rs. 60-70 crores in the project. It is running Waste Processing Project and not Waste Disposal Project. It is processing 300-350 TPD of MSW for the last five years with the following sections:

- a. Current MSW intake.
- b. MSW- presorting and segregation.
- c. Gasification section and;
- d. Waste to energy section.

7. It is facing difficulty as there are no buyers for the RDF. The technology needs to be upgraded. Additional affidavit was filed by the said party on 10.11.2017 to the effect that it has received authorization under the Municipal Solid Wastes (Management and Handling) Rules, 2016 and also applied for consent to operate under the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981 on 17.08.2017. It segregates the waste and converts the same to energy by incineration. The RDF is sold to third parties for boilers or for captive consumption in manufacturing process.

8. The State PCB filed further affidavit on 25.04.2019 with regard to sampling of odorous gas finding that the parameters were marginally exceeding.

9. Further affidavit dated 08.01.2020 has been filed by the RSPM is that legacy waste is being removed.

10. Finally, we have the affidavit filed by the State PCB on 18.03.2021 on the issue of fire incident which took place on 07.03.2018 to the effect that garbage depot, plant and machinery were not affected by the fire. The reason for the fire was not identified.

Original Application No. 269/2020 (Earlier O.A.No.194/2016 (THC)(WZ)

11. This Application was received from the Bombay High Court on transfer. It seeks injunction against payment of tipping fee to RSPM. The application states that the unit was operational without Environmental Clearance (EC) and was not engaged in generation of electricity and Pyrolysis process, as stipulated. It was a source of nuisance. MSW is being supplied to the said company which contains RDF which is hazardous in nature. The gas generated is emitted in the air which is health hazard. There is no scientific disposal of the waste.

12. The matter has been dealt with by several orders in the last more than four years along with *O.A. No. 270/2020* (First matter). It was finally directed to be listed before the Principal Bench.

13. The applicant has filed a written note on 03.11.2020 to the effect that the waste is being burnt resulting in damage to the environment. The unit does not have requisite consents under the Water Act, 1974 and the Air Act, 1981. It does not have requisite EC as per EIA Notification dated

14.09.2006 on the ground that it is exempted, being under the category of 'generating power from the waste'. Infact, no energy is being generated as claimed. RDF is being sold to persons who do not have permission to use RDF as fuel.

Original Application No. 271/2020 (Earlier O.A. No. 32/2019 (WZ))

14. This Application was filed in the year 2019 and was ordered to be heard along with the above two applications. The issue raised is about the siting of the plant in violation of MSW Rules, 2016. There is no buffer zone around the Waste Processing Facility. It is at Plot Nos. 88, 86, 87, 56, 57, 58 and 104 Phase-II Ramtekadi Industrial Estate, Hadapsar, Pune, close to residential area. In the vicinity of the Plant, there are three buildings in Survey No. 95 with 84 Flats. Permission to set up the plant has been given in violation of the law.

The Issue for consideration in all the three matters

15. Main contention raised on behalf of the applicants by learned Counsel Shri R.B. Mahabal and Shri Asim Sarode is that

- **the Plant in question is causing environmental hazard**
- **it is operating without requisite EC and consents**
- **Its location is not compliant with the statutory rules**
- **This requires remedial action for protection of environment, public health and rule of law**

16. As against the stand of the applicants, the stand of PMC is that there is a proposal to change technology and to set up additional plants which requires time. The stand of the RSPM is that it has requisite authorization and has applied for consents under the Water Act, 1984 and the Air Act,

1981. Thus, it is deemed to have the necessary consents. No EC is required.

17. As already noted, the matter has been pending for the last more than five years. **There is no scientific investigation about the ground status of compliance of norms in setting up and functioning of the plant, including norms with regard to location of the site, compliance of other statutory requirements, remedial action required and other incidental issues. To address the situation, there is need for an independent and credible Committee with concerned authorities and experts.**

Direction

18. Accordingly, we constitute an independent six-Members Committee headed by Justice S.M.Gavhane, former Judge Bombay High Court, presently available at Pune and comprising Central Pollution Control Board (CPCB), NEERI, IIT Mumbai, District Magistrate, Pune and Maharashtra PCB. CPCB and State PCB will jointly act as nodal agency for compliance. The Committee may visit the site and give its report to the Tribunal. The Committee will be free to take assistance of any other Expert/Institution. The Committee may ascertain compliance status of the waste processing plant in question on the ground in terms of location, functioning and statutory compliances and other incidental issues. The report may particularly mention the status of management of Rejects and RDF including waste/ rejects piled up in the Plant premises. The Committee may also mention the potential of fire incidents and whether the direction to remove 25 trucks of waste per day is being complied. The report may also mention waste generation in PMC areas, existing processing facilities, gaps in processing, quantity of waste being landfilled

and steps taken for Bio-mining of legacy waste. It may make recommendations for remedial action. The Chairman of the Committee will be paid consolidated amount of Rs. 3 Lakhs by the State PCB (out of consent funds available with it), apart from logistics for functioning of the Committee. The State PCB and the District Magistrate will provide the necessary logistics. Except for visit to the site once or twice or as found necessary, other proceedings can be conducted online which may be facilitated by the District Magistrate/State PCB. The report may be furnished on or before 31.05.2021 by e-mail at judicial-ngt@gov.in preferably in the form of searchable PDF/ OCR Support PDF and not in the form of Image PDF. The report may also be simultaneously placed on the website of the State PCB for comments, if any, by any of the parties to be filed before the next date. It will be open to any aggrieved party to give their view point to the Committee through the State PCB. If any illegalities or damage to the environment are found, the Committee may also suggest the quantum of compensation.

List for further consideration on 12.07.2021.

A copy of this order be forwarded to Justice S.M. Gavhane, former Judge Bombay High Court, presently available at Pune, CPCB, NEERI, IIT Mumbai, District Magistrate, Pune and the Maharashtra PCB by e-mail for compliance.

Adarsh Kumar Goel, CP

S.K. Singh, JM

Dr. Nagin Nanda, EM

March 23, 2021
Original Application No. 270/2020
(Earlier O. A. No. 50/2017 (WZ)
and other connected matters
SN



Office of the,
Deputy Municipal Commissioner
Solid Waste Management
Pune Municipal Corporation
Outward No:- SWM / 2928
Date: - 08 - 10 - 2021

The Regional officer I
Maharashtra Pollution Control Board
Regional Office
Jog Centre, 3rd Floor, Wakadewadi
Old Pune Mumbai Road
Pune- 411 003

7/21/011-95-0019
7/21/011-95-0019

Sub:- Information required by the Committee formed as per directions given by the NGT Court in NGT Matter OS No.270-2020 on 17 September 2021 at Site Visit

Reference:- 1) Committee visit at Rochem Site on 17/9/2021 from 12.30 – 3.30 PM.

Dear Sir,

The Information asked by the expert committee formed as per directions given by the NGT Court in NGT Matter OS No.270-2020 has visited Rochem Separation Systems processing plant at final plot No.86 Ramtekadi Hadapsar on 17/09/2021 from 12.30 3.30 PM , and asked the PMC to submit following information:-

1. Dump Site (Earlier) Details:-

Present status - PMC had only one Dump site at Survey Number 191 to 195, Uruli/Fursungi Pune Pune which is allocated to PMC by the District Collector in 1989 for using as disposal site. It is spread on total 163 acres of Area, out of which on 8 Acres of land the PMC has developed cement ground and remaining area of 155 acres is effectively utilized for following SWM activities:-

- i) On 45 Acres old legacy waste is scientifically capped using HDPE Liner , Geo Membrane , Gas collection and flaring system , leachate collection

8/10/21

system and covered with Vegetation (Small Shrubs) and it is maintained with annual maintenance contract.

- ii) On 20 Acres land phase I bio remediation / bio mining is going on since 18 April 2019.
- iii) On approx 15 acres phase II legacy waste is lying which will be taken for bio mining in phase II and the PMC is carrying out contour survey of area to ascertain exact quantity of legacy waste remaining on this area, once the quantum is finalized, processing of remaining quantity of legacy waste will be started to free this land.
- iv) 65 acres of land was given to Hanjer Bio Tech Company for setting up two processing plants of each 500 MT per day capacity to produce RDF /Compost and engineered secure land fill on 6 Acres land for disposing Inerts/reject material. These plants are not operational now, and Arbitration process is going on between the PMC and Hanjer Bio Tech Company.
- v) On 08 acres land PMC has developed scientific landfill (SLF) and it is made operational since 23 November 2020 to dispose Inerts /rejects generated from different MSW processing plants within the city.
- vi) On 2 acres internal roads and buffer zone is maintained.

1) Quantity Dumped Earlier :-

- i) From 1997-2008 - Around 25 Lakh MT (Scientifically capped)
- ii) From 2009 till 2013, MSW was processed in the Hanjer Bio Tech company processing plants, with a Capacity of 1000 MT per day. The processing was stopped in 2014 as the PMC terminated contract agreement with this company.
- iii) From 2014 - Dec 2019 - Around 17 Lakh MT
- iii) Out of Approx 17 Lakh MT, 9 Lakh MT is taken for Bio Mining in phase I and remaining around 8 Lakh MT will be taken for Bio Mining in Phase II

The PMC has stopped open dumping since 2 Jan 2020, and presently 100% waste generated in the City is processed.

2. SLF Details -

- 1) Location - Survey Number 191 to 195, Uruli/Fursungi Pune.
- 2) Size in Acre – 8 Acres
- 3) Quantity of Reject disposed per day - around 400- 500 MT per day
- 4) Operational Since - From 23 Nov 2020
- 5) Till Aug 2021 around 90,000 MT Rejects were disposed in SLF
- 6) Capacity of SLF - 3,65,000 MT

3. Bio Mining /Bio Remediation

The work of Bio Mining /Bio Remediation is given to M/s Bhumi Green Energy on 1/11/2018. After the plants erection was completed in all respect, the processing of legacy waste was started from 18 April 2019. The MPCB has given its authorization for processing at Bio Mining. The PMC has appointed the NEERI (National Environmental Engineering Research Institute) as the project consultant for the Bio Mining project. The NEERI is taking the samples of Bio Soil, RDF, Legacy waste, Inert on regular basis to ascertain if all parameters are within the limit and till to date all the samples and analysis results found to be satisfactory.

In Bio Mining /Bio remediation process, the area of legacy waste is divided into cells, around 2/3 cells are converted into hip of around 8000-10000 square feet through excavator, Bio Culture is spread on these hips to contain foul odour and it is turned using excavator after 7/8 days for aeration and after around 15 days the stable legacy waste is taken to processing plants through trucks. In the processing plant legacy waste is separated in size through different size traw mills (Size and Density separation) to separate different by products and then it is further shredded in the shredders (Reduction of size) to obtain RDF, Bio Soil and other parts.

- 1) Quantity of Legacy Waste - Around 17 Lakh MT
- 2) In phase I of Bio Mining 9 Lakh MT of legacy waste is considered and around 7.5 Lakh MT of legacy waste is processed and remaining 1.5 lakh will be processed within next 6 months.
- 3) In Phase II of Bio Mining remaining quantity of around 8 Lakh MT will be taken for processing, and for this tender will be called in upcoming months. The PMC

has appointed Surveyor agency to find out exact quantity of legacy waste remaining at site which will submit the survey report within two weeks.

4. Final Plot Number 86, 87 and 88 GPP Reservation and Approval Plan and Approval documents – Documents of Approved plant is attached.

5. Around 25 Truck Load of Compost (around 40 MT) Lifted from Rochem as per NGT order dated 5 December 2017.

- 1) The Rochem Separation Systems has lifted around 6726 MT of Compost from the site in 853 vehicles from 1 March 2018 to 31 December 2018, this includes the 25 Truck Loads of compost. This compost is given at free of cost to the farmers .(List of daily lifting is attached herewith)
- 2) There was fire incident at Rochem site on 7 March 2018. When fire took place there was around 150 MT of compost and 800 MT of RDF lying at site. Out of this only RDF part caught the fire and Compost part was safe. Hence Compost part was given to farmers and the Burnt part of RDF was sent to the landfill site and un burnt part of RDF was given to cement industries by Rochem.
- 3) Compost analysis Report - Attached herewith
- 4) Fire Incident FIR Copy is attached herewith.

Regards

Ajeet Deshmukh
8/10/21

(Ajeet Deshmukh)

08/10/21
Deputy Municipal Commissioner
Solid Waste Department
Pune Municipal Corporation

13/10/2021
[Signature]
9/10/21

Details of MSW processing plants in Pune Municipal Corporation area

- A) Population of Pune City – 45 - 50 Lakh
- B) Area of Pune City – 516 Sq. KM
- C) Generation of Waste per Day- 2100-2200 MT
(Per Capita generation of around 450 gm of MSW)
- D) Total Dry(Inorganic Waste)- 1100-1200 MT
- E) Total Wet (Organic Waste) 900 MT
- F) Total Processing - Detailed Processing attached herewith
- G) 23 New Villages are added in PMC Limit on 30 Jun 2021, which added around 150 MT of MSW

Processing plants of PMC as on 30 Sep 2021

Wet (Organic) Waste Processing

Sr. No.	Plant Location	Type of Processing	Capacity Per Day (M.ton)	Actual Processing Per Day (M.ton)	Start Date	By-products	Remarks
1	Bhumi Green, Hadapsar	Mechanical Composting	200	225	July-2017	Compost	Plant Capacity is 200 MT per day, however PMC is in processes of enhancing the capacity to 250 MT per day

2	Noble Exchange Baner	Bio CNG	300	80	July-2016	Bio CNG	Slurry is prepared at Baner plant and it is taken to Talegaon plant for producing Bio Methanation at Talegaon, Tal- Maval Dist Pune. The Court case is pending before the Supreme Court for shifting of this plant at other site.
3	Excel Environment Aundh	Mech Compost	2	2	July -2016	Compost	Mechanical Composting comprises of Windrowing, turning and reduction of size through shredding and and separation of size through traw mills.
4	Koregaon park	Mech Compost	2	0		Under Rendering	
5	Save Environment Vaikunth	Mech Compost	8	4	April-2017	Compost	
6	Unity Green Kalyani Nagar	Mech Shredding	3	2	Jan-2017	Produces Coires from coconut	In this Mechanical Shredding the Coconut shells are shredded through shredder and coires and

							shells	cocopit is produced as by product.
Bio Gas Plants								
1	Abhay Petrol Railway Museum katraj	Bio Gas	5	3	Aug-2018	Bio Gas 50 Cub Mtr/Ton	Bio Gas is produced through Bio Digestion in digesters and around 50 Cub Mtr/Ton	
2	Mailhem Katraj 1	Bio Gas	5	5	April-2017	Bio Gas 50 Cub Mtr/Ton	of Bio Gas is produced which is used for electricity generation using gas	
3	Mailhem Katraj 2	Bio Gas	5	5	April-2017	Bio Gas 50 Cub Mtr/Ton	engines and it is utilized for street lights and captive power to run the plant	
4	Mailhem Katraj 3	Bio Gas	5	5	Aug-2021	Bio Gas 50 Cub Mtr/Ton		
5	Mailhem Katraj 4	Bio Gas	5	5	Aug-2021	Bio Gas 50 Cub Mtr/Ton		
6	Mailhem Fule Nagar	Bio Gas	5	5	July-2019	Bio Gas 50 Cub Mtr/Ton		
7	Mailhem Dhanori	Bio Gas	5	5	July- 2019	Bio Gas 50 Cub		

8	Mailhem K K Market	Bio Gas	5	5	Feb-2019	Bio Gas 50 Cub Mtr/Ton
9	Mailhem Housing board Yerawda	Bio Gas	5	5	July- 2016	Bio Gas 50 Cub Mtr/Ton
10	Addya Environmental Tajjai 1	Bio Gas	5	5	July-2019	Bio Gas 50 Cub Mtr/Ton
11	Addya Environmental Tajjai 2	Bio Gas	5	5	July-2019	Bio Gas 50 Cub Mtr/Ton
12	J.K. Engineers Wadgaon sheri	Bio Gas	5	5	Sep-2015	Bio Gas 50 Cub Mtr/Ton
13	J.K. Engineers Yerwada jail	Bio Gas	5	5	May -2020	Bio Gas 50 Cub Mtr/Ton
	Total		582	376		

Dry (In Organic Waste) Processing

Sr. No.	Plant Location	Type of Processing	Capacity (M. ton per day)	Actual Processing (M. ton per day)	Start Date	By-products	Disposal Method of By Products
1	Rochem, Ramtekadi Plot No 86 Hadapsar	Waste to Energy (Presently RDF and Compost)	700	200 (Presently Stopped Operation in view of Electrical Power Cut from 16 /06/2021	Aug-2011	RDF Compost	RDF - sold to cement factories Compost - Sold to farmers
2	Pune Bio Energy Plot No 88 Ramtekadi	Waste to Energy (Presently Phase 1 is commissioned as MRF with capacity of 300 MT per day)	750	300 Phase I erection has been completed under MRF category	July-2021 Waste Energy part will be commissioned in Aug 2022	RDF	RDF – sold to cement factories
3	Adarsh Bharat Enviro Ambeegaon	RDF Compost	200	0 Plant is burnt by local Peoples on 1 Nov 2020	Sep-2020 Plant was stopped on 1 Nov 2020 during trial	RDF	Presently not operational The PMC is planning to start this facility as MRF

					phase only		tentatively by Aug 2022
4	Bhumi Green Energy Uruli Devachi	RDF	200	250	July-2021	RDF	RDF – sold to cement factories Plant Capacity is 200 MT per day, however PMC is in processes of increasing the capacity to 300 MT per day in view of 23 New adjacent villages added
5	Bhumi Green , Vadgaon	RDF	150	175	April-2017	RDF	RDF – sold to cement factories Once the Ramtekdi plant of waste to energy starts its operations at an capacity of 750 MT per day, Vadgaon plant will be given 150 MT per day for processing

6	Adarsh, Ramtekadi Hadapsar	MRF	75	90	PMC is in processes of enhancing the capacity to 100 MT per day	May-2017	MRF	Segregation and manual /machine separation is done for further processing /Recycling and disposal etc
7	Sanskriti Management Vadgaon sheri	MRF	25	25		May- 2019	MRF	
8	Green Solution Dhayari	MRF	50	50		Nov-2020	MRF	
9	Sairam Engineers Keshavnagar	MRF	50	50		Dec-2019	MRF	
10.	AD Echo Solution Katraj	MRF	50	0		July-2015	Present tender period exhausted , Retendering is in Process	
11	New Global Eco Handewadi	MRF	25	25		April-2018	MRF	Segregation and manual /machine separation is done

12	Nepra Resources Keshavnagar	RDF Compost	100	75	Nov-2020	MRF	for further processing /Recycling and disposal etc
13	Aditya paper waste Sukhsagar Nagar	MRF	50	50	Feb-2020	MRF	
Total			2425	1090			

Summary of Processing

	Quantity in MT	Remarks
Wet Waste Processing	376	Processed with in wet waste plants.
Dry Waste Processing	1090	Processed with in Dry waste plants.
Bulk waste Generator Processing (Wet)	150	Big society, big hotels and other firms producing more than 100 KG wet waste are processing their wet waste with in their premises
Home Composting (Wet)	70	Single house, row house, banglows.
Recycled through SWACHH (Dry)	110	Around 4000 swach rag pickers are collecting segregated recyclable material
Farmers (Wet)	300	Temporarily segregated wet waste is given to Farmers free of cost without plastic, till the proposed plants are operational/ capacity of existing plants enhanced. Also PMC has

		<p>called EOI for setting up 150 MT Wet waste plant. Composting is done at the farmers respective farm site, through Pits , Bio Culture Spraying etc.</p>
<p>Total</p>	<p>2096</p>	
<p>Proposed processing Plants 1. Pune Bio Energy - 750 MT (Presently operational at 300 MTPD as MRF) It will be operational by Aug 2022 with additional capacity of 450 MT per day 2. Few Plants designed capacity of wet waste processing will be increased by around 300 MT tons as follows:- i)Bhumi Green Hadapsar - 50 MT ii)Bhumi Green Uruli/Fursungi – 100 MT iii) Peshve Park - 50 MT iv) Old Bio Gas of 5MT Each will be demolished and 25 MT each wet Waste plants will be set up with total capacity of 125 MT per day. The process of administrative approvals/ Fresh EOI for the same is in progress</p>	<p>750</p>	<p>PMC will be having surplus processing capacity of processing plants to cater for MSW generation of next 10 Years. Also the PMC Standing Committee has given approval to set up sanitary waste processing plant at Rochem's unused land of 2100 Sq Mtr, this plant will be operational within next six months.</p>


 (Ajeet Deshmukh) 81167m
 Deputy Commissioner
 Solid Waste Department
 Pune Municipal Corporation
 09/10/2021

FINAL CLAIM AMOUNT 40,23,500/-

The New India Assurance Company Limited
 Head Office: 87, M G Road, Fort, Mumbai-400001

Fire Insurance Claim Form

1. Name and Address of Insured: **ROCHEM GREEN ENERGY PVT. LTD.**
2. Please give following details pertaining to all the policies involved in fire accident:

Policy Number	Risk Covered	Location	Sum Insured	Estimated amount of loss
(i) 1416001170100000609		Hadapsar PUNE	60,04,00,000/-	Rs. 3,37,48,000/-
(ii)				
(iii)				

3. Period of Insurance: 01-03-2017 to 31-08-2018

4. Date and Time of Loss: 07-03-2018 Time: 11:45 AM

5. Nature and Cause of Loss (Please describe the circumstances leading to the loss)
 Around 11:45 AM there was fire in sales PCB Machine near ROP store place it was beyond control then fire brigade was informed. (Detailed details vide Incident Report)

6. Give details of insurance with any other insurance company on the risk involved in fire/accident
 N.A.

7. If insured is not sole owner, the nature of his/their interest in the property and details of other interests
 Insured is sole owner.

8. Whether loss intimated to
 (1) Police YES
 (2) Fire Brigade YES

9. (i) Was any claim reported in the past on the same property during current policy period. NO
 (ii) If so, give details regarding:
 (a) Cause N.A.

- (b) Date of incident 07.03.2018.
 (c) Claim Fire Policy.
 (d) Policy Issuing Office The New India Assurance Co. Ltd Vile Parle Mumbai
 (e) Amount of claim paid/Outstanding Rs. 3,37,48,000/-

I hereby declare that the particulars furnished above are true and correct to the best of my knowledge.

For ROCHEM GREEN ENERGY PVT. LTD.

PLACE: Mumbai

DATE: 07-07-2018

[Signature]
 Authorised Signatory

Signature of Insured

To be filled in by Dev. Officer/Br./D.O.

Fire Claim No. _____

Branch/ D.O. Code NO.	R.O. Code No.	Dev. Officer's Code No.	Agency Code No.	Premium Payment Particulars		
				Receipt No BG/ CD No	Date of Payment	Amount Rs.

List of Machinery - PMC Site

SR.NO.	Machine OR Equipment Name	UOM	QTY	Expected cost - Rs
1	Conveyor no B202 (Fine screen feeding)	Nos	1	
2	Conveyor no B320 (fine screen compost Discharge)	Nos	1	
3	Conveyor no B300 (Fine screen RDF discharge)	Nos	1	70 0000
4	Conveyor no B230 (Weima m/c discharge conveyor no-01)	Nos	1	
5	Conveyor no B20 (Weima m/c discharge conveyor no-01)	Nos	1	
6	Fine Screen (Lubo System) S203A, S203B, S203C	Nos	1	130 0000
7	Cables	Lumpsum		
8	Rotary drier discharge system	Nos	1	15 0000
9	Valves	Nos	1	90 0000
10	Cooling tower of Weima 1 & 2	Nos	1	80 0000
11	Structures for Fine screen	Lumpsum		10 0000
11	Shed For RDF & Compost material	Lumpsum		25 0000
12	Electrical Light fitting	Nos	20	60 0000
13	Misting System	Lumpsum		10 0000
14	Bollegraaf Panel room	Lumpsum		30 0000
	Total cost - Rs.			286 0000
	GST -18%			51 8000
	Grand Total - Rs.			337 8000



[See Clause 30(2)]
 Fertiliser Control Laboratory, Pune
 Krishi Bhavan, Shivajinagar, Pune-41005
 (Email:-ftlpune@rediffmail.com, fclpune@gmail.com)
 (Tel:020-25513651, Fax:25513651)
**ANALYSIS REPORT OF FERTILISER SAMPLE
 (SERVICE-SAMPLE)**

Sample Type: **Service**

Report No:-FCLP1833 Date:-27-09-2017

To,
 ROCHEM GREEN ENERGY PVT LTD,
 PLOT NO.F.P.86,RAMTEKADI INDUSTRIAL AREA,HADAPSAR PUNE 411013,
 State:-MAHARASHTRA

Ref:- Your Memorandum No:-N.M Dated:-07-09-2017
 The analysis report of SERV sample forwarded vide your reference is as per details given below

- | | |
|---|--|
| 1.Name of Fertilizer & Grade | Service |
| 2.Date of Sampling | Omitted |
| 3.Omitted | F |
| 4.Code No of Sample | 07-09-2017 |
| 5.Date of receipt of Sample in the Laboratory | 1812-20172018 |
| 6.Laboratory Sample No. | 27-09-2017 |
| 7.Date of Analysis of Sample | (on fresh weight basis except in the case of Urea on dry weight basis) |
| 8.Chemical Analysis of Fertilizer | |

Srno	Specification as Per FCO	Composition as per Analysis (in %)
1	moisture	
2	Total Nitrogen	16.21
3	Total phosphates P ₂ O ₅	5.78
4.	Water soluble potash (as K ₂ O)	0.65
5	Zinc (as Zn)	3.57
6	Copper (as Cu)	0
7	pH	0
8	Odour	9.49
9	Bulk density (g/ cm ³)	ABSENT
10	Total Organic Carbon	1.42
11	C:N RATIO	32.53
12	Conductivity (as dsm-1)	5.63
13	Color	1.53
14	Particle size : - 4.00 mm	BLACK
		89.79

Note:Result relate only to the sample as recieved



(Signature)
 (Salve Rajendra Bhivaji)
 Analytical Chemist
 Fertilizer Control Laboratory
 Pune

FOOD HYGIENE & HEALTH LABORATORY

Testing of all kinds of • Food • Food Products • Beverages • Water • Environmental Monitoring & Analysis

Registered Address : A - 512-513, Megacentre, Pune - Solapur Road, Hadapsar,
Pune - 411 013, INDIA. Tel.: +91-20-2689 0197, +91-20-2689 0347, Mob.: +91-9881237321.
E-mail : foodwatertestlab1@gmail.com, foodwatertestlab1@yahoo.com Website : www.foodtestlab.com



TEST REPORT

Lab Work Order No. / Code no.:- FHHL/1612/OT/03

Report Date :- 05/01/2017

Customer Name & Address :- Rochem Green Energy Pvt. Ltd.
Plot No.86, Ramtekadi Industrial Estate,
Hadapsar.

Page No. :- 1 of 1

Customer Reference
Letter No. & date:-
21/12/2016

Description of Sample :- Compost Sample

- a) Sample Marked As :- Compost Sample
- b) Quantity of sample received : - 750 gm
- c) Packing:- Plastic Bag
- d) Preservation:-At Room Temperature.

Date & time of Receipt in the Lab. :- 21/12/2016

Date(s) of testing :- 21/12/2016 to 04/01/2017

Location of performance :- In-house

Chemical Analysis:

Sr. No.	Test Done	Result	Unit	Test Method
01.	Total Solids in % of total mass	67.42	%	Fertilizer Control Order Method (FCO), 1991
02.	Organic matter	4.18	%	
04.	Proteins	4.73	%	
05.	Lipid (Fats)	7.02	%	
06.	Fibers	9.12	%	

End of Report

Checked by 



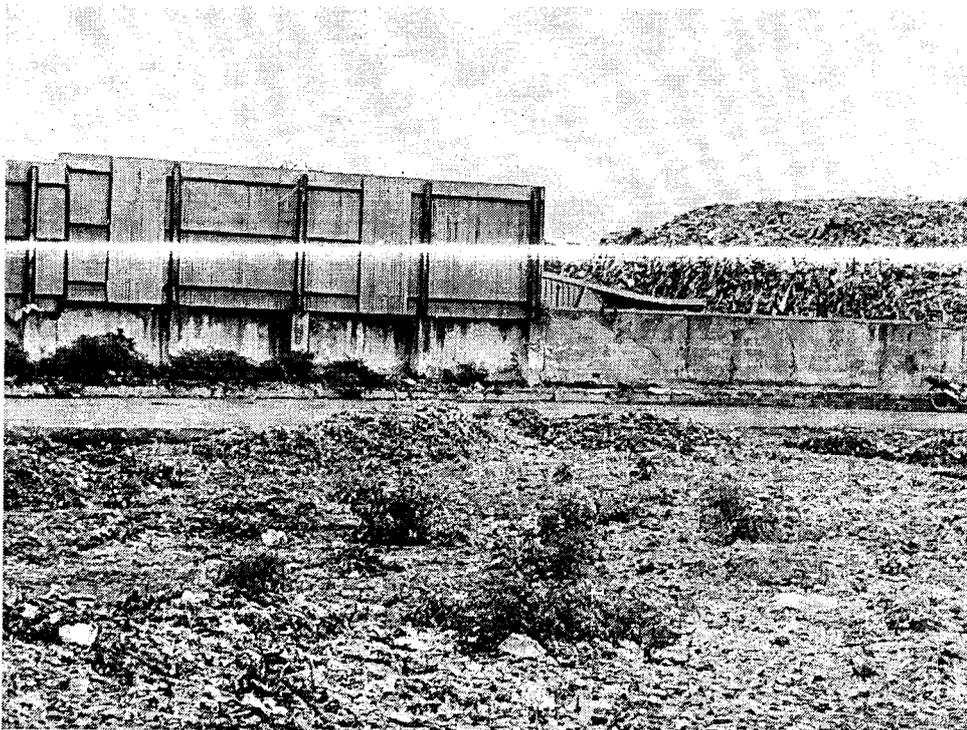

Mrs. Sushma Thorat
Authorized Signatory
(Chemical Testing)

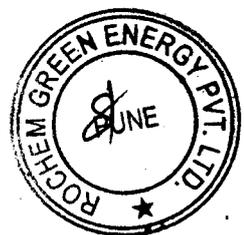
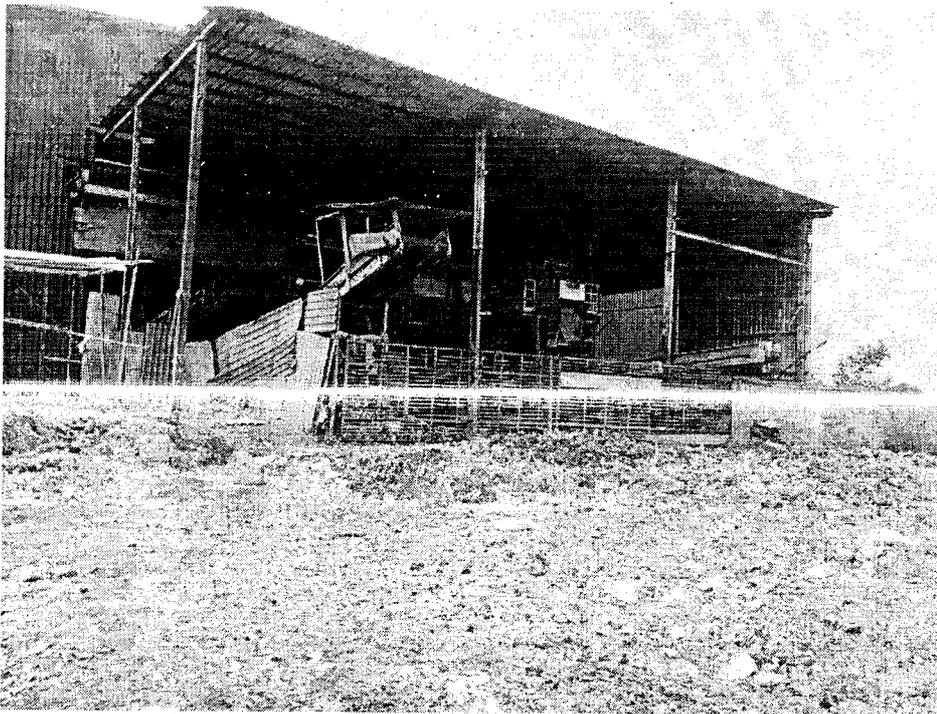
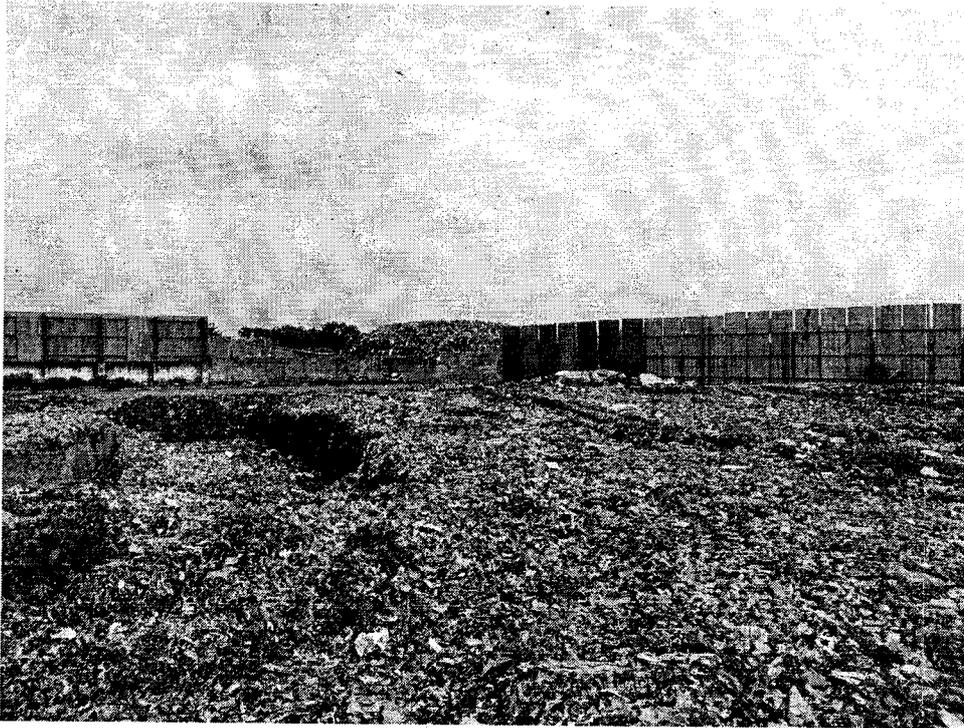
Conditions of reporting : 1) Above result pertain only to the sample tested. 2) This report, in full or part, shall not be published, advertised, unless prior permission has been secured. 3) Samples will be retained by us for a specified period (in case of non perishable items only), unless specific instructions to the contrary are received. 4) Reports are considered & valid only upon receipt of full payment with Service Tax. 5) Sampling was not done by FHHLab.

In its order issued on December 05, 2017, the Hon. National Green Tribunal, directed Rochem Separation Systems to dispose off legacy compost and the compost generated every day from the premises.

In this regard, we would like to inform the authorities that Rochem disposed off the compost lying at the plant by giving it free of cost to local farmers to use as filler. The material in question was transported by the farmers to their respective locations and Rochem only loaded the material onto the tractor trailers sent by them at site with the help of available JCB machines.

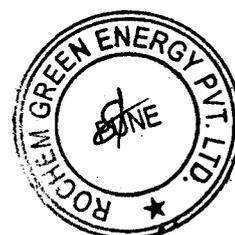
Currently, there is no stock of either compost or RDF lying at site. This can be ascertained from the pictures below.





During 2018, 6,726 MT of compost was disposed off from the site. This was done with the help of 853 vehicles. Details of the same can be found below for reference.

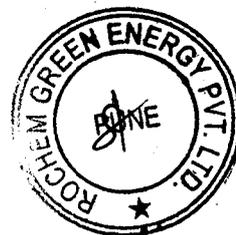
Date	Compost Lifted (MT)	No of Vehicles
01-03-2018	25.00	3
03-03-2018	30.00	4
05-03-2018	30.00	4
06-03-2018	31.55	4
04-07-2018	50.00	7
07-07-2018	60.00	8
10-07-2018	110.00	14
16-07-2018	140.00	17
19-07-2018	70.00	9
21-07-2018	140.00	17
24-07-2018	150.00	19
28-07-2018	140.00	17
30-07-2018	80.00	10
31-07-2018	93.27	12
03-08-2018	70.00	9
10-08-2018	100.00	13
16-08-2018	100.00	13
17-08-2018	50.00	7
18-08-2018	40.00	5
19-08-2018	30.00	4
21-08-2018	40.00	5
23-08-2018	25.00	3
24-08-2018	70.00	9
26-08-2018	70.00	9
27-08-2018	50.00	7
28-08-2018	75.00	10
29-08-2018	79.00	10
30-08-2018	75.00	10
31-08-2018	100.40	13
02-09-2018	50.00	7
07-09-2018	80.00	10
11-09-2018	50.00	7
17-09-2018	80.00	10
18-09-2018	30.00	4
19-09-2018	90.00	11
20-09-2018	90.00	11
21-09-2018	45.00	6

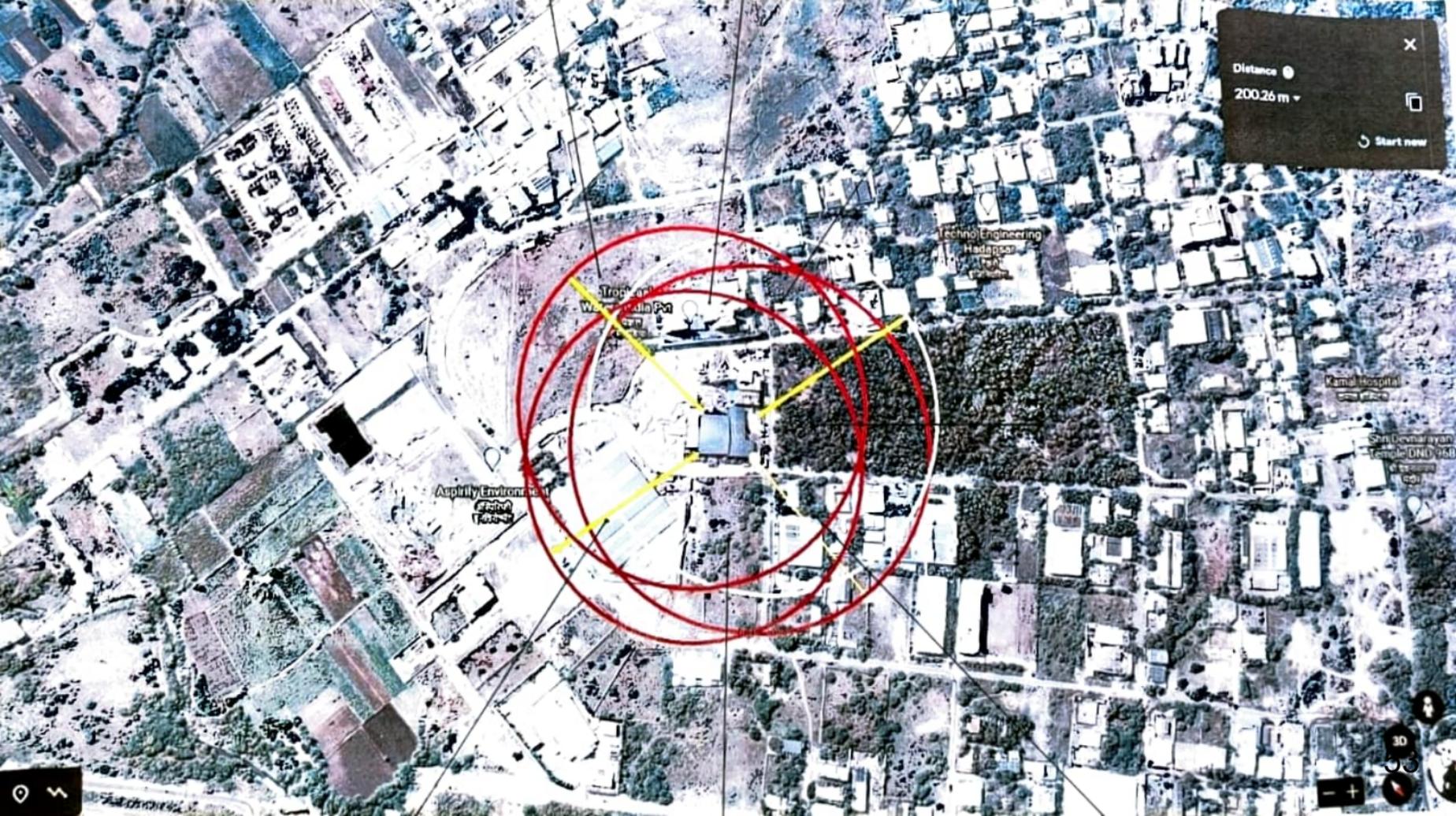


22-09-2018	60.00	8
27-09-2018	40.00	5
28-09-2018	30.64	4
29-09-2018	25.00	3
30-09-2018	60.00	8
01-10-2018	30.00	4
03-10-2018	25.00	3
04-10-2018	40.00	5
05-10-2018	35.00	4
06-10-2018	40.00	5
07-10-2018	20.00	3
08-10-2018	50.00	6
09-10-2018	50.00	6
10-10-2018	45.00	6
11-10-2018	50.00	6
12-10-2018	50.00	6
13-10-2018	50.00	6
15-10-2018	60.00	8
16-10-2018	50.00	6
17-10-2018	50.00	6
18-10-2018	0.00	0
19-10-2018	70.00	9
20-10-2018	50.00	6
22-10-2018	60.00	8
23-10-2018	40.00	5
24-10-2018	40.00	5
25-10-2018	40.00	5
26-10-2018	35.00	4
27-10-2018	45.00	6
29-10-2018	50.00	6
30-10-2018	40.00	5
31-10-2018	34.95	4
01-11-2018	30.00	4
02-11-2018	30.00	4
03-11-2018	35.00	4
05-11-2018	45.00	6
06-11-2018	60.00	8
08-11-2018	60.00	8
10-11-2018	70.00	9
11-11-2018	40.00	5
12-11-2018	50.00	6
13-11-2018	50.00	6
14-11-2018	50.00	6
17-11-2018	80.00	10
18-11-2018	0.00	0



19-11-2018	90.00	11
20-11-2018	60.00	8
21-11-2018	45.00	6
24-11-2018	80.00	10
26-11-2018	50.00	6
27-11-2018	55.00	7
28-11-2018	50.00	6
29-11-2018	35.00	4
30-11-2018	37.40	5
01-12-2018	55.00	7
03-12-2018	70.00	9
04-12-2018	60.00	8
05-12-2018	45.00	6
06-12-2018	60.00	8
07-12-2018	45.00	6
08-12-2018	30.00	4
10-12-2018	40.00	5
11-12-2018	45.00	6
12-12-2018	30.00	4
13-12-2018	40.00	5
14-12-2018	50.00	6
15-12-2018	60.00	8
17-12-2018	90.00	11
18-12-2018	60.00	8
19-12-2018	75.00	9
20-12-2018	75.00	9
21-12-2018	70.00	9
22-12-2018	70.00	9
23-12-2018	35.00	4
24-12-2018	70.00	9
25-12-2018	80.00	10
26-12-2018	65.00	8
27-12-2018	65.00	8
28-12-2018	70.00	9
29-12-2018	58.79	7
30-12-2018	35.00	4
31-12-2018	70.00	9
	6,726.00	853





Distance
200.26 m

Start new

Applly Environmen

Techno Engineering
Hadassah

Kamal Hospital

Shri Devi Narayan
Temple DND 168



Distance 500.32 m Start new

Tropico Engineering Head Office

Tropical Water India Pvt. Ltd.

Apulji Environment

FOREST AREA

Sri Gyanaraj Temple (M.D. 1968)

Ramnagar Temple (M.D. 1968)

Pune Mahanagar Palika Garden

Ramnagar Ram Mandir (M.D. 1968)

Bhat Mandir

Ajuman P. Bhat (M.D. 1968)

INDIAN PLAN

Forest Camp

30 54



HILL SIDE SOCIETY

Tropical
Water Under Flow
Under
Flow

INDUSTRIAL
AREA

OPEN LAND
PLOT

ROAD 18 MTR

FOREST
AREA

ROCHEM
PLANT

ROAD 10 MTR

ROAD 15 MTR

DISHA
DUNGA
GROUND

OPEN
LAND
PLOT

INDUSTRIAL
AREA

Asplity Environment
of
PLOT-27

5

APPROACH FOR ENVIRONMENTAL COMPENSATION ASSESSMENT

“Report of the CPCB In-house Committee on Methodology for Assessing Environmental Compensation and Action Plan to Utilize the Fund” outlines a formula for imposing environmental compensation on industrial units for violation of directions issued by regulatory bodies listing the instances for taking cognizance of cases fit for violation and levy environmental compensation. The same has also been referred by the Hon’ble NGT in its order (para 14 to 16) dated 28/8/2019 in the matter of Original Application No. 593/2017 titled Paryavaran Suraksha Samiti & Anr. Versus Union of India & Ors. The instances considered for levying Environmental Compensation (EC) in the said report are:

- a) Discharges in violation of consent conditions, mainly prescribed standards / consent limits.
- b) Not complying with the directions issued, such as direction for closure due to non-installation of OCEMS, non-adherence to the action plans submitted etc.
- c) Intentional avoidance of data submission or data manipulation by tampering the Online Continuous Emission / Effluent Monitoring systems.
- d) Accidental discharges lasting for short durations resulting into damage to the environment.
- e) Intentional discharges to the environment -- land, water and air resulting into acute injury or damage to the environment.
- f) Injection of treated/partially treated/ untreated effluents to ground water.

Though such listed instances may not be directly applicable in the current matter for arriving at the damages amount for contravening mandatory provisions of environmental laws (w.r.t. Solid Waste Rules, 2016 and Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 notified under the Environment (Protection) Act, 1986, Water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981), an attempt is being made by this committee to assess the environmental compensation using the formula prescribed in the said CPCB report. The formula takes into account of number of days violation took place, pollution index of unit, scale of operation, location factor based on population and an amount factor in Rupees.

Environmental Compensation (EC) in Rupees as mentioned in the aforesaid CPCB report = $PI \times N \times R \times S \times LF$

Where,

PI = Pollution index of the project. The unit falls under Red category as per the application made by M/s RSPM to MPCB on 17/8/2017. Hence PI = 80

N = Number of days violation took place.

R is a factor in Rupees, which may be a minimum of 100 and maximum of 500. The aforesaid report also suggests to consider R as 250, as the Environmental Compensation in cases of violation. Hence, R = 250.

S = Factor for the scale of operation. The unit falls under Large Scale Industry (LSI) as per the application made M/s RSPM to MPCB on 17/8/2017. Hence, S=1.5

LF = Location factor, since the population of Pune is more than 1 Million but less than 5 Million, LF=1.25

Considering the period since start of operation of operation at M/s RSPM facility w.e.f. 01/12/2011 (though construction of the waste processing plant started in July 2010 without Consent to Establish) till the plant is closed w.e.f. 16/6/2021 and reported period (May 2019-Sept. 2019 when plant was not operational), N - the number of days violation took place, comes out to be 3,333 days.

Therefore, **Environmental Compensation (EC) in Rupees**

$$= 80 \times 3333 \times 250 \times 1.5 \times 1.25$$

=Rs. 12,49,87,500/- (Rupees Twelve Crores Forty-nine Lakhs Eighty-seven Thousands and Five Hundred Only)

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