



	04/05/2017 issued by MPCB	
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Pune

Date: 20/02/2023

Adv. For Respondent No. 1

**BEFORE THE NATIONAL GREEN TRIBUNAL**

**WESTERN ZONE BENCH PUNE AT PUNE**

**EXECUTION APPLICATION NO 07 OF 2022**

**IN**

**ORIGINAL APPLICATION NO. 190 OF 2016**

**MAJ. GEN. S.C.N. JATAR**

**... APPLICANT**



**Versus**

**THE MUNICIPAL CORPORATION OF CITY OF PUNE & ORS**

**..... RESPONDENTS**

**COUNTER TO THE AFFIDAVIT DATED 09.01.2023 FILED BY MPCB ON**

**BEHALF OF R1 PUNE MUNICIPAL CORPORATION**

I, Asha Sampat Raut , Age:45 years, the Deputy Commissioner Solid Waste Management, Pune Municipal Corporation do state on solemn affirmation as under:

1. It is submitted that the present Applicant herein had filed Original Application being O.A. No. 190 of 2016 seeking prayers for compliance of Solid Waste Management Rules, 2016. It is submitted that vide order dated 03/02/2022, this Hon'ble Tribunal pleased to dispose the said OA.



2. It is submitted that thereafter an Execution Application was filed by the Applicant against R2 MPCB for non compliance of the following order which is reproduced below:

"We have heard learned Counsel for the parties. It remains undisputed that there has been violation of statutory Rules in composting process undertaken by the PMC through a service provider. Though PMC is said to have terminated the contract and blacklisted the contractor, the State PCB needs to take appropriate action for violation of the Rules by way of initiating prosecution and recovery of compensation on 'Polluter Pays' principle. We also direct CPCB to have interaction with all the State PCBs/PCCs on the subject of waste composting processes in the interest of rule of law and protection of environment and public health, including MSW Rules, 2016.

The application is disposed of.

3. At the outset, I denied all the contentions and/or statements and/or allegations contained in the present Execution Application as well as the Affidavit dated 09.01.2023 filed by R2 MPCB to the extent those are contrary to and/or inconstant with what is stated in the present Counter. Nothing contained in Execution Application and Affidavit filed by the MPCB, should be deemed to be admitted by the PMC for want of specific



traverse unless the same has been specifically admitted herein below, I crave leave of this Hon'ble Tribunal to file Additional affidavits as and when the occasion so arises.

**FACTS OF THE MATTER**

4. It is submitted that, the PMC/ answering Respondent is a Local Body Corporate established under Bombay Provincial Municipal Corporation Act.
  
5. It is submitted that, the Respondent No. 2 is a board constituted under the provisions of Section 4 of the Water (Prevention and Control of Pollution) Act, 1974 as well as Air (Prevention and Control of Pollution) Act, 1981. The Respondent N. 2 is responsible for implementing various environmental legislations in the state of Maharashtra, mainly including Water (Prevention and Control of Pollution) Act, 1974, Air (Prevention and Control of Pollution) Act, 1981 and some of the provisions under Environmental (Protection) Act, 1986 and the rules framed there under like, Biomedical Waste (M&H) Rules, 1998, Hazardous Waste (M&H) Rules, 2000, Municipal Solid Waste Rules, 2016 etc.
  
6. The PMC/ answering Respondent is responsible for collection, segregation, storage, transportation, processing and disposal of Municipal Solid Waste as per Municipal Solid Wastes (Management and Handling) Rule, 2000. A



copy of Municipal Solid Wastes (Management and Handling) Rule, 2000 dated 25/09/2000 issued by the Ministry of Environment and Forest is annexed hereto and marked as **ANNEXURE- R-1**.

7. It is submitted that, in order to implement the provisions of Municipal Solid Wastes (Management and Handling) Rule, 2000, PMC issued Tenders for Design, Supply, Installation, Commissioning, Operation and maintenance of Microorganism Based 24 Hrs Composting Machine. As per the tender it was the obligation of the Contractor that he should carry out Laboratory Testing's of Compost and the parameters prescribed under MSWM Rules 2000 must be complied. It was also the condition in the tender document that the ownership of the compost is totally of the Bidder. A copy of Tender is annexed hereto and marked as **ANNEXURE – R-2**.

8. It is submitted that Work order and Agreements were executed with M/s Ecoman Enviro Solutions Pvt. Ltd. (Ecoman) on 03/06/2015 as per which it was the obligation of Ecoman that he should carry out Laboratory Testing's of Compost and the parameters prescribed under MSWM Rules 2000 must be complied. As per the Agreement ownership of the compost was solely of Ecoman. A copy of Work Order and Agreement is annexed hereto and marked as **ANNEXURE – R-3**.

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9. It is submitted that Respondent No. 2 granted Authorization to set up and operate thermal composting plants on 10/03/2016 under MSWM Rules 2000 which was valid upto 31/01/2017. A copy of Authorization is annexed hereto and marked as **ANNEXURE – R-4**.
10. The Ministry of Environment and Climate Change, New Delhi vide its Notification dated 08/04/2016 in exercise of powers under Environment (Protection) Act, 1986 and in supersession of Municipal Solid Waste (Management and Handling) Rules, 2000 issued Solid Waste Management Rules, 2016 (SWM Rules, 2016). A copy of Solid Waste Management Rules, 2016 dated 08/04/2016 issued by the Ministry of Environment and Forest is annexed hereto and marked as **ANNEXURE- R-5**.
11. As per Clause 3 (33) of Solid Waste Management Rules, 2016 “Operator of a Facility” is defined as Operator of a Facility means a person or entity, who owns or operates a facility for handling solid waste which includes the local body and any other entity or agency appointed by the local body. It is pertinent to note that M/s Ecoman Enviro Solutions Pvt. Ltd. (Ecoman) is the Operator of the Facility in the present case.
12. Clause 15 SWM Rules, 2016 lays down duties and responsibilities of local authorities. As per sub clause (v) Local body shall 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 utilization of various components of solid waste adopting suitable technology including the following technologies and adhering to the guidelines issued by the Ministry of Urban Development from time to time and standards prescribed by the Central Pollution Control Board. Preference shall be given to decentralized processing to minimize transportation cost and environmental impacts...

13. Clause 16 of SWM Rules, 2016 lays down Duties of State Pollution Control Board:-

Clause 16 1 (b) states Respondent shall monitor environmental standards and adherence to conditions as specified under the Schedule I and Schedule II (Standards of processing and treatment of solid waste) for waste processing and disposal sites.

Clause 16 4 states The State Pollution Control Board shall monitor the compliance of the standards as prescribed or laid down and treatment technology as approved and the conditions stipulated in the authorization and the standards specified in Schedules I and II (Standards of processing and treatment of solid waste) under these rules as and when deemed appropriate but not less than once in a year.

In view of the above clauses it is ample clear that it was the sole duty of the

Respondent to monitor the Standards of processing and treatment of solid waste.

14. Clause 19 of MSW Rules, 2016 lays down 19. Criteria for Duties regarding setting-up solid waste processing and treatment facility:-

(4) The State Pollution Control Board or Pollution Control Committee shall monitor the environment standards of the operation of the solid waste processing and treatment facilities.

(5) The operator of the facility shall be responsible for the safe and environmentally sound operations of the solid waste processing and or treatment facilities as per the guidelines issued by the Central Pollution Control Board from time to time and the Manual on Municipal Solid Waste Management published by the Ministry of Urban Development and updated from time to time.

15. It is submitted that pursuant to independent verification and upon satisfaction that Ecomanis in compliance of all provisions of SWM Rules, 2016 on 04/05/2017 Respondent No. 2 granted Authorization under MSW Rules, 2016 to operate the thermal compost plants which was valid upto 31/12/2021. A copy of Authorization is annexed hereto and marked as **ANNEXURE – R-6.**



16. It is submitted that an Original Application No. 190/2016 Maj Gen. S.C.N. Jatar (Retd.) vs PMC was filed before this Hon'ble Tribunal against violation of MSW Rules, 2016 and also on the ground of violating parameters of compost. PMC closed all the plants operated by Ecoman in June 2018, since then the plants are closed. PMC has also blacklisted the Ecoman so that no contract can be awarded to them in future. PMC has further filed a Commercial Suit against the Ecoman.
17. Relying upon the facts this Hon'ble Tribunal on 03/02/2022 was pleased to dispose of the said Original Application with the following direction "We have heard learned Counsel for the parties. It remains undisputed that there has been violation of statutory Rules in composting process undertaken by the PMC through a service provider. Though PMC is said to have terminated the contract and blacklisted the contractor, the State PCB needs to take appropriate action for violation of the Rules by way of initiating prosecution and recovery of compensation on 'Polluter Pays' principle". A copy of Order dated 03/02/2022 is annexed hereto and marked as **ANNEXURE – R-7**.
18. It is submitted that the Respondent No. 2 failed in complying the direction of this Hon'ble Tribunal therefore an Execution Application No. 07/2022

was filed to execute order dated 03/02/2022. This Hon'ble Tribunal was pleased to issue notice in the said Execution Application.

19. It is submitted that in the order dated 28/09/2022 passed in EA No. 07/2022 this Hon'ble Tribunal has given finding that "it was the MPCB which had to initiate prosecution against the defaulting contractors and also to recover the compensation on the basis of Polluter Pays Principle". A copy of Order dated 28/09/2022 is annexed hereto and marked as **ANNEXURE – R-8**.
20. On 18/11/2022 Respondent No. 2 issued a prosecution notice against the Commissioner, Pune Municipal Corporation alleging to be noncompliance of MSW Rules, 2016. A copy of Prosecution Notice dated 18/11/2022 is annexed hereto and marked as **ANNEXURE – R-9**.
21. Thereafter the PMC has replied to the said notice stating that as per the Agreement and MSW Rules, 2016 it is the duty and responsibility of the Operator of the Facility for complying with the MSW Rules, 2016. A copy of PMC Reply to Prosecution Notice dated 18/11/2022 is annexed hereto and marked as **ANNEXURE – R-10**.
22. The Hon'ble Supreme Court of India in the case of Indian Council For Enviro – Legal Action &Ors. Vs. Union of India, (1996) 3 SCC 212 has held that "the Polluter Pays Principle demands that the financial cost of



preventing or remedying damage caused by the pollution should lie with the undertakings which cause the pollution, or produce the goods which cause the pollution. Under the principle it is not the role of government to meet the cost involved in either prevention of such damage, or in carrying out remedial action, because the effect of this would be to shift the financial burden of the pollution incident to the tax payers". A copy of Judgment is annexed hereto and marked as **ANNEXURE – R-11**.

23. It is submitted that the PMC had not received any prior show cause notice, nor any hearing was afforded to the PMC. PMC was not provided any opportunity to respond before coming to the erroneous conclusion. The Respondent No. 2 has also without ascertaining the facts and without taking into consideration of the statutory position of law, the directions of this Hon'ble Tribunal and even the settled law by the Apex Court, PMC has been arbitrarily imposed a huge amount of Rs.1,82,41,900/- for alleged Environmental Compensation vide the MPCB's order/Reply dated 09/01/2023. A copy of order dated 09.01.2023 is annexed hereto and marked as **ANNEXURE – R-12**.

24. It is submitted that aggrieved by the order dated 09.01.2023 R1 PMC filed an Appeal No. 4 of 2023 before this Hon'ble Tribunal which is admitted and pending before this Hon'ble Tribunal.

25. Therefore it is most respectfully urged before this Hon'ble Tribunal that as per the order passed by this Hon'ble Tribunal in OA No. 190 of 2016 and orders passed in EA No. 07 of 2022 it was the MPCB which had to initiate prosecution against the defaulting Contractor and also to recover the compensation on the basis of Polluter Pays Principle. Even the Hon'ble Supreme Court of India in Indian Council For Enviro – Legal Action &Ors. Vs. Union of India, (1996) 3 SCC 212 has held that the Polluter Pays Principle demands that the financial cost of preventing or remedying damage cause by the pollution should lie with the undertakings which cause the pollution, or produce the goods which cause the pollution. Under the principle it is not the role of government to meet the cost involved in either prevention of such damage, or in carrying out remedial action, because the effect of this would be to shift the financial burden of the pollution incident to the tax payers.

PUNE

DATE:



RESPONDENT No. 1

*Handwritten signature*

उप आयुक्त  
घनकचरा व्यवस्थापन  
पुणे महानगरपालिका



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ADV. FOR RES. No. 1

ADV. PRAVIN H. GOGAWALE  
NOTARY GOVT. OF INDIA  
PUNE  
REGD. NO. 16059

NOTARIAL  
44/2023  
DATE 20 FEB 2023



# Municipal Solid Wastes (Management and Handling) Rules, 2000

True Copy  
Rang  




## Ministry of Environment and Forests

## Notification

New Delhi, the 25<sup>th</sup> September, 2000

S.O. 908(E).- Whereas the draft of the Municipal Solid Wastes (Management and Handling) Rules, 1999 were published under the notification of the Government of India in the Ministry of Environment and Forests number S.O. 783(E), dated, the 27<sup>th</sup> September, 1999 in the Gazette of India, Part II, Section 3, Sub-section (ii) of the same date inviting objections and suggestions from the persons likely to be affected thereby, before the expiry of the period of sixty days from the date on which the copies of the Gazette containing the said notification are made available to the public;

And whereas copies of the said Gazette were made available to the public on the 5<sup>th</sup> October, 1999;

And whereas the objections and suggestions received from the public in respect of the said draft rules have been duly considered by the Central Government;

Now, therefore, in exercise of the powers conferred by section 3, 6 and 25 of the Environment (Protection) Act, 1986 (29 of 1986), the Central Government hereby makes the following rules to regulate the management and handling of the municipal solid wastes, namely :-

## 1. Short title and commencement : --

1. These rules may be called the Municipal Solid Wastes (Management and Handling) Rules, 2000.
2. Save as otherwise provided in these rules, they shall come into force on the date of their publication in the Official Gazette.

## 2. Application .-- These rules shall apply to every municipal authority responsible for collection, segregation, storage, transportation,, processing and disposal of municipal solid wastes .

## 3. Definitions.-- In these rules, unless the context otherwise requires ,--

- i. "anaerobic digestion" means a controlled process involving microbial decomposition of organic matter in the absence of oxygen;
- ii. "authorization" means the consent given by the Board or Committee to the "operator of a facility" ;
- iii. "biodegradable substance" means a substance that can be degraded by micro-organisms;
- iv. "biomethanation" means a process which entails enzymatic decomposition of the organic matter by microbial action to produce methane rich biogas;

- v. "collection" means lifting and removal of solid wastes from collection points or any other location;
- vi. "composting" means a controlled process involving microbial decomposition of organic matter;
- vii. "demolition and construction waste" means wastes from building materials debris and rubble resulting from construction, re-modelling, repair and demolition operation;
- viii. "disposal" means final disposal of municipal solid wastes in terms of the specified measures to prevent contamination of ground-water, surface water and ambient air quality;
- ix. "Form" means a Form appended to these rules;
- x. "generator of wastes" means persons or establishments generating municipal solid wastes;
- xi. "land filling" means disposal of residual solid wastes on land in a facility designed with protective measures against pollution of ground water, surface water and air fugitive dust, wind-blown litter, bad odour, fire hazard, bird menace, pests or rodents, greenhouse gas emissions, slope instability and erosion;
- xii. "leachate" means liquid that seeps through solid wastes or other medium and has extracts of dissolved or suspended material from it;
- xiii. "lysimeter" is a device used to measure rate of movement of water through or from a soil layer or is used to collect percolated water for quality analysis;
- xiv. "municipal authority" means Municipal Corporation, Municipality, Nagar Palika, Nagar Nigam, Nagar Panchayat, Municipal Council including notified area committee (NAC) or any other local body constituted under the relevant statutes and, where the management and handling of municipal solid waste is entrusted to such agency;
- xv. "municipal solid waste" includes commercial and residential wastes generated in a municipal or notified areas in either solid or semi-solid form excluding industrial hazardous wastes but including treated bio-medical wastes;
- xvi. "operator of a facility" means a person who owns or operates a facility for collection, segregation, storage, transportation, processing and disposal of municipal solid wastes and also includes any other agency appointed as such by the municipal authority for the management and handling of municipal solid wastes in the respective areas;
- xvii. "pelletisation" means a process whereby pellets are prepared which are small cubes or cylindrical pieces made out of solid wastes and includes fuel pellets which are also referred as refuse derived fuel;
- xviii. "processing" means the process by which solid wastes are transformed into new or recycled products;
- xix. "recycling" means the process of transforming segregated solid wastes into raw materials for producing new products, which may or may not be similar to the original products;
- xx. "schedule" means a Schedule appended to these rules;
- xxi. "segregation" means to separate the municipal solid wastes into the groups of organic, inorganic, recyclables and hazardous wastes;
- xxii. "State Board or the Committee" means the State Pollution Control Board of a State, or as the case may be, the Pollution Control Committee of a Union territory;

- xxiii. "storage" means the temporary containment of municipal solid wastes in a manner so as to prevent littering, attraction to vectors, stray animals and excessive foul odour;
- xxiv. "transportation " means conveyance of municipal solid wastes from place to place hygienically through specially designed transport system so as to prevent foul odour, littering, unsightly conditions and accessibility to vectors;
- xxv. "vadose water" water which occurs between the ground, surface and the water table that is the unsaturated zone;
- xxvi. "vermicomposting" is a process of using earthworms for conversion of bio-degradable wastes into compost.

#### 4. RESPONSIBILITY OF MUNICIPAL AUTHORITY: -

1. Every municipal authority shall, within the territorial area of the municipality, be responsible for the implementation of the provisions of these rules, and for any infrastructure development for collection, storage, segregation, transportation, processing and disposal of municipal solid wastes.
2. The municipal authority or an operator of a facility shall make an application in Form-I, for grant of authorization for setting up waste processing and disposal facility including landfills from the State Board or the Committee in order to comply with the implementation programme laid down in Schedule I.
3. The municipal authority shall comply with these rules as per the implementation schedule laid down in Schedule I.
4. The municipal authority shall furnish its annual report in Form-II, -
  - a. to the Secretary-incharge of the Department of Urban Development of the concerned State or as the case may be of the Union territory, in case of a metropolitan city; or
  - b. to the District Magistrate or the Deputy Commissioner concerned in case of all other towns and cities, with a copy to the State Board or the Committee on or before the 30<sup>th</sup> day of June every year.

#### 5. RESPONSIBILITY OF THE STATE GOVERNMENT AND THE UNION TERRITORY ADMINISTRATIONS: --

- (1) The Secretary-incharge of the Department of Urban Development of the concerned State or the Union territory, as the case may be, shall have the overall responsibility for the enforcement of the provisions of these rules in the metropolitan cities.
- (2) The District Magistrate or the Deputy Commissioner of the concerned district shall have the overall responsibility for the enforcement of the provisions of these rules within the territorial limits of their jurisdiction.

6. RESPONSIBILITY OF THE CENTRAL POLLUTION CONTROL BOARD AND THE STATE BOARD OR THE COMMITTEES: —

1. The State Board or the Committee shall monitor the compliance of the standards regarding ground water, ambient air, leachate quality and the compost quality including incineration standards as specified under Schedules II, III and IV.
2. The State Board or the Committee, after the receipt of application from the municipal authority or the operator of a facility in Form I, for grant of authorization for setting up waste processing and disposal facility including landfills, shall examine the proposal taking into consideration the views of other agencies like the State Urban Development Department, the Town and Country Planning Department, Air Port or Air Base Authority, the Ground Water Board or any such other agency prior to issuing the authorization.
3. The State Board or the Committee shall issue the authorization in Form-III to the municipal authority or an operator of a facility within forty-five days stipulating compliance criteria and standards as specified in Schedules II, III and IV including such other conditions, as may be necessary.
4. The authorization shall be valid for a given period and after the validity is over, a fresh authorization shall be required.
5. The Central Pollution Control Board shall co-ordinate with the State Boards and the Committees with particular reference to implementation and review of standards and guidelines and compilation of monitoring data.

7. MANAGEMENT OF MUNICIPAL SOLID WASTES. ss--

1. Any municipal solid waste generated in a city or a town, shall be managed and handled in accordance with the compliance criteria and the procedure laid down in Schedule-II.
2. The waste processing and disposal facilities to be set up by the municipal authority on their own or through an operator of a facility shall meet the specifications and standards as specified in Schedules III and IV.

8. ANNUAL REPORTS: —

1. The State Boards and the Committees shall prepare and submit to the Central Pollution Control Board an annual report with regard to the implementation of these rules by the 15<sup>th</sup> of September every year in Form-IV.
2. The Central Pollution Control Board shall prepare the consolidated annual review report on management of municipal solid wastes and forward it to the Central Government along with its recommendations before the 15<sup>th</sup> of December every year.

9. ACCIDENT REPORTING. -- When an accident occurs at any municipal solid wastes collection, segregation, storage, processing, treatment and disposal facility or landfill site or during the transportation of such wastes, the municipal authority shall forthwith report the accident in Form-V to the Secretary in-charge of the Urban Development Department in metropolitan cities, and to District Collector or Deputy Commissioner in all other cases.

Schedule I  
[see rules4(2) and (3)]  
Implementation Schedule

Serial No.	Compliance Criteria	Schedule
1.	Setting up of waste processing and disposal facilities	By 31.12.2003 or earlier
2.	Monitoring the performance of waste processing and disposal facilities	Once in six months
3.	Improvement of existing landfill sites as per provisions of these rules	By 31.12.2001 or earlier
4.	Identification of landfill sites for future use and making site (s) ready for operation	By 31.12.2002 or earlier

## Schedule -II

[see rules 6(1) and (3), 7(1)]

## Management of Municipal Solid Wastes

S.No	Parameters	Compliance criteria
1.	Collection of municipal solid wastes	<p>1. Littering of municipal solid waste shall be prohibited in cities, towns and in urban areas notified by the State Governments. To prohibit littering and facilitate compliance, the following steps shall be taken by the municipal authority, namely: -</p> <ul style="list-style-type: none"> <li>i. Organising house-to-house collection of municipal solid wastes through any of the methods, like community bin collection (central bin), house-to-house collection, collection on regular pre-informed timings and scheduling by using bell ringing of musical vehicle (without exceeding permissible noise levels);</li> <li>ii. Devising collection of waste from slums and squatter areas or localities including hotels, restaurants, office complexes and commercial areas;</li> <li>iii. Wastes from slaughter houses, meat and fish markets, fruits and vegetable markets, which are biodegradable in nature, shall be managed to make use of such wastes;</li> <li>iv. Bio-medical wastes and industrial wastes shall not be mixed with municipal solid wastes and such wastes shall follow the rules separately specified for the purpose;</li> <li>v. Collected waste from residential and other areas shall be transferred to community bin by hand-driven containerised carts or other small vehicles;</li> <li>vi. Horticultural and construction or demolition wastes or debris shall be separately collected and disposed off following proper norms. Similarly, wastes generated at dairies shall be regulated in accordance with the State laws;</li> <li>vii. Waste (garbage, dry leaves) shall not be burnt;</li> <li>viii. Stray animals shall not be allowed to move around waste storage facilities or at any other place in the city or town and shall be managed in accordance with the State laws.</li> </ul> <p>2. The municipal authority shall notify waste collection schedule and the likely method to be adopted for public benefit in a city or town.</p>

		3. It shall be the responsibility of generator of wastes to avoid littering and ensure delivery of wastes in accordance with the collection and segregation system to be notified by the municipal authority as per para 1(2) of this Schedule.
2.	Segregation of municipal solid wastes	In order to encourage the citizens, municipal authority shall organise awareness programmes for segregation of wastes and shall promote recycling or reuse of segregated materials. The municipal authority shall undertake phased programme to ensure community participation in waste segregation. For this purpose, the municipal authorities shall arrange regular meetings at quarterly intervals with representatives of local resident welfare associations and non-governmental organizations.
3.	Storage of municipal solid wastes	<p>Municipal authorities shall establish and maintain storage facilities in such a manner as they do not create unhygienic and in sanitary conditions around it. Following criteria shall be taken into account while establishing and maintaining storage facilities, namely: -</p> <ul style="list-style-type: none"> <li>i. Storage facilities shall be created and established by taking into account quantities of waste generation in a given area and the population densities. A storage facility shall be so placed that it is accessible to users;</li> <li>ii. Storage facilities to be set up by municipal authorities or any other agency shall be so designed that wastes stored are not exposed to open atmosphere and shall be aesthetically acceptable and user-friendly;</li> <li>iii. Storage facilities or 'bins' shall have 'easy to operate' design for handling, transfer and transportation of waste. Bins for storage of bio-degradable wastes shall be painted green, those for storage of recyclable wastes shall be printed white and those for storage of other wastes shall be printed black;</li> <li>iv. Manual handling of waste shall be prohibited. If unavoidable due to constraints, manual handling shall be carried out under proper precaution with due care for safety of workers.</li> </ul>
4.	Transportation of municipal solid wastes	<p>Vehicles used for transportation of wastes shall be covered. Waste should not be visible to public, nor exposed to open environment preventing their scattering. The following criteria shall be met, namely:-</p> <ul style="list-style-type: none"> <li>i. The storage facilities set up by municipal authorities shall be daily attended for clearing of wastes. The bins or containers wherever placed shall be cleaned</li> </ul>

		<p>before they start overflowing;</p> <p>ii. Transportation vehicles shall be so designed that multiple handling of wastes, prior to final disposal, is avoided.</p>
5.	Processing of municipal solid wastes	<p>Municipal authorities shall adopt suitable technology or combination of such technologies to make use of wastes so as to minimize burden on landfill. Following criteria shall be adopted, namely:-</p> <p>(i) The biodegradable wastes shall be processed by composting, vermicomposting, anaerobic digestion or any other appropriate biological processing for stabilization of wastes. It shall be ensured that compost or any other end product shall comply with standards as specified in Schedule-IV;</p> <p>(ii) Mixed waste containing recoverable resources shall follow the route of recycling. Incineration with or without energy recovery including pelletisation can also be used for processing wastes in specific cases. Municipal authority or the operator of a facility wishing to use other state-of-the-art technologies shall approach the Central Pollution Control Board to get the standards laid down before applying for grant of authorisation.</p>
6.	Disposal of municipal solid wastes	<p>Land filling shall be restricted to non-biodegradable, inert waste and other waste that are not suitable either for recycling or for biological processing. Land filling shall also be carried out for residues of waste processing facilities as well as pre-processing rejects from waste processing facilities. Land filling of mixed waste shall be avoided unless the same is found unsuitable for waste processing. Under unavoidable circumstances or till installation of alternate facilities, land-filling shall be done following proper norms. Landfill sites shall meet the specifications as given in Schedule -III.</p>

## Schedule III

[see rules 6(1) and (3), 7(2)]

## Specifications for Landfill Sites

## Site Selection

1. In areas falling under the jurisdiction of 'Development Authorities' it shall be the responsibility of such Development Authorities to identify the landfill sites and hand over the sites to the concerned municipal authority for development, operation and maintenance. Elsewhere, this responsibility shall lie with the concerned municipal authority.
2. Selection of landfill sites shall be based on examination of environmental issues. The Department of Urban Development of the State or the Union territory shall co-ordinate with the concerned organisations for obtaining the necessary approvals and clearances.
3. The landfill site shall be planned and designed with proper documentation of a phased construction plan as well as a closure plan.
4. he landfill sites shall be selected to make use of nearby wastes processing facility. Otherwise, wastes processing facility shall be planned as an integral part of the landfill site.
5. The existing landfill sites, which continue to be used for more than five years, shall be improved in accordance of the specifications given in this Schedule.
6. Biomedical wastes shall be disposed off in accordance with the Bio-medical Wastes (Management and Handling) Rules, 1998 and hazardous wastes shall be managed in accordance with the Hazardous Wastes (Management and Handling) Rules, 1989, as amended from time to time.
7. The landfill site shall be large enough to last for 20-25 years.
8. The landfill site shall be away from habitation clusters, forest areas, water bodies monuments, National Parks, Wetlands and places of important cultural, historical or religious interest.
9. A buffer zone of no-development shall be maintained around landfill site and shall be incorporated in the Town Planning Department's land-use plans.
10. Landfill site shall be away from airport including airbase. Necessary approval of airport or airbase authorities prior to the setting up of the landfill site shall be obtained in cases where the site is to be located within 20 km of an airport or airbase.

## Facilities at the Site

11. Landfill site shall be fenced or hedged and provided with proper gate to monitor incoming vehicles or other modes of transportation.
12. The landfill site shall be well protected to prevent entry of unauthorised persons and stray animals.

13. Approach and other internal roads for free movement of vehicles and other machinery shall exist at the landfill site.
14. The landfill site shall have wastes inspection facility to monitor wastes brought in for landfill, office facility for record keeping and shelter for keeping equipment and machinery including pollution monitoring equipments.
15. Provisions like weigh bridge to measure quantity of waste brought at landfill site, fire protection equipments and other facilities as may be required shall be provided.
16. Utilities such as drinking water (preferably bathing facilities for workers) and lighting arrangements for easy landfill operations when carried out in night hours shall be provided.
17. Safety provisions including health inspections of workers at landfill site shall be periodically made.

#### Specifications for land filling

18. Wastes subjected to land filling shall be compacted in thin layers using landfill compactors to achieve high density of the wastes. In high rainfall areas where heavy compactors cannot be used alternative measures shall be adopted.
19. Wastes shall be covered immediately or at the end of each working day with minimum 10 cm of soil, inert debris or construction material till such time waste processing facilities for composting or recycling or energy recovery are set up as per Schedule I.
20. Prior to the commencement of monsoon season, an intermediate cover of 40-65 cm thickness of soil shall be placed on the landfill with proper compaction and grading to prevent infiltration during monsoon. Proper drainage berms shall be constructed to divert run-off away from the active cell of the landfill.
21. After completion of landfill, a final cover shall be designed to minimize infiltration and erosion. The final cover shall meet the following specifications, namely: --
  - a. The final cover shall have a barrier soil layer comprising of 60 cms of clay or amended soil with permeability coefficient less than  $1 \times 10^{-7}$  cm/sec.
  - b. On top of the barrier soil layer there shall be a drainage layer of 15 cm.
  - c. On top of the drainage layer there shall be a vegetative layer of 45 cm to support natural plant growth and to minimize erosion.

#### Pollution prevention

22. In order to prevent pollution problems from landfill operations, the following provisions shall be made, namely: -
  - a. Diversion of storm water drains to minimize leachate generation and prevent pollution of surface water and also for avoiding flooding and creation of marshy conditions;

- b. Construction of a non-permeable lining system at the base and walls of waste disposal area. For landfill receiving residues of waste processing facilities or mixed waste or waste having contamination of hazardous materials (such as aerosols, bleaches, polishes, batteries, waste oils, paint products and pesticides) minimum liner specifications shall be a composite barrier having 1.5 mm high density polyethylene (HDPE) geomembrane, or equivalent, overlying 90 cm of soil (clay or amended soil) having permeability coefficient not greater than  $1 \times 10^{-7}$  cm/sec. The highest level of water table shall be at least two meter below the base of clay or amended soil barrier layer;
- c. Provisions for management of leachates collection and treatment shall be made. The treated leachates shall meet the standards specified in Schedule- IV;
- d. Prevention of run-off from landfill area entering any stream, river, lake or pond.

#### Water Quality Monitoring

23. Before establishing any landfill site, baseline data of ground water quality in the area shall be collected and kept in record for future reference. The ground water quality within 50 metres of the periphery of landfill site shall be periodically monitored to ensure that the ground water is not contaminated beyond acceptable limit as decided by the Ground Water Board or the State Board or the Committee. Such monitoring shall be carried out to cover different seasons in a year that is, summer, monsoon and post-monsoon period.
24. Usage of groundwater in and around landfill sites for any purpose (including drinking and irrigation) is to be considered after ensuring its quality. The following specifications for drinking water quality shall apply for monitoring purpose, namely: -

S.No.	Parameters	IS 10500: 1991 Desirable limit (mg/l except for pH)
1.	Arsenic	0.05
2.	Cadmium	0.01
3	Chromium	0.05
4.	Copper	0.05
5.	Cyanide	0.05
6.	Lead	0.05
7.	Mercury	0.001
8.	Nickel	-

9.	Nitrate as NO <sub>3</sub>	45.0
10	PH	6.5-8.5
11.	Iron	0.3
12.	Total hardness (as CaCO <sub>3</sub> )	300.0
13.	Chlorides	250
14.	Dissolved solids	500
15.	Phenolic compounds (as C <sub>6</sub> H <sub>5</sub> OH)	0.001
16.	Zinc	5.0
17.	Sulphate (as SO <sub>4</sub> )	200

#### Ambient Air Quality Monitoring

25. Installation of landfill gas control system including gas collection system shall be made at landfill site to minimize odour generation, prevent off-site migration of gases and to protect vegetation planted on the rehabilitated landfill surface.
26. The concentration of methane gas generated at landfill site shall not exceed 25 per cent of the lower explosive limit (LEL).
27. The landfill gas from the collection facility at a landfill site shall be utilized for either direct thermal applications or power generation, as per viability. Otherwise, landfill gas shall be burnt (flared) and shall not be allowed to directly escape to the atmosphere or for illegal tapping. Passive venting shall be allowed if its utilization or flaring is not possible.
28. Ambient air quality at the landfill site and at the vicinity shall be monitored to meet the following specified standards, namely :-

S.No.	Parameters	Acceptable levels
(i)	Sulphur dioxide	120µg/m <sup>3</sup> (24 hours)
(ii)	Suspended Particulate Matter	500µg/m <sup>3</sup> (24 hours)
(iii)	Methane	Not to exceed 25 per cent of the lower explosive limit (equivalent to 650 mg /m <sup>3</sup> ) (24 hours)
(iv)	Ammonia daily average	0.4mg/m <sup>3</sup> (400 µg/m <sup>3</sup> )

	(sample duration 24 hrs)	
(v)	Carbon monoxide	1 hour average : 2 mg/m <sup>3</sup> 8 hour average : 1 mg/m <sup>3</sup>

29. The ambient air quality monitoring shall be carried out by the concerned authority as per the following schedule, namely:-

- (a) Six times in a year for cities having population of more than fifty lakhs;
- (b) Four times in a year for cities having population between ten and fifty lakhs;
- (c) Two times in a year for town or cities having population between one and ten lakhs.

#### Plantation at Landfill Site

30. A vegetative cover shall be provided over the completed site in accordance with the and following specifications, namely: -

- (a) Selection of locally adopted non-edible perennial plants that are resistant to drought and extreme temperatures shall be allowed to grow;
- (b) The plants grown be such that their roots do not penetrate more than 30 cms. This condition shall apply till the landfill is stabilised;
- (c) Selected plants shall have ability to thrive on low-nutrient soil with minimum nutrient addition;
- (d) Plantation to be made in sufficient density to minimize soil erosion.

#### Closure of Landfill Site and Post-care

31. The post-closure care of landfill site shall be conducted for at least fifteen years and long term monitoring or care plan shall consist of the following, namely :-

- (a) Maintaining the integrity and effectiveness of final cover, making repairs and preventing run-on and run-off from eroding or otherwise damaging the final cover;
- (b) Monitoring leachate collection system in accordance with the requirement;
- (c) Monitoring of ground water in accordance with requirements and maintaining ground water quality;
- (d) Maintaining and operating the landfill gas collection system to meet the standards.

32. Use of closed landfill sites after fifteen years of post-closure monitoring can be considered for human settlement or otherwise only after ensuring that gaseous and leachate analysis comply with the specified standards.

Special provisions for hilly areas

33. Cities and towns located on hills shall have location-specific methods evolved for final disposal of solid wastes by the municipal authority with the approval of the concerned State Board or the Committee. The municipal authority shall set up processing facilities for utilization of biodegradable organic wastes. The inert and non-biodegradable waste shall be used for building roads or filling-up of appropriate areas on hills. Because of constraints in finding adequate land in hilly areas, wastes not suitable for road-laying or filling up shall be disposed of in specially designed landfills.

## Schedule IV

[see rules 6(1) and (3), 7(2)]

## Standards for Composting, Treated Leachates and Incineration

1. The waste processing or disposal facilities shall include composting, incineration, pelletisation, energy recovery or any other facility based on state-of-the-art technology duly approved by the Central Pollution Control Board
2. In case of engagement of private agency by the municipal authority, a specific agreement between the municipal authority and the private agency shall be made particularly, for supply of solid waste and other relevant terms and conditions.
3. In order to prevent pollution problems from compost plant and other processing facilities, the following shall be complied with, namely :-
  - i. The incoming wastes at site shall be maintained prior to further processing. To the extent possible, the waste storage area should be covered. If, such storage is done in an open area, it shall be provided with impermeable base with facility for collection of leachate and surface water run-off into lined drains leading to a leachate treatment and disposal facility;
  - ii. Necessary precautions shall be taken to minimise nuisance of odour, flies, rodents, bird menace and fire hazard;
  - iii. In case of breakdown or maintenance of plant, waste intake shall be stopped and arrangements be worked out for diversion of wastes to the landfill site;
  - iv. Pre-process and post-process rejects shall be removed from the processing facility on regular basis and shall not be allowed to pile at the site. Recyclables shall be routed through appropriate vendors. The non-recyclables shall be sent for well designed landfill site(s).
  - v. In case of compost plant, the windrow area shall be provided with impermeable base. Such a base shall be made of concrete or compacted clay, 50 cm thick, having permeability coefficient less than  $10^{-7}$  cm/sec. The base shall be provided with 1 to 2 per cent slope and circled by lined drains for collection of leachate or surface run-off;
  - vi. Ambient air quality monitoring shall be regularly carried out particularly for checking odour nuisance at down-wind direction on the boundary of processing plant.

- vii. In order to ensure safe application of compost, the following specifications for compost quality shall be met, namely:-

Parameters	Concentration not to exceed * (mg/kg dry basis , except pH value and C/N ratio)
Arsenic	10.00
Cadmium	5.00
Chromium	50.00
Copper	300.00
Lead	100.00
Mercury	0.15
Nickel	50.00
Zinc	1000.00
C/N ratio	20-40
PH	5.5-8.5

\* Compost (final product) exceeding the above stated concentration limits shall not be used for food crops. However, it may be utilized for purposes other than growing food crops.

4. The disposal of treated leachates shall follow the following standards, namely:-

S.No	Parameter	Standards ( Mode of Disposal )		
		Inland surface water	Public sewers	Land disposal
1	Suspended solids, mg/l, max	100	600	200
2	Dissolved solids (inorganic) mg/l, max.	2100	2100	2100
3	PH value	5.5 to 9.0	5.5 to 9.0	5.5 to 9.0

4	Ammonical nitrogen (as N), mg/l, max.	50	50	-
5	Total Kjeldahl nitrogen (as N), mg/l, max.	100	-	-
6	Biochemical oxygen demand ( 3 days at 27 <sup>o</sup> C) max.(mg/l)	30	350	100
7	Chemical oxygen demand, mg/l, max.	250	-	-
8	Arsenic (as As), mg/l, max	0.2	0.2	0.2
9	Mercury (as Hg), mg/l, max	0.01	0.01	-
10	Lead (as Pb), mg/l, max	0.1	1.0	-
11	Cadmium (as Cd), mg/l, max	2.0	1.0	-
12	Total Chromium (as Cr), mg/l, max.	2.0	2.0	-
13	Copper (as Cu), mg/l, max.	3.0	3.0	-
14	Zinc (as Zn), mg/l, max.	5.0	15	-
15	Nickel (as Ni), mg/l, max	3.0	3.0	-
16	Cyanide (as CN), mg/l, max.	0.2	2.0	0.2
17	Chloride (as Cl), mg/l, max.	1000	1000	600
18	Fluoride (as F), mg/l, max	2.0	1.5	-
19	Phenolic compounds (as C <sub>6</sub> H <sub>5</sub> OH) mg/l, max.	1.0	5.0	-

Note : While discharging treated leachates into inland surface waters, quantity of leachates being discharged and the quantity of dilution water available in the receiving water body shall be given due consideration.

The incinerators shall meet the following operating and emission standards, namely:-

## A. Operating Standards

- (1) The combustion efficiency (CE) shall be at least 99.00%.
- (2) The combustion efficiency is computed as follows :

$$\text{C.E.} = \frac{\% \text{CO}_2}{\% \text{CO}_2 + \% \text{CO}} \times 100$$

## B. Emission Standards

Parameters	Concentration mg/Nm <sup>3</sup> at (12% CO <sub>2</sub> correction
(1) Particulate matter	150
(2) Nitrogen Oxides	450
(3) HCl	50
(4) Minimum stack height shall be 30 metres above ground	
(5) Volatile organic compounds in ash shall not be more than 0.01%.	

## Note :

1. Suitably designed pollution control devices shall be installed or retrofitted with the incinerator to achieve the above emission limits, if necessary.
2. Wastes to be incinerated shall not be chemically treated with any chlorinated disinfectants
3. Chlorinated plastics shall not be incinerated.
4. Toxic metals in incineration ash shall be limited within the regulatory quantities as specified in the Hazardous Wastes (Management and Handling) Rules, 1989 as amended from time to time.
5. Only low sulphur fuel like l.d.o., l.s.h.s or diesel shall be used as fuel in the incinerator.

## Form -I

[see rules 4(2) &amp; 6(2)]

## Application for obtaining authorization

To  
The Member Secretary

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1.	Name of the municipal authority/Name of the agency appointed by the municipal authority	:	
2.	Correspondence address  Telephone No.  Fax No.	:	
3.	Nodal Officer & designation (Officer authorised by the municipal authority or agency responsible for operation of processing or disposal facility)	:	
4.	Authorization applied for (Please tick mark)	:	(a) Setting up & operation of waste processing facility  (b) Setting up & operation of disposal facility
5.	Detailed proposal of waste processing/disposal facility (to be attached) to include	:	
5.1	Processing of Waste  i. Location of site ii. Name of waste processing technology iii. Details of processing technology iv. Quantity of waste to be processed per day v. Site clearance (from local authority) vi. Details of agreement between municipal authority and operating agency vii. Utilization programme for waste processed (Product utilization)	:	

	<ul style="list-style-type: none"> <li>viii. Methodology for disposal of waste processing rejects (quantity and quality)</li> <li>ix. Measures to be taken for prevention and control of environmental pollution</li> <li>x. Investment on Project and expected returns</li> <li>xi. Measures to be taken for safety of workers working in the plant</li> </ul>	
5.2	<p>Disposal of Waste</p> <ul style="list-style-type: none"> <li>i. Number of sites identified</li> <li>ii. Layout maps of site</li> <li>iii. Quantity of waste to be disposed per day</li> <li>iv. Nature and composition of waste</li> <li>v. Details of methodology or criteria followed for site selection</li> <li>vi. Details of existing site under operation</li> <li>vii. Methodology and operational details of land filling</li> <li>viii. Measures taken to check environmental pollution</li> </ul>	:
Date		Signature of Nodal Officer

Form - II

[See rule 4(4)]

Format of Annual Report to be submitted by the Municipal Authority

- i. Name of City / Town:.....
- ii. Population .....
- iii. Name of municipal body:..... and  
Address .....

Telephone No. : .....

Fax : .....

- iv. Name of Incharge dealing with municipal solid wastes .....  
..... with  
designation .....

1. Quantity and composition of solid wastes

- (i) Total quantity of wastes generated per day

.....

- (ii) Total quantity of wastes collected per day

.....

- (iii) Total quantity of wastes processed for :

- a. Composting: .....
- b. Vermiculture: .....
- c. Pellets: .....
- d. Others, if any, please specify.

- (iv) Total quantity of waste disposed by land filling:

.....

- a. No. of landfill sites used :  
.....
- b. Area used: .....
- c. Whether Weigh bridge facilities available : Yes/No
- d. Whether area is fenced : Yes/No
- e. Lighting facility on site : Yes/No

- f. Whether equipment like Bulldozer, Compacters etc. available. (Please specify): -----
- g. Total Manpower available on site: -----
- h. Whether covering is done on daily basis: Yes/No
- i. Whether covering material is used and whether it is adequately available : -----
- j. Provisions for gas venting provided: Available (Yes/No) /Not available
- k. Provision for leachate collection: Provisions made/ Provisions not made

2. Storage facilities

- (i) Area covered for collection of wastes : -----
- (ii) No. of houses covered : -----
- (iii) Whether house-to-house collection is practiced (if yes, whether done by Municipality or through Private Agency or Non-Governmental Organisation) : -----
- (iv) Bins : -----  

Specifications Proposed	Existing
(Shape & Size) Numbers for future	
- a. RCC Bins (Capacity) :
- b. Trolleys (Capacity) :
- (c) Containers (Capacity) :
- d. Dumper Placers
- e. Others, please specify
- (v) Whether all bins/collection spots are attended for daily lifting of garbage : Yes/No
- (vi) Whether lifting of garbage from dustbins is manual or mechanical i.e. for example by using of front-end loaders (Please tick mark) : Manual/Loader/Others, please specify

## 3. Transportation

	Existing number	Actually Required/Proposed
i. Truck :		
ii. Truck-Tipper :		
iii. Tractor-Trailer :		
iv. Refuse-collector :		
v. Dumper-placers		
vi. Animal Cart :		
vii. Tricycle :		
viii. Others (please specify)		

## 4. Whether any proposal has been made to improve solid wastes management practices

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## 5. Are any efforts made to call for private firms etc. to attempt for processing of waste utilising technologies like :

	Waste Utilisation Technology	Proposals	Steps taken (Quantity to be processed)
i. Composting :			
ii. Vermiculture :			
iii. Pelletisation :			
iv. Others if any, Please specify:			

## 6. What provisions are available and how these are implemented to check unhygienic operations of :

- i. Dairy related activities:
- ii. Slaughter houses and unauthorised slaughtering :
- iii. Malba (construction debris) lifting :
- iv. Encroachment in Parks, Footpaths etc.:

7. How many slums are identified and whether these are provided with sanitation facilities:

8. Are municipal magistrates appointed for Taking penal action : Yes/No

[If yes, how many cases registered & settled during last three years (give year-wise details)]

9. Hospital waste management

i. How many Hospitals/Clinics under the control of the Corporation:

ii. What methods are followed for disposal of bio-medical wastes? :

iii. Do you have any proposal for setting up of common treatment facility for disposal of bio-medical wastes:

iv. How many private Nursing Homes, Clinics etc. are operating in the city/town and what steps have been taken to check disposal of their wastes:

Signature of Municipal Commissioner

Dated :

Form -III

[See-rule 6(2)]

Format for Issue of Authorisation

File No.: \_\_\_\_\_

Date: \_\_\_\_\_

To,  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Ref: Your application number \_\_\_\_\_ dt. \_\_\_\_\_

The \_\_\_\_\_ State Pollution Control Board/Pollution Control Committee after examining the proposal hereby authorizes \_\_\_\_\_ having their administrative office at \_\_\_\_\_ to set up and operates waste processing/waste disposal facility at \_\_\_\_\_ on the terms and conditions (including the standards to comply) attached to this authorization letter.

1. The validity of this authorization is till \_\_\_\_\_. After the validity, renewal of authorization is to be sought.
2. The \_\_\_\_\_ State Pollution Control Board/Pollution Control Committees may, at any time, revoke any of the conditions applicable under the authorization and shall communicate the same in writing.
3. Any violation of the provision of the Municipal Solid Wastes (Management and Handling) Rules, 2000 will attract the penal provision of the Environment (Protection) Act, 1986 (29 of 1986).

(Member Secretary)  
State Pollution Control Board/  
Pollution Control Committee

Date:  
Place :

## Form - IV

[see rule 8(1)]

Format of Annual Review Report to be submitted by the State Pollution Control Board/Committees to the Central Pollution Control Board

To  
The Chairman,  
Central Pollution Control Board,  
(Ministry of Environment and Forests)  
Government of India,  
'Parivesh Bhawan', East Arjun Nagar,  
DELHI- 110 0032.

1.	Name of the State/Union territory	:	
2.	Name & address of the State Pollution Control	:	
3.	Board/Pollution Control Committee Number of municipal authorities responsible for management of municipal solid wastes in the State/Union territory under these rules	:	
4.	A Summary Statement on progress made by municipal authorities in respect of implementation of Schedule I [rule 4(3)]	:	Please attach as Annexure-I
5.	A Summary Statement on progress made by municipal authorities in respect of implementation of Schedule II [rules 6(1) and (3), 7(1)]	:	Please attach as Annexure-II
6.	A Summary Statement on progress made by municipal authorities in respect of implementation of Schedule III [rules 6(1) and (3), 7(2)]	:	Please attach as Annexure-III
7.	A summary statement on progress made by municipal authorities in respect of implementation of Schedule IV [rules 6(1) and (3), 7(2)]	:	Please attach as Annexure-IV
Date: _____		Chairman or the Member Secretary	
Place : _____		State Pollution Control Board/ Pollution Control Committee	

Form - V

[see rule 9]

Accident reporting

1.	Date and time of accident	:	
2.	Sequence of events leading to accident	:	
3.	The waste involved in accident	:	
4.	Assessment of the effects of the accidents on human health and the environment	:	
5.	Emergency measures taken	:	
6.	Steps taken to alleviate the effects of accidents	:	
7.	Steps taken to prevent the recurrence of such an accident	:	
Date : .....		Signature : .....	
Place : .....		Designation : .....	

V. Rajagopalan, Jt. Secy.  
[F.No.17-2/95-HSMD]

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Tender Set. 62-2014



Pune Municipal Corporation  
Solid Waste Management Department

Tender Notice No: \_\_\_\_\_

Tender Document

Design, Supply, Installation, Commissioning, Operation and maintenance of 'Microorganism Based 24 Hrs Composting Machine' including civil work for a period of 5 years to Process Organic Biodegradable Municipal Solid Waste. (B-2 Tender) in the jurisdiction of Bhavani Peth Ward office.

Last Date of Issue : \_\_\_/\_\_\_/2015  
Last Date of Submission : \_\_\_/\_\_\_/2015  
Tender Fees : Rs. 10630/-

Tender Issued To: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

*True Copy*  
*Rang*

**PUNE MUNICIPAL CORPORATION  
TENDER NO: ...../2014-2015 SWMDEPARTMENT  
INVITATION FOR TENDER**

On behalf of Pune Municipal Corporation, Joint Commissioner (SWM) invites sealed bids for Microorganism based organic waste composter plant works on B- 2 tender basis from experienced contractors for the work as described below:

Tender Sr. No.	Name of work	Tender cost In Rs.	Earnest money In Rs.	Time-limit in months	Cost of Tender Document (Rs)
	Design, Supply, Installation, Commissioning, Operation and maintenance of Microorganism Based 24 Hrs Composting Machine, including civil work, for a period of 5 years, to Process Organic Biodegradable Municipal Solid Waste. (B-2 Tender), in the jurisdiction of Bhavani Peth Ward office. ( as described in Annexure - 1 )	B-2 Tender	5,00,000/-	6+60 Months	10,630 /-

Joint Venture shall be allowed for this work.

**Eligibility Criteria:**

- Interested parties shall have (i) experience in carrying out Operation and Maintenance of Organic waste Plant at any Municipal Council / Municipal Corporation / Townships/Apartments, in India and (ii) Bidder's last Three year's (FY - 2011-12, 2012-13 & 2013-14) average turnover should not be less than 150 Lakhs.

For various kinds of works related to the plant, the defect liability period, from commissioning of the said project, shall be as follows.

Sr. No.	Type of works	Defect liability period
1	Civil works	60 months
2	Electromechanical instruments	60 months

- Tender Forms are made available online on the Municipal Corporation website [www.punecorporation.org](http://www.punecorporation.org) from ..... The details about the online tendering process can be obtained from the Tender Cell, Pune Municipal Corporation, Shivajinagar, Pune- 411005.

True Copy

Bid must be accompanied by bid security specified for the work in the table above in form of Demand Draft/ F.D.R. from any Nationalized/ Scheduled bank payable at Pune and drawn in favor of "The Commissioner, Pune Municipal Corporation, Pune." Exemption Certificate will not be accepted in lieu of Earnest Money.

4. PMC shall not be responsible for any delay in receiving the documents on account of any reasons and Municipal Commissioner, PMC, Pune 411005, further reserves the right to revise or amend this notice and or the bid documents fully or partly prior to the last date notified for submission of offers or on any subsequent extended date. The Municipal Commissioner, PMC, Pune 411005, further reserves the right to reject any or all bids without assigning any reasons.
5. PMC desires to carry out Civil & Electro-Mechanical work at plant site and also award further Operation and Maintenance Contract for a period of Five years to the eligible & experienced bidder.
6. Interested bidders, who have desired experience & expertise for carrying out Organic waste plant and O & M, may obtain the blank tender forms through e-tendering from PMC website [www.punecorporation@abcprocure.com](mailto:www.punecorporation@abcprocure.com)
7. Joint Venture shall be allowed and the Tender Document is Non-Transferable. Bidders buying the tender documents have to meet all technical & financial obligations and shall be responsible for overall implementation of the contract.
8. The Pune Municipal Corporation reserves the rights to accept or reject any or all tenders for without assigning any reason thereof.

*[Signature]*  
 Joint Municipal Commissioner  
 Solid Waste Management  
 Pune Municipal Corporation *[Signature]*

*True Copy*  
*Rang*  
*[Signature]*

**PUNE MUNICIPAL CORPORATION**  
**(Solid Waste Management Division)**

Tender No. :-

**Design, Supply, Installation, Commissioning, Operation and maintenance of Microorganism Based 24 Hrs Composting Machine including civil work for a period of 5 years to Process Organic Biodegradable Municipal Solid Waste. (B-2 Tender) in the Jurisdiction of Bhavani Peth Ward office.**

**1. Definitions & Interpretations**

In this tender document the following expressions shall have the definitions and interpretations given here under:

- 1.1 Pune Municipal Corporation (PMC) shall mean Municipal Corporation of Pune. Municipal Commissioner shall exercise the rights and obligations of the PMC exercisable under the contract, other than those exercisable by any Committee or its representatives.
- 1.2 Tenderer / Bidder / Contractor shall mean an individual or firm (Proprietary or Partnership or Public limited or Private Ltd., etc.), or an incorporated company which has entered into contract with the PMC and shall include his/its legal heirs, executors, administrators, representatives, successors, liquidators and assignees.
- 1.3 Contract shall mean, collectively, all the terms, conditions, specifications, etc. of tender documents and stipulations contained in the various portions of the Contract Agreement and the Annexure there to if any.
- 1.4 Works shall mean the 'Scope-of-Work' to be executed in accordance with the Contract or part thereof as the case may be and shall include extra, additional, altered or substituted works as required for the purpose of the contract. It shall mean the totality of the work by expression or implications envisaged in the contract and shall include all materials, equipment and labour required or incidental to or in connection with the commencement, performance and completion of any work and / or for incorporation in the works.
- 1.5 Site shall mean land available for Microorganism based 24 Hrs Organic Waste Composting Plant for processing of municipal organic waste.
- 1.6 Specifications shall mean, collectively, all the terms, conditions, general requirements, specifications, etc. mentioned in the technical bid and price bid and shall include all such amendments, revisions, removals or additions as may be made during the period of execution of the works and all written instructions to be issued by the PMC in terms of the contract, pertaining

*ky*

to the method and manner of performing the work or to the quantities and qualities of the work to be performed or materials to be provided under this contract.

1.7. Equipment(s) shall mean and includes any plants and equipments or parts thereof, including associated mechanicals, electrical, instruments, materials, stores and goods etc., to be maintained under the contract for achieving completion of works as per specifications.

1.8. **Contract Price & Period:-** Shall mean total amount quoted by the tenderer (inclusive of all taxes, levies, duties applicable at the time of tender submission) for carrying 'Scope-of-Work' defined in the tender document within 66 Months ( 6 Months for Carrying out Civil work and supply, installation and commissioning of machine + 5 years (60 Calendar Months) for carrying out O & M work all the.

## 2. Eligibility Criteria

Interested parties shall have (i) experience in carrying out Operation and Maintenance of Organic waste Plant at any Municipal Council / Municipal Corporation / Townships, in India and (ii) Bidder's last Three year's (FY - 2011-12, 2012-13 & 2013-14) average turnover should not be less than 150 Lakhs

## 3. Earnest Money Deposit & Security Deposit

Earnest Money Deposit (EMD) of Rs FIVE LACKS in the form of FDR / DD form any Nationalized bank valid for six months, shall be placed in part - I with, Technical Bid. The FDR / DD shall be in favor of "Commissioner, Pune Municipal Corporation" payable at Pune. The bids without EMD or with EMD in any other form shall be rejected.

The successful bidder has to give 5% of the Total Contract Value, as a 'Security Deposit (SD)'. The EMD submitted along with the tender document will be adjusted against the SD and the balance 4% amount will be deducted from the first three running bills. This Security Deposit amount will be returned to the contractor after completion of Operation and Maintenance period, i.e. after 66 months.

Also the defect liability period will be considered as per the list attached in tender notice. In case of unsuccessful tenderer, EMD will be returned after signing the contract with the L1 bidder.

If the successful tenderer fails to commence the work within the prescribed time specified in the Work Order, the Earnest Money Deposit shall be forfeited by the PMC.

In the event of a tender being rejected the Earnest Money Deposit will be refundable on application.

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#### 4. Interpretations

- 4.1 Wherever in this contract the words 'Directed', 'Required', ' Permitted' 'Ordered', 'Designed', 'Considered', 'Necessary'; or like words are used, it shall be understood that the said directions, requirements, permission, design, etc. of the PMC are intended; similarly words 'Approved', 'Acceptable', 'Satisfactory', or like words shall mean approved by or acceptable or satisfactory to the PMC as case may be, unless any other meaning is specifically intended.
- 4.2 Interpretation wherever there is any clash, contradictions or discrepancy in the interpretations of any clauses of this tender document, the matter may be referred to the Municipal Commissioner, PMC and its decision shall be final and binding.

#### 5. Tender Invitation

- 5.1 The Municipal Commissioner, PMC invite a Tender for Design, Supply, Installation, Commissioning, Operation and maintenance of Microorganism Based 24 Hrs Composting Machine, including civil work, for a period of 5 years, to Process Organic Biodegradable Municipal Solid Waste. (B-2 Tender) in the jurisdiction of Bhavani Peth Ward office.
- 5.2 The Tenderer must obtain himself on his own responsibility and at his own expense all the information which may be necessary for the purpose of filling this tender and for entering into a contract for the execution of the work from the office of the Solid Waste Management' PMC, Shivajinagar, Pune during the office hours between 11.00 a.m. to 5.00 p.m. on weekdays except Sunday and holidays and inspect site of the work and acquaint himself with all local conditions and matters pertaining thereto.
- 5.3 The Tenderer shall ensure that he is fully familiar with the nature and extent of the obligations to be accepted by him, if the tender is accepted.
- 5.4 Should any prospective Tenderer be in doubt as to the interpretation of any part of the tender document or any discrepancy with tender documents, the PMC or his nominated officer shall endeavor to answer written enquiries prior to Tenderer being submitted.
- 5.5 All information supplied by the PMC in connection with this invitation to tender shall be treated as confidential by the Tenderer except that such information may be disclosed so far as is necessary for the purpose of obtaining sureties for submission of the tender.



In the event of the tender being submitted by the firm, it must be signed by the Authorized Signatory, and in the even the of the absence of any partier, it shall be signed on his behalf by a presence holding power of attorney authorizing him to do so.

5.7

Each of the pages of the tender documents is required to be signed by the person or persons submitting the tender as token of his / their having acquainted himself / themselves with terms and conditions, specification, etc. mentioned in the tender documents, as laid down. Any tender with any of the documents not so signed will be rejected.

5.8

The tender form must be filled in English and all entries must be made by Handwritten / Typed in ink, if any of the documents is missing or unsigned, the tender shall be considered invalid.

5.9

The rates quoted by the Tenderer shall include all eventualities such as heavy rain, sudden floods, etc., which may cause damage to the executed work or which may totally wash out of the work.

5.10

All prices for the Contract shall be inclusive of all taxes, duties, levies, transportation, insurance, loading, unloading, etc., are in Indian currency only. For the imported portion if any, Tenderer shall quote in Indian Rupees by converting the exchange rate & fluctuation if any during the contract period. Any variation in the rate of taxes, levies, duties, etc., or any other new taxes, etc added by the central government, state government, local government, etc. i.e. any type of variation in the taxes shall be absorbed by the Tenderer for the contract period, i.e. for execution work as well as O & M period.

5.11

All Taxes & Duties currently eligible for deductions at source will be deducted from the respective bill & payments. If there is any upward or downward revision of Taxes & Duties applicable during the 66 calendar months of contract period, the same will be revised. However, no price variation (upward/downward) shall be made to the under any other circumstances what so ever.

5.12

The tender will be liable to be rejected outright, if while submitting it

- i) Any of the pages of the tender documents are removed or replaced
- ii) Any errors are made by him in the tender.
- iii) The Tenderer which do not fulfill any of the condition those in the printed form and those tenders which are incomplete?
- iv) The Tenderer proposes any alteration in the time limit allowed for carrying out the work or any other condition.
- v) If any correction done in the tender terms, conditions, specifications, etc. by the Tenderer.
- vi) The conditional tenders and conditional offering discount

5.13

The PMC is not bound to either accept the lowest or any tender, in its sole discretion. In case of rejection of all or any tender or scrapping of the entire invitation to bid, none of the tenders shall

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be entitled to claim any losses, cost, compensation or damages, which they may have incurred as a result of participating in the tender. PMC shall have the right of rejecting all or any of the tender without assigning any reasons thereof.

5.14 The successful bidder, in whose favor of a Work Order, will be issued by PMC, require to execute a formal Contract Agreement and until such execution, the Tenderer Bid together with the Work Order issued by the PMC shall form a binding to the successful bidder.

#### 5.15 Opening Of Tender

The Municipal Commissioner, PMC or his authorized representative will open Technical Bid (Packet - I) of tender documents and EMD. The Price Bid of the Tender Document, whose technical bid is found as per the requirements of the Tender Document shall be opened only after scrutinizing the Technical Bid(s) at later stage.

#### 5.16 Validity of Offer

The tender / offer shall remain valid for acceptance by the PMC for a minimum period of 120 days from the date of opening of the Price Bids. Tender once offered cannot be withdrawn except with the written permission of the PMC.

#### 5.17 Bid Evaluation

The Tenderer are notified that the tenders will be evaluated in accordance with a rigorous predetermined evaluation procedure. This procedure will not only be based on price alone but also based on the demonstrable experience of executing & maintaining similar projects in other municipal councils/corporations. The board criteria for evaluation of tenders are given below;

- Number of similar plants already being operated & maintained anywhere in India and its present status thereof.
- Tenderer experience in carrying out O & M of such plants as well as machines.

#### 5.18 Acceptance of Tender

Acceptance of tender will rest with the competent authority that does not bind them to accept the lowest bid and reserves the right to reject any or all tenders and no reasons will be given for acceptance or rejection thereof. The Tenderer whose tender is accepted will have to enter into a regular contract and abide by all rules and regulations embodied in the tender. Tender once accepted shall be binding on the Tenderer even if the formal agreement is not signed.

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### Terms of Payment

- 6.1 Civil Cost - 100% against actual civil work carried out with the prior approval of PMC Engineer.
- 6.2 Electro-Mechanical Cost - 100% against actual Electro-Mechanical work carried out with the prior approval of PMC Engineer.
- 6.3 O&M payment – Against submission of monthly waste feeding data as prescribed in item no. 11.2 below.
7. Plants and Machineries shall installed at the Project Site

The project site ( as described in Anexure – I ) includes the following Civil units and Electro-Mechanical equipments;

- 7.1 Civil work:
- 1 Fabricated Shed with Zincolium Sheet of required size to cover all
  - 2 Municipal Organic Waste Receiving Platform
  - 3 Office Room abou 80 Sq. Ft.
  - 4 Bathroom and Toilet for workers including all necessary fittings.
- 7.2 Electromechanically:
- Microorganism based 24 hrs municipal organic waste processing composting machine having capacity mentioned-in tender having following specification
- 1) Processing Capacity 5Ton / 3 Ton Per Day

Technical Specifications for Micro-organisms based 24 hrs composting system 5 Ton / 3 Ton per day	
<b>A) Composting Machine:</b>	
Per day waste processing capacity of Composting	Total Processing Capacity: 5 Ton / 3 Ton per day
Composting System	24 Hrs Microorganism Based Composting Machine
Input	Segregated Organic Waste
Output	Dry Organic Compost, with test results and parameters matching to compost standards mentioned in MSWM Rules
Power Supply	440/50Hz
Power Rating	100-120 kW / 60-70 KW
Composting tank material	Stainless Steel (SS - 430)

Motor	Nord/Siemens/ABB (German Brands)
Motor Rating	4 to 5 KW / 3 to 4 KW
Blower	2-3 HP Blower with powder coated shroud and SS impeller
Insulation	Rock wool/ Glass wool confirms to IS 8183 Standards
Handles and Locks	Standard handles and locks with good aesthetics
Control Panel	All control panel parts should be of standard brands like Schneider, ABB, L&T, etc. No local or low quality parts should be used. Motor and Blower should have overload and current SS High Quality Shaft with superior quality mixing.
Shaft	
Heating System	Solar Panel Heating + Stainless Steel Heating Element/Coil
Control System and Interface	ABB make PLC + HMI with 7" touchscreen control having remote monitoring facility
Operation and Processing	Fully automatic and Within 24 hours
Compost Removal	Once in 8-10 days
Curing System, Addition of Sawdust, Addition of Culture	Not Allowed
Outside housing	Mild steel with pure polyester powder coating suitable for outside use and with crane lifting facility
Waste input and compost removal provision	Separate door of high quality stainless steel for waste input and compost removal
Composting method	Micro-organisms based natural composting in high temperature atmosphere with 85-90% volume reduction
Water discharge, Leachate, Methane and Harmful gases	Not allowed
Safety Features	<ul style="list-style-type: none"> <li>• Emergency switch, overload indication function and Safety Switch</li> <li>• Safety feature: Internal mixing blades automatically stop when input door is opened</li> </ul>

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<b>B) Crusher with Hydraulic Press (De waterer)</b>	
Crusher Material	Mild Steel (Painted)
Hydraulic Press Material	Mild Steel with Powder Coated
Power Supply	3 Phase, 415 V, 50Hz
Operation	Automatic with Continuous Operation
Details of Crusher	<ul style="list-style-type: none"> <li>• High Speed Crusher</li> <li>• 10 Hp AC Induction Motor</li> <li>• Particle Size Reduction upto 10mm</li> </ul>
Details of Hydraulic Press	<ul style="list-style-type: none"> <li>• Hydraulic Power Pack- 40 Tonn Capacity</li> <li>• Seamless Hbnned Tube Pipe with Hardchrome plated Piston</li> <li>• 7.5 Hp Induction Motor</li> <li>• 230 VAC Solenoid Valves</li> </ul>
<b>C) Lifting System</b>	
Lifting System Material	Mild Steel Powder Coated
Power Supply	3 Phase, 415 V, 50Hz
Operation	Automatic with Continuous Operation
Details of Lifting System	<ul style="list-style-type: none"> <li>• Inclined Belt Type Conveyor</li> <li>• 0.5 Hp Gear Motor</li> <li>• Belt-PVE 3 mm THK</li> <li>• Speed: 8-12 mtr/min</li> </ul>
<b>D) Weighing Balance</b>	
Capacity	500 Kg
Printer	Online

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## 8. Scope-of-Work

The entire 'Scope-of-Work' is divided in to three parts as follows;

8.1 Civil Work: -As per Description in 7.1

8.2 Electromechanical Work:- As per Description in 7.2

8.3 Carryout Operation & Maintenance Work for Five (5) Years: - The contractor has to operate and maintain the plant at its designed capacity for a period of Five (5) years – i.e. 60 calendar months. During this period the Tenderer is responsible for carrying out all refurbishment work as mentioned in the Tender Document and day-to-day operations to keep the plant running successfully on continuous basis and also maintain all the civil units & electro-mechanical equipments in operating conditions. Besides, the Tenderer will appoint desired staff at site, which is well versed with carrying out all O&M activities to keep the plant running on continuous basis and giving sustained performance of the guaranteed results. If any replacement of parts or machinery is required, it shall be replaced at bidders own cost for entire O & M period.

Bidder should maintain the plant in clean & neat condition so that there should not be any nuisance of foul odor, flies, mice, left over etc.

8.4 Other Activities: -The successful bidder has to obtain necessary 'Consent-to-establish' and 'Consent-to-Operate' from MPCB. This has to be carried out every year for the contract duration. The contractor has to do all necessary documentation and follow up activities with MPCB. However, necessary fees payable to the MPCB will be paid by the Bidder. Necessary formalities and follow up with MSEDCL regarding power supply, other government and semi government bodies if necessary is the responsibility of successful bidder. However, necessary fees will be paid by the PMC. Bidder should have provide on-site one computer with latest configuration with internet connection having specially developed computer program/software to maintain all records like incoming and outgoing waste and manure. Bidder should install IP BASE CCTV camera on each site and it should be connected online to the computer placed at SWM Dept, PMC. The online connection should be at bidder's cost.

## 9. Contract Period

The total contract period of the entire assignment is 66 calendar months. Out of total contract period, maximum 6 calendar monthswill be allocated for carrying out the civil and electro-mechanical work and 5 (Five) years (60 calendar months) are allocated for O&M. If the successful bidder needs to shut down the plant for refurbishment work, no O&M payment will not be made for that period.

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### Obligations of Pune Municipal Corporation

- 10.1 PMC will provide free electricity & water required for carrying out day-to-day plant operations / processing Waste during the entire O&M period, free of cost.
- 10.2 PMC will provide semi segregated organic waste as per the maximum design capacity of the plant out of this bidder should segregate and feed to the maximum extent of 85 % to the plant
- 10.3 Contrarily, due to any failures on account of the operator, if they failed to process the Waste less than minimum receivable segregated Waste quantity i.e. 85% of plant Capacity in a particular month, then the O&M payment for the respective month will be made on the pro-rata basis. For example, if the operator would able to process only 75 tons (50% of the plant capacity) or above and less than 150 tons/month and assuming the O&M charges for a month is Rs. 15000/-, then the operator is eligible only for receiving Rs. 7,500/- for that month (Rs. 15000/150 tons = Rs. 100/tons; Waste received by the operator during a particular month 75 tons X Rate - Rs. 100/tons = Rs. 7,500/- for that month.).

### 11. Obligations of the Successful Contractor

- 11.1 The successful bidder has to carry out the 'Scope-of-Work' defined at Annexure - II and Operate and Maintain the plant at its designed capacity for a period of 5 years w.e.f. date of issue of Work Order. During this period the Tenderer is responsible for carrying out all types of day-to-day operations to keep the plant running successfully on continuous basis and also maintain all the civil units & electro-mechanical equipments in operating conditions. Besides, the Tenderer will appoint desired staff at site, which is well versed with carrying out all O&M activities to keep the plant running on continuous basis and giving sustained performance of the guaranteed results.
- 11.2 It is the bidders responsibility to segregate the organic waste provided by PMC, NO extra cost will be paid against this.
- 11.3 The successful contractor has to submit the monthly O&M Record in the following format and the same has to be jointly signed by the Contractor and the concerned S/DSI/CSI/WMO and Asst. Municipal Commissioner form PMC.

#### Format - I: - For Waste Processed

Sr. No.	Month	Waste Received	Rejects	Waste Processed	Compost Generation	Remarks
	Date	Tones/Day	Tones/ Day	Tones/ Day	Cum/day	

- 11.4 The successful contractor also have to carry out the Laboratory Testing's of Compost following parameters and it must comply with parameters prescribed in MSWM 2000 Rule

Sr. No.	Parameters	Annual Frequency
1	pH, Nitrogen, Phosphorus, Potash, C:N Ratio, Moisture, Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Zinc.	Quarterly

12. **Work to be executed in Accordance with the Scope-of-Work & Tender Specifications**

- 12.1 Tenderer shall execute the entire work in the most productive, professional and prudent manner both as regards usage of materials and time in every respect in strict accordance with the specifications mentioned in the Scope-of-Work.
- 12.2 The Tenderer shall comply with the provisions of the contract and with due care and diligence execute and maintain the works and provide all labour and materials, tools and plants including for assessment and supervision of all works, structural plans and other things of temporary or permanent nature, required for such execution and maintenance in so far as the necessity for such provision is specified or reasonably inferred from the contract. The Tenderer shall take full responsibility for adequacy, suitability and safety of all the works and methods of operation.

13. **Expected Risks Force Majeure**

- 13.1 If, at any time, the execution of the Contract is affected by War, declared or not), hostilities, invasion, acts of foreign enemies, civil war, rebellion, revolution insurrection, riots and civil commotion (other than solely restricted to the employees / workers of Tenderer), Acts of State, Acts of God such as earthquake, massive floods and other notified epidemic which an experienced Tenderer could not have reasonably foreseen or reasonably made provision for these or insured against, then the Tenderer shall, within seven days of such occurrence, apply to the PMC together with the adequate evidence for obtaining such extension of time as may be warranted by the circumstances. After a careful examination of the circumstances, the PMC may grant such extension of time as deemed necessary, without insisting on changing liquidated damages from the Tenderer for such period.
- 13.2 Any extension of time granted by the PMC shall neither entitle the Tenderer to claim for any increase in prices nor shall it release him from any of the obligations under the Contract. If the execution of the Contract as a whole is delayed by the reason of force majeure conditions persisting for a continuous period exceeding six months, PMC and the Tenderer shall discuss the matter and decide either to terminate the Contract without obligations on each side or to continue its execution on such terms as may be agreed upon.

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### Labour Act Provisions

The Tenderer shall remain liable for the payments of all wages or other money to its employees or workers under the Minimum Wages Acts, Payment of Wages Act, Employees Liability Act, Employees Compensation Act, ESI Act or any other laws, enactments and rules in force or made applicable from time to time by the Central or State Government(s). The Tenderer shall also comply with the provisions of the Apprentice Act, Contract Labor (Regulations and Abolition) Act and the Rules and Orders issued there under from time to time, whichever is applicable.

#### 15. Inspection of Site

The Tenderer shall be deemed to have quoted after fully understand the nature of work to be done under this contract and the Tenderer shall also be deemed to have inspected the Site of the Works and surroundings. The means of access thereto and to have generally obtained its own information on all matters, and things which can in any way influence its tender. The Tenderer shall also make itself familiar with the working conditions, accessibility to site of works, availability of Labour and equipment and such other relevant conditions which may affect the execution and completion of the work. No claim for any extra work or otherwise will be allowed in consequence of any misunderstanding, error or incorrect information on the above mentioned points or of any other inaccuracies in the reference thereto which may appear on the drawings or in the specifications or other records not shall the contract be nullified in consequence of any such misunderstandings, incorrect information or inaccuracies.

#### 16. Workmanship

The work to be done under the contract or any part thereof shall be executed in the best and most skilled workmanship like manner, with best and approved quality of equipment and both the work and equipment should conform to the particulars contained in or implied by the specifications and as referred to in the drawings or in such other additional directions, instructions and documents as may be found necessary and given time to time to the Tenderer during the execution of the works and to the entire satisfaction of PMC. The entire work shall conform to the latest and acceptable engineering practices and shall be such as to cause minimum transfer of noise and vibration to the building structure.

#### 17. Disputes & Jurisdiction

Except where otherwise specified in the contract the decision of the Municipal Commissioner, Pune Municipal Corporation, Pune shall be final, conclusive and binding on all parties to the contract upon all questions relating to the meaning of the terms, conditions, specifications, drawings, designs and instructions hereinbefore mentioned and as to the quality of workmanship, or materials used on the work, or as to any other question, claim, right, matter, or thing whatsoever in any way arising out of, or relating to the contract, designs, drawings,

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specifications, estimates, instructions, orders or these conditions, or otherwise concerning works or the execution of failure to execute the same, whether arising, during the progress of work or after the completion or abandonment thereof.

18. This tender documents contains .....pages in technical bid and ..... in price bid, which should be furnished along with Earnest Money Deposit, duly filled in and signed. No pages can be removed from the conditions of contract, specification of drawings, otherwise it will be considered as an intentional fault and Tenderer will be liable for rejection and the amount of earnest money deposit forfeited.

19. **Site Investigations**

The Tenderer shall visit the project site prior to submitting his bid, carefully inspect all areas, and become acquainted with existing conditions.

20. **Ownership of the Compost**

The ownership of the compost is totally of Bidder however the Bidder should maintain the record of compost and should submit details to the PMC at every Month, However considering the value of the compost the Bidder should quote O &M cost accordingly.

21. **Submission of Technical Bid.**

Tenderer are required to furnish following documents:

- Company Registration Document (Incorporation, Shop Act, VAT, CST, PAN, LBT)
- Company Profile
- IT Returns for the last three years ( 2013-14, 2012-13 & 2011-12)
- Experience for Similar Plant in any Municipal Council / Municipal Corporation / Township.
- Certificate form CA stating that the last year (FY - 2013-14) average turnover of a bidder is not less than 150 Lakhs.
- Bidder should indemnify that he will complete the work as per specifications mentioned in the tender & he should submit an indemnity bond in this regard on Stamp paper worth Rs. 100/-.

22. **Submission of Financial Bid.**

The format for submission of Financial Bid is placed at Annexure -II.

*[Signature]*  
Joint Municipal Commissioner  
Solid Waste Management  
Pune Municipal Corporation  
*[Signature]*

Design, Supply, Installation, Commissioning, Operation and maintenance of Microorganism Based 24 Hrs Composting Machine including civil work for a period of 5 years to Process Organic Biodegradable Municipal Solid Waste. (B-2 Tender) in the jurisdiction of Bhavani Peth Ward office.

SR NO	SITE LOCATION	CAPACITY
01	S.N. 243, F.P.No.49 C&D, Bhwanipeth	3 MT Per Day
02	Nr Sulabh Shouchalay, Samta Bhumi	3 MT Per Day
03	PMC Colony No. 9	5 MT Per Day
04	Nr Sulabh Shouchalay, adj to Tarachand Hospital	5 MT Per Day
05	PMC Colony No.8	5 MT Per Day
06	Parking space at kashewadi on Nagzari Nala	5 MT Per Day

Note:- There may be a change in the site of project, which will be communicated to the bidder Accordingly.

*[Signature]*  
Joint Municipal Commissioner  
Solid Waste Management  
Pune Municipal Corporation  
*[Signature]*

Design, Supply, Installation, Commissioning, Operation and maintenance of Microorganism Based 24 Hrs Composting Machine including civil work for a period of 5 years to Process Organic Biodegradable Municipal Solid Waste. (B-2 Tender) in the jurisdiction of Bhavani Peth Ward office.

FORMAT FOR SUBMISSION OF FINANCIAL BID

I - Civil Work

Sr.No.	Particulars	Total Qty.	Unit	Rate/unit	Total Amt.
1	Excavation in Soil, Soft Rock, etc. as required depth	1300	Cum.		
2	Transportation of Excavated material	1300	Cum		
3	Construction of Uncourse Rubble Masonry	350	Cum.		
4	Providing and laying hard murum	550	Cum		
5	Rubble Solling	550	Cum		
6	1:2:4 Concrete	225	Cum		
7	BB Masonry	225	Cum		
8	RCC Work for Slab, Staircase, Chajja, Beam etc.	225	Cum		
9	External Plaster	2150	Sqm		
10	Internal Plaster	1000	Sqm		
11	Apex paint	1500	Sqm		
12	Oil bond distemper	900	Sqm		
13	Providing and Fixing Teak Wood Door	14	Nos.		
14	Providing and Fixing Flush Door	14	Nos.		
15	Mild/Tor Steel	15	MT		
16	Structural Steel	210	MT		
17	Zincollum Sheets	3800	Sqm		
18	Wash Basin	14	Nos.		
19	30 cm Ceramic Tile- Flooring	140	Sqm		
20	30 cm Ceramic Tile- Dado	225	Sqm		
21	European Type W.C.	14	Nos.		

22	Fixing Gate/Shutter	4200	Kg		
23	Providing and fixing HDPE Tank 1000 L	7	Nos.		
24	Water Proofing	45	Sqm		
25	Providing and Fixing 13mm GI Pipe	400	Mtr		
26	Providing and Fixing 25mm GI Pipe	150	Mtre		
27	Providing and Fixing 40mm GI Pipe	100	Mtr		
28	13mm Ball Cock	14	Nos.		
<b>TOTAL - I (Inclusive of all Taxes &amp; Duties)</b>					
Amount in Words :-					

Details specification of above items as per PMC (bhavan) DSR.

Above Quantities may vary as per site conditions, it is binding on the bidder that upto 1.5 times of the above quantity to be execute as per the rate quoted by the bidder & also any extra item will be executed as per PMC current DSR Rate.

No any escalation will be applicable.

Execution work shall be as per instruction of Engineer In Charge

Testing of material, concrete as per instruction of Engineer In Charge

#### II - Electro-mechanical Work

No	Units	Total Qty	Unit	Rate/unit	Total Amt.
1	Supply Installation & Commissioning of Microorganism Based 24 Hrs Composting Machine as per described in 7.2 of Capacities as per List	6	Nos.		
<b>TOTAL - II (The above costs should be inclusive of all Taxes &amp; Duties applicable at the time of submission of bid)</b>					
Amount in Words :-					

#### III - Operation & Maintenance Work

Particulars	Amount (In Rs.)
> 1st Year ( Twelve calendar months)	
> 2nd Year ( Twelve calendar months)	
> 3rd Year ( Twelve calendar months)	
> 4th Year ( Twelve calendar months)	
> 5th Year ( Twelve calendar months)	
<b>TOTAL -III</b>	
Amount in Words :-	

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IV - Summary of Work

Sr. No.	Activity	Total Amount
1	I - Civil Work	
2	II - Electro-mechanical Work	
3	III - Operation & Maintenance Work	
	GRAND TOTAL	
	Amount in Words -	

Note:

Evaluation of bid will be on sum of 1,2& 3( Lowest Total amount will be recommended with permission of Joint Municipal Commissioner, Solid Waste Management).

*[Signature]*  
 Joint Municipal Commissioner  
 Solid Waste Management  
 v/s Pune Municipal Corporation  
*[Signature]*

I/We, agreed and bind upon me/our to do the work at quoted price with all specifications and guideline of the concern organization.

Place:-  
 Date:-

Signature, Name & Seal of the Tenderer

*True Copy*  
*[Signature]*



- हे पत्र मिळाल्याचा पासून त्वरीत स्टॅम्प पॅपर्स आणून न दिल्यास व काम चालू न केल्यास आपणास काम करावयाचे नाही असे समजून कोणतेही स्मरणपत्र न पाठवता आपले टेंडर/कोटेशन रद्द करून आपणाविरुद्ध नियमात्रेमाणे कार्यवाही करण्यात येईल.
५. करारनामा केल्याखेरीज बिल अदा केले जाणार नाही.
  ६. हे काम सुरू करण्यासाठी शाखा अभियंता श्री. रवींद्र मुळे व उपअभियंता श्री. कुलकर्णी यांचेकडे संपर्क साधावा. सदर कामाची प्रकल्प उभारणी ६ महिने व चालविणे व देखभाल दुरुस्तीची मुदत ६० महिने आहे असा एकुण ६६ महिने कालावधी आहे.
  ७. कोणत्याही परिस्थितीत मुदतवाढ दिली जाणार नाही व अपवादात्मक परिस्थितीत या बाबतचा निणय प्रशासनामार्फत घेण्यात येईल.
  ८. १९८५ सालचा वक्स कॉन्ट्रॅक्ट व १९८९ सालचा रिअॅनेक्ट वक्स अॅक्ट अन्वये जो काही टॅक्स भरावा लागणार आहे, तो संपूर्ण भरण्याची जबाबदारी ठेकेदाराची राहिल.
  ९. १९८५ सालचा वक्स कॉन्ट्रॅक्ट अॅक्ट, १९८९ सालचा अप्रॅटीस अॅक्ट, १९८५ सालचा वक्स कॉन्ट्रॅक्ट, १९८९ सालचा रिअॅनेक्ट वक्स अॅक्ट हे सर्व कायदे त्यातील तरतूदी, यांची योग्य ती पूर्तता करण्याची तरतूदीप्रमाणे वागण्याची व आवश्यक ते सर्व रेकॉर्ड्स ठेवण्याची जबाबदारी ठेकेदाराची आहे.
  १०. काम सुरू करण्यापूर्वी महानगरपालिकेच्या नमुन्यानुसार तपशील बोर्ड लावावेत.
  ११. विषयांकित काम उप अभियंता श्री. कुलकर्णी व शाखा अभियंता श्री. रवींद्र मुळे यांचे देखरेख खाली करण्यात येईल.

कळवी,

महापालिका सहाय्यक आयुक्त  
घनकचरा व्यवस्थापन  
पुणे महानगरपालिका

प्रत :-

८. शाखा अभियंता
९. उप अभियंता
१०. महापालिका सहाय्यक आयुक्त, घनकचरा व्यवस्थापन
११. मा. अतर्गत अर्थान्वीक्षक
१२. कामगार मन्लागार
१३. टेंडर क्लर्क
१४. दक्षता विभाग, पुणे महानगरपालिका

Received  
Sakunika  
08/06/2015  
Sakunika  
123099922

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## करारनामा \*

टेंडर क्रमांक : ६२/२०१४

( पुणे महानगरपालिका १ घनकचरा व्यवस्थापन विभागासाठी आवश्यकतेनुसार काम पुरवविण्याचा करारनामा ) करारनामा दिनांक                      माहे                      सन २०१५ इसवी चे दिवशी

पुणे महानगरपालिकेतर्फे मा. सहमहापालिका आयुक्त (घनकचरा व्यवस्थापन)

श्री. सुरेश जगताप वय अं.- ४८, धंदा - नोकरी

रा. - म.न.पा.भवन, शिवाजीनगर, पुणे - ४११००५

यांसी.....

} लिहून देणार

मे. इकोमन एनव्हायरो सोल्युशन्स प्रा.लि.                      तर्फे

श्री. बिपिन साळुंके वय:- अं. ३२

व्यवसाय:- व्यापार

रा. :- गट नं. १८९, ज्योतिबा नगर,

तळवडे, पुणे-४१२११४

} लिहून देणार

करारनामा लिहून देतो की,

कामाचे नाव : **Design, Supply, Installation, Commissioning, Operation and maintainance of Microorganism Based 24 Hrs Composting Machine including civil work for a period of 5 years to Process Organic Biodegradable Municipal Solid Waste. (B-2 Tender) in the jurisdiction of Bhavani Peth Ward office. ( ५ मे.टनाचे ४ प्रकल्प व ३ मे.टनाचे २ प्रकल्प)**

मुंबई प्रांतिक अधिनियम १९४९ खाली असलेल्या अधिकारान्वये सदर कायद्यातील तरतूदीस अनुसरून मा. महापालिका आयुक्त यांनी सदरहून दरपत्रके मागविली व करारनामा लिहून देणार यांनी या करारामध्ये नमूद केल्या बरहूकुम दिलेले दरपत्रक मा. स्थायी समिती, पुणे महानगरपालिका यांनी ठराव क्र. १२६ दि.०५/५/२०१५ ने मान्य केले आहे, तसेच या करारातील शर्तीची करारनामा लिहून देणार यांजकडून योग्य आणि विश्वासपूर्ण अंमलबजावणी व्हावी म्हणून जागिनकी दाखल रक्कम रु. ८८३,०००/- (आठ

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त्यावेळी ऑर्डर देण्यात येईल त्याप्रमाणे त्याने हे काम टेंडरमध्ये नमूद केलेल्या सर्व ऑर्डर दिली नाही अशी तक्रार दिली नाही अशी तक्रार ठेकेदार यांस करता येणार नाही. मान्य टेंडरपेक्षा ५० टक्क्यापर्यंत अधिक काम ठेकेदार याने या करारनाम्यातील दराने पुरविली पाहिजे.

२. या कामाची ऑर्डर महापालिका सहाय्यक आयुक्त, घनकचरा व्यवस्थापन यांच्या स्वाक्षरीने महानगरपालिकेच्या छापील फॉर्मवर ठेकेदार यांस दिली जाईल ती ऑर्डर दिल्यापासून त्या ऑर्डरमध्ये नमूद केलेले काम मान्य मुदतीत पूर्ण करून दिले पाहिजे. ही मुदत करारनाम्याची महत्वाची अशी बंधनकारक शर्त आहे.

तथापि मा. सहमहापालिका आयुक्त (घनकचरा व्यवस्थापन) हे योग्य व पुरेश्या कारणाकरीता या मुदतीत वाढ देवू शकतील मात्र या कराराची पूर्तता करण्यात करारनामा लिहून देणार यांस अशा प्रकारे किती मुदत वाढ द्यावयाची ती कोणत्या अटीवर व शर्तीवर द्यावयाची, मुदतवाढीसाठी योग्य व पुरेसे कारण आहे किंवा नाही याबद्दल परिस्थिती विचारात घेवून निर्णय करण्याचा सर्वस्वी आणि एकमेव हक्क मा. सहमहापालिका आयुक्त (घनकचरा व्यवस्थापन) यांस राहिल त्याबाबत कोणतीही तक्रार चालणार नाही व तक्रार करण्याचा हक्क करारनामा लिहून देणार यांस नाही.

३. टेंडर फार्ममध्ये नमूद केलेली असलेली कामे महानगरपालिकेकडून आवश्यकतेनुसार जरूरी असेल त्याप्रमाणे करून घेण्यात येईल. महानगरपालिकेला कामाची जसजशी जरूरी लागेल तसतशी मा. सहमहापालिका आयुक्त (घनकचरा व्यवस्थापन) यांच्या स्वाक्षरीने महानगरपालिकेच्या छापील फॉर्मवर ठेकेदार यांस ऑर्डर दिली जाईल कोणत्याही ऑर्डरवर या अधिका-याची स्वाक्षरी नसल्यास अगर कोणी तोंडी ऑर्डर दिल्यास ठेकेदार याने काम पुरवायची नाही आणि जर ठेकेदाराने याप्रमाणे असलेली कामे पुरविली व त्यामध्ये गफलत झाली तर सदर असलेली रक्कम ठेकेदार यांस महानगरपालिकेकडून मागता येणार नाही. वर नमूद केलेल्या पध्दती प्रमाणे ऑर्डर मिळाल्यावर ज्या मुदतीत महानगरपालिकेला आवश्यक असलेली कामे पुरविण्याबद्दल ऑर्डर दिली असेल तितकी कामे करावयाची आहेत. ठेकेदाराने पुरविलेली मशिनरी व जागेवरील कामे बरोबर आहे किंवा नाही याची तपासणी मा. सहमहापालिका आयुक्त (घनकचरा व्यवस्थापन) व मा. महापालिका सहाय्यक आयुक्त, घनकचरा व्यवस्थापन, पुणे महानगरपालिका हे करतील. उभारण्यात आलेल्या प्रकल्पांची कामे जे अधिकारी वा सेवक वापरतील त्याचे काम वापरानंतर काढलेल्या दोन प्रतीवर नोंदी करून त्याची स्वाक्षरी घ्यावी. याप्रमाणे तजविज न केल्यामुळे प्रकल्पांची करण्यात आलेली कामे व कार्यादेश यामध्ये गफलत झाल्यास अगर हिशोबात काही घोटाळा झाल्यास त्याची तोशिस ठेकेदार यांस सोसावी लागेल. केलेल्या प्रकल्पाच्या कामात तांत्रिक उणिवा अगर चुकीचे आढळल्यास जर टेंडर दरापेक्षा जास्त दराने मा. महापालिका आयुक्त यांना प्रकल्पाची कामे करण्याची आवश्यकता लागली तर जेवढी रक्कम महानगरपालिकेला जास्त द्यावी लागेल तेवढ्या रकमेची भरपाई करण्याची जबाबदारी ठेकेदार यांच्यावर राहिल. शिवाय सदरची रक्कम ठेकेदारास द्यावयाच्या बिलाच्या रक्कमेतून अगर टेंडरच्या हमीदाखल ठेवलेल्या रक्कमेतून कापून घेण्याचा मा. महापालिका आयुक्त यांना हक्क राहिल.

४. ऑर्डर दिल्यानंतर ठेकेदाराने ऑर्डरची पूर्तता करण्यासाठी आणलेल्या मशिनरी व प्रकल्पाचे काम मा. सह महापालिका आयुक्त (घनकचरा व्यवस्थापन) अथवा मा. महापालिका सहाय्यक आयुक्त, घनकचरा व्यवस्थापन यांस खालील परिस्थितीत नाकारण्याचा अधिकार राहिल.

- अ. ठेकेदाराने प्रकल्पाची केलेली कामे ऑर्डरमध्ये नमूद केलेल्या वर्णनाची नसल्यास
- ब. ऑर्डरमध्ये नमूद केलेल्या मुदतीत मशिनरी न पुरविल्यास आणि-
- क. ऑर्डरमध्ये नमूद केलेले काम न केल्यास -

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५. ठेकेदार यांनी या करारान्वये पुरविलेल्या प्रकल्पांची मशिनरी व स्थापत्य कामे हे चालू सुस्थितीत उत्तम कंडिशनमध्ये असले पाहिजे तसेच मा. सहमहापालिका आयुक्त (घनकचरा व्यवस्थापन), पुणे महानगरपालिका यांस पसंतही पडले पाहिजे. नापसंत असलेले काम त्वरीत स्वखर्चाने दुरुस्त केले पाहिजे.

६. प्रत्येक महिन्यात जितक्या कच-यावर प्रक्रिया शास्त्रोक्त दृष्टीने केलेली असेल तितक्या कामाची बिले पुढील महिन्याच्या पाच तारखेच्या आत सादर केली पाहिजे. हि बिले अटी व शर्ती इ.तपशीलानुसार बरोबर असल्यास दिली जातील. त्यासोबत गत महिन्याचे किमान वेतन ईएसआय, प्राफेशनल टॅक्स, प्रोव्हिडंट फंड इ. कागदपत्रांची पूर्तता ठेकेदार यांनी करणे आवश्यक आहे.

७. प्रकल्प यशस्वितेबाबत एकूण रकमेच्या १० टक्के बँक गॅरंटी स्वरूपात पुणे महानगरपालिकेकडे सादर केल्याखेरीज बिल अदा केले जाणार नाही.

८. ठेकेदार यांना कॅव्हाही प्रस्तूतचा करारनामा तबदील करता येणार नाही अगर पोटभाड्याने देता येणार नाही. किंवा अन्य कोणाकडेही सुपूर्त करता येणार नाही. विनिर्देशीत प्रकल्पाचे काम व चालविणे व देखभाल दुरुस्तीचा कालावधी पूर्ण झालेल्या दिनांकापासून कॅलेंडर महिन्यापर्यंतचा कालावधी डिफेक्ट लायबिलिटी पिरीअड म्हणून धरला जाईल या बारा महिन्यांच्या कालावधीत ठेकेदाराने केलेल्या कामात दोष आणि उणिवा इ. आढळून आल्यास ठेकेदाराने त्या स्वखर्चाने निविदा शर्ती व अटीप्रमाणे दुरुस्त करून बसविणे, या कालावधीत सुस्थितीत ठेवण्याची जबाबदारी ठेकेदार याची राहिल. ठेकेदार यांनी मान्य, कबूल व स्विकृत केलेले आहे. ठेकेदारास महानगरपालिका अशा दुरुस्त्यांबद्दल कोणतीही रक्कम अदा करणार नाही. ठेकेदाराकडून या जबाबदारीपोटी मेन्टेनन्स चार्जेस म्हणून जाहिरातीत दर्शविलेल्या निविदा रक्कमेच्या पाच टक्के रकमेपैकी सदर कामासाठी १ टक्के बयाणा र.रु. ५,००,०००/- आपण यापूर्वी डिमांड ड्राफ्टने भरलेली आहे, उर्वरित र.रु. १,००,३६०/- वर्कऑर्डर च्या दिनांकापासून मनपा कोष कार्यालयात ८ दिवसाचे आत भरणा करावी तसेच ५ टक्के अनामत रक्कमेपैकी ४ टक्के प्रमाणे एकूण र.रु. २४,०१,४४०/- पहिल्या तीन रनिंग बिलातून अनामत रक्कम म्हणून कापून घेईल. अंतिम बिल अदा केल्यानंतर सहा कॅलेंडर महिने कालावधीसाठी निविदा शर्ती व अटीप्रमाणे राखून ठेवण्यात येईल. सदर रकमेवर करारनामा लिहून देणार यांस व्याज मिळण्याचा हक्क नाही.

९. या करारनाम्यातील शर्तीनुसार ठेकेदार वागला नाही अथवा त्याने कराराचा कोणत्याही प्रकारे भंग केला व त्यामुळे महानगरपालिकेचे काही नुकसान झाले तर नुकसानीची रक्कम ठेकेदार यांस दयावयाच्या बिलाच्या रकमेतून हमीच्या रकमेतून अगर ठेकेदार यांस महानगरपालिकेकडून घेणे असलेल्या इतर कोणत्याही रकमेतून कापून घेण्याचा मा. महापालिका आयुक्त यांना हक्क राहिल.

१०. वरील शर्तीनुसार कोणत्याही शर्तीचे ठेकेदाराकडून वक्तशीर पालन होत नाही असे दिसून आल्यास ठेकेदाराचे टेंडर व करार ताबडतोब रद्द करण्याचा व ठेकेदाराची अनामत रक्कम अगर त्यापैकी योग्य वाटेल तेवढी रक्कम जप्त करण्याचा मा. महापालिका आयुक्त यांना हक्क राहिल. या शर्तीमुळे टेंडर आणि करार जिवंत ठेवून शर्त क्रमांक -४ मध्ये नमूद केल्याप्रमाणे वागण्याचा मा. महापालिका आयुक्त यांना हक्क राहिल व त्या हक्कास कोणत्याही प्रकारे बाधा येणार नाही.

११. या करारान्वये ठेकेदारास देणे होणा-या रकमेची प्रत्येक पावती जर ठेकेदार फर्म अथवा कंपनीचे नावाची व सदर फर्म अथवा कंपनी करता कोणत्याही एका भागीदाराने, डायरेक्टरने अथवा प्रोप्रायटरने स्वाक्षरी केलेली असेल तर त्या पावतीने पोहोच दयावयाच्या रकमेची ती पुरेशी पावती होईल व त्या पावती मुळे मा. महापालिका आयुक्त पुणे महापालिका यांना त्या देणे रकमेची योग्य व पूर्णफेड केली आहे असे होईल.

१२. प्रस्तूत करारनाम्यावरून ठेकेदार यांस ज्या ज्या रकमा मिळावयाच्या असतील त्या त्या सर्व रकमांवर तसेच या कराराच्या अंमलबजावणीच्या प्रित्यर्थ जांमिनकी म्हणून ठेवलेल्या अनामत रकमेवर

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ठेकेदार यांजकडून प्रस्तूतचा करार किंवा इतर कोणताही करार किंवा कोणत्याही स्वरूपाचा व्यवहार यांजवरून महानगरपालिका चे येणे निघणारी रक्कम किंवा इतर रकमा यांचा बोजा राहिल तसेच ठेकेदार यांचे एकटयाकडून किंवा इतर कोणत्याही जोडीने मुंबई प्रांतीक महानगरपालिका अधिनियम १९४९ किंवा इतर अंमलात असलेले कायदे यांचे अन्वये येणारे होणारे महानगरपालिकेचे कर किंवा इतर कोणत्याही रकमा यांचा बोजाही सदरील रकमा व अनामत रक्कम यांजवर राहिल. त्याचप्रमाणे पुणे महानगरपालिकेचे वतीने मा. महापालिका आयुक्त यांना ठेकेदाराकडून येणे निघणारी रक्कम ठेकेदाराने या करारनाम्यापोटी महानगरपालिकेकडे ठेवलेल्या अनामत रकमेतून अथवा त्यास दयावयाच्या बिलाच्या अथवा अन्य कोणत्याही रकमेतून कापून घेण्याचा सदैव हक्क राहिल.

१३ या करारनाम्यावरून निर्माण होणा-या कोणत्याही तंटयाचा निकाल करण्याचा अधिकार मा. महापालिका आयुक्त यांना राहिल. व सदर निर्णय बंधनकारक राहिल.

१४ या कराराच्या व्यवहाराच्या कामी ठेकेदारास महानगरपालिकेच्या वतीने कोणतीही नोटीस दयावयाची असेल तर ते ठेकेदार फर्म अथवा कंपनीच्या रजिस्टर पत्त्यावर किंवा ठेकेदाराच्या वर नमूद केलेल्या पत्त्यावरती महानगरपालिकेने पोस्टल सर्टिफिकेट घेउन पोस्टाने पाठवावे किंवा पत्त्यात नमूद केलेल्या मिळकतीचे दर्शनी भागास चिकटवावे. अशा प्रकारे नोटीसांची बजावणी केली असता बजावणी झाली नाही असे म्हणण्याचा ठेकेदार यांस हक्क राहणार नाही.

१५ या कराराची योग्य व विश्वास पूर्ण अंमजबजावणीसाठी जामीनकी दाखल ठेवलेल्या अनामत रक्कमेची पावती ठेकेदारास इतर कोणासही देता करता येणार नाही किंवा इतर कोणत्याही जडजोखमीत गुंतविता येणार नाही. सदरची पावती हजर केल्याशिवाय सदर अनामत रक्कम ठेकेदास यांस परत देता येणार नाही याची स्पष्ट जाणीव त्यास दिलेली आहे.

१६ या करारनाम्यातील मुदतीत ठेकेदार फर्म मोडली अथवा कंपनी लिक्विडेशन मध्ये निघाली त्यांनी नादारीचा अर्ज केला गेला अगर दुर्दैवाने ठेकेदार स्वतः निधन पावले तर हा करार ताबडतोब संपूष्ठात आणण्याचा मा. महापालिका आयुक्त यांस हक्क राहिल. परंतु ज्या दिवशी करार संपूष्ठात येईल त्या दिवशी ठेकेदाराच्या ज्या जबाबदा-या असतील त्यास या शर्तीनुसार करारनामा रद्द केल्यामुळे कोणतीही बाधा येणार नाही अगर त्या नष्ट होणार नाही.

### १७ कामाची व्याप्ती

संपूर्ण कामाची व्याप्ती तीन भागात खालील प्रमाणे विभागली आहे

१८ बांधकाम : बांधकाम तपशीलानुसार व इंजि. इनचार्ज यांचे सुचनेनुसार उपलब्ध जागेचे डिझाईन करून घेऊन मान्यता घेऊन काम करावयाचे आहे. बांधकाम मटेरिअल च्या आवश्यक त्या चाचण्या घेणे बंधनकारक राहिल. प्रत्यक्ष जागेवर झालेल्या मोजमाप व कामानुसारच बिल अदा करणेत येईल.

१९. विद्युतयांत्रिकी काम : यांत्रिकी व विद्युत कामे जागेवर महानगरपालिकाकडील विद्युत अभियंता यांचे सुचनेनुसार व देखरेखीखाली काम करण्यात यावे व त्याचा दाखला घेण्यात यावा. सदर कामाचे बिल ६० टक्के मशीन पुरविल्यानंतर, २० टक्के मशीन कार्यान्वित केल्यानंतर आणि उर्वरित २० टक्के रक्कम मशीन एक महिना चालविल्यानंतर अदा करणेत येईल.

१९.१ कार्य करणे व पाच ५ वर्षांची देखभाल : ठेकेदाराने पाच ५ वर्षा करिता ६० महिने नियुक्त क्षमतेत यंत्रसंच चालवणे व देखभाल ठेवणे. ह्या काळात टेंडर मध्ये नमुद स्वच्छतेची काळजी घ्यावी व नियमित पध्दतीने यंत्रसंच चालवण्यास दैनंदिन कार्य करणे तसेच सर्व स्थापत्य व विद्युतयांत्रिकी उपकरणांची देखभाल ठेवणे. तसेच सदर ठिकाणी ठेकेदाराने आवश्यक कर्मचा-यांची नेमणूक करावी जे नियमितपणे यंत्रसंच चालवण्यासाठीची सर्व ओ आणी एम कामे करण्यासंबंधीची माहिती वाळगतात व

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सदैव कामगिरीची हमी देऊ शकतात, प्रकल्पाच्या देखभाल दुरुस्तीच्या कामाचे बिल दरमहा अदा करण्यात येईल

१९.२ एखादा भाग बदलण्याची गरज पडल्यास तो भाग ठेकेदाराने स्वखर्चाने ओ अॅण्ड एम काळात संपूर्णपणे करावयाचा आहे. ठेकेदाराने यंत्रसंच स्वच्छ व चांगल्या स्थितीत ठेवावा जेणे करून दुर्गंधी माश्या उंदिर घुशी इ. होणार नाही.

१९.३ : यशस्वी ठेकेदाराने एमपीसीबी कडून आवश्यक 'स्थापनेस संमती' व 'चालवण्यास संमती' घेणे गरजेचे आहे. हे कंत्राटाच्या काळात दर वर्षी केले जावे. कंत्राटदाराने सर्व कागदपत्रांची पूर्तता व एमपीसीबी बरोबरील दैनंदिन कामाचा लेखापोखा ठेवावा. तरी कंत्राटप्राप्त व्यक्तीने एमपीसीबीला द्यावयाचे आवश्यक शुल्क भरावे.

एमएसईडीसीएल बरोबर विद्युत पुरवठ्या संबंधा व पाठपुरावा तसेच इतर शासकीय व निम शासकीय संस्था बरोबरचा पाठपुरावा करण्याची सांभाळण्याची जबाबदारी कंत्राटदार व्यक्तीची असेल. आवश्यक व ते शुल्क ने मनपामार्फत भरवण्यात येईल.

कंत्राटदाराने सदर ठिकाणी इंटरनेट जोड सहित अद्यावत संरचनेचा तसेच येणारा व जाणारा कचरा व खत यांची माहिती संकलन करणारी विशेष विकसित संगणकीय प्रणाली ने युक्त असा संगणक ठेवावा.

कंत्राटदाराने प्रत्येक ठिकाणी आयपी बेस सीसीटिव्ही कॅमेरा वसवावा व तो कॅमेरा महानगरपालिकेशी संबंधित विभागातील संगणकाशी सदैव जोडलेला असावा. अशी जोडणी कंत्राटदाराने स्वखर्चाने करावी.

## २०. कामाची मुदत

संपूर्ण कामाचा एकूण कंत्राट कालावधि हा ६६ महिन्यांचा असेल. एकूण कंत्राट कालावधिपैकी कमाल ६ महिने स्थापत्य व विद्युतयंत्रिकीच्या कामासाठी असेल व ओ अॅण्ड एम साठी ५ पाच वर्ष ६० महिने असेल. यशस्वी कंत्राटदाराला जर यंत्रसंच स्वच्छतेसाठी बंद करावा लागला तर त्या काळापुरती ओ अॅण्ड एम रक्कम देण्यात येणार नाही. ओ अॅण्ड एम कालावधी प्रकल्प पूर्ण क्षमतेने सुरु झालेल्या दिनांकापासून धरण्यात येईल.

२१. संपूर्ण देखभाल दुरुस्ती काळात दैनंदिन प्रकल्प चालवण्यास कच-यावर प्रकिया करण्यास लागणारी विज व पाणी मोफत पुरवण्याची जबाबदारी महानगरपालिकेची असेल. तथापि विजपुरवठा, पाणीपुरवठा खंडीत झाल्यास त्याचा पाठपुरावा करण्याचे काम संबंधित ठेकेदाराची राहिल.

२१.१ यंत्रसंचाच्या कमाल क्षमतेनुसार महानगरपालिकेमार्फत ८० टक्के निम विभाजीत सेंद्रिय कचरा पुरवतील त्यापैकी कंत्राटदाराने विभाजनानंतर कमाल ८५ टक्के कचरा यंत्रसंचामध्ये घालावा.

२१.२ याउलट यंत्रचालकाच्या चुकीने जर एका महिन्यात यंत्रसंचाच्या क्षमतेच्या ८५ टक्के पेक्षा कमी किमान विभाजीत येईल. कच-यावर प्रकिया केली गेली तर त्या महिन्यासाठी ओ अॅण्ड एम रक्कम प्रोराटा आधारावर अदा केली जाईल. उदा. जर यंत्रचालकाने केवळ ७५ टनांवर (यंत्रसंचाच्या ५० टक्के) किंवा अधिक वर तसेच १५० टन प्रति माह पेक्षा कमी कच-यावर प्रकिया केली असेल व जर ओ अॅण्ड एम रक्कम रू. १५००० दर माह असेल तर यंत्रचालक त्या महिन्या साठी रू ७५०० घेण्यासच पात्र आहे. (रू १५००० प्रति १५० टन म्हणजे रू. १०० प्रति टन. एका महिन्यामध्ये यंत्रचालकाकडे आलेला कचरा ७५ टन X दर रू १०० प्रति टन = रू ७५०० सदर महिन्या करीता).

Rg

## २२. यशस्वी कंत्राटदाराची कर्तव्ये

२२.१ यशस्वी कंत्राटदाराने निविदा संचामध्ये नमुद कामाचे वर्णनानुसार तांत्रिकबाबी नुसार काम करावे व कामाचे कंत्राट मिळण्याच्या तारखेपासून पाच वर्षे नियुक्त क्षमतेनुसार यंत्रसंच चालवणे व देखभाल करणे. ह्या काळात ठेकेदाराने नियमित पध्दतीने यंत्रसंच चालवण्यास दैनंदिन काम करणे तसेच सर्व स्थापत्य व विद्युतयांत्रिकी उपकरणांची देखभाल ठेवणे. तसेच सदर ठिकाणी ठेकेदाराने आवश्यक कर्मचा-यांची नेमणूक करावी जे नियमितपणे यंत्रसंच चालवण्यासाठीची सर्व ओ अॅण्ड एम कामे करण्यासंबंधीची माहिती बाळगतात व सदैव कामगिरीची हमी देऊ शकतात.

२२.२ महानगरपालिकेने पुरवठा केलेल्या सेंद्रिय कच-याचे विभाजन करण्याची जबाबदारी टेंडर ठेकेदाराची राहिल. ह्यासाठी वेगळी कोणतीही रक्कम अदा केली जाणार नाही.

२२.३ खालील नमुन्यामध्ये यशस्वी कंत्राटदाराने मासिक ओ अॅण्ड एम तपशील दिला पाहिजे जो कंत्राटदाराने तसेच संबंधीत एसआय डीएसआय सीएसआय डबल्यूएमओ व नुसार महापालिका सहाय्यक आयुक्त नुसार यांनी साक्षांकित केलेला असला पाहिजे.

## रचना - १ - कचरा प्रक्रीयेसाठी

अ.क्र.	महिना दिनांक	कचरा घेतला टन/दिवस	नाकारलेला टन/दिवस	कचरा प्रक्रीया टन /दिवस	कंपोस्ट तयार करणे क्यु. मी. दिवस	शेरा

२२.४ यशस्वी कंत्राटदाराने कंपोस्टची प्रयोगशाळेतील चाचणी खालील मापदंडानुसार केली पाहिजे व ती एम एस डबल्यू एम २००० नियमात नमूद केलेल्या मापदंडानुसार असावी.

अ. क.	घटक	वार्षिक वारंवारता
१	पी एच (pH), नायट्रोजन, फॉस्फरस, पोटॅश, सी : एन प्रमाण, आर्द्रता अरसेनिक, कॅडमियम, क्रोमियम, तांबे, शिसे, पारा, नायकेल, जस्त. १	वर्षातून चारवेळा

२३. कामाची संधी व टेंडर तपशीलाप्रमाणे काम करणे.

२३.१ 'कामाची संधी' मध्ये नमुद तपशीलाप्रमाणे सर्व काम उत्पादकता व्यवसायीक पध्दतीने व धोरणी पध्दतीने सामग्री तसेच वेळेच्या योग्य वापराने करायचे आहे.

२३.२ कंत्राटदाराने कंत्राटातील तरतूदींच्या आधिन रहावे व कामाचे क्रियान्वयन काळजीपूर्वक व व्यासंगीपणाने करेल व सर्व कामाच्या मुल्यमापन व देखरेखीसंबंधी सर्व श्रम व सामग्री अवजार व यंत्रसंच रचनात्मक योजना व स्थायी व अस्थायी स्वरूपाच्या इतर बाबी ज्या सदर क्रियान्वयनासाठी व देखभालीसाठी लागतील ज्या तरतूदींची गरज नमुद केली आहे वा कंत्राटातून विदित होते त्या बाबींची पूर्तता करावी. सर्व कामाच्या मुबलकतेची योग्यतेची तसेच सुरक्षेची जबाबदारी व काम करण्याच्या पध्दतीची जबाबदारी टेंडर भरणा -यावर असेल.

१५

### २४. अपेक्षित जोखमी व आकस्मिक घटना

२४.१ जर कंत्राटाचे कियान्वयन युध्दामुळे अराजकतेमुळे, आक्रमणमुळे विदेशी शत्रुच्या हलचालीने, यादवी, उठाव, कांती, बंड, दंगल व जन प्रक्षोभ ( कंत्राटदाराच्या नोकर कामगारां संबंधीत सोडून इतर) राज्याच्या कृत्याने, देवाच्या कृत्याने जसे भूकंप, महापूर व इतर माहितीतील साथीचे आजार, जे अनुभवी कंत्राटदारास अभीप्रेत नसतील व ज्या संबधाने त्याने तरतूदी केल्या नसतील किंवा विमा उतरवला नसेल तर अशा घटने च्या सात दिवसात पुराव्यासह मुदत वाढीसाठी सह महापालिका आयुक्त कडे अर्ज करू शकतो. परीस्थीतीचा काळजीपूर्वक अभ्यास करून कंत्राटदाराकडून सदर मुदती करीता नुकसानीचा दावा न करता आवश्यकता वाटल्यास मुदत वाढ देऊ शकतो.

२४.२ सह महापालिका आयुक्त कडून मिळालेली मुदतवाढ कंत्राटदारास मुल्य वाढविण्याची मुभा देत नाही व त्याला कंत्राटाच्या अटीतून मोकळे करीत नाही. संपूर्ण कंत्राटाचे कियान्वयन जर आपत्तीच्या कारणाने सहा महिन्यापेक्षा जास्त काळासाठी रखडले तर सह महापालिका आयुक्त व कंत्राटदार सदर बाबीवर चर्चा करून दोन्ही बाजूस कुठल्याही भरपाई विना कंत्राट रद्द करण्याचा निर्णय घेऊ शकतात किंवा मान्य अटींवर कंत्राटाचे कियान्वयन करू शकतात.

### २५. कामगार कायदा तरतूदी

किमान वेतन कायदा वेतन देय्य कायदा कामगार जबाबदारी कायदा कामगार भरपाई कायदा ई एसआय कायदा वा राज्य किंवा केंद्र सरकारचे वेळोवेळी लागू असलेले इतर कायदे नियम व अटीनुसार आपल्या कामगारांना व नोकरांना वेतन व इतर पगार देण्यास कंत्राटदार जबाबदार असेल. कंत्राटदाराने उमेदवारी कायदा कंत्राटी कामगार नियंत्रण व निर्मूलन कायदा तसेच वेळोवेळी प्रस्तुत लागू असलेल्या नियम व कायद्याच्या तरतूदींच्या आधिन रहावे.

### २६. कसब

कंत्राटातील काम किंवा एखाद्या भागाचे काम उत्तम व मान्य दर्जाच्या उपकरणाद्वारे व तरबेज कसबाच्या पध्दतीने करावे व दोन्ही काम व उपकरणे वैशिष्ट्यांना अनुसरून व दिलेल्या तपशीला प्रमाणे असावे व नकाशात दिल्याप्रमाणे किंवा अतिरीक्त निर्देश, सूचना व कागदपत्र जे आवश्यक व काम करते समयी वेळोवेळी कंत्राटदारास दिलेले व सह महापालिका आयुक्त यांच्या पूर्ण पसंतीस पडणारे असावे. संपूर्ण काम हे अद्यावत व मान्य यांत्रिकी चलनानुसार प्रमाण असावे व ज्यामुळे बांधकाम रचनेस कमीत कमी आवाज व स्पंदन देणारे असावे.

### २७. वाद आणि कार्यक्षेत्र

कंत्राटात वेगळे नमुद केल्या खेरीच नियम, अटी, वैशिष्ट्ये, नकाशे, रचना यांचा अर्थ तसेच यापूर्वी नमुद सूचना तसेच कसबाचा दर्जा किंवा कामासाठी वापरण्यात येणारी सामग्री किंवा स्वतंत्र उदभवणारे इतर प्रश्न, दावा, हक्क, बाब किंवा वस्तु वा कंत्राट, रचना, नकाशे, वैशिष्ट्ये, अंदाज, सूचना, निर्देश किंवा सदर परिस्थीती किंवा कामासंबंधाने किंवा कियान्वयन किंवा कियान्वयनातील अपयश जे कामाच्या दरम्यानचे किंवा काम पूर्ण झाल्यावरचे किंवा सोडून दिल्याचे अशा सर्व

ky

प्रश्नासंबंधी सह महापालिका आयुक्तांचे सर्व निर्णय कंत्राटातील सर्व पक्षासाठी अंतिम, अखेरचे व बंधनकारक असतील.

२८. कंपोस्टची मालकी

कंपोस्टची मालकी सर्वस्वी ठेकेदाराची असेल.

**BILLED**

A.B.NO. \_\_\_\_\_ Date \_\_\_\_\_

२९. महानगरपालिकेच्या वतीने करारनामा करण्याचा मा. महापालिका आयुक्त यांस असलेला अधिकार त्यांनी आज्ञापत्र खातेप्रमुख यांच्याकडे सुपूर्त केला आहे.

सबब मा. सह महापालिका आयुक्त(घनकचरा व्यवस्थापन) यांनी प्रस्तूतचा करारनामा केला आहे.

येणेप्रमाणे करारनामा मी माझे राजी खुशीने व अक्कल हुशारीने लिहून दिला असे.

कळावे,

दिनांक

साक्षीदार :-

१. परिमल म. साठे मे. इकोमन एनव्हायरो सिस्टिम्स. प्रा.लि. तर्फे

२. श्री.बिपिन सांळूके

डायरेक्टर

लिहून देणार

लिहून घेणार

पुणे महानगरपालिकेतर्फे

महापालिका सहाय्यक आयुक्त

घनकचरा व्यवस्थापन

पुणे महानगरपालिका

सह महापालिका आयुक्त

(घनकचरा व्यवस्थापन)

पुणे महानगरपालिका

या करारनाम्यास पुणे महानगरपालिकेचे

शिक्कामोर्तब आमचे समक्ष झाले.

पुणे महानगरपालिका

१.

२.

सभासद, स्थायी समिती

पुणे महानगरपालिका

True Copy  
Ryarg

**-: कामाची निविदा :-**

मी याद्वारे महानगरपालिकेच्या या कामांसाठी दिले या निविदा नमुण्यानुसार दिलेल्या नियम व काशाप्रमाणे दिलेल्या वेळेत व दिलेल्या (एकत्रित) दराप्रमाणे निविदा सादर करित आहोत. तथापी 'अ' यादीत दिलेल्या मनपाचे पुरविण्याच्या मालाच्या किंमतीस मी बांधिल आहे.

**अ) कामाचे नाव :** Design, Supply, Installation, Commissioning, Operation and maintainance of Microorganism Based 24 Hrs Composting Machine including civil work for a period of 5 years to Process Organic Biodegradable Municipal Solid Waste. (B-2 Tender) in the jurisdiction of Bhavani Peth Ward office. ( ५ मे.टनाचे ४ प्रकल्प व ३ मे.टनाचे २ प्रकल्प) ब)

**ब) ठेकेदाराची निविदा** अ) प्रकल्प उभारणी, स्थापत्य कामाची र.रू. २,९६,१४,२३५/- व इलेक्ट्रोमेकॅनिकल विषयक मशिनरी बसविणे व कार्यान्वित करणे. कामांचा खर्च (र.रू.४,०९,६०,०००/-)तडजोडीने र.रू.३,८३,३५०००/- असे एकूण र.रू. ६,७९,४९,२३५/- (अक्षरी र.रू.सहा कोटी एकोणऐंशी लक्ष एकोणपन्नास हजार दोनशे पस्तीस फक्त) सर्व करांसहीत ब) पाच वर्षांसाठी देखभाल दुरस्ती खर्च र.रू. २,०३,१०,०००/- (अक्षरी र.रू. दोन कोटी तीन लक्ष दहा हजार रु फक्त) सर्व करांसहीत असे एकूण र.रू. ८,८२,५९,२३५/- (अक्षरी र.रू. आठ कोटी ब्याऐंशी लक्ष एकोणसाठ हजार दोनशे पस्तीस फक्त) सर्वकरांसहीत

**क) निविदा रकमेच्या पाच टक्के रक्कम रनिंग बिलातुन कापून घेण्यात येईल.**

**ड) ठेकेदारास अदा करावयाच्या रकमेतून वसूल करावयाची, एकूण ५ टक्के रकमेपैकी राहिलेली सुरक्षा अनामत रक्कम ४ टक्के: रक्कम त्यांचे बिलातून वजावट करण्यात येईल.**

**ई) लेखी वर्कऑर्डर दिल्याचे तारखेपासून काम पूर्ण करण्यास मुदत : वर्क ऑर्डरनुसार. ६६ महिने**

माझी सदरची निविदा स्विकारण्यात आलेली असून, मी करारासोबत सर्व अटी व अटींमधील तरतूदींची ज्या लागू आहेत त्यांची पूर्तता करीन व त्या अटींची पूर्तता करण्यास कसूर झाली तर अटींमध्ये नमूद केलेली रक्कम मी पुणे महानगरपालिकेकडे जमा करण्यास मान्यता देण्यास वचनबध्द आहे.

ठेकेदार : **मे. इकोमन एनव्हायरो सोल्युशन्स प्रा.लि.**

पत्ता: गट नं. १८९, ज्योतिबा नगर, तळवडे

पुणे-४१२११४

साक्षीदार : १) परिमल से. साठगे

२) वैभव मुकाव साठगे

**BILLED**  
AB.NO. 3909 DATE 14/12/12

सदरची निविदा महापालिका आयुक्त यांनी महानगरपालिकेसाठी स्विकारली आहे.

पुणे  
दिनांक

उप अभियंता  
घनकचरा व्यवस्थापन  
पुणे महानगरपालिका

महापालिका सहाय्यक आयुक्त  
घनकचरा व्यवस्थापन  
पुणे महानगरपालिका

सहमहापालिका आयुक्त  
घनकचरा व्यवस्थापन  
पुणे महानगरपालिका

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## परिशिष्ट

## कामगार व औद्योगिक कायद्यातील विहित तरतूदीबाबत करारनाम्यात समाविष्ट करावयाच्या अटी व शर्ती

- १) संबंधित ठेकेदाराकडे समक्ष प्राधिकार्याने दिलेल्या अद्ययावत परवाना अरणे आवश्यक आहे.
- २) ठेकेदार नेमलेल्या सर्व कामगारांना किमान वेतन कायद्याप्रमाणे वेळोवेळी विहित केलेल्या दराने व विहित वेळेत वेतन देईल.
- ३) ठेकेदाराने कामगारास वेतन वाटप पुणे मनपाच्या अधिकृत प्रतिनिधी/अधिकार्या समक्ष करावे व वेतन रजिस्टरवर अशा अधिकृत प्रतिनिधी/अधिकार्याची स्वाक्षरी घ्यावी.
- ४) ठेकेदाराने त्याचेकडील कामगार, कामगारांना दिलेल्या कामाचे स्वरूप, वेळ, किमान वेतन इ. सर्व तपशीलासह नोंद रजिस्टर ठेवावे.
- ५) वरील तपशील दर्शविणारी नोटीस कामाच्या ठिकाणी दर्शणी भागी बोर्डावर लावणे बंधनकारक राहिल.
- ६) किमान वेतन अधिनियम १९४८, वेतन प्रदान अधिनियम १९३६, कामगार नुकसान भरपाई अधिनियम १९२३, राज्य कामगार विमा अधिनियम १९४८, भविष्य निर्वाह निधी अधिनियम १९५२, कंत्राटी कामगार (नियम आणि निर्मूलन) अधिनियम १९७०, इ.सर्व कामगार आणि औद्योगिक कायद्यातील तरतूदीचे पालन करणे आणि संबंधित कायद्यानुसार आवश्यक ती नोंद रजिस्टर्स ठेकेदाराने ठेवणे आवश्यक आहे.
- ७) सर्व औद्योगिक कामगार कायद्यानुसार विहित सोयी आणि सवलती ठेकेदाराने नेमलेल्या कामगारांना उपलब्ध करून देणे आवश्यक राहिल.
- ८) सर्व औद्योगिक कामगार तसेच अन्य कायद्यातील तरतूदीनुसार वा मे.न्यायालयाच्या हुकूमनुसार देय रक्कमा अदा करण्याची जबाबदारी ठेकेदाराची राहिल.
- ९) संबंधित ठेकेदाराने त्यास दिलेल्या कामाचा आणि कामावरील सर्व कामगारांना विमा शासकीय विमा निधीकडे उतरविणे आवश्यक राहिल.
- १०) बाल कामगार (प्रतिबंध व नियमन) अधिनियम १९८६ मधील सर्व तरतूदीचे पालन करण्याची जबाबदारी संबंधित ठेकेदाराची राहिल.
- ११) औद्योगिक व कामगार कायद्यातील तरतूदीची अंमलबजावणी करणे कामी विहित परिशिष्ट हे करारनाम्याचे अविभाज्य भाग असून त्यातील सर्व अटी व शर्तीचे पालन करण्याचे ठेकेदार यांनी मान्य व कबुल केले आहे.

ठेकेदाराची स्वाक्षरी (लिहून देणार)

मे.इकोमन एनव्हायरो सोल्युशन्स प्रा.लि. तर्फे

श्री.बिपिन सांळुके

गट नं. १८९, ज्योतिबा नगर, तळवडे पुणे ४१२११४

पुणे - ४१२११४

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## -: हमीपत्र :-

(विविध औद्योगिक व कामगार कायद्यातील तरतुदींचे पालन करण्याविषयी करारनामा करताना ठेकेदाराने सादर करावयाचे हमीपत्र)

मी मे.इकोमन एनव्हायरो सोल्युशन्स प्रा.लि. तर्फे बिपिन सांळूके , पत्ता :- गट नं. १८९, ज्योतिबा नगर, तळवडे , पुणे - ४१२११४

लिहून देतो की, मला Design, Supply, Installation, Commissioning, Operation and maintainance of Microorganism Based 24 Hrs Composting Machine including civil work for a period of 5 years to Process Organic Biodegradable Municipal Solid Waste. (B-2 Tender) in the jurisdiction of Bhavani Peth Ward office. हे काम वर्कऑर्डर जा.क्र.घकव्यका /६४३, दि.०३/०६/२०१५ अन्वये मिळाले आहे. त्या कामी खालीलप्रमाणे हमीपत्र लिहून देत आहे.

१. मी/आम्ही सक्षम प्राधिकार्याने दिलेला अद्ययावत परवाना घेतलेला आहे.
२. मी/आम्ही नेमलेल्या सर्व कामगारांना किमान वेतन कायद्यान्वये प्रचलित विहित दराने आणि विहित वेळेत वेतन आदा करू.
३. कामगारांचे वेतन पुणे मनपाच्या अधिकृत प्रतिनिधी/ अधिकार्या समक्ष वाटप करून वेतन रजिस्टरवर अशा अधिकृत प्राधिकृत प्रतिनिधीची/अधिकार्याची स्वाक्षरी घेण्यात येईल.
४. माझ्या/आमच्याकडील कामगार, कामगारांना दिलेल्या कामाचे स्वरूप, वेळ, किमान वेतन इ.सर्व तपशीलासह नोंद रजिस्टर ठेवण्यात येईल.
५. वरील तपशील दर्शविणारी नोटीस, कामाचे ठिकाण दर्शन भागी बोर्डावर लावण्यात येईल.
६. मी/आम्ही किमान वेतन अधिनियम १९४८, वेतन प्रदान अधिनियम १९३६, कामगार नुकसान भरपाई अधिनियम १९२३, राज्य कामगार विमा अधिनियम १९४८, भविष्य निर्वाह निधी अधिनियम १९५२, कंत्राटी कामगार (नियम आणि निर्मूलन) अधिनियम १९७०, मुंबई कामगार कल्याण निधी कायदा १९५३ इ.सर्व कामगार आणि औद्योगिक कायद्यातील तरतुदींचे पालन करून त्यांची मासिक वर्गणी भरणा करू आणि संबंधित कायद्यानुसार आवश्यक ती नोंद रजिस्टर्स ठेऊ.
७. मी/आम्ही सर्व औद्योगिक आणि कामगार कायद्यानुसार विहित सोई आणि सवलती कामगारांना देण्याचे मान्य आणि कबुल करित आहोत.
८. मी/आम्ही सर्व औद्योगिक कामगार तसेच अन्य कायद्यातील तरतुदीनुसार मॅ.न्यायालयाच्या हुकमानुसार देय रक्कम आदा करण्याची जबाबदारी स्विकारित आहोत.
९. मला/आम्हास दिलेल्या कामाचा आणि कामावरील सर्व कामगारांचा विमा शासकीय विमा निधी/त्यांनी प्राधिकृत केलेल्या एजन्सीकडे खालील तपशीलाप्रमाणे उतरवला आहे.

पॉलिसीचे नांव	पॉलिसी क्रमांक	रक्कम रूपये	कालावधी
कामाचा विमा	२०१६/८३७	१०४२८८.००	६ महिने
कामगारांचा विमा	२०१६/३७०७	८४०२९.००	६० महिने

सदरचे काम मी/आम्ही ३ कुशल कामगार, १७ अकुशल कामगार अशा एकूण २० कामगारांकडून ६० महिन्यांत करवून घेणार आहोत. त्या अनुषंगाने वर उल्लेख केलेल्या पॉलिसी क्र.२०१६/३७०७ मध्ये दर्शविण्यात आलेली कामगार संख्या, मुदत आणि वेतनाची एकूण रक्कम किमान वेतन दराशी सुसंगत आहे.

१०. या कामाव्यतिरिक्त पुणे म.न.पा.मध्ये माझी/आमची १ इतकी कामे चालू असून माझेकडील/आमचेकडील एकूण कामगार संख्या २८ इतकी आहे.

११. वर नमूद केलेली माहिती माझेकडील रेकॉर्ड्स व समजूतीप्रमाणे योग्य व बरोबर आहे. वर नमूद केलेल्या कायद्याच्या अनुषंगाने येणाऱ्या दायीत्वास मी/आम्ही पूर्णपणे जबाबदार आहोत. वर नमूद केलेल्या अटीचे मी ठेकेदार म्हणून पूर्ण पालन करीन व मनपास कसलीही आर्थिक तोषिष लागू देणार नाही.

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१२. औद्योगिक व कामगार कायद्यातील तरतूदींची अंमलबजावणी करणे कामी विहित परिशिष्ट हे करारनाम्याचे अविभाज्य भाग असून त्यातील सर्व अटी व शर्तीचे पालन करण्याचे ठेकेदार यांनी मान्य व कबुल केले आहे.

१३. बाल कामगार (प्रतिबंधक नियम) अधिनियम १९८६ मधील सर्व तरतूदींचे पालन करण्याची जबाबदारी ठेकेदाराची राहिल.

ठेकेदाराची स्वाक्षरी



उपअभियंता  
(घनकचरा व्यवस्थापन)  
पुणे महानगरपालिका

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\* Agreement \*

**Tender No. 62 - 2014**

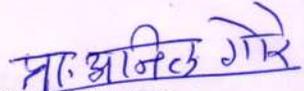
The Name of the Work : Design, Supply, Installation, Commissioning, Operation and maintenance of Microorganism Based 24 Hrs. Composting Machine including civil work for a period of 5 years to Process Organic Biodegradable Municipal Solid Waste. ( B - 2 Tender ) in the jurisdiction of Bhavani Peth Ward Office. ( 4 Projects of 5 M. Tone & 2 Projects of 3 M. Tone ) .

Name of the Contractor : M / s. Icoman Enviro Solutions Pvt. Ltd.

Cost of the Draft - Rs. 350 / -

Receipt of Cost of the Draft : 13277, Date 17 / 06 / 2015.

This Marathi into English Translation is done by ANIL SHRIPAD GORE, Member, Translation Panel, Govt. of Maharashtra appointed Vide GR.No. NAMIKA-2019/C. No 29/Bhasha-2 Dated 22 March 2021

  
Sign of the Translator

①

**ANIL S. GORE**  
A-112, BALAJI PRASAD, 471, Shantwar Peth,  
Bajirao Peshwe Path, Pune-411030

\* Agreement \*

\* Agreement \*

**Tender No. 62 – 2014**

( The Agreement To carry out / provide the work / activities as per the requirement to the Solid Waste Management Department, Pune Municipal Corporation ) executed on \_\_\_\_\_ for the month \_\_\_\_\_ in the year 2015;

Mr. Suresh Jagtap, Age about 48, Joint Municipal )  
 Commissioner ( Solid Waste Management ) on )  
 behalf of the Pune Municipal Corporation )  
 Occupation : Service, )  
 Residing at : Municipal Bhavan, Shivaji Nagar, ) Party of the First Part  
 Pune – 411005. )

Between

M / s. Ecoman Enviro Solutions Pvt. Ltd. )  
 Through Mr. Bipin Salunkhe, Age about 32 yr, )  
 Occupation : - Business, )  
 Residing at : Gat No. 189, Jyotiba Nagar, ) Executant /  
 Talawade, Pune - 412114. ) Party of the Second Part

Hereby executing the Agreement that;

The Name of the Work : Design, Supply, Installation, Commissioning, Operation and maintenance of Microorganism Based 24 Hrs. Composting Machine including civil work for a period of 5 years to Process Organic Biodegradable Municipal Solid Waste. ( B - 2 Tender ) in the jurisdiction of Bhavani Peth Ward Office. ( 4 Projects of 5 M. Tone & 2 Projects of 3 M. Tone ) .

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प्र. अनिल गोरे  
 Sign of the Translator

2

**ANIL S. GORE**  
 A-112, BALAJI PRASAD, 471, Shaniwar Peth,  
 Bajirao Peshwe Path, Pune-411030

1. Under the authority as per the Mumbai Provincial Act 1949, pursuant to the provisions of the said Act, the Hon' ble Municipal Commissioner asked for the said tariff ( Rate List ) and the above said tariff ( Rate List ) as per mentioned in this agreement is approved by the Standing Committee, Pune Municipal Corporation as per Resolution No. 126 dt. 05 / 05 / 2015, also to deposit a surety sum of Rs. 8,83,000 / - ( Rupees Eight Lakhs and Eighty Three Thousand only ) for the proper and faithful execution of the terms and conditions of this Agreement

Whenever the order is given, the contractor cannot complain that he has not been given all the orders mentioned in the tender for this work as the order will be given at that time. The contractor shall provide up to 50 per cent more work than the agreed tender at the same rate in the contract.

2. The work order shall be issued to the contractor on the printed form of the Municipal Corporation along with the signature of the Assistant Municipal Commissioner, Solid Waste Management; and the work specified in the order shall be completed within the stipulated period from the date of the order. This is a very important and binding term / condition of this agreement.

However, the Hon' ble Joint Municipal Commissioner ( Solid Waste Management ) may extend this period for a good and sufficient cause. However, the person who will execute the agreement in fulfillment of this agreement has the absolute and sole right to decide how much time extension should be given, and on which terms and conditions, whether there is a right and sufficient reason for the time extension or not, considering the situation. Joint Municipal Commissioner ( Solid Waste Management ) will have all the sole and exclusive rights regarding this and , no complaint will be entertained in this regard and the right to complain will not be with the Executant of this agreement.

3. The works mentioned in the tender form shall be get done by the by the Municipal Corporation as and when required and as and when required by the Municipal Corporation, the order shall be given to the contractor on the printed form of the Municipal Corporation along with the signature of Hon' ble Joint Municipal Commissioner ( Solid Waste Management ), if any order is not signed by this officer, the contractor shall not provide the works. If any person gives a verbal order and if the contractor carries out such works and if there is a mistake in it, the contractor cannot claim the said amount from the Municipal Corporation. On receipt of the order as mentioned above, in which the order has been given by the Municipal Corporation for providing the necessary works, the works are to be done within the prescribed time limit. The Joint Municipal Commissioner ( Solid Waste Management ) and Hon' ble Assistant Municipal Commissioner, Solid Waste Management, Pune Municipal Corporation will verify whether the machinery provided by the contractor and the works on site are proper or not. After such a verification of this, in two sets / copies of the records of the work should be prepared and the signatures of the officials or employees of the municipal corporation, who will use the works of the constructed projects and their signatures should be obtained on the two copies taken out after the use of the work. If such an arrangement is not made, and if there is any gap in the work done and the work order of the project or if there is any misappropriation in the accounts, the contractor

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प्र. अनिल गोर  
Sign of the Translator

3

**ANIL S. GORE**  
A-112, BALAJI PRASAD, 471, Shaniwar Peth,  
Bajirao Peshwe Path, Pune-411030

will have to bear the load of the loss. If any technical deficiencies or mistakes are found in the project work done, If the Hon' ble Municipal Commissioner is required to carry out the project works at a higher rate than the tender rate, the contractor will be responsible for paying that additional amount incurred to the Municipal Corporation. Moreover, the Municipal Commissioner shall have the right to deduct the said amount from the amount of the bills to be paid to the contractor or from the amount deposited in the tender guarantee.

4. After placing the order, the Joint Municipal Commissioner ( Solid Waste Management ) or Hon' ble Municipal Assistant Commissioner, Solid Waste Management shall have the right to refuse the machinery and project work brought by the contractor to fulfill the order, the works on the following circumstances / ground.

a. If the work done by the contractor on the project is not as per the description specified in the order -

b. If the machinery is not supplied within the time specified in the order and -

c. If the work specified in the order is not done -

5. The project machinery and construction works supplied to the contractor under this contract should be kept in good working condition. Also, Hon' ble Joint Municipal Commissioner ( Solid Waste Management ), Pune Municipal Corporation should also be satisfied about the work carried out. Defective work should be promptly rectified at own expense.

6. Work bills should be submitted up to the fifth day of the following month against the quantity of the waste which has been scientifically processed in each month. These bills will be paid, if the details are found correct as per the terms and conditions etc. Along with this, the documents related to the last month regarding minimum wage, ESI, professional tax, provident fund etc. must be furnished by the contractor.

7. The bill will not be paid unless 10 percent of the total amount is deposited to the Pune Municipal Corporation in the form of a bank guarantee regarding the success of the project.

8. The Contractor shall at no time be able to transfer the present contract or sublet it, or transfer it to anyone else. The period from the date of completion of work and operation of the specified project and the maintenance, repair period up to a calendar month shall be considered as Defect Liability Period. If the defects and deficiencies etc. are found in the work done by the contractor during this twelve month period, then the contractor shall repair and install it at his own expense as per the terms and conditions of the tender and keep it in good condition during this period which is agreed, acknowledged and accepted by the contractor. The Municipal Corporation will not pay any amount to the contractor for such repairs. 1 % out of earnest money of Rs. 5,00,000 / - has already been paid by you vide a demand draft out of the five percent of the tender amount shown in the advertisement as maintenance charges from the contractor, the remaining amount is Rs. 1,00,360 / - and it should be paid into the municipal treasury office within 8 days from the

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date of the issuing of the work order. Also 4 percent of the 5 percent deposit totaling Rs. 24,01,440 / - will deducted as the deposit from the first three running bills. This deposit amount will be held as reserved for a period of six calendar months after payment of the final bill of the tender as per the terms and conditions of this tender. Those who execute the agreement are not entitled to get interest on the said amount.

9. If the contractor does not act according to the terms of this contract or if the contractor breaches the contract in any way and thereby causes any loss to the Municipal Corporation, the Hon' ble Municipal Commissioner shall have the right to deduct the amount of the loss from the amount of the bill to be paid to the contractor, from the guarantee amount or from any other amount to be received by the contractor from the Municipal Corporation.

10. If it is found that any condition is not complied by the contractor on time as per the above condition, the Hon' ble Municipal Commissioner shall have the right to immediately cancel the contractor's tender and contract and confiscate the contractor's deposit amount or such amount as he thinks fit. By keeping the tender and contract alive, the Hon' ble Municipal Commissioner shall have the right to act as per the condition No - 4 and that right shall not be affected in any way.

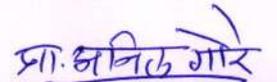
11. If every receipt for the amount due to the contractor under this contract is in the name of the contractor's firm or company and is signed by any of the partners, directors or proprietors of the said firm or company, such receipt shall be sufficient receipt for the amount to be delivered and the said receipt shall be sufficient for The amount due to the Municipal Commissioner, Pune Municipal Corporation shall be deemed to have been duly and fully paid.

12. All sums to be receivable by the contractor from this contract and the deposit amount kept as security for the execution of this contract shall remain encumbrance by the amount or other sums received by the Municipal Corporation from the contract or any other contract or transaction of any nature from the contractor. Also, the burden of municipal taxes or any other amount due by the contractor alone or jointly under the Mumbai Provincial Municipal Corporation Act, 1949 or other laws in force shall remain with the said amount and deposit amount. Similarly, on behalf of Pune Municipal Corporation, the Hon' ble Municipal Commissioner shall at all times have the right to deduct the amount due from the Contractor from the amount deposited by the Contractor with the Municipal Corporation under this Agreement or from any other amount due to him.

6. Work bills should be submitted up to the fifth day of the following month against the quantity of the waste which has been scientifically processed in each month. These bills will be paid, if the details are found correct as per the terms and conditions etc. Along with this, the documents related to the last month regarding minimum wage, ESI, professional tax, provident fund etc. must be furnished by the contractor.

7. The bill will not be paid unless 10 percent of the total amount is deposited to the Pune Municipal Corporation in the form of a bank guarantee regarding the success of the project.

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8. The Contractor shall at no time be able to transfer the present contract or sublet it, or transfer it to anyone else. The period from the date of completion of work and operation of the specified project and the maintenance, repair period up to a calendar month shall be considered as Defect Liability Period. If the defects and deficiencies etc. are found in the work done by the contractor during this twelve month period, then the contractor shall repair and install it at his own expense as per the terms and conditions of the tender and keep it in good condition during this period which is agreed, acknowledged and accepted by the contractor. The Municipal Corporation will not pay any amount to the contractor for such repairs. 1 % out of earnest money of Rs. 5,00,000 / - has already been paid by you vide a demand draft out of the five percent of the tender amount shown in the advertisement as maintenance charges from the contractor, the remaining amount is Rs. 1,00,360 / - and it should be paid into the municipal treasury office within 8 days from the date of the issuing of the work order. Also 4 percent of the 5 percent deposit totaling Rs. 24,01,440 / - will deducted as the deposit from the first three running bills. This deposit amount will be held as reserved for a period of six calendar months after payment of the final bill of the tender as per the terms and conditions of this tender. Those who execute the agreement are not entitled to get interest on the said amount.

9. If the contractor does not act according to the terms of this contract or if the contractor breaches the contract in any way and thereby causes any loss to the Municipal Corporation, the Hon' ble Municipal Commissioner shall have the right to deduct the amount of the loss from the amount of the bill to be paid to the contractor, from the guarantee amount or from any other amount to be received by the contractor from the Municipal Corporation.

10. If it is found that any condition is not complied by the contractor on time as per the above condition, the Hon' ble Municipal Commissioner shall have the right to immediately cancel the contractor's tender and contract and confiscate the contractor's deposit amount or such amount as he thinks fit. By keeping the tender and contract alive, the Hon' ble Municipal Commissioner shall have the right to act as per the condition No - 4 and that right shall not be affected in any way.

11. If every receipt for the amount due to the contractor under this contract is in the name of the contractor's firm or company and is signed by any of the partners, directors or proprietors of the said firm or company, such receipt shall be sufficient receipt for the amount to be delivered and the said receipt shall be sufficient for The amount due to the Municipal Commissioner, Pune Municipal Corporation shall be deemed to have been duly and fully paid.

13. The right to settle any dispute arising out of this Agreement will lie with the Hon. Municipal Commissioner and the his decision will be binding.

14. If any notice is required to be given to the Contractor on behalf of the Municipal Corporation in connection with the transaction of this contract, the same shall be sent by the Municipal Corporation to the registered address of the contractor firm or company or to

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the above mentioned address of the Contractor by post with a postal certificate or will be affixed on the entrance of the place mentioned in the address. The contractor will not have the right to claim that the notices have not been served in this manner.

15. The receipt of the deposit amount deposited as security for the due and faithful performance of this contract shall not be given to any other party nor shall the contractor engage in any other serious risk. He has been given a clear understanding that unless the said receipt is produced, the said deposit cannot be returned to the contractor.

16. If during the term of this contract, the contractor breaks up the firm or the company goes into the liquidation, he files for bankruptcy or unfortunately the contractor himself dies, the contract shall be terminated immediately and the Hon. Municipal Commissioner shall have the right to do so. Provided that the obligations of the contractor existing on the day on which the contract is terminated shall not be affected or extinguished by the cancellation of the contract in accordance with this condition.

**17. Scope of Work**

The entire scope of work is divided into three parts as follows

**18. Construction :** The work is to be designed and carried out as per the construction details and as per the suggestion of the Engineer - in - charge. It will be mandatory to conduct necessary tests of construction materials. The bill will be paid according to the measurements and work done on the actual site.

**19. Electrical work :** Mechanical and electrical work should be done on the site under the direction and supervision of the Municipal Electrical Engineer and a certificate should be taken. The bill for the said work will be paid after 60 % of the machine is supplied, 20 % after the machine is commissioned and the remaining 20 % after the machine has been running for one month.

19.1 Operation and maintenance for five ( 5 ) years : The Contractor shall operate and maintain the machinery in the designated capacity for 60 months for five ( 5 ) years. During this time, the tenderer should take care of cleanliness and regular maintenance of machinery and maintenance of all structural and electrical equipment. Also, the contractor should appoint the necessary staff at the said place, who will work regularly and can always guarantee performance. The maintenance and repair works of the project will be billed monthly.

19.2 If a part needs to be replaced, that part will be replaced completely by the contractor at his own expense during the O & M period. The contractor shall keep the machinery clean and in good condition so as to prevent odours, flies, rodents etc.

19.3 : The successful contractor is required to obtain necessary ' consent to set up ' and ' consent to operate ' certificates from the M. P. C. B. This should be done annually during the contract period. The contractor shall maintain all the documents up - to - date and keep

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daily transaction record regarding interaction with the M. P. C. B. However, the contractor shall pay the necessary fees payable to the M. P. C. B.

The contractor will be responsible for maintaining and following up with M. S. E. D. C. L. regarding electricity supply as well as with other government and semi - government organizations. Necessary fees will be paid through Municipal Corporation.

The contractor should keep a computer equipped with a specially developed computer system to collect the information of incoming and outgoing garbage and manure along with internet connection at the site.

The contractor shall install an I. P. based C. C. T. V. camera at each location and the camera shall be permanently connected to the computer of the concerned department of the Municipal Corporation. Such connection shall be made by the contractor at his own expense.

## 20. Term of work

The total contract period for the entire work will be of 66 months. Out of the total contract period, the maximum 6 months for Civil & Electrical works, and 5 ( five ) years, i. e. 60 months for O & M. If the successful contractor has to shut down the machine for cleaning, no O & M amount will be paid for that period. The O & M period will be considered from the date of commencement of the project at full capacity.

21. The Municipal Corporation shall be responsible for providing electricity and water free of charge for running the daily project during the entire maintenance and repair period. However, in case of interruption of electricity supply, water supply, the task of following up the same will remain with the concerned contractor.

21.1 According to the maximum capacity of the machine, 80 percent semi - separated organic waste will be supplied by the Municipal Corporation, out of which the contractor shall put maximum 85 percent of the waste into the machine after separation.

21.2 On the other hand, if less than 85 per cent of the separated waste is supplied to the machinery in a month due to the fault of the operator and loss of machinery is caused because of it, the minimum amount the waste is processed shall be apportioned, and the O & M amount for that month will be paid on pro rata basis only i. g. If the operator processes only 75 tonnes ( 50 per cent of the capacity of the machinery ) or more and less than 150 tons of waste per month and if the O & M amount is Rs. 15000 per month then whereas the operator is only entitled to Rs. 7500 for that month. ( Rs. 15000 per 150 ton is Rs. 100 per ton. Garbage received by the operator in a month is 75 ton at Rs. 100 per ton = Rs. 7500 for that month )

## 22. DUTIES OF SUCCESSFUL CONTRACTOR

22.1 The successful contractor shall perform the technical work as per the items of work description specified in the tender package and operate and maintain the machinery as per the prescribed capacity for five years from the date of award of the work contract. During

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this period, the contractor shall carry out daily work to operate the machinery on a regular basis and maintain all the structural and the electrical equipment. Also, the contractor should appoint necessary personnel at the site who are knowledgeable about all O & M works for running the machinery regularly and who can guarantee performance at all times.

22.2 The Tenderer Contractor shall be responsible for segregation of organic waste supplied by the Municipal Corporation. No separate amount will be paid for that work.

22.3 The successful contractor shall furnish monthly O & M details in the following format which shall be attested by the contractor as well as by the S. I. , D. S. I. , C. S. I. , W. M. O. & the concerned Assistant Municipal Commissioner.

**Format - 1 - For waste processing**

Sr. No.	Month and Date	Waste taken in Ton / Day	Rejected Waste Ton / Day	Processed Waste Ton / Day	compost Production Cu. m / Day	Remarks

22.4 The successful contractor shall carry out laboratory testing of the compost as per the following parameters and it shall be as per the parameters specified in M. S. W. M. 2000 Rules.

Sr. No.	Component	Yearly Frequency
1	pH, Nitrogen, Phosphorous, Potash, C : N Amount, Moisture, Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Zinc – 1.	Four times in a year.

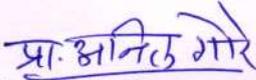
**23. Job opportunity and working as per tender specification.**

23.1 All work as specified in the ' Work Opportunity ' is to be carried out in a productive, practical and strategic manner with proper use of material and time.

23.2 The contractor shall abide by the provisions of the contract and shall carry out the work with care and diligence and all labor and materials related to the assessment and maintenance of the work including tools and machinery, structural plans and other items of permanent and temporary nature required for the said execution and maintenance. The provisions which are required to be met, or which are mentioned in the contract, should be fulfilled. The Tenderer shall be responsible for the quantity, suitability and safety of all work and the manner in which the works are carried out.

**24. Expected Risks and Contingencies**

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24.1 If the non – fulfilment of the execution of the contract is caused by war, anarchy, invasion, movement of foreign enemies, riots, insurrections, revolutions, insurrections, riots and public disturbances ( other than in relation to the contractor' s employees ), acts of state, acts of God such as earthquakes, floods and other known epidemics, which are unexpected and unknown to the contractor and if the contractor does not intend and in respect of which he has not made provisions or insured, he may apply to the Joint Municipal Commissioner for extension of time with evidence within seven days of occurrence of such events. After careful study of the situation by the authorities, the contractor may be given approval to extend the period if deemed necessary without any claim for damages for the said period.

24.2 An extension of time obtained from the Hon. Municipal Commissioner does not entitle the contractor to increase the price and does not release him from the terms of the contract. If the execution of the entire contract is suspended for more than six months due to calamity, the Hon. Joint Municipal Commissioner and the contractor may discuss the matter and decide to cancel the contract without any compensation to either side or may execute the contract on previously agreed terms.

#### 25. Labor Law Provisions

The contractor shall be responsible for payment of wages and other salaries to his workers and employees in accordance with the Minimum Wages Act, Payment of Wages Act, Workmen' s Responsibility Act, Workers' Compensation Act, E. S. I. The contractor shall be subject to the provisions of the Nomination Act, Contractual Labor Control and Abolition Act as well as the provisions of applicable laws and regulations from time to time.

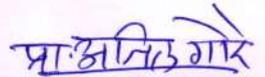
#### 26. Proficiency

The work or part of the work under the contract shall be carried out with using equipments of good and acceptable quality and in a workmanship like manner and both the work and equipment shall be in accordance with the specifications and specifics as given in the map or such additional instructions, instructions and documents as may be necessary and issued from time to time to the contractor and to the Municipal Corporation and it must be carried out to the complete satisfaction of the Hon. Commissioner. The entire work shall be in accordance with up - to - date and approved mechanical standards and shall result in the minimum noise and minimum vibrations to the building structure.

#### 27. Disputes and Jurisdiction

The meaning of the terms, conditions, specifications, maps, designs, as well as the foregoing notices as well as the quality of the workmanship or materials used in the work or any other question arising separately, claim, right, matter or object or the contract, designs, maps, specifications; all decisions of the Hon. Municipal Commissioner with regard to estimates, instructions, directions or all questions relating to the said circumstances or work or execution or failure of execution during the work or after the completion or abandonment of the work shall be final, final and binding on all the parties to this contract.

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## 28. Ownership of Compost

The compost will be completely owned by the contractor.

## 29. To enter into an agreement on behalf of the Municipal Corporation. He has handed over the authority of the Municipal Commissioner to the Head of the department

The reason is Hon' ble Joint Municipal Commissioner ( Solid Waste Management ) has signed the present agreement.

As soon as the contract is prepared, I have executed it with my consent with pleasure and common sense.

This be noted.

Date :

Witnesses :

1. Parimal M. Salunkhe, Sd / -

M / s. Ecoman Enviro Solutions Pvt. Ltd.

2. Vaibhav Gulab Satkar, Sd / -

Mr. Bipin Salunkhe Sd / -

Director

The Executant herein.

The Party of the Second Part,

On Behalf of Pune Municipal Corporation,

Sd / -

Assistant Municipal Commissioner

Solid Waste Management

Pune Municipal Corporation

Sd / -

Joint Municipal Commissioner

Solid Waste Management

Pune Municipal Corporation

On this Agreement the official Seal has been imprinted before us.

Pune Municipal Corporation

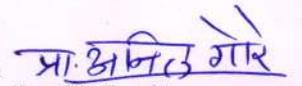
1. Sd / -

2. Sd / -

Members of Standing Committee,

Pune Municipal Corporation

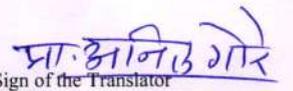
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## - : The Tender of the work : -

I am hereby submitting the tender for these works of the Municipal Corporation as per the tender format given as per the given rules and agreement within the given time and as per the given ( consolidated ) rate. However, I am bound by the cost of supply of goods to the municipality as given in list ' A ' .

Name of the Works : Design, Supply, Installation, Commissioning, Operation and maintenance of Microorganism Based 24 Hrs. Composting Machine including civil work for a period of 5 years to Process Organic Biodegradable Municipal Solid Waste. ( B - 2 Tender ) in the jurisdiction of Bhavani Peth Ward Office. ( 4 Projects of 5 M. Tone & 2 Projects of 3 M. Tone ) .

b ) The Tender of the Contractor a ) Project Establishment, Architectural Works Rs. 2,96,14,235 / - and setting up of the Electromechanical machinery and to implement it. Expenditure of the works ( Rs. 4,09,60,000 / - ) with settlement Rs. 3,83,35,000 / -, thus total Rs. 6,79,49,235 / - ( In words Rupees Six Crore, Seventy Nine Lakh, Forty Nine Thousand Two Hundred Thirty Five Only ) with all taxes, )

The maintenance charges for five year Rs. 2,03,10,000 / - ( In words Rupees Two Crore, Three Lakh, Ten Thousand Only ) with all taxes.

C ) The Five Percent amount of tender amount will be deducted from the running bill.

D ) The amount to be recovered from the amount payable to the contractor, from total 5 % amount, the balance 4 % Security Deposit Amount will be deducted from their bill amount.

e ) The tenure for the completion of the work, from the date of issuance of Work - Order in writing : 66 Months, as per Work - Order.

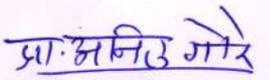
If my tender is accepted, I will comply all the terms in the Agreement and the applicable provisions in the terms and if any failure to comply the term then I am binding to deposit the amount mentioned in the terms with Municipal Corporation.

Contractor : M / s. Ecoman Enviro Solutions Pvt. Ltd.

Address : Gat No. 189, Jyotiba Nagar,

Talawade, Pune - 412114.

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BILLED

A B – 3309 Date 2/9/16

Witnesses :

1. Parimal M. Salunkhe, Sd / –
2. Vaibhav Gulab Satkar, Sd / –

The said tender is accepted by the Municipal Commissioner for the Municipal Corporation.

Pune.

Date :

Sd / -  
Deputy Engineer,  
Solid Waste Management  
Municipal Corporation

Sd / -  
Assistant Municipal Commissioner,  
Solid Waste Management, Solid  
Pune Municipal Corporation

Sd / -  
Joint Municipal Commissioner  
Waste Management, Pune  
Pune Municipal Corporation

Pune Municipal Corporation

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## Appendix

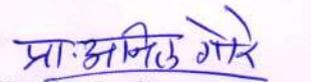
Terms and conditions to be included in the contract regarding the prescribed provisions of labor and industrial laws

1. The contractor concerned must have an up - to - date license issued by the concerned authority.
2. The contractor shall pay wages to all the workers employed at the rate and time prescribed from time to time as per the Minimum Wages Act.
3. The contractor shall distribute the wages to the workers before the authorized representative / officer of Pune Municipality and get the signature of such authorized representative / officer on the wage register.
4. Workmen on the same side, nature of work, time, minimum wages etc. given to the workers by the contractor. A register should be kept with all the details.
5. It shall be mandatory to put up a notice showing the above particulars on a visible board at the place of work.
6. Minimum Wages Act 1948, Provision of Wages Act 1936, Workmen ' s Compensation Act 1923, State Workers ' Insurance Act 1948, Provident Fund Act 1952, Contract Labor ( Regulation and Abolition ) Act 1970, etc. The Contractor shall be required to comply with the provisions of all Labor and Industrial Acts and maintain the registers required by the relevant Acts.
7. The Contractor shall be required to make available to the employed workers the facilities and concessions prescribed under all Industrial Labor Acts.
8. All industrial workers as well as other laws as provided or may. The contractor shall remain liable to pay the amount due as per the order of the court.
9. The concerned contractor shall be required to insure the work assigned to him and all the workers on the work with the Government Insurance Fund.
10. It shall remain the contractor ' s responsibility to comply with all provisions of the Child Labor ( Prevention and Regulation ) Act, 1986.
11. Implementation of the provisions of the Industrial and Labor Act The prescribed annexure form an integral part of the contract and the contractor agrees and agrees to comply with all the terms and conditions therein.

Sd / -

Signature of Contractor ( Executant )  
M / s. Ecoman Enviro Solutions Pvt. Ltd. by  
Mr. Bipin Sanluke  
Group no. 189, Jyotiba Nagar,  
Talwade Pune 412114  
Pune - 412114

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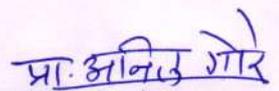
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12. Implementation of the provisions of the Industrial and Labor Act The work prescribed annexure forms an integral part of the contract and the contractor agrees and agrees to comply with all the terms and conditions therein.
13. It shall remain the responsibility of the contractor to comply with all the provisions of the Child Labor ( Prevention Rules ) Act, 1986.

Sd / -  
Contractor' s signature  
Round stamp of the Contractor

Sd / -  
Deputy Engineer  
( Solid Waste Management )  
Pune Municipal Corporation

This Marathi into English Translation is done by ANIL SHRIPAD GORE, Member, Translation Panel,  
Govt. of Maharashtra appointed Vide GR.No. NAMIKA-2019/C. No 29/Bhasha-2 Dated 22 March 2021

  
Sign of the Translator

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# MAHARASHTRA POLLUTION CONTROL BOARD

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 Opp. Cineplanet,  
 Near Sion Circle, Sion (E).  
 Mumbai - 400 022.

No: BO/MSWAIB-cc/130

Date: 10/03/2016

FORM -III  
 [See - Rule 6 (3)]

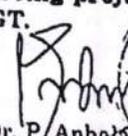
To,  
 The Municipal Commissioner,  
 Pune Municipal Corporation  
 Shivaji Nagar,  
 Pune- 411 006

Sub: Authorization under Municipal solid waste (Management and Handling) Rules, 2000.

Ref: Your application for grant of authorization dated 23/11/2015.

The Maharashtra Pollution Control Board after examining the proposal hereby authorizes The Commissioner, Pune Municipal Corporation Shivaji Nagar, Pune to operate Municipal Solid Waste Processing/ Waste Disposal Facility i.e. 13 number of composting plants at various sites (mentioned in the annexure I ) on the terms and conditions (including the standards to be complied with) attached to this authorization.

1. The validity of the authorization is till 31/01/2017. After the validity, renewal of authorizations is to be sought.
2. The Maharashtra Pollution Control Board may at any time revoke any of the condition applicable under the authorization and shall communicate the same in writing.
3. Any violation of provisions of Municipal Solid Waste (Management & Handling) Rules, 2000 attracts the penal provisions of the Environment (Protection) Act, 1986 (29 of 1986).
4. This is issued with the approval of Consent Committee of the Board in its meeting held on 03/02/2016.
5. This authorization is granted without prejudice or being prejudicial to the order passed/ to be passed by Hon'ble High Court/NGT.

  
 (Dr. P. Anbhat) (A. T. S.)  
 Member Secretary

#### D. A. - Annexure- I

Copy f. w. cc- The District Collector, Pune - Being one of the implementing authorities having overall responsibility for the enforcement of the provisions of Municipal Solid Waste (M & H) Rules, 2000, it is obligatory on your part to see that the Municipal Solid Waste is processed & disposed off in accordance with the said Rules.

Copy to: Regional Officer, MPCB, Pune / Sub Regional Officer, MPCB, Pune-1 - For necessary action.

M/s Pune Municipal Corporation

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ANNEXURE - I

Terms & Conditions to Operate Municipal Solid Waste Processing/ Waste Disposal Facility i.e. 13 number of composting plants at various sites by The Municipal Commissioner, Pune Municipal Corporation, Shivaji Nagar, Pune-411 005 and through operating agencies as mention below.

13 numbers of microorganism based of MSW composting plants of total capacity 49.82 MT/ Day are as below.

Sr. No	Project Location	Capacity Per Day
1.	Peshave Park	10 MT/D
2.	Vertak Garden	05 MT/D
3.	Mangalwar Peth Behind Arogyakothi	05 MT/D
4.	Tarachand Hospital behind Redcross	05 MT/D
5.	Tophkhana Pumping Station	05 MT/D
6.	Wadgaon Bk	05 MT/D
7.	Wadgaonsheri Biogas Plant	03 MT/D
8.	Burning GhatKaregaon Park	03 MT/D
9.	PMC Karmashala Swargate	05 MT/D
10.	Kanvashala Shanipur	03 MT/D
11.	Vertak Garden	0.5 MT/D
12.	Burning GhatKaregaon Park	125 Kg/D
13.	Ambilodha Colony	200 Kg/D

- Note :1] Old quarries and low-lying areas within a city may be earmarked for filling only with construction waste, debris, road-waste, road dust, silt from open drains & similarly non-toxic inert material, without any prior preparation. After filling, such sites should preferably be reserved as open spaces, parks, playgrounds, exhibition-grounds or parking-lots with trees.
- 2] The odour nuisance from the site can be controlled by periodic spraying of microbial culture or any suitable method
- 3] At the initial stage of collection of Municipal Solid Wastes the waste minimization and segregation shall be carried out to avoid burden on the waste processing site.
2. The municipal authority shall comply with these rules as per the implementation Schedule laid down in Schedule I as per MSW (M &H) Rules, 2000.
3. Every municipal authority shall, within the territorial area of the municipality, be responsible for the implementation of the provisions of these rules, and for the infrastructure development for collection, storage, segregation, transportation, processing and disposal of municipal solid wastes.
4. All municipal solid waste generated in a city or a town, shall be managed and handled in accordance with the compliance criteria and the procedure laid down in Schedule-II.
5. The municipal authority shall furnish its annual report in Form-II, to the District Magistrate or the Deputy Commissioner with a copy to the Maharashtra Pollution Control Board, on or before of the 30<sup>th</sup> day of June every year.

M/s Pune Municipal Corporation



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6. When an accident occurs of any municipal solid wastes collection, segregation, storage, processing, treatment and disposal facility or landfill site or during the transportation of such wastes, the municipal authorities shall forthwith report the accident in Form-V to the Secretary In charge of the Urban Development Department in metropolitan cities and to the District Collector in all other cases.
7. The waste processing and disposal facilities to be setup by the Municipal Authority On their own or through an operator of a facility shall meet the specifications and Standards as specified in schedule-III and IV.
8. The ash generated shall be handled properly and shall be stored in a covered shed and disposed off to the enduser and record of it shall be maintained.
9. The gas cleaning system shall be installed with comprehensive scrubbing system and shall be analyzed monthly for parameters like PCBs, PAHs, Dioxins, Furans, H<sub>2</sub>S, CS<sub>2</sub> etc.
10. The inert created during handling and processing of MSW shall be properly land filled.
11. The municipal authority will have to abide by the provisions of Municipal Solid Waste (Management & Handling) Rules, 2000.
12. The Corporation shall establish/set up and operate the facility at the earliest to comply with the rules as per implementation Schedule laid down in Schedule I.
13. Tipper and Dumper shall be avoided. Closed body bins can be used or compactor shall be used for MSW collections.
14. Segregation of MSW at source and frequency as per action plan.
15. Raw waste material shall not be dumped/stored temporary at this site.
16. All recyclable material shall be segregated at source and before receiving at disposal site.
17. Process intermediates and inert material upto i.e. 25 % of the waste received for processing shall be disposed scientifically to sanitary landfill site.
18. All mitigation measures like odour, smoke, fire, dust, nuisance etc. shall be taken by the corporation.
19. Environment Management Plan and Disaster Management Plan shall be prepared and implemented by the corporation

Ms Pune Municipal Corporation



20. Corporation shall to measure, continuously Improve and Achieve the eight items of the Service Level Benchmarking defined and desired by the Ministry of Urban Development, Govt. of India which are as below.

SLB No in UD's GL	Performance Indicator of UD's SLB	Level Desired
SLB 1	House Hold Level Coverage of SWM Services(house hold covered Doorstep/Total House Hold)	100%
SLB 2	Efficiency of Collection of MSW(MSW collected in Tones per day/MSW generated in T/day)	100%
SLB 3	Extent of Segregation of MSW(MSW segregated in Four Components in T/day/Total MSW Collected)	100%
SLB 4	Extend of Recovery of Solid Waste Collected(MSW Processed and Recycled T/d/Total MSW Collected)	80%
SLB 5	Extent of Scientific Disposal of MSW(Total authorized waste component disposed in T/day in SLF/Total MSW Disposed in Dumping sites, grounds, places and SLF)	100%
SLB 6	Efficiency of Redressal of Customer complaints(MSWM complaints received in a month/MSWM complaints Redressed in the month)	80%
SLB 7	Extent of Cost Recovery in SWM Services(Total O & M expenses on MSWM/Total O & M Revenue)in the same period)	100%
SLB 8	Efficiency in Collection of SWM Charges(Revenue Collected/Charges Billed in the same period)	90%

21. Corporation shall submit the concrete proposal with time bound programme for providing waste processing facility in accordance with the MSW Rules, 2000.
22. Corporation shall keep the record of installed capacity Vs actual feed and the output of all Composting plant.
23. Corporation shall submit an irrevocable Bank Guarantee of Rs.25 lacs to the Board within 15 days period from issuance of this authorization, which will be valid for a period of one year for operation and maintenance of the MSW facility and to adhere with MSW Rules, 2000.
24. Corporation shall implement the timely action plan for site selection, acquisition of land, treatment and processing of solid waste as per the Minutes of the Order dtd.2/4/2013 passed by Hon'ble High Court, Mumbai against the writ petition No.1740/1998.
25. The authorisation is granted as per the decision taken in CC meeting held on 03/02/2016.

  
  
 Dr. P. Anbaram  
 Member Secretary

M/s Pune Municipal Corporation

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**THE SOLID WASTE  
MANAGEMENT RULES,  
2016**  
(as amended to date)

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**MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE**  
**NOTIFICATION**

New Delhi, the 8th April, 2016

**S.O. 1357(E).**—Whereas the draft of the Solid Waste Management Rules, 2015 were published under the notification of the Government of India in the Ministry of Environment, Forest and Climate Change number G.S.R. 451 (E), dated the 3<sup>rd</sup> June, 2015 in the Gazette of India, part II, Section 3, sub-section (i) of the same date inviting objections or suggestions from the persons likely to be affected thereby, before the expiry of the period of sixty days from the publication of the said notification on the Solid Waste Management Rules, 2015 in supersession of the Municipal Solid Waste (Management and Handling) Rules, 2000;

And whereas, copies of the said Gazette were made available to the public on the 3<sup>rd</sup> June, 2015;

And whereas, the objections or comments received within the stipulated period were duly considered by the Central Government;

Now, therefore, in exercise of the powers conferred by sections 3, 6 and 25 of the Environment (Protection) Act, 1986 (29 of 1986) and in supersession of the Municipal Solid Waste (Management and Handling) Rules, 2000, except as respect things done or omitted to be done before such supersession, the Central Government hereby makes the following rules for management of Solid Waste, namely: -

**1. Short title and commencement. -**

- (1) These rules may be called the Solid Waste Management Rules, 2016.
- (2) They shall come into force on the date of their publication in the Official Gazette.

**2. Application.-** These rules shall apply to every urban local body, outgrowths in urban agglomerations, census towns as declared by the Registrar General and Census Commissioner of India, <sup>1</sup>[villages with population more than 3000,] notified areas, notified industrial townships, areas under the control of Indian Railways, airports, airbases, Ports and harbours, defence establishments, special economic zones, State and Central government organisations, places of pilgrims, religious and historical importance as may be notified by respective State government from time to time and to every domestic, institutional, commercial and any other non-residential solid waste generator situated in the areas except industrial waste, hazardous waste, hazardous chemicals, bio medical wastes, e-waste, lead acid batteries and radio-active waste, that are covered under separate rules framed under the Environment (Protection) Act, 1986.

**3. Definitions -** (1) In these rules, unless the context otherwise requires, -

1. **"aerobic composting"** means a controlled process involving microbial decomposition of organic matter in the presence of oxygen;
2. **"anaerobic digestion"** means a controlled process involving microbial decomposition of organic matter in absence of oxygen;
3. **"authorisation"** means the permission given by the State Pollution Control Board or Pollution Control Committee, as the case may be, to the operator of a facility or urban local authority, or any other agency responsible for processing and disposal of solid waste;
4. **"biodegradable waste "** means any organic material that can be degraded by micro-

<sup>1</sup> Ins. the words and figure vide S.O. 1152(E) dated 19th March, 2020



- organisms into simpler stable compounds;
5. **"bio-methanation"** means a process which entails enzymatic decomposition of the organic matter by microbial action to produce methane rich biogas;
  6. **"brand owner"** means a person or company who sells any commodity under a registered brand label.
  7. **"buffer zone"** means zone of no development to be maintained around solid waste processing and disposal facility, exceeding 5 TPD of installed capacity. This will be maintained within total land area allotted for the solid waste processing and disposal facility.
  8. **"bulk waste generator"** means and includes buildings occupied by the Central government departments or undertakings, State government departments or undertakings, local bodies, public sector undertakings or private companies, hospitals, nursing homes, schools, colleges, universities, other educational institutions, hostels, hotels, commercial establishments, markets, places of worship, stadia and sports complexes having an average waste generation rate exceeding 100kg per day;
  9. **"bye-laws"** means regulatory framework notified by local body, census town and notified area townships for facilitating the implementation of these rules effectively in their jurisdiction.
  10. **"census town"** means an urban area as defined by the Registrar General and Census Commissioner of India;
  11. **"combustible waste"** means non-biodegradable, non-recyclable, non-reusable, non-hazardous solid waste having minimum calorific value exceeding 1500 kcal/kg and excluding chlorinated materials like plastic, wood pulp, etc;
  12. **"composting"** means a controlled process involving microbial decomposition of organic matter;
  13. **"contractor"** means a person or firm that undertakes a contract to provide materials or labour to perform a service or do a job for service providing authority;
  14. **"co-processing"** means use of non-biodegradable and non recyclable solid waste having calorific value exceeding 1500 kcal as raw material or as a source of energy or both to replace or supplement the natural mineral resources and fossil fuels in industrial processes;
  15. **"decentralised processing"** means establishment of dispersed facilities for maximizing the processing of bio-degradable waste and recovery of recyclables closest to the source of generation so as to minimize transportation of waste for processing or disposal;
  16. **"disposal"** means the final and safe disposal of post processed residual solid waste and inert street sweepings and silt from surface drains on land as specified in Schedule I to prevent contamination of ground water, surface water, ambient air and attraction of animals or birds;
  17. **"domestic hazardous waste"** means discarded paint drums, pesticide cans, CFL bulbs, tube lights, expired medicines, broken mercury thermometers, used batteries, used needles and syringes and contaminated gauge, etc., generated at the household level;
  18. **"door to door collection"** means collection of solid waste from the door step of households, shops, commercial establishments, offices, institutional or any other non residential premises and includes collection of such waste from entry gate or a designated location on the ground floor in a housing society, multi storied building or apartments, large residential, commercial or institutional complex or premises;
  19. **"dry waste"** means waste other than bio-degradable waste and inert street sweepings and includes recyclable and non recyclable waste, combustible waste and sanitary napkin and diapers, etc;

20. **"dump sites"** means a land utilised by local body for disposal of solid waste without following the principles of sanitary land filling;
21. **"extended producer responsibility" (EPR)** means responsibility of any producer of packaging products such as plastic, tin, glass and corrugated boxes, etc., for environmentally sound management, till end-of-life of the packaging products;
22. **"facility"** means any establishment wherein the solid waste management processes namely segregation, recovery, storage, collection, recycling, processing, treatment or safe disposal are carried out;
23. **"fine"** means penalty imposed on waste generators or operators of waste processing and disposal facilities under the bye-laws for non-compliance of the directions contained in these rules and/or bye-laws
24. **"Form"** means a Form appended to these rules;
25. **"handling"** includes all activities relating to sorting, segregation, material recovery, collection, secondary storage, shredding, baling, crushing, loading, unloading, transportation, processing and disposal of solid wastes;
26. **"inerts"** means wastes which are not bio-degradable, recyclable or combustible street sweeping or dust and silt removed from the surface drains;
27. **"incineration"** means an engineered process involving burning or combustion of solid waste to thermally degrade waste materials at high temperatures;
28. **"informal waste collector"** includes individuals, associations or waste traders who are involved in sorting, sale and purchase of recyclable materials;
29. **"leachate"** means the liquid that seeps through solid waste or other medium and has extracts of dissolved or suspended material from it;
30. **"local body"** for the purpose of these rules means and includes the municipal corporation, nagar nigan, municipal council, nagarpalika, nagar Palika parishad, municipal board, nagar panchayat and town panchayat, census towns, notified areas and notified industrial townships with whatever name they are called in different States and union territories in India;
31. **"materials recovery facility" (MRF)** means a facility where non-compostable solid waste can be temporarily stored by the local body or any other entity mentioned in rule 2 or any person or agency authorised by any of them to facilitate segregation, sorting and recovery of recyclables from various components of waste by authorised informal sector of waste pickers, informal recyclers or any other work force engaged by the local body or entity mentioned in rule 2 for the purpose before the waste is delivered or taken up for its processing or disposal;
32. **"non-biodegradable waste"** means any waste that cannot be degraded by microorganisms into simpler stable compounds;
33. **"operator of a facility"** means a person or entity, who owns or operates a facility for handling solid waste which includes the local body and any other entity or agency appointed by the local body;
34. **"primary collection"** means collecting, lifting and removal of segregated solid waste from source of its generation including households, shops, offices and any other non-residential premises or from any collection points or any other location specified by the local body;
35. **"processing"** means any scientific process by which segregated solid waste is handled for the purpose of reuse, recycling or transformation into new products;
36. **"recycling"** means the process of transforming segregated non-biodegradable solid waste into new material or product or as raw material for producing new products which may or may not be similar to the original products;

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37. **"redevelopment"** means rebuilding of old residential or commercial buildings at the same site, where the existing buildings and other infrastructures have become dilapidated;
38. **"refused derived fuel"**(RDF) means 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;
39. **"residual solid waste"** means and includes the waste and rejects from the solid waste processing facilities which are not suitable for recycling or further processing;
40. **"sanitary land filling "** means the final and safe disposal of residual solid waste and inert wastes on land in a facility designed with protective measures against pollution of ground water, surface water and fugitive air dust, wind-blown litter, bad odour, fire hazard, animal menace, bird menace, pests or rodents, greenhouse gas emissions, persistent organic pollutants slope instability and erosion;
41. **"sanitary waste"** means wastes comprising of used diapers, sanitary towels or napkins, tampons, condoms, incontinence sheets and any other similar waste;
42. **"Schedule"** means the Schedule appended to these rules;
43. **"secondary storage"** means the temporary containment of solid waste after collection at secondary waste storage depots or MRFs or bins for onward transportation of the waste to the processing or disposal facility;
44. **"segregation"** means sorting and separate storage of various components of solid waste namely biodegradable wastes including agriculture and dairy waste, non biodegradable wastes including recyclable waste, non- recyclable combustible waste, sanitary waste and non recyclable inert waste, domestic hazardous wastes, and construction and demolition wastes;
45. **"service provider"** means an authority providing public utility services like water, sewerage, electricity, telephone, roads, drainage, etc;
46. **"solid waste"** means and includes solid or semi-solid domestic waste, sanitary waste, commercial waste, institutional waste, catering and market waste and other non residential wastes, street sweepings, silt removed or collected from the surface drains, horticulture waste, agriculture and dairy waste, treated bio-medical waste excluding industrial waste, bio-medical waste and e-waste, battery waste, radio-active waste generated in the area under the local authorities and other entities mentioned in rule 2;
47. **"sorting"** means separating various components and categories of recyclables such as paper, plastic, card-boards, metal, glass, etc., from mixed waste as may be appropriate to facilitate recycling;
48. **"stabilising"** means the biological decomposition of biodegradable wastes to a stable state where it generates no leachate or offensive odours and is fit for application to farm land, soil erosion control and soil remediation;
49. **"street vendor"** means any person engaged in vending of articles, goods, wares, food items or merchandise of everyday use or offering services to the general public, in a street, lane, side walk, footpath, pavement, public park or any other public place or private area, from a temporary built up structure or by moving from place to place and includes hawker, peddler, squatter and all other synonymous terms which may be local or region specific; and the words "street vending" with their grammatical variations and cognate expressions, shall be construed accordingly;
50. **"tipping fee"** means a fee or support price determined by the local authorities or any state agency authorised by the State government to be paid to the concessionaire or operator of waste processing facility or for disposal of residual solid waste at the landfill;

51. **“transfer station”** means a facility created to receive solid waste from collection areas and transport in bulk in covered vehicles or containers to waste processing and, or, disposal facilities;
52. **“transportation”** means conveyance of solid waste, either treated, partly treated or untreated from a location to another location in an environmentally sound manner through specially designed and covered transport system so as to prevent the foul odour, littering and unsightly conditions;
53. **“treatment”** means the method, technique or process designed to modify physical, chemical or biological characteristics or composition of any waste so as to reduce its volume and potential to cause harm;
54. **“user fee”** means a fee imposed by the local body and any entity mentioned in rule 2 on the waste generator to cover full or part cost of providing solid waste collection, transportation, processing and disposal services.
55. **“vermi composting”** means the process of conversion of bio-degradable waste into compost using earth worms;
56. **“waste generator”** means and includes every person or group of persons, every residential premises and non residential establishments including Indian Railways, defense establishments, which generate solid waste;
57. **“waste hierarchy”** means the priority order in which the solid waste is to should be managed by giving emphasis to prevention, reduction, reuse, recycling, recovery and disposal, with prevention being the most preferred option and the disposal at the landfill being the least;
58. **“waste picker”** means a person or groups of persons informally engaged in collection and recovery of reusable and recyclable solid waste from the source of waste generation the streets, bins, material recovery facilities, processing and waste disposal facilities for sale to recyclers directly or through intermediaries to earn their livelihood.

(2) Words and expressions used herein but not defined, but defined in the Environment (Protection) Act, 1986, the Water (Prevention and Control of Pollution) Act, 1974, Water (Prevention and Control of Pollution) Cess Act, 1977 and the Air (prevention and Control of Pollution) Act, 1981 shall have the same meaning as assigned to them in the respective Acts.

**4. Duties of waste generators.** - (1) Every waste generator shall, -

(a) segregate and store the waste generated by them in three separate streams namely bio-degradable, non bio-degradable and domestic hazardous wastes in suitable bins and handover segregated wastes to authorised waste pickers or waste collectors as per the direction or notification by the local authorities from time to time;

(b) wrap securely the used sanitary waste like diapers, sanitary pads etc., in the pouches provided by the manufacturers or brand owners of these products or in a suitable wrapping material as instructed by the local authorities and shall place the same in the bin meant for dry waste or non- bio-degradable waste;

(c) store separately construction and demolition waste, as and when generated, in his own premises and shall dispose off as per the Construction and Demolition Waste Management Rules, 2016; and

(d) store horticulture waste and garden waste generated from his premises separately in his own premises and dispose of as per the directions of the local body from time to time.

(2) No waste generator shall throw, burn or burry the solid waste generated by him, on streets, open public spaces outside his premises or in the drain or water bodies.

(3) All waste generators shall pay such user fee for solid waste management, as specified

in the bye-laws of the local bodies.

(4) No person shall organise an event or gathering of more than one hundred persons at any unlicensed place without intimating the local body, at least three working days in advance and such person or the organiser of such event shall ensure segregation of waste at source and handing over of segregated waste to waste collector or agency as specified by the local body.

(5) Every street vendor shall keep suitable containers for storage of waste generated during the course of his activity such as food waste, disposable plates, cups, cans, wrappers, coconut shells, leftover food, vegetables, fruits, etc., and shall deposit such waste at waste storage depot or container or vehicle as notified by the local body.

(6) All resident welfare and market associations shall, within one year from the date of notification of these rules and in partnership with the local body ensure segregation of waste at source by the generators as prescribed in these rules, facilitate collection of segregated waste in separate streams, handover recyclable material to either the authorised waste pickers or the authorised recyclers. The bio-degradable waste shall be processed, treated and disposed off through composting or bio-methanation within the premises as far as possible. The residual waste shall be given to the waste collectors or agency as directed by the local body.

(7) All gated communities and institutions with more than 5,000 sqm area shall, within one year from the date of notification of these rules and in partnership with the local body, ensure segregation of waste at source by the generators as prescribed in these rules, facilitate collection of segregated waste in separate streams, handover recyclable material to either the authorised waste pickers or the authorised recyclers. The bio-degradable waste shall be processed, treated and disposed off through composting or bio-methanation within the premises as far as possible. The residual waste shall be given to the waste collectors or agency as directed by the local body.

(8) All hotels and restaurants shall, within one year from the date of notification of these rules and in partnership with the local body ensure segregation of waste at source as prescribed in these rules, facilitate collection of segregated waste in separate streams, handover recyclable material to either the authorised waste pickers or the authorised recyclers. The bio-degradable waste shall be processed, treated and disposed off through composting or bio-methanation within the premises as far as possible. The residual waste shall be given to the waste collectors or agency as directed by the local body.

**5. Duties of Ministry of Environment, Forest and Climate Change.** - (1) The Ministry of Environment, Forest and Climate Change shall be responsible for over all monitoring the implementation of these rules in the country. It shall constitute a Central Monitoring Committee under the Chairmanship of Secretary, Ministry of Environment, Forest and Climate Change comprising officer not below the rank of Joint Secretary or Advisor from the following namely, -

- 1) Ministry of Housing and Urban Affairs
- 2) Ministry of Rural Development
- 3) Ministry of Chemicals and Fertilizers
- 4) Ministry of Agriculture
- 5) Central Pollution Control Board
- 6) Three State Pollution Control Boards or Pollution Control Committees by rotation
- 7) Urban Development Departments of three State Governments by rotation
- 8) Rural Development Departments from two State Governments by rotation
- 9) Three Urban Local bodies by rotation
- 10) Two census towns by rotation
- 11) FICCI, CII

## 12) Two subject experts

(2). This Central Monitoring Committee shall meet at least once in a year to monitor and review the implementation of these rules. The Ministry of Environment, Forest and Climate Change may co-opt other experts, if needed. The Committee shall be renewed every three years.

**6. Duties of Ministry of Housing and Urban Affairs.** - (1) The Ministry of Housing and Urban Affairs shall coordinate with State Governments and Union territory Administrations to, -

(a) take periodic review of the measures taken by the states and local bodies for improving solid waste management practices and execution of solid waste management projects funded by the Ministry and external agencies at least once in a year and give advice on taking corrective measures;

(b) formulate national policy and strategy on solid waste management including policy on waste to energy in consultation with stakeholders within six months from the date of notification of these rules;

(c) facilitate States and Union Territories in formulation of state policy and strategy on solid management based on national solid waste management policy and national urban sanitation policy;

(d) promote research and development in solid waste management sector and disseminate information to States and local bodies;

(e) undertake training and capacity building of local bodies and other stakeholders; <sup>1</sup>[\*\*\*]

(f) provide technical guidelines and project finance to states, Union territories and local bodies on solid waste management to facilitate meeting timelines and standards, <sup>2</sup>[and]

<sup>3</sup>[(g) ensure the implementation of these rules by the States and the Union territories as per rule 11].

**7. Duties of Department of Fertilisers, Ministry of Chemicals and Fertilisers.** - (1) The Department of Fertilisers through appropriate mechanisms shall, -

(a) provide market development assistance on city compost; and

(b) ensure promotion of co-marketing of compost with chemical fertilisers in the ratio of 3 to 4 bags: 6 to 7 bags by the fertiliser companies to the extent compost is made available for marketing to the companies.

**8. Duties of Ministry of Agriculture, Government of India.** - The Ministry of Agriculture through appropriate mechanisms shall, -

(a) provide flexibility in Fertiliser Control Order for manufacturing and sale of compost;

(b) propagate utilisation of compost on farm land;

(c) set up laboratories to test quality of compost produced by local authorities or their authorised agencies; and

(d) issue suitable guidelines for maintaining the quality of compost and ratio of use of compost visa-a-vis chemical fertilizers while applying compost to farmland.

**9. Duties of the Ministry of Power.** - The Ministry of Power through appropriate mechanisms shall, -

(a) decide tariff or charges for the power generated from the waste to energy plants based

<sup>1</sup> Omitted the word "and" vide S.O. 1152(E) dated 19th March, 2020

<sup>2</sup> Ins. the word "and" vide S.O. 1152(E) dated 19th March, 2020

<sup>3</sup> Ins. sub-rule 4(iii) vide S.O. 1152(E) dated 19th March, 2020

on solid waste.

(b) compulsory purchase power generated from such waste to energy plants by distribution company.

**10. Duties of Ministry of New and Renewable Energy Sources-** The Ministry of New and Renewable Energy Sources through appropriate mechanisms shall, -

(a) facilitate infrastructure creation for waste to energy plants; and

(b) provide appropriate subsidy or incentives for such waste to energy plants.

**11. Duties of the Secretary-in-charge, Urban Development in the States and Union territories.** - (1) The Secretary, Urban Development Department in the State or Union territory through the Commissioner or Director of Municipal Administration or Director of local bodies shall,

(a) prepare a state policy and solid waste management strategy for the state or the union territory in consultation with stakeholders including representative of waste pickers, self help group and similar groups working in the field of waste management consistent with these rules, national policy on solid waste management and national urban sanitation policy of the Ministry of Housing and Urban Affairs, in a period not later than one year from the date of notification of these rules;

(b) while preparing State policy and strategy on solid waste management, lay emphasis on waste reduction, reuse, recycling, recovery and optimum utilisation of various components of solid waste to ensure minimisation of waste going to the landfill and minimise impact of solid waste on human health and environment;

(c) state policies and strategies should acknowledge the primary role played by the informal sector of waste pickers, waste collectors and recycling industry in reducing waste and provide broad guidelines regarding integration of waste picker or informal waste collectors in the waste management system.

(d) ensure implementation of provisions of these rules by all local authorities;

(e) direct the town planning department of the State to ensure that master plan of every city in the State or Union territory provisions for setting up of solid waste processing and disposal facilities except for the cities who are members of common waste processing facility or regional sanitary landfill for a group of cities; and

(f) ensure identification and allocation of suitable land to the local bodies within one year for setting up of processing and disposal facilities for solid wastes and incorporate them in the master plans (land use plan) of the State or as the case may be, cities through metropolitan and district planning committees or town and country planning department;

(g) direct the town planning department of the State and local bodies to ensure that a separate space for segregation, storage, decentralised processing of solid waste is demarcated in the development plan for group housing or commercial, institutional or any other non-residential complex exceeding 200 dwelling or having a plot area exceeding 5,000 square meters;

(h) direct the developers of Special Economic Zone, Industrial Estate, Industrial Park to earmark at least five percent of the total area of the plot or minimum five plots or sheds for recovery and recycling facility.

(i) facilitate establishment of common regional sanitary land fill for a group of cities and towns falling within a distance of 50 km (or more) from the regional facility on a cost sharing basis and ensure professional management of such sanitary landfills;

(j) arrange for capacity building of local bodies in managing solid waste, segregation and transportation or processing of such waste at source;

(k) notify buffer zone for the solid waste processing and disposal facilities of more than

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five tons per day in consultation with the State Pollution Control Board; and

- (l) start a scheme on registration of waste pickers and waste dealers.

**12. Duties of District Magistrate or District Collector or Deputy Commissioner.** - The District Magistrate or District Collector or as the case may be, the Deputy Commissioner shall, -

- (a) facilitate identification and allocation of suitable land as per clause (f) of rules 11 for setting up solid waste processing and disposal facilities to local authorities in his district in close coordination with the Secretary-in-charge of State Urban Development Department within one year from the date of notification of these rules;

- (b) review the performance of local bodies, at least once in a quarter on waste segregation, processing, treatment and disposal and take corrective measures in consultation with the Commissioner or Director of Municipal Administration or Director of local bodies and secretary-in-charge of the State Urban Development.

**13. Duties of the Secretary-in-charge of Village Panchayats or Rural Development Department in the State and Union territory.** - (1) The Secretary-in-charge of Village Panchayats or Rural Development Department in the State and Union territory shall have the same duties as the Secretary-in-charge, Urban Development in the States and Union territories, for the areas which are covered under these rules and are under their jurisdictions.

**14. Duties of Central Pollution Control Board.** -The Central Pollution Control Board shall, -

- (a) co-ordinate with the State Pollution Control Boards and the Pollution Control Committees for implementation of these rules and adherence to the prescribed standards by local authorities;

- (b) formulate the standards for ground water, ambient air, noise pollution, leachate in respect of all solid waste processing and disposal facilities;

- (c) review environmental standards and norms prescribed for solid waste processing facilities or treatment technologies and update them as and when required;

- (d) review through State Pollution Control Boards or Pollution Control Committees, at least once in a year, the implementation of prescribed environmental standards for solid waste processing facilities or treatment technologies and compile the data monitored by them;

- (e) review the proposals of State Pollution Control Boards or Pollution Control Committees on use of any new technologies for processing, recycling and treatment of solid waste and prescribe performance standards, emission norms for the same within 6 months;

- (f) monitor through State Pollution Control Boards or Pollution Control Committees the implementation of these rules by local bodies;

- (g) prepare an annual report on implementation of these rules on the basis of reports received from State Pollution Control Boards and Committees and submit to the Ministry of Environment, Forest and Climate Change and the report shall also be put in public domain;

- (h) publish guidelines for maintaining buffer zone restricting any residential, commercial or any other construction activity from the outer boundary of the waste processing and disposal facilities for different sizes of facilities handling more than five tons per day of solid waste;

- (i) publish guidelines, from time to time, on environmental aspects of processing and disposal of solid waste to enable local bodies to comply with the provisions of these rules; and

- (j) provide guidance to States or Union territories on inter-state movement of waste.

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**15. Duties and responsibilities of local authorities and village Panchayats of census towns and urban agglomerations.** - The local authorities and Panchayats shall, -

- (a) prepare a solid waste management plan as per state policy and strategy on solid waste management within six months from the date of notification of state policy and strategy and submit a copy to respective departments of State Government or Union territory Administration or agency authorised by the State Government or Union territory Administration;
- (b) arrange for door to door collection of segregated solid waste from all households including slums and informal settlements, commercial, institutional and other non residential premises. From multi-storage buildings, large commercial complexes, malls, housing complexes, etc., this may be collected from the entry gate or any other designated location;
- (c) establish a system to recognise organisations of waste pickers or informal waste collectors and promote and establish a system for integration of these authorised waste-pickers and waste collectors to facilitate their participation in solid waste management including door to door collection of waste;
- (d) facilitate formation of Self Help Groups, provide identity cards and thereafter encourage integration in solid waste management including door to door collection of waste;
- (e) frame bye-laws incorporating the provisions of these rules within one year from the date of notification of these rules and ensure timely implementation;
- (f) prescribe from time to time user fee as deemed appropriate and collect the fee from the waste generators on its own or through authorised agency;
- (g) direct waste generators not to litter i.e throw or dispose of any waste such as paper, water bottles, liquor bottles, soft drink cans, tetra packs, fruit peel, wrappers, etc., or burn or bury waste on streets, open public spaces, drains, waste bodies and to segregate the waste at source as prescribed under these rules and hand over the segregated waste to authorised the waste pickers or waste collectors authorised by the local body;
- (h) setup material recovery facilities or secondary storage facilities with sufficient space for sorting of recyclable materials to enable informal or authorised waste pickers and waste collectors to separate recyclables from the waste and provide easy access to waste pickers and recyclers for collection of segregated recyclable waste such as paper, plastic, metal, glass, textile from the source of generation or from material recovery facilities; Bins for storage of bio-degradable wastes shall be painted green, those for storage of recyclable wastes shall be printed <sup>1</sup>[blue] and those for storage of other wastes shall be printed black;
- (i) establish waste deposition centres for domestic hazardous waste 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 city or town 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;
- (j) ensure safe storage and transportation of the domestic hazardous waste to the hazardous waste disposal facility or as may be directed by the State Pollution Control Board or the Pollution Control Committee;
- (k) direct street sweepers not to burn tree leaves collected from street sweeping and store them separately and handover to the waste collectors or agency authorised by local body;
- (l) provide training on solid waste management to waste-pickers and waste collectors;
- (m) collect waste from vegetable, fruit, flower, meat, poultry and fish market on day to day basis and promote setting up of decentralised compost plant or bio-methanation plant at suitable locations in the markets or in the vicinity of markets ensuring hygienic conditions;

<sup>1</sup> Substituted for the word "white" the word "blue" by G.S.R. 298(E) dated 10.4.2019



- (n) collect separately waste from sweeping of streets, lanes and by-lanes daily, or on alternate days or twice a week depending on the density of population, commercial activity and local situation;
- (o) set up covered secondary storage facility for temporary storage of street sweepings and silt removed from surface drains in cases where direct collection of such waste into transport vehicles is not convenient. Waste so collected shall be collected and disposed of at regular intervals as decided by the local body;
- (p) collect horticulture, parks and garden waste separately and process in the parks and gardens, as far as possible;
- (q) transport segregated bio-degradable waste to the processing facilities like compost plant, bio-methanation plant or any such facility. Preference shall be given for on-site processing of such waste;
- (r) transport non-bio-degradable waste to the respective processing facility or material recovery facilities or secondary storage facility;
- (s) transport construction and demolition waste as per the provisions of the Construction and Demolition Waste Management Rules, 2016;
- (t) involve communities in waste management and promotion of home composting, bio-gas generation, decentralised processing of waste at community level subject to control of odour and maintenance of hygienic conditions around the facility;
- (u) phase out the use of chemical fertilizer in two years and use compost in all parks, gardens maintained by the local body and wherever possible in other places under its jurisdiction. Incentives may be provided to recycling initiatives by informal waste recycling sector.
- (v) 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 including the following technologies and adhering to the guidelines issued by the Ministry of Housing and Urban Affairs from time to time and standards prescribed by the Central Pollution Control Board. Preference shall be given to decentralised processing to minimize transportation cost and environmental impacts such as-
- a) bio-methanation, microbial composting, vermi-composting, anaerobic digestion or any other appropriate processing for bio-stabilisation of biodegradable wastes;
  - b) waste to energy processes including refused derived fuel for combustible fraction of waste or supply as feedstock to solid waste based power plants or cement kilns;
- (w) undertake on their own or through any other agency construction, operation and maintenance of sanitary landfill and associated infrastructure as per Schedule 1 for disposal of residual wastes in a manner prescribed under these rules;
- (x) make adequate provision of funds for capital investments as well as operation and maintenance of solid waste management services in the annual budget ensuring that funds for discretionary functions of the local body have been allocated only after meeting the requirement of necessary funds for solid waste management and other obligatory functions of the local body as per these rules;
- (y) make an application in Form-I for grant of authorisation for setting up waste processing, treatment or disposal facility, if the volume of waste is exceeding five metric tones per day including sanitary landfills from the State Pollution Control Board or the Pollution Control Committee, as the case may be;
- (z) submit application for renewal of authorisation at least sixty days before the expiry of the validity of authorisation;
- (za) prepare and submit annual report in Form IV on or before the 30<sup>th</sup> April of the succeeding year to the Commissioner or Director, Municipal Administration or designated Officer;

(zb) the annual report shall then be sent to the Secretary-in-Charge of the State Urban Development Department or village panchayat or rural development department and to the respective State Pollution Control Board or Pollution Control Committee by the 31<sup>st</sup> May of every year;

(zc) educate workers including contract workers and supervisors for door to door collection of segregated waste and transporting the unmixed waste during primary and secondary transportation to processing or disposal facility;

(zd) ensure that the operator of a facility provides personal protection equipment including uniform, fluorescent jacket, hand gloves, raincoats, appropriate foot wear and masks to all workers handling solid waste and the same are used by the workforce;

(ze) ensure that provisions for setting up of centers for collection, segregation and storage of segregated wastes, are incorporated in building plan while granting approval of building plan of a group housing society or market complex; and

(zf) frame bye-laws and prescribe criteria for levying of spot fine for persons who litters or fails to comply with the provisions of these rules and delegate powers to officers or local bodies to levy spot fines as per the bye laws framed; and

(zg) create public awareness through information, education and communication campaign and educate the waste generators on the following; namely: -

- (i) not to litter;
- (ii) minimise generation of waste;
- (iii) reuse the waste to the extent possible;
- (iv) practice segregation of waste into bio-degradable, non-biodegradable (recyclable and combustible), sanitary waste and domestic hazardous wastes at source;
- (v) practice home composting, vermi-composting, bio-gas generation or community level composting;
- (vi) wrap securely used sanitary waste as and when generated in the pouches provided by the brand owners or a suitable wrapping as prescribed by the local body and place the same in the bin meant for non- biodegradable waste;
- (vii) storage of segregated waste at source in different bins;
- (viii) handover segregated waste to waste pickers, waste collectors, recyclers or waste collection agencies; and
- (ix) pay monthly user fee or charges to waste collectors or local bodies or any other person authorised by the local body for sustainability of solid waste management.

(zh) stop land filling or dumping of mixed waste soon after the timeline as specified in rule 23 for setting up and operationalisation of sanitary landfill is over;

(zi) allow only the non-usable, non-recyclable, non-biodegradable, non-combustible and non-reactive inert waste and pre-processing rejects and residues from waste processing facilities to go to sanitary landfill and the sanitary landfill sites shall meet the specifications as given in Schedule-I, however, every effort shall be made to recycle or reuse the rejects to achieve the desired objective of zero waste going to landfill;

(zj) investigate and analyse all old open dumpsites and existing operational dumpsites for their potential of bio-mining and bio-remediation and wheresoever feasible, take necessary actions to bio-mine or bio-remediate the sites;

(zk) in absence of the potential of bio-mining and bio-remediation of dumpsite, it shall be scientifically capped as per landfill capping norms to prevent further damage to the environment.

<sup>1</sup>[(zl) collect and transport bio-degradable, non-bio-degradable and domestic hazardous waste from households including slums and informal settlements, commercial, institutional and other nonresidential premises, multi-storey buildings, large commercial complexes, malls, housing complexes and the like in compartmentalised and covered vehicle to the respective processing facility].

**16. Duties of State Pollution Control Board or Pollution Control Committee.** - (1) The State Pollution Control Board or Pollution Control Committee shall, -

(a) enforce these rules in their State through local bodies in their respective jurisdiction and review implementation of these rules at least twice a year in close coordination with concerned Directorate of Municipal Administration or Secretary-in-charge of State Urban Development Department;

(b) monitor environmental standards and adherence to conditions as specified under the Schedule I and Schedule II for waste processing and disposal sites;

(c) examine the proposal for authorisation and make such inquiries as deemed fit, after the receipt of the application for the same in Form I from the local body or any other agency authorised by the local body;

(d) while examining the proposal for authorisation, the requirement of consents under respective enactments and views of other agencies like the State Urban Development Department, the Town and Country Planning Department, District Planning Committee or Metropolitan Area Planning Committee, as may be applicable, Airport or Airbase Authority, the Ground Water Board, Railways, power distribution companies, highway department and other relevant agencies shall be taken into consideration and they shall be given four weeks time to give their views, if any;

(e) issue authorisation within a period of sixty days in Form II to the local body or an operator of a facility or any other agency authorised by local body stipulating compliance criteria and environmental standards as specified in Schedules I and II including other conditions, as may be necessary;

(f) synchronise the validity of said authorisation with the validity of the consents;

(g) suspend or cancel the authorization issued under clause (a) any time, if the local body or operator of the facility fails to operate the facility as per the conditions stipulated:

provided that no such authorization shall be suspended or cancelled without giving notice to the local body or operator, as the case may be; and

(h) on receipt of application for renewal, renew the authorisation for next five years, after examining every application on merit and subject to the condition that the operator of the facility has fulfilled all the provisions of the rules, standards or conditions specified in the authorisation, consents or environment clearance.

(2) The State Pollution Control Board or Pollution Control Committee shall, after giving reasonable opportunity of being heard to the applicant and for reasons thereof to be recorded in writing, refuse to grant or renew an authorisation.

(3) In case of new technologies, where no standards have been prescribed by the Central Pollution Control Board, State Pollution Control Board or Pollution Control Committee, as the case may be, shall approach Central Pollution Control Board for getting standards specified.

(4) The State Pollution Control Board or the Pollution Control Committee, as the case may be, shall monitor the compliance of the standards as prescribed or laid down and treatment technology as approved and the conditions stipulated in the authorisation and the standards specified in Schedules I and II under these rules as and when deemed appropriate but not less than once in a year.

(5) The State Pollution Control Board or the Pollution Control Committee may give

<sup>1</sup> Ins. sub-rule (zk) vide S.O. 1152(E) dated 19th March, 2020

directions to local bodies for safe handling and disposal of domestic hazardous waste deposited by the waste generators at hazardous waste deposition facilities.

(6) The State Pollution Control Board or the Pollution Control Committee shall regulate Inter-State movement of waste.

**17. Duty of manufacturers or brand owners of disposable products and sanitary napkins and diapers.** - (1) All manufacturers of disposable products such as tin, glass, plastics packaging, etc., or brand owners who introduce such products in the market shall provide necessary financial assistance to local authorities for establishment of waste management system.

(2) All such brand owners who sell or market their products in such packaging material which are non-biodegradable shall put in place a system to collect back the packaging waste generated due to their production.

(3) Manufacturers or brand owners or marketing companies of sanitary napkins and diapers shall explore the possibility of using all recyclable materials in their products or they shall provide a pouch or wrapper for disposal of each napkin or diapers along with the packet of their sanitary products.

(4) All such manufacturers, brand owners or marketing companies shall educate the masses for wrapping and disposal of their products.

**18. Duties of the industrial units located within one hundred km from the refused derived fuel and waste to energy plants based on solid waste-** All industrial units using fuel and located within one hundred km from a solid waste based refused derived fuel plant shall make arrangements within six months from the date of notification of these rules to replace at least five percent of their fuel requirement by refused derived fuel so produced.

**19. Criteria for Duties regarding setting-up solid waste processing and treatment facility.** - (1) The department in-charge of the allocation of land assignment shall be responsible for providing suitable land for setting up of the solid waste processing and treatment facilities and notify such sites by the State Government or Union territory Administration.

(2) The operator of the facility shall design and set up the facility as per the technical guidelines issued by the Central Pollution Control Board in this regard from time to time and the manual on solid waste management prepared by the Ministry of Housing and Urban Affairs.

(3) The operator of the facility shall obtain necessary approvals from the State Pollution Control Board or Pollution Control Committee.

(4) The State Pollution Control Board or Pollution Control Committee shall monitor the environment standards of the operation of the solid waste processing and treatment facilities.

(5) The operator of the facility shall be responsible for the safe and environmentally sound operations of the solid waste processing and or treatment facilities as per the guidelines issued by the Central Pollution Control Board from time to time and the Manual on Municipal Solid Waste Management published by the Ministry of Housing and Urban Affairs and updated from time to time.

(6) The operator of the solid waste processing and treatment facility shall submit annual report in Form III each year by 30<sup>th</sup> April to the State Pollution Control Board or Pollution Committee and concerned local body.

**20. Criteria and actions to be taken for solid waste management in hilly areas.** - In the hilly areas, the duties and responsibilities of the local authorities shall be the same as mentioned in rule 15 with additional clauses as under:

(a) Construction of landfill on the hill shall be avoided. A transfer station at a suitable enclosed location shall be setup to collect residual waste from the processing facility and inert waste. A suitable land shall be identified in the plain areas down the hill within 25 kilometers for setting up sanitary landfill. The residual waste from the transfer station shall be disposed of at this sanitary

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landfill.

(b) In case of non-availability of such land, efforts shall be made to set up regional sanitary landfill for the inert and residual waste.

(c) Local body shall frame Bye-laws and prohibit citizen from littering wastes on the streets and give strict direction to the tourists not to dispose any waste such as paper, water bottles, liquor bottles, soft drink canes, tetra packs, any other plastic or paper waste on the streets or down the hills and instead direct to deposit such waste in the litter bins that shall be placed by the local body at all tourist destinations.

(d) Local body shall arrange to convey the provisions of solid waste management under the bye-laws to all tourists visiting the hilly areas at the entry point in the town as well as through the hotels, guest houses or like where they stay and by putting suitable hoardings at tourist destinations.

(e) Local body may levy solid waste management charge from the tourist at the entry point to make the solid waste management services sustainable.

(f) The department in-charge of the allocation of land assignment shall identify and allot suitable space on the hills for setting up decentralised waste processing facilities. Local body shall set up such facilities. Step garden system may be adopted for optimum utilisation of hill space.

**21. Criteria for waste to energy process.** - (1) Non recyclable waste having calorific value of 1500 Kcal/kg or more shall not be disposed of on landfills and shall only be utilised for generating energy either or through refuse derived fuel or by giving away as feed stock for preparing refuse derived fuel.

(2) High calorific wastes shall be used for co-processing in cement or thermal power plants.

(3) The local body or an operator of facility or an agency designated by them proposing to set up waste to energy plant of more than five tones per day processing capacity shall submit an application in Form-I to the State Pollution Control Board or Pollution Control Committee, as the case may be, for authorisation.

(4) The State Pollution Control Board or Pollution Control Committee, on receiving such application for setting up waste to energy facility, shall examine the same and grant permission within sixty days.

**22. Time frame for implementation.** - Necessary infrastructure for implementation of these rules shall be created by the local bodies and other concerned authorities, as the case may be, on their own, by directly or engaging agencies within the time frame specified below:

Sl. No.	Activity	Time limit from the date of notification of rules
(1)	(2)	(3)
1.	Identification of suitable sites for setting up solid waste processing facilities	1 year
2.	Identification of suitable sites for setting up common regional sanitary landfill facilities for suitable clusters of local authorities under 0.5 million population and for setting up common regional sanitary landfill facilities or stand alone sanitary landfill facilities by all local authorities having a population of 0.5 million or more .	1 year
3.	Procurement of suitable sites for setting up solid waste processing facility and sanitary landfill facilities	2 years
4.	Enforcing waste generators to practice segregation of bio degradable, recyclable, combustible, sanitary waste domestic	2 years

	hazardous and inert solid wastes at source ,	
5.	Ensure door to door collection of segregated waste and its transportation in covered vehicles to processing or disposal facilities.	2 years
6.	Ensure separate storage, collection and transportation of construction and demolition wastes	2 years
7.	Setting up solid waste processing facilities by all local bodies having 100000 or more population	2 years
8.	Setting up solid waste processing facilities by local bodies and census towns below 100000 population.	3 years
9	Setting up common or stand alone sanitary landfills by or for all local bodies having 0.5 million or more population for the disposal of only such residual wastes from the processing facilities as well as untreatable inert wastes as permitted under the Rules	3 years
10.	Setting up common or regional sanitary landfills by all local bodies and census towns under 0.5 million population for the disposal of permitted waste under the rules	3years
11.	Bio-remediation or capping of old and abandoned dump sites	5years

**23. State Level Advisory Body.** – (1) Every Department in-charge of local bodies of the concerned State Government or Union territory administration shall constitute a State Level Advisory Body within six months from the date of notification of these rules comprising the following members, namely: -

Sl. No	Designation	Member
(1)	(2)	(3)
1.	Secretary, Department of Urban Development or Local self-government department of the State	Chairperson, ex-officio
2.	One representative of Panchayats or Rural development Department not below the rank of Joint Secretary to State Government	Member, ex-officio
3.	One representative of Revenue Department of State Government	Member, ex-officio
4.	One representative from Ministry of Environment, Forest and Climate Change Government of India	Member, ex-officio
5.	One representative Government of India from Ministry of Housing and Urban Affairs,	Member, ex-officio
6.	One representative Government of India from Ministry of Rural Development,	Member, ex-officio
7.	One representative from the Central Pollution Control Board	Member, ex-officio
8.	One representative from the State Pollution Control Board or Pollution Control Committee	Member, ex-officio
9.	One representative from Indian Institute of Technology or National Institute of Technology	Member, ex-officio
10.	Chief town planner of the state	Member
11.	Three representatives from the local bodies by rotation	Member
12.	Two representatives from census towns or urban agglomerations by rotation.	Member
13.	One representative from reputed Non-Governmental Organisation or Civil Society working for the waste pickers or informal recycler or solid waste management	Member

14.	One representative from a body representing Industries at the State or Central level	Member
15.	One representative from waste recycling industry	Member
16.	Two subject experts	Member
17.	Co-opt one representative each from agriculture department, and labour department of State Government.	Member

(2) The State Level Advisory Body shall meet at least one in every six months to review the matters related to implementation of these rules, state policy and strategy on solid waste management and give advice to state government for taking measures that are necessary for expeditious and appropriate implementation of these rules.

(3) The copies of the review report shall be forwarded to the State Pollution Control Board or Pollution Control Committee for necessary action.

**24. Annual report.** - (1) The operator of facility shall submit the annual report to the local body in Form-III on or before the 30<sup>th</sup> day of April every year.

(2) The local body shall submit its annual report in Form-IV to State Pollution Control Board or Pollution Control Committee and the Secretary-in-Charge of the Department of Urban Development of the concerned State or Union Territory in case of metropolitan city and to the Director of Municipal Administration or Commissioner of Municipal Administration or Officer in -Charge of Urban local bodies in the state in case of all other local bodies of state on or before the 30<sup>th</sup> day of June every year

(3) Each State Pollution Control Board or Pollution Control Committee as the case may be, shall prepare and submit the consolidated annual report to the Central Pollution Control Board and Ministry of Housing and Urban Affairs on the implementation of these rules and action taken against non complying local body by the 31<sup>st</sup> day of July of each year in Form-V.

(4) The Central Pollution Control Board shall prepare a consolidated annual review report on the status of implementation of these rules by local bodies in the country and forward the same to the Ministry of Housing and Urban Affairs and Ministry of Environment, Forest and Climate Change, along with its recommendations before the 31<sup>st</sup> day of August each year.

(5) The annual report shall be reviewed by the Ministry of Environment, Forest and Climate Change during the meeting of Central Monitoring Committee.

**25. Accident reporting.** - In case of an accident at any solid waste processing or treatment or disposal facility or landfill site, the Officer- in- charge of the facility shall report to the local body in Form-VI and the local body shall review and issue instructions if any, to the in- charge of the facility.

#### SCHEDULE I

[see rule 15 (w), (zi), 16 (1) (b) (e), 16 (4)]

#### Specifications for Sanitary Landfills

##### (A) Criteria for site selection. –

- (i) The department in the business allocation of land assignment shall provide suitable site for setting up of the solid waste processing and treatment facilities and notify such sites.
- (ii) The sanitary landfill site shall be planned, designed and developed with proper documentation of construction plan as well as a closure plan in a phased manner. In case a new landfill facility is being established adjoining an existing landfill site, the closure plan of existing landfill should form a part of the proposal of such new landfill.

- (iii) The landfill sites shall be selected to make use of nearby wastes processing facilities. Otherwise, wastes processing facility shall be planned as an integral part of the landfill site.
- (iv) Landfill sites shall be set up as per the guidelines of the Ministry of Housing and Urban Affairs, Government of India and Central Pollution Control Board.
- (v) The existing landfill sites which are in use for more than five years shall be improved in accordance with the specifications given in this Schedule.
- (vi) The landfill site shall be large enough to last for at least 20-25 years and shall develop 'landfill cells' in a phased manner to avoid water logging and misuse.
- (vii) The landfill site shall be 100 meter away from river, 200 meter from a pond, 200 meter from Highways, Habitations, Public Parks and water supply wells and 20 km away from Airports or Airbase. However, in a special case, landfill site may be set up within a distance of 10 and 20 km away from the Airport/Airbase after obtaining no objection certificate from the civil aviation authority/ Air force as the case may be. The Landfill site shall not be permitted within the flood plains as recorded for the last 100 years, zone of coastal regulation, wetland, Critical habitat areas, sensitive eco-fragile areas.
- (viii) The sites for landfill and processing and disposal of solid waste shall be incorporated in the Town Planning Department's land-use plans.
- (ix) A buffer zone of no development shall be maintained around solid waste processing and disposal facility, exceeding five Tonnes per day of installed capacity. This will be maintained within the total area of the solid waste processing and disposal facility. The buffer zone shall be prescribed on case to case basis by the local body in consultation with concerned State Pollution Control Board.
- (x) The biomedical waste shall be disposed of in accordance with the Bio-medical Waste Management Rules, 2016, as amended from time to time. The hazardous waste shall be managed in accordance with the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016, as amended from time to time. The E- waste shall be managed in accordance with the e-Waste (Management) Rules, 2016 as amended from time to time.
- (xi) Temporary storage facility for solid waste shall be established in each landfill site to accommodate the waste in case of non-operation of waste processing and during emergency or natural calamities.

**(B) Criteria for development of facilities at the sanitary landfills. –**

- (i) Landfill site shall be fenced or hedged and provided with proper gate to monitor incoming vehicles, to prevent entry of unauthorised persons and stray animals
- (ii) The approach and / internal roads shall be concreted or paved so as to avoid generation of dust particles due to vehicular movement and shall be so designed to ensure free movement of vehicles and other machinery.
- (iii) The landfill site shall have waste inspection facility to monitor waste brought in for landfilling h, office facility for record keeping and shelter for keeping equipment and machinery including pollution monitoring equipment. The operator of the facility shall maintain record of waste received, processed and disposed.
- (iv) Provisions like weigh bridge to measure quantity of waste brought at landfill site, fire protection equipment and other facilities as may be required shall be provided.
- (v) Utilities such as drinking water and sanitary facilities (preferably washing/bathing facilities for workers) and lighting arrangements for easy landfill operations during night hours shall be provided.
- (vi) Safety provisions including health inspections of workers at landfill sites shall be carried out made.
- (vii) Provisions for parking, cleaning, washing of transport vehicles carrying solid waste shall

be provided. The wastewater so generated shall be treated to meet the prescribed standards.

**(C) Criteria for specifications for land filling operations and closure on completion of land filling. –**

- (i) Waste for land filling shall be compacted in thin layers using heavy compactors to achieve high density of the waste. In high rainfall areas where heavy compactors cannot be used, alternative measures shall be adopted.
- (ii) Till the time waste processing facilities for composting or recycling or energy recovery are set up, the waste shall be sent to the sanitary landfill. The landfill cell shall be covered at the end of each working day with minimum 10 cm of soil, inert debris or construction material.
- (iii) Prior to the commencement of monsoon season, an intermediate cover of 40-65 cm thickness of soil shall be placed on the landfill with proper compaction and grading to prevent infiltration during monsoon. Proper drainage shall be constructed to divert run-off away from the active cell of the landfill.
- (iv) After completion of landfill, a final cover shall be designed to minimise infiltration and erosion. The final cover shall meet the following specifications, namely: --
  - a) The final cover shall have a barrier soil layer comprising of 60 cm of clay or amended soil with permeability coefficient less than  $1 \times 10^{-7}$  cm/sec.
  - b) On top of the barrier soil layer, there shall be a drainage layer of 15 cm.
  - c) On top of the drainage layer, there shall be a vegetative layer of 45 cm to support natural plant growth and to minimise erosion.

**(D) Criteria for pollution prevention. - In order to prevent pollution from landfill operations, the following provisions shall be made, namely: -**

- (i) The storm water drain shall be designed and constructed in such a way that the surface runoff water is diverted from the landfilling site and leachates from solid waste locations do not get mixed with the surface runoff water. Provisions for diversion of storm water discharge drains shall be made to minimise leachate generation and prevent pollution of surface water and also for avoiding flooding and creation of marshy conditions.
- (ii) Non-permeable lining system at the base and walls of waste disposal area. For landfill receiving residues of waste processing facilities or mixed waste or waste having contamination of hazardous materials (such as aerosols, bleaches, polishes, batteries, waste oils, paint products and pesticides) shall have liner of composite barrier of 1.5 mm thick high density polyethylene (HDPE) geo-membrane or geo-synthetic liners, or equivalent, overlying 90 cm of soil (clay or amended soil) having permeability coefficient not greater than  $1 \times 10^{-7}$  cm/sec. The highest level of water table shall be at least two meter below the base of clay or amended soil barrier layer provided at the bottom of landfills.
- (iii) Provisions for management of leachates including its collection and treatment shall be made. The treated leachate shall be recycled or utilized as permitted, otherwise shall be released into the sewerage line, after meeting the standards specified in Schedule- II. In no case, leachate shall be released into open environment.
- (iv) Arrangement shall be made to prevent leachate runoff from landfill area entering any drain, stream, river, lake or pond. In case of mixing of runoff water with leachate or solid waste, the entire mixed water shall be treated by the concern authority.

**(E) Criteria for water quality monitoring. –**

- (i) Before establishing any landfill site, baseline data of ground water quality in the area shall be collected and kept in record for future reference. The ground water quality

within 50 meter of the periphery of landfill site shall be periodically monitored covering different seasons in a year that is, summer, monsoon and post-monsoon period to ensure that the ground water is not contaminated.

- (ii) Usage of groundwater in and around landfill sites for any purpose (including drinking and irrigation) shall be considered only after ensuring its quality. The following specifications for drinking water quality shall apply for monitoring purpose, namely: -

S. No.	Parameters	IS 10500:2012, Edition 2.2(2003-09) Desirable limit (mg/l except for pH)
(1)	(2)	(3)
	Arsenic	0.01
	Cadmium	0.01
	Chromium(as Cr <sup>6+</sup> )	0.05
	Copper	0.05
	Cyanide	0.05
	Lead	0.05
	Mercury	0.001
	Nickel	-
	Nitrate as NO <sub>3</sub>	45.0
	pH	6.5-8.5
	Iron	0.3
	Total hardness (as CaCO <sub>3</sub> )	300.0
	Chlorides	250
	Dissolved solids	500
	Phenolic compounds (as C <sub>6</sub> H <sub>5</sub> OH)	0.001
	Zinc	5.0
	Sulphate (as SO <sub>4</sub> )	200

**(F) Criteria for ambient air quality monitoring. –**

- (i) Landfill gas control system including gas collection system shall be installed at landfill site to minimize odour, prevent off-site migration of gases, to protect vegetation planted on the rehabilitated landfill surface. For enhancing landfill gas recovery, use of geomembranes in cover systems along with gas collection wells should be considered.
- (ii) The concentration of methane gas generated at landfill site shall not exceed 25 per cent of the lower explosive limit (LEL).
- (iii) The landfill gas from the collection facility at a landfill site shall be utilized for either direct thermal applications or power generation, as per viability. Otherwise, landfill gas shall be burnt (flared) and shall not be allowed to escape directly to the atmosphere or for illegal tapping. Passive venting shall be allowed in case if its utilisation or flaring is not possible.
- (iv) Ambient air quality at the landfill site and at the vicinity shall be regularly monitored. Ambient air quality shall meet the standards prescribed by the Central Pollution Control Board for Industrial area.

- (G) Criteria for plantation at landfill Site. -** A vegetative cover shall be provided over the completed site in accordance with the following specifications, namely: -

- (a) Locally adopted non-edible perennial plants that are resistant to drought and extreme temperatures shall be planted;
  - (b) The selection of plants should be of such variety that their roots do not penetrate more than 30 cms. This condition shall apply till the landfill is stabilized;
  - (c) Selected plants shall have ability to thrive on low-nutrient soil with minimum nutrient addition;
  - (d) Plantation to be made in sufficient density to minimise soil erosion.
  - (e) Green belts shall be developed all around the boundary of the landfill in consultation with State Pollution Control Boards or Pollution Control Committees.
- (H) Criteria for post-care of landfill site.** - (1) The post-closure care of landfill site shall be conducted for at least fifteen years and long term monitoring or care plan shall consist of the following, namely: -
- (a) Maintaining the integrity and effectiveness of final cover, making repairs and preventing run-on and run-off from eroding or otherwise damaging the final cover;
  - (b) Monitoring leachate collection system in accordance with the requirement;
  - (c) Monitoring of ground water in and around landfill;
  - (d) Maintaining and operating the landfill gas collection system to meet the standards.
- (2) Use of closed landfill sites after fifteen years of post-closure monitoring can be considered for human settlement or otherwise only after ensuring that gaseous emission and leachate quality analysis complies with the specified standards and the soil stability is ensured.
- (I) Criteria for special provisions for hilly areas.** - Cities and towns located on hills shall have location-specific methods evolved for final disposal of solid waste by the local body with the approval of the concerned State Pollution Control Board or the Pollution Control Committee. The local body shall set up processing facilities for utilisation of biodegradable organic waste. The non-biodegradable recyclable materials shall be stored and sent for recycling periodically. The inert and non-biodegradable waste shall be used for building roads or filling-up of appropriate areas on hills. In case of constraints in finding adequate land in hilly areas, waste not suitable for road-laying or filling up shall be disposed of in regional landfills in plain areas.
- (J) Closure and Rehabilitation of Old Dumps-** Solid waste dumps which have reached their full capacity or those which will not receive additional waste after setting up of new and properly designed landfills should be closed and rehabilitated by examining the following options:
- (i) Reduction of waste by bio mining and waste processing followed by placement of residues in new landfills or capping as in (ii) below.
  - (ii) Capping with solid waste cover or solid waste cover enhanced with geomembrane to enable collection and flaring / utilisation of greenhouse gases.
  - (iii) Capping as in (ii) above with additional measures (in alluvial and other coarse grained soils) such as cut-off walls and extraction wells for pumping and treating contaminated ground water.
  - (iv) Any other method suitable for reducing environmental impact to acceptable level.

## SCHEDULE II

[see rule 16 (1), (b), (e), 16 (4)]

## Standards of processing and treatment of solid waste

- A. Standards for composting.** - The waste processing facilities shall include composting as one of the technologies for processing of bio degradable waste. In order to prevent pollution from compost plant, the following shall be complied with namely: -
- The incoming organic waste at site shall be stored properly prior to further processing. To the extent possible, the waste storage area should be covered. If, such storage is done in an open area, it shall be provided with impermeable base with facility for collection of leachate and surface water run-off into lined drains leading to a leachate treatment and disposal facility;
  - Necessary precaution shall be taken to minimise nuisance of odour, flies, rodents, bird menace and fire hazard;
  - In case of breakdown or maintenance of plant, waste intake shall be stopped and arrangements be worked out for diversion of waste to the temporary processing site or temporary landfill sites which will be again reprocessed when plant is in order;
  - Pre-process and post-process rejects shall be removed from the processing facility on regular basis and shall not be allowed to pile at the site. Recyclables shall be routed through appropriate vendors. The non-recyclable high calorific fractions to be segregated and sent to waste to energy or for RDF production, co-processing in cement plants or to thermal power plants. Only rejects from all processes shall be sent for sanitary landfill site(s).
  - 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 per cent slope and circled by lined drains for collection of leachate or surface run-off;
  - Ambient air quality monitoring shall be regularly carried out. Odour nuisance at down-wind direction on the boundary of processing plant shall also be checked regularly.
  - Leachate shall be re-circulated in compost plant for moisture maintenance.
  - The end product compost shall meet the standards prescribed under Fertilizer Control Order notified from time to time.
  - In order to ensure safe application of compost, the following specifications for compost quality shall be met, namely: -

Parameters	Organic Compost (FCO 2009)	Phosphate Rich Organic Manure (FCO 2013)
(1)	(2)	(3)
Arsenic (mg/kg)	10.00	10.00
Cadmium (mg/kg)	5.00	5.00
Chromium (mg/kg)	50.00	50.00
Copper (mg/kg)	300.00	300.00
Lead (mg/kg)	100.00	100.00
Mercury (mg/kg)	0.15	0.15
Nickel (mg/kg)	50.00	50.00
Zinc (mg/kg)	1000.00	1000.00
C/N ratio	<20	Less than 20:1
pH	6.5-7.5	(1:5 solution) maximum 6.7

Moisture, percent by weight, maximum	15.0-25.0	25.0
Bulk density (g/cm <sup>3</sup> )	<1.0	Less than 1.6
Total Organic Carbon, percent by weight, minimum	12.0	7.9
Total Nitrogen (as N), percent by weight, minimum	0.8	0.4
Total Phosphate (as P <sub>2</sub> O <sub>5</sub> ) percent by weight, minimum	0.4	10.4
Total Potassium (as K <sub>2</sub> O), percent by weight, minimum	0.4	-
Colour	Dark brown to black	-
Odour	Absence of foul Odor	-
Particle size	Minimum 90% material should pass through 4.0 mm IS sieve	Minimum 90% material should pass through 4.0 mm IS sieve
Conductivity (as dsm-1), not more than	4.0	8.2

\* Compost (final product) exceeding the above stated concentration limits shall not be used for food crops. However, it may be utilized for purposes other than growing food crops.

**B. Standards for treated leachates.** -The disposal of treated leachates shall meet the following standards, namely: -

S. No	Parameter	( Mode of Disposal )		
		Inland surface water	Public sewers	Land disposal
(1)	(2)	(3)	(4)	(5)
1.	Suspended solids, mg/l, max	100	600	200
2.	Dissolved solids (inorganic) mg/l, max.	2100	2100	2100
3	pH value	5.5 to 9.0	5.5 to 9.0	5.5 to 9.0
4	Ammonical nitrogen (as N), mg/l, max.	50	50	-
5	Total Kjeldahl nitrogen (as N), mg/l, max.	100	-	-
6	Biochemical oxygen demand (3 days at 27 °C) max.(mg/l)	30	350	100
7	Chemical oxygen demand, mg/l, max.	250	-	-
8	Arsenic (as As), mg/l, max	0.2	0.2	0.2
9	Mercury (as Hg), mg/l, max	0.01	0.01	-
10	Lead (as Pb), mg/l, max	0.1	1.0	-
11	Cadmium (as Cd), mg/l, max	2.0	1.0	-
12	Total Chromium (as Cr), mg/l, max.	2.0	2.0	-
13	Copper (as Cu), mg/l, max.	3.0	3.0	-
14	Zinc (as Zn), mg/l, max.	5.0	15	-
15	Nickel (as Ni), mg/l, max	3.0	3.0	-
16	Cyanide (as CN), mg/l, max.	0.2	2.0	0.2
17	Chloride (as Cl), mg/l, max.	1000	1000	600
18	Fluoride (as F), mg/l, max	2.0	1.5	-
19	Phenolic compounds (as C <sub>6</sub> H <sub>5</sub> OH) mg/l, max.	1.0	5.0	-

**Note:** While discharging treated leachates into inland surface waters, quantity of leachates being discharged and the quantity of dilution water available in the receiving water body shall be given due consideration.

**C. Standards for incineration:** The Emission from incinerators /thermal technologies in Solid Waste treatment/disposal facility shall meet the following standards, namely: -

Parameter (1)	Emission standard	
	(2)	(1)
Particulates	50 mg/Nm <sup>3</sup>	Standard refers to half hourly average value
HCl	50 mg/Nm <sup>3</sup>	Standard refers to half hourly average value
SO <sub>2</sub>	200 mg/Nm <sup>3</sup>	Standard refers to half hourly average value
CO	100 mg/Nm <sup>3</sup>	Standard refers to half hourly average value
	50 mg/Nm <sup>3</sup>	Standard refers to daily average value
Total Organic Carbon	20 mg/Nm <sup>3</sup>	Standard refers to half hourly average value
HF	4 mg/Nm <sup>3</sup>	Standard refers to half hourly average value
NO <sub>x</sub> (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	400 mg/Nm <sup>3</sup>	Standard refers to half hourly average value
Total dioxins and furans	0.1 ng TEQ/Nm <sup>3</sup>	Standard refers to 6-8 hours sampling. Please refer guidelines for 17 concerned congeners for toxic equivalence values to arrive at total toxic equivalence.
Cd + Th + their compounds	0.05 mg/Nm <sup>3</sup>	Standard refers to sampling time anywhere between 30 minutes and 8 hours.
Hg and its compounds	0.05 mg/Nm <sup>3</sup>	Standard refers to sampling time anywhere between 30 minutes and 8 hours.
Sb + As + Pb + Cr + Co + Cu + Mn + Ni + V + their compounds	0.5 mg/Nm <sup>3</sup>	Standard refers to sampling time anywhere between 30 minutes and 8 hours.

*Note.- All values corrected to 11% oxygen on a dry basis.*

**Note:**

- Suitably designed pollution control devices shall be installed or retrofitted with the incinerator to achieve the above emission limits.
- Waste to be incinerated shall not be chemically treated with any chlorinated disinfectants.
- Incineration of chlorinated plastics shall be phased out within two years.
- If the concentration of toxic metals in incineration ash exceeds the limits specified in the Hazardous Waste (Management, Handling and Trans boundary Movement) Rules, 2008, as amended from time to time, the ash shall be sent to the hazardous waste treatment, storage and disposal facility.
- Only low sulphur fuel like LDO, LSHS, Diesel, bio-mass, coal, LNG, CNG, RDF and bio-gas shall be used as fuel in the incinerator.
- The CO<sub>2</sub> concentration in tail gas shall not be more than 7%.

- (g) All the facilities in twin chamber incinerators shall be designed to achieve a minimum temperature of 950°C in secondary combustion chamber and with a gas residence time in secondary combustion chamber not less than 2 (two) seconds.
- (h) Incineration plants shall be operated (combustion chambers) with such temperature, retention time and turbulence, as to achieve total Organic Carbon (TOC) content in the slag and bottom ash less than 3%, or the loss on ignition is less than 5% of the dry weight.
- (i) Odour from sites shall be managed as per guidelines of CPCB issued from time to time

**FORM – I**

[see rule 15 (y) 16 (1) (c), 21(3)]

**Application for obtaining authorisation under solid waste management rules for processing/recycling/treatment and disposal of solid waste**

To,  
The Member Secretary,  
State Pollution Control Board or Pollution Control Committee, of.....

Sir,

I/We hereby apply for authorisation under the Solid Waste Management Rules, 2016 for processing, recycling, treatment and disposal of solid waste.

1.	Name of the local body/agency appointed by them/ operator of facility	
2.	Correspondence address Telephone No. Fax No. e-mail:	
3.	Nodal Officer & designation (Officer authorised by the local body or agency responsible for operation of processing/ treatment or disposal facility)	
4.	Authorisation required for setting up and operation of the facility (Please tick mark)	waste processing recycling treatment disposal at landfill
5.	Attach copies of the Documents Site clearance (local body) Proof of Environmental Clearance Consent for establishment Agreement between municipal authority and operating agency Investment on the project and expected return	
6.	<b>Processing/recycling/treatment of solid waste</b> (i) Total Quantity of waste to be processed per day Quantity of waste to be recycled Quantity of waste to be treated Quantity of waste to be disposed into landfill (ii) Utilisation programme for waste processed (Product utilisation) (iii) Methodology for disposal (attach details)	

	Quantity of leachate Treatment technology for leachate (iv) Measures to be taken for prevention and control of environmental pollution (v) Measures to be taken for safety of workers working in the plant (vi) Details on solid waste processing/recycling/treatment/disposal facility (to be attached)	
7.	<b>Disposal of solid waste</b> Number of sites identified Quantity of waste to be disposed per day Details of methodology or criteria followed for site selection (attach) Details of existing site under operation Methodology and operational details of landfilling Measures taken to check environmental pollution	
8	Any other information.	

Date:  
Place:

Signature:  
Designation

### Form- II

[see rule 16 (1) (e)]

#### Format for issue of authorization

File No.: \_\_\_\_\_  
 Dated: \_\_\_\_\_  
 Authorisation No. \_\_\_\_\_

To \_\_\_\_\_

Ref: Your application number \_\_\_\_\_ dt. \_\_\_\_\_

The \_\_\_\_\_ State Pollution Control Board/Pollution Control Committee after examining the \_\_\_\_\_ the \_\_\_\_\_ proposal hereby authorises \_\_\_\_\_ having \_\_\_\_\_ administrative office at \_\_\_\_\_ to set up and operate waste processing/recycling/ treatment/disposal facility at \_\_\_\_\_

The authorisation is hereby granted to operate the facility for processing, recycling, treatment and disposal of solid waste.

The authorisation is subject to the terms and conditions stated below and such conditions as may be otherwise specified in these rules and the standards laid down in Schedules I and II under these rules.

The \_\_\_\_\_ State Pollution Control Board/Pollution Control Committees of the UT \_\_\_\_\_ may, at any time, revoke any of the conditions applicable under the authorisation and shall communicate the same in writing.

Any violation of the provision of the Solid Waste Management Rules, 2016 will attract the penal provision of the Environment (Protection) Act, 1986 (29 of 1986).

(Member Secretary)  
 State Pollution Control Board/Pollution Control Committee of the UT  
 (Signature and designation)

Date: \_\_\_\_\_  
 Place: \_\_\_\_\_

### Form – III

[see rule 19 (6), 24 (1)]

#### Format of annual report to be submitted by the operator of facility to the local body

1	Name of the City/Town and State	
2	Population	
3	Area in sq. kilometers	
4	Name & Address of the local body Telephone No. Fax No. E-mail:	
5	Name and address of operator of the facility	
6	Name of officer in-charge of the facility Phone No: Fax No:	

	E-mail:	
7	Number of households in the city/town, Number of non-residential premises in the city Number of election/ administrative wards in the city/town	
8	Quantity of Solid waste	
	Estimated Quantity of solid waste generated in the local body area per day in metric tones	/tpd
	Quantity of solid waste collected per day	/tpd
	Per capita waste collected per day	/gm/day
9	Quantity of solid waste processed	/tpd
	Quantity of solid waste disposed at landfill	/tpd
	Status of Solid Waste Management (SWM) service	
	Segregation and storage of waste at source	
	Whether solid waste is stored at source in domestic/commercial/ institutional bins If yes,	Yes/No
	Percentage of households practice storage of waste at source in domestic bins	%
	Percentage of non-residential premises practice storage of waste at source in commercial /institutional bins	%
	Percentage of households dispose of throw solid waste on the streets	%
	Percentage of non-residential premises dispose of throw solid waste on the streets	%
	Whether solid waste is stored at source in a segregated form	Yes/No
	If yes, Percentage of premises segregating the waste at source	%
	Door to Door Collection of solid waste	
	Whether door to door collection (D2D) of solid waste is being done in the city/town	Yes/No
	if yes	
	Number of wards covered in D2D collection of waste	
	No. of households covered	
	No. of non-residential premises including commercial establishments, hotels, restaurants educational institutions/ offices etc covered	
	Percentage of residential and non-residential premises covered in door to door collection through:	
	Motorized vehicle	%
	Containerized tricycle/handcart	%
	Other device	%
	If not, method of primary collection adopted	
	Sweeping of streets	
	Length of roads, streets, lanes, bye-lanes in the	km

city that need to be cleaned						
Frequency of street sweepings and percentage of population covered	frequency	Daily	Alter nate days	Twice a week	Occa sional ly	
	% of population covered					
Tools used						
Manual sweeping		%				
Mechanical sweeping		%				
Whether long handle broom used by sanitation workers		Yes/No				
Whether each sanitation worker is given handcart/tricycle for collection of waste		Yes/No				
Whether handcart / tricycle is containerized		Yes/No				
Whether the collection tool synchronizes with collection/ waste storage containers utilized		Yes/No				
Secondary Waste Storage facilities						
No. and type of waste storage depots in the city/town Open waste storage sites Masonry bins Cement concrete cylinder bins Dhalao/covered rooms/space Covered metal/plastic containers Upto 1.1 m <sup>3</sup> bins 2 to 5 m <sup>3</sup> bins Above 5m <sup>3</sup> containers Bin-less city		No.	Capacity in m <sup>3</sup>			
Bin/ population ratio						
Ward wise details of waste storage depots (attach): Ward No: Area: Population: No. of bins placed Total volume of bins placed						
Total storage capacity of waste storage facilities in cubic meters						
Total waste actually stored at the waste storage depots daily						
Give frequency of collection of waste from the depots		Frequency			No. of bins	
		Daily				
		Alternate day				
		Twice a week				
		Once a week				
		Occasionally				
Whether storage depots have facility for storage of segregated waste in green, blue and black bins		Yes/ No (if yes, add details) No. of green bins:				

	No. of blue bins: No. of black bins:	
Whether lifting of solid waste from storage depots is manual or mechanical. Give percentage	(%) of Manual Lifting of SOLID WASTE	%
	(%) of Mechanical lifting	%
If mechanical – specify the method used	front-end loaders/ Top loaders	
Whether solid waste is lifted from door to door and transported to treatment plant directly in a segregated form	Yes/ No	
Waste Transportation per day Type and Number of vehicles used (pl tick or add)	No. Trips made waste transported	
Animal cart Tractors Non tipping Truck Tipping Truck Dumper Placers Refuse collectors Compactors Others JCB/loader		
Frequency of transportation of waste	Frequency Daily Alternate day Twice a week Once a week Occasionally	(%) of waste transported
Quantity of waste transported each day	/tpd	
Percentage of total waste transported daily	%	
Waste Treatment Technologies used		
Whether solid waste is processed	Yes/No	
If yes, Quantity of waste processed daily	/tpd	
Land(s) available with the local body for waste processing (in Hectares)		
Land currently utilized for waste processing		
Solid waste processing facilities in operation		
Solid waste processing facilities under construction		
Distance of processing facilities from city/town boundary		
Details of technologies adopted		
Composting,	Qty. raw material processed Qty. final product produced Qty. sold Qty. of residual waste landfilled	
Vermi composting	Qty. raw material processed Qty. final product produced Qty. sold Qty. of residual waste landfilled	
Bio-methanation	Qty. raw material processed	

		Qty. final product produced Qty. sold Qty. of residual waste landfilled
	Refuse Derived Fuel	Qty. raw material processed Qty. final product produced Qty. sold Qty. of residual waste landfilled
	Waste to Energy technology such as incineration, gasification, pyrolysis or any other technology ( give detail)	Qty. raw material processed Qty. final product produced Qty. sold Qty. of residual waste landfilled
	Co-processing	Qty. raw material processed
	Combustible waste supplied to cement plant	
	Combustible waste supplied to solid waste based power plants	
	Others	Qty.
	Solid waste disposal facilities	
	No. of dumpsites sites available with the local body	
	No. of sanitary landfill sites available with the local body	
	Area of each such sites available for waste disposal	
	Area of land currently used for waste disposal	
	Distance of dumpsite/landfill facility from city/town	kms
	Distance from the nearest habitation	kms
	Distance from water body	kms
	Distance from state/national highway	kms
	Distance from Airport	kms
	Distance from important religious places or historical monument	kms
	Whether it falls in flood prone area	Yes/No
	Whether it falls in earthquake fault line area	Yes/No
	Quantity of waste landfilled each day	tpd
	Whether landfill site is fenced	Yes/No
	Whether lighting facility is available on site	Yes/No
	Whether Weigh bridge facility available	Yes/No
	Vehicles and equipments used at landfill (specify)	Bulldozer, Compacters etc. available
	Manpower deployed at landfill site	Yes/No (if yes, attach details)
	Whether covering is done on daily basis	Yes/No
	If not, frequency of covering the waste deposited at the landfill	
	Cover material used	
	Whether adequate covering material is available	Yes/No
	Provisions for gas venting provided	Yes/No, (if yes, attach technical data sheet)

	Provision for leachate collection	Yes/No, (if yes, attach technical data sheet)
10	Whether an Action Plan has been prepared for improving solid waste management practices in the city	Yes/No (if Yes attach Action Plan details)
11	What separate provisions are made for: Dairy related activities: Slaughter houses waste: C&D waste (construction debris) :	Attach details on Proposals, Steps taken, Yes/No Yes/No Yes/No
12	Details of Post Closure Plan	Attach Plan
13	How many slums are identified and whether these are provided with Solid Waste Management facilities :	Yes/ No (if Yes, attach details)
14	Give details of manpower deployed for collection including street sweeping, secondary storage, transportation, processing and disposal of waste	
15	Mention briefly, the difficulties being experienced by the local body in complying with provisions of these rules	
16	Mention briefly, if any innovative idea is implemented to tackle a problem related to solid waste, which could be replicated by other local bodies.	

Dated:  
Place:

Signature of Operator

### Form – IV

[see rules 15(za), 24(2)]

**Format for annual report on solid waste management to be submitted by the local body**

<b>CALENDAR YEAR:</b>	<b>DATE OF SUBMISSION OF REPORT:</b>

1	Name of the City/Town and State	
2	Population	
3	Area in sq. kilometers	
4	Name & Address of the local body Telephone No. Fax No. E-mail:	
5	Name of officer in-charge dealing with solid waste management (SOLID WASTEM) Phone No: Fax No: E-mail:	
6	Number of households in the city/town, Number of non-residential premises in the city Number of election/ administrative wards in the city/town	
7	Quantity of Solid waste (solid waste)	
	Estimated Quantity of solid waste generated in the local body area per day in metric tones	/tpd
	Quantity of solid waste collected per day	/tpd
	Per capita waste collected per day	/gm/day
	Quantity of solid waste processed	/tpd
	Quantity of solid waste disposed at dumpsite/landfill	/tpd
8	Status of Solid Waste Management service	
	Segregation and storage of waste at source	
	Whether SOLID WASTE is stored at source in domestic/commercial/ institutional bins, If yes,	Yes/No
	Percentage of households practice storage of waste at source in domestic bins	%
	Percentage of non-residential premises practice storage of waste at source in commercial /institutional bins	%
	Percentage of households dispose or throw solid waste on the streets	%
	Percentage of non-residential premises dispose of throw solid waste on the streets	%
	Whether solid waste is stored at source in a segregated form, If yes,	Yes/No

Percentage of premises segregating the waste at source	%										
Door to Door Collection of solid waste											
Whether door to door collection (D2D) of solid waste is being done in the city/town	Yes/No										
if yes											
Number of wards covered in D2D collection of waste											
No. of households covered											
No. of non-residential premises including commercial establishments, hotels, restaurants educational institutions/ offices etc covered											
Percentage of residential and non-residential premises covered in door to door collection through:											
Motorized vehicle	%										
tricycle/handcart	%										
Other device	%										
If not, method of primary collection adopted											
Sweeping of streets											
Length of roads, streets, lanes, bye-lanes in the city that need to be cleaned	km										
Frequency of street sweepings and percentage of population covered	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">Frequency</th> <th style="width: 15%;">Daily</th> <th style="width: 15%;">Altern ate days</th> <th style="width: 15%;">Twice a week</th> <th style="width: 15%;">Occasi onally</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">%</td> </tr> </tbody> </table>	Frequency	Daily	Altern ate days	Twice a week	Occasi onally	%	%	%	%	%
Frequency	Daily	Altern ate days	Twice a week	Occasi onally							
%	%	%	%	%							
Tools used											
Manual sweeping	%										
Mechanical sweeping	%										
Whether long handle broom used by sanitation workers	Yes/No										
Whether each sanitation worker is given handcart/tricycle for collection of waste	Yes/No										
Whether handcart / tricycle is containerized	Yes/No										
Whether the collection tool synchronizes with collection/ waste storage containers utilized	Yes/No										
Secondary Waste Storage facilities											
No. and type of waste storage depots in the city/town	No.      Capacity in m <sup>3</sup>										
Open waste storage sites Masonry bins											
Cement concrete cylinder bins											
Dhalao/covered rooms/space Covered metal/plastic containers Upto 1.1 m <sup>3</sup> bins											
2 to 5 m <sup>3</sup> bins											
Above 5m <sup>3</sup> containers											
Bin-less city											
Bin/ population ratio											

Ward wise details of waste storage depots (attach): Ward No: Area: Population: No. of bins placed Total volume of bins placed		
Total storage capacity of waste storage facilities in cubic meters		
Total waste actually stored at the waste storage depots daily		
Give frequency of collection of waste from the depots	Frequency	No. of bins
	Daily	
	Alternate day	
	Twice a week	
	Once a week	
	Occasionally	
Whether storage depots have facility for storage of segregated waste in green, blue and black bins	Yes/ No (if yes, add details) No. of green bins: No. of blue bins: No. of black bins:	
Whether lifting of solid waste from storage depots is manual or mechanical. Give percentage		
(%) of Manual Lifting of solid waste	%	
(%) of Mechanical lifting	%	
If mechanical – specify the method used	front-end loaders/ Top loaders	
Whether solid waste is lifted from door to door and transported to treatment plant directly in a segregated form	Yes/ No	
Waste Transportation per day	No. Trips made waste transported	
Type and Number of vehicles used (pl tick or add)		
Animal cart		
Tractors		
Non tipping Truck		
Tipping Truck		
Dumper Placers		
Refuse collectors		
Compactors		
Others		
JCB/loader		
Frequency of transportation of waste	Frequency Daily	(%) of waste transported
	Alternate day	Twice
	a week	Once a week
	Occasionally	
Quantity of waste transported each day	/tpd	
Percentage of total waste transported daily	%	

Waste Treatment Technologies used	
Whether solid waste is processed	Yes/No
If yes, Quantity of waste processed daily	/tpd
Whether treatment is done by local body or through an agency	
Land(s) available with the local body for waste processing (in Hectares)	
Land currently utilized for waste processing	
Solid waste processing facilities in operation	
Solid waste processing facilities under construction	
Distance of processing facilities from city/town boundary	
Details of technologies adopted	
Composting,	Qty. raw material processed Qty. final product produced Qty. sold Qty. of residual waste landfilled
Vermi composting	Qty. raw material processed Qty. final product produced Qty. sold Qty. of residual waste landfilled
Bio-methanation	Qty. raw material processed Qty. final product produced Qty. sold Qty. of residual waste landfilled
Refuse Derived Fuel	Qty. raw material processed Qty. final product produced Qty. sold Qty. of residual waste landfilled
Waste to Energy technology such as incineration, gasification, pyrolysis or any other technology ( give detail)	Qty. raw material processed Qty. final product produced Qty. sold Qty. of residual waste landfilled
Co-processing	Qty. raw material processed
Combustible waste supplied to cement plant	
Combustible waste supplied to solid waste based power plants	
Others	Qty.
Solid waste disposal facilities	
No. of dumpsites sites available with the local body	
No. of sanitary landfill sites available with the local body	
Area of each such sites available for waste disposal	
Area of land currently used for waste disposal	

	Distance of dumpsite/landfill facility from city/town	kms
	Distance from the nearest habitation	kms
	Distance from water body	kms
	Distance from state/national highway	kms
	Distance from Airport	kms
	Distance from important religious places or historical monument	kms
	Whether it falls in flood prone area	Yes/No
	Whether it falls in earthquake fault line area	Yes/No
	Quantity of waste landfilled each day	tpd
	Whether landfill site is fenced	Yes/No
	Whether Lighting facility is available on site	Yes/No
	Whether Weigh bridge facility available	Yes/No
	Vehicles and equipments used at landfill (specify)	Bulldozer, Compacters etc. available
	Manpower deployed at landfill site	Yes/No (if yes, attach details)
	Whether covering is done on daily basis	Yes/No
	If not, Frequency of covering the waste deposited at the landfill	
	Cover material used	
	Whether adequate covering material is available	Yes/No
	Provisions for gas venting provided	Yes/No, (if yes, attach technical data sheet)
	Provision for leachate collection	Yes/No, (if yes, attach technical data sheet)
9	Whether an Action Plan has been prepared for improving solid waste management practices in the city	Yes/No (if Yes attach Action Plan details)
10	What separate provisions are made for:  Dairy related activities: Slaughter houses waste: C&D waste (construction debris) :	Attach details on Proposals, Steps taken, Yes/No Yes/No Yes/No
11	Details of Post Closure Plan	Attach Plan
12	How many slums are identified and whether these are provided with Solid Waste Management facilities :	Yes/ No (if Yes, attach details)
13	Give details of Local body's own manpower deployed for collection including street sweeping, secondary storage, transportation, processing and disposal of waste	
14	Give details of: Contractor/ concessionaire's manpower deployed for collection including street sweeping, secondary storage, transportation, processing and disposal of waste	
15	Mention briefly, the difficulties being experienced by the local body in complying with provisions of these rules	

16	Mention briefly, if any innovative idea is implemented to tackle a problem related to solid waste, which could be replicated by other local bodies.	
----	---	--

Signature of CEO/Municipal Commissioner/  
Executive Officer/Chief Officer

Dated:

Place:

**Form – V**  
[see rule 24(3)]

**Format of annual report to be submitted by the State Pollution Control Board Or Pollution Control Committee to the Central Pollution Control Board**

**PART-A**

To,

The Chairman  
Central Pollution Control Board  
Parivesh Bhawan,  
East Arjun Nagar, Delhi- 110 0032

1.	Name of the State/Union territory	:	
2.	Name & address of the State Pollution Control	:	
3.	Number of local bodies responsible for management of solid waste in the State/Union territory under these rules	:	
4.	No. of authorisation application Received	:	
5.	A Summary Statement on progress made by local body in respect of solid waste management	:	Please attach as Annexure-I
6.	A Summary Statement on progress made by local bodies in respect of waste collection, segregation, transportation and disposal	:	Please attach as Annexure-II
7.	A summary statement on progress made by local bodies in respect of implementation of Schedule II	:	Please attach as Annexure-III
Date: .....			Chairman or the Member Secretary State Pollution Control Board/ Pollution Control Committee
Place: .....			

**PART B**

**Towns/cities**

Total number of towns/cities

Total number of ULBs

Number of class I & class II cities/towns

**Authorisation status (names/number)**

Number of applications received

Number of authorisations granted

Authorisations under scrutiny

**SOLID WASTE Generation status**

Solid waste generation in the state (TPD)

collected

treated

landfilled

**Compliance to Schedule I of SW Rules (Number/names of towns/capacity)**

Good practices in cities/towns

House-to-house collection

Segregation

Storage

Covered transportation

**Processing of SW (Number/names of towns/capacity)**

Solid Waste processing facilities setup:

Sl. No.	Composting	Vermi-composting	Biogas	RDF/Pelletization

**Processing facility operational:**

Sl. No.	Composting	Vermi-composting	Biogas	RDF/Pelletization

**Processing facility under installation/planned:**

Sl. No.	Composting	Vermi-composting	Biogas	RDF/Pelletisation

**Waste-to-Energy Plants: (Number/names of towns/capacity)**

Sl. No.	Plant Location	Status of Operation	Power generation (MW)	Remarks

**Disposal of solid waste (number/names of towns/capacity):**

Landfill sites identified

Landfill constructed

Landfill under construction

Landfill in operation

Landfill exhausted

Landfilled capped

**Solid Waste Dumpsites (number/names of towns/capacity):**

Total number of existing dumpsites

Dumpsites reclaimed/capped

Dumpsites converted to sanitary landfill

**Monitoring at Waste processing/Landfills sites**

Sl. No.	Name of facilities	Ambient air	Groundwater	Leachate quality	Compost quality	VOCs
1.						
2.						
3.						

**Status of Action Plan prepared by Municipalities**

Total number of municipalities:

Number of Action Plan submitted:

**Form – VI**

[see rule 25]

**Accident Reporting**

1.	Date and time of accident	:	
2.	Sequence of events leading to accident	:	
3.	The waste involved in accident	:	
4.	Assessment of the effects of the accidents on human health and the environment	:	
5.	Emergency measures taken	:	
6.	Steps taken to alleviate the effects of accidents	:	
7.	Steps taken to prevent the recurrence of such an accident	:	
Date: .....		Signature:.....	
Place: .....		Designation: .....	

[F. No. 18-3/2004-HSMD]  
BISHWANATH SINHA, Jt. Secy.

True Copy  
Rgarg

## MAHARASHTRA POLLUTION CONTROL BOARD

Tel : (022) 2402 0781, 2401 0437  
 Fax : (022) 2402 4068  
 Web : <http://www.mpcb.gov.in>  
 Email : [enquiry@mpcb.gov.in](mailto:enquiry@mpcb.gov.in)  
 No: BO/MSWA/B- 1854



'Kaipataru Point', 3rd Floor,  
 Opp. Cine Planet Cinema,  
 Sion Circle, Sion (E),  
 Mumbai - 400 022

Date: 04/05/2017

**FORM -II**  
 [See - Rule 16 (1)]

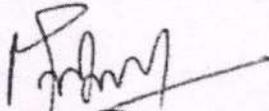
To,  
**The Municipal Commissioner,**  
 Pune Municipal Corporation  
 Shivaji Nagar, Pune- 411 005

**Sub:** Authorization under Solid Waste Management Rules, 2016

**Ref:** Your application for grant of authorization dated 11/12/2015

The Maharashtra Pollution Control Board after examining the proposal hereby authorizes **The Commissioner**, having administrative office at Pune Municipal Corporation, Shivaji Nagar, Pune to set up and operate waste processing/recycling/ treatment/disposal facility at various sites (Total 48 Sites) (mentioned in the annexure I) and sanitary landfill site at Sr. No. 191 to 195, Urali-Devachi, Fursungi on the terms and conditions (including the standards to be complied with) attached to this authorization.

1. The authorization is hereby granted to operate the facility for processing, recycling, treatment and disposal of solid waste
2. The validity of the authorization is till 31/12/2021 after the validity, renewal of authorizations is to be sought.
3. The authorization is subject to the terms and conditions stated below and such conditions as may be otherwise specified in these rules and the standards laid down in Schedules I and II under these rules
4. The Maharashtra Pollution Control Board may at any time revoke any of the condition applicable under the authorization and shall communicate the same in writing
5. Any violation of provisions of Solid Waste Management Rules, 2016 attracts the penal provisions of the Environment (Protection) Act, 1986 (29 of 1986).
6. This is issued with the approval of Consent Committee of the Board in its meeting held on 03/05/2017.
7. This authorization is granted without prejudice or being prejudice of the order passed/ to be passed by Hon'ble High Court/NGT.

  
 (Dr. P. Anbalagan, IAS)  
 Member Secretary

**D. A. - Annexure-I**  
**Copy f. w. cs-**

The District Collector, Pune - He is requested to take review the performance of local bodies at least once in a quarter on waste segregation, processing, treatment and disposal and take corrective measures in consultation with the Commissioner or director of Municipal Administration or Director of local bodies and secretary-in-charge of the State Urban Development

**Copy to:**

- 1) Regional Officer, MPCB, Pune / Sub Regional Officer, MPCB, Pune-1 & 2 - For necessary action and follow up.
- 2) MasterFile.

Page 1 of 5

*True Copy*  
*Rgarg*

र.रू.५९,३३,४४०/- असे एकूण र.रू. ६१,०४,७५०/- जप्त करणेस मा. महापालिका आयुक्त यांची मान्यता मिळणेस विनंती आहे.

मा.स.कळावे,

*(Arati Dabhi)*  
30-03-21  
(आरती दळवी)  
कनिष्ठ अभियंता  
घनकचरा व्यवस्थापन  
पुणे महानगरपालिका

*(Hiten Kurhe)*  
30/3/21  
(हितेंद्र कुरभे)  
उप अभियंता  
घनकचरा व्यवस्थापन  
पुणे महानगरपालिका

*(Mukund Bhave)*  
30/3/21  
(मुकुंद बर्वे)  
कार्यकारी अभियंता  
घनकचरा व्यवस्थापन  
पुणे महानगरपालिका

*(Ajit Deshmukh)*  
30/3/21  
(अजित देशमुख)  
उप आयुक्त  
घनकचरा व्यवस्थापन  
पुणे महानगरपालिका

- १) मा. अंतर्गत अर्थान्विक्षक, पुणे महानगरपालिका.
  - २) मा. उप आयुक्त (दक्षता), पुणे महानगरपालिका.
  - ३) मा. अतिरिक्त महापालिका आयुक्त (ई), पुणे महानगरपालिका.
- यांचेमार्फत सादर..

अंतर्गत  
पुणे महानगरपालिका  
आयुक्त  
३३  
५/४/२०२१

ANNEXURE -I

Terms & Conditions to Operate Municipal Solid Waste Processing/ Waste Disposal Facility and sanitary landfill site at Sr No. 191 to 195, Urali-Devachi, Fursungi by **The Municipal Commissioner**, Pune Municipal Corporation, Shivaji Nagar, Pune-411 005 and through operating agencies as mention below

**1. 1600 MT/ Day of Municipal Solid Waste generated shall be processed and disposed as below:**

Sr. No	Operating Agency	Location of waste processing site	Municipal Waste	Method of Treatment
1.	M/s Rochem Separation Systems Pvt. Ltd., Pune	Plot No 86, TPS - 2, Hadapsar Industrial Estate, Pune.	700 MT/day	Pyrolysis/ Gasification
2.	M/s Disha Waste Management Pvt. Ltd.	Hadapsar Industrial Estate, (II) Final Plot No. 87 Ramtekdi, Hadapsar . Pune	100 MT/day	Vermicompost
3.	M/s Ajinkya Bio Fertilizer	Hadapsar MSW Ramp.	200 MT/day	Vermicompost
4.	M/s Noble Exchange Env. Solution	S. No. 48/2/1 at Baner, Tal-Haveli, Pune	300 MT/day	Crushing of Food Waste
5.	Pune Municipal Corporation	Hadapsar Ramp - I	5 MT/day	Bio-Methanation
6.	Pune Municipal Corporation	Hadapsar Ramp - II	5 MT/day	Bio-Methanation
7.	Pune Municipal Corporation	Rajiv Gandhi Udyan Katraj Ramp - I	5 MT/day	Bio-Methanation
8.	Pune Municipal Corporation	Rajiv Gandhi Udyan Katraj Ramp - II	5 MT/day	Bio-Methanation
9.	Pune Municipal Corporation	Peshve Park - I	5 MT/day	Bio-Methanation
10.	Pune Municipal Corporation	Peshve Park - II	5 MT/day	Bio-Methanation
11.	Pune Municipal Corporation	Peshve Park - III	5 MT/day	Thermal Composting
12.	Pune Municipal Corporation	Peshve Park - IV	5 MT/day	Thermal Composting
13.	Pune Municipal Corporation	Aundh Kachra Ramp	5 MT/day	Bio-Methanation
14.	Pune Municipal Corporation	Bavdhan Khurd	5 MT/day	Bio-Methanation
15.	Pune Municipal Corporation	Katraj Railway Museum	5 MT/day	Bio-Methanation
16.	Pune Municipal Corporation	Model Colony	5 MT/day	Bio-Methanation
17.	Pune Municipal Corporation	Vadgoan Khurd	5 MT/day	RDF & Compost
18.	Pune Municipal Corporation	Wanawadi	5 MT/day	Bio-Methanation
19.	Pune Municipal Corporation	Parvati S.N. 67 & 68, Taljai, Pathar - I	5 MT/day	Bio-Methanation
20.	Pune Municipal Corporation	Parvati S.N.67 & 68, Taljai Pathar - II	5 MT/day	Bio-Methanation
21.	Pune Municipal Corporation	Dhanori S.N. 22	5 MT/day	Bio-Methanation
22.	Pune Municipal Corporation	Katraj Ramp - III	5 MT/day	Bio-Methanation
23.	Pune Municipal Corporation	Katraj Ramp - IV	5 MT/day	Bio-Methanation
24.	Pune Municipal Corporation	Wadgoan Budruk - I	5 MT/day	Bio-Methanation
25.	Pune Municipal Corporation	Wadgoan Budruk - II	5 MT/day	Bio-Methanation
26.	Pune Municipal Corporation	Wadgoan Sheri	5 MT/day	Bio-Methanation
27.	Pune Municipal Corporation	Dhankawadi S.N. 19 A / 4 A + B, Truck Terminal ( K.K. Market)	5 MT/day	Bio-Methanation
28.	Pune Municipal Corporation	Dhankawadi S.N. 19 A / 4 A + B, Truck Terminal ( K.K. Market)	0.5 MT/day	Vermi Composting
29.	Pune Municipal Corporation	Ghole Road	3 MT/day	Bio-Methanation
30.	Pune Municipal Corporation	Baner, S.N. 128/1	5 MT/day	Bio-Methanation
31.	Pune Municipal Corporation	Yerwada Central Jail	5 MT/day	Bio-Methanation

Page 2 of 5

32	Pune Municipal Corporation	Yerwada Phulenagar	5 MT/day	Bio-Methanation
33	Pune Municipal Corporation	Peshave Fire Brigade	5 MT/day	Mechanical Composting
34	Pune Municipal Corporation	Excel Industries, Aundh	2 MT/day	Mechanical composting
35	Pune Municipal Corporation	Save Enviro., Ramtekdi	5 MT/day	Mechanical composting
36	Pune Municipal Corporation	Save Enviro., Vaikunth Smashanbhumi	5 MT/day	Mechanical composting
37	Pune Municipal Corporation	Save Enviro., Vaikunth Smashanbhumi	5 MT/day	Mechanical composting
38	Pune Municipal Corporation	Save Enviro., Ghole Road	5 MT/day	Mechanical composting
39	Pune Municipal Corporation	Save Enviro., Koregaon Park	3 MT/day	Mechanical composting
40	Pune Municipal Corporation	Save Enviro., Kalyaninagar	3 MT/day	Mechanical composting
41	Pune Municipal Corporation	Prabhag No. 50, Zashi School	3 MT/day	Thermal composting
42	Pune Municipal Corporation	Prabhag Kr. 58, PMC Workshop	5 MT/day	Thermal composting
43	Pune Municipal Corporation	Prabhag No. 37 Wartak Garden	0.5 MT/day	Thermal composting
44	Pune Municipal Corporation	Wanawadi	5 MT/day	Thermal composting
45	Pune Municipal Corporation	Koregaon Park	5 MT/day	Thermal composting
46	Pune Municipal Corporation	Wadgaon Sheri	5 MT/day	Thermal composting
47	Pune Municipal Corporation	Wadgaon budruk	5 MT/day	Thermal composting
48	Pune Municipal Corporation	PMC Wasahat Abhil Odha	0.2 MT/day	Thermal composting

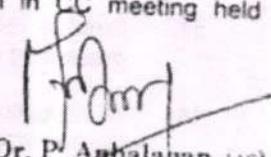
- Note :1] Old quarries and low-lying areas within a city may be earmarked for filling only with construction waste, debris, road-waste, road dust, silt from open drains & similarly non-toxic inert material, without any prior preparation. After filling, such sites should preferably be reserved as open spaces, parks, playgrounds, exhibition-grounds or parking - lots with trees.
- 2] The odour nuisance from the site can be controlled by periodic spraying of microbial culture or any suitable method.
- 3] At the initial stage of collection of Municipal Solid Wastes the waste minimization and segregation shall be carried out to avoid burden on the waste processing site.
2. Corporation shall improve/develop existing landfill site located at site Sr. No. 191 to 195, Urali-Devachi, Fursungi in accordance with the specifications given in the Schedule-I of Solid Waste Management Rules, 2016 for disposal of residue solid waste and inert materials only of 400 MT/D.
- (Definitions: 1] "residual solid waste" means and includes the waste and rejects from the solid waste processing facilities which are not suitable for recycling or further processing. 2] "Inerts" means wastes which are not bio-degradable, recyclable or combustible street sweeping or dust and silt removed from surface drains.) by imposing following conditions:
- a) Corporation shall not start disposal of residual solid waste and inert material to the above said site till the said site is developed as per the specifications prescribed in the Solid Waste Management Rules, 2016.
- b) In any case corporation shall not dump mixed unprocessed solid waste to said site.

- in order to comply above conditions Corporation shall submit BG of Rs. 10 lakhs to the Board within 15 days period from issuance of this authorization.
3. The municipal authority shall comply with these rules as per the implementation Schedule laid down in **Schedule I** as per Solid Waste Management Rules, 2016.
  4. Every municipal authority shall, within the territorial area of the municipality, be responsible for the implementation of the provisions of these rules, and for the infrastructure development for collection, storage, segregation, transportation, processing and disposal of municipal solid wastes.
  5. All municipal solid waste generated in a city or a town, shall be managed and handled in accordance with the compliance criteria and the procedure laid down in **Schedule-II**.
  6. The municipal authority shall furnish its annual report in **Form-IV**, to the District Magistrate or the Deputy Commissioner with a copy to the **Maharashtra Pollution Control Board**, on or before of the 30<sup>th</sup> day of June every year.
  7. When an accident occurs of any municipal solid wastes collection, segregation, storage, processing, treatment and disposal facility or landfill site or during the transportation of such wastes, the municipal authorities shall forthwith report the accident in **Form-VI** to the Secretary In charge of the Urban Development Department in metropolitan cities and to the District Collector in all other cases.
  8. The waste processing and disposal facilities to be setup by the Municipal Authority On their own or through an operator of a facility shall meet the specifications and Standards as specified in **schedule-I and II**.
  9. The ash generated shall be handled properly and shall be stored in a covered shed and disposed off to the enduser and record of it shall be maintained.
  10. The gas cleaning system shall be installed with comprehensive scrubbing system and shall be analyzed monthly for parameters like PCBs, PAHs, Dioxins, Furans, H<sub>2</sub>S, CS<sub>2</sub> etc.
  11. The inert created during handling and processing of MSW shall be properly land filled.
  12. The municipal authority will have to abide by the provisions of Solid Waste Management Rules, 2016.
  13. The Corporation shall establish/set up and operate the facility at the earliest to comply with the rules as per implementation Schedule laid down in **Schedule I**.
  14. Tipper and Dumper shall be avoided. Closed body bins can be used or compactor shall be used for MSW collections.
  15. Segregation of MSW at source and frequency as per action plan.
  16. Raw waste material shall not be dumped/stored temporary at this site.
  17. All recyclable material shall be segregated at source and before receiving at disposal site.
  18. Process remediates and inert material upto i.e. 25 % of the waste received for processing shall be disposed scientifically to sanitary landfill site.
  19. All mitigation measures like odour, smoke, fire, dust, nuisance etc. shall be taken by the corporation.

20. Corporation shall to measure, continuously Improve and Achieve the eight items of the Service Level Benchmarking defined and desired by the Ministry of Urban Development, Govt. of India which are as below.

SLB No in UD's GL	Performance Indicator of UD's SLB	Level Desired
SLB 1	House Hold Level Coverage of SWM Services(house hold covered Doorstep/Total House Hold)	100%
SLB 2	Efficiency of Collection of MSW(MSW collected in Tones per day/MSW generated in T/day)	100%
SLB 3	Extent of Segregation of MSW(MSW segregated in Four Components in T/day/Total MSW Collected)	100%
SLB 4	Extend of Recovery of Solid Waste Collected(MSW Processed and Recycled T/d/Total MSW Collected)	80%
SLB 5	Extent of Scientific Disposal of MSW(Total authorized waste component disposed in T/day in SLF/Total MSW Disposed in Dumping sites, grounds, places and SLF)	100%
SLB 6	Efficiency of Redressal of Customer complaints(MSWM complaints received in a month/MSWM complaints Redressed in the month)	80%
SLB 7	Extent of Cost Recovery in SWM Services(Total O & M expenses on MSWM/Total O & M Revenue)in the same period)	100%
SLB 8	Efficiency in Collection of SWM Charges(Revenue Collected/Charges Billed in the same period)	90%

21. Corporation shall do scientific closure/encapping of old MSW dumps at site Sr. No. 191 to 195(Part), A/p-Fursungi, Tal.- Haveli, Dist. - Pune and S. No. 30 & 31(Part), At- Urali Devachi, Tal. - Haveli, Dist- Pune on or before 31<sup>st</sup> December, 2017.
22. Corporation shall keep the record of installed capacity Vs actual feed and the output of all Bio gas plant
23. Corporation shall submit an irrevocable Bank Guarantee of Rs.25 lacs to the Board within 15 days period from issuance of this authorization, which will be valid for a period of one year for operation and maintenance of the MSW facility and to adhere with Solid Waste Management Rules, 2016
24. Corporation shall implement the timely action plan for site selection, acquisition of land, treatment and processing of solid waste as per the Minutes of the Order dtd.2/4/2013 passed by Hon'ble High Court, Mumbai against the writ petition No.1740/1998.
25. Input quantity to the processing plant and process shall be as per the authorization.
26. Corporation shall comply the conditions imposed by the carious statutory bodies, court tribunal, regulatory bodies in light of PIL, litigation etc.
27. Corporation shall submit monthly report to the MPCB about performance of the each plant with its input as per day, working period.
28. Corporation shall submit Environment Management Plan (EMP) and Disaster Management Plan (DMP) shall be prepared and implemented by the corporation
29. The authorization is granted as per the decision taken in CC meeting held on 08/03/2017.

  
(Dr. P. Anbalagan, IAS)  
Member Secretary

Page 5 of 5

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Item No. 02

(Pune Bench)

**BEFORE THE NATIONAL GREEN TRIBUNAL  
PUNE BENCH**

(By Video Conferencing)

Original Application No. 190/2016(WZ)  
(I.A. No. 67/2021)

Maj. Gen. S.C.N. Jatar (Retd.)

Applicant

Versus

The Municipal Corporation of the city of Pune &amp; Ors.

Respondent(s)

Date of hearing: 03.02.2022

**CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON  
HON'BLE MR. JUSTICE SUDHIR AGARWAL, JUDICIAL MEMBER  
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER  
HON'BLE DR. VIJAY KULKARNI, EXPERT MEMBER  
HON'BLE DR. AFROZ AHMAD, EXPERT MEMBER**

Applicant: Mr. Aagney Sail, Advocate

Respondent: Mr. Rahul Garg, Advocate for PMC  
Mr. Aniruddha Kulkarni, Advocate for CPCB  
Ms. Manasi Joshi, Advocate for R-2

**ORDER**

1. Grievance in this application is against violation of Solid Waste Management Rules, 2016 in operation of composting facilities by the Pune Municipal Corporation (PMC). Parameters for compost laid down under the Rules are not complied. The State PCB has failed to take action for such violations. The applicant has filed a copy of analysis report of some of the samples. According to the applicant, compost is found to be containing heavy metals and other toxic material. The violations pointed out in the application are:

*"a. While the pH of compost should be in the neutral range, the compost samples generally show a low pH range, which is acidic in nature. This single quality is sufficient to declare that the material*

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*has not undergone the process of mineralization and stabilization properly. Hence, it is not worthy of being used as compost.*

*b. Nitrogen and Phosphates are considered as the chief macronutrients to be provided along with the compost to the plants. The values in the report are largely low compared to compost standards.*

*c. The C:N ratio is generally high. As such, this material cannot be accepted as compost. This material is actually a pulverized material as a result of volume reduction.*

*d. None of the tests carried out so far, except the analysis carried out on 26.11.2016 on behalf of the Applicant by Polytest Laboratories, have analysed the compost for heavy metals, which is essential as per Clause 22.4 of the Agreement entered into by PMC with the Operator Ecoman dated 17.06.2015 and in terms of Schedule IV(iv) of MSW Rules, 2000 and Schedule II(a)(i) of SWM Rules, 2016.*

*e. The Operator, PMC and MPCB have not ensured that there is no foul odour nuisance in and around the 24-hours composting plants. They are not adhering to the CPCB guidelines as per Schedule II(C), Note (i) of SWM Rules, 2016 with the result that the citizens resist erection of these plants in residential areas. In this regard, Vishram Bag Ward Office letter dated 21.01.2016 is annexed herewith and marked as ANNEXURE-A-7."*

2. The application was filed on 11.01.2017 and has been dealt with in the last five years by several orders. On 12.01.2017, the Tribunal issued notice to the Respondents, including PMC and Maharashtra State PCB who have filed their respective replies. On 09.08.2021, the Tribunal noted that plants operated by Respondent No. 5 - Ecoman Enviro Solutions Pvt. Ltd. were closed in June 2018 and the said service provider was blacklisted by PMC. Vide order dated 27.08.2021, the Tribunal also impleaded CPCB as a party so as to consider the guidelines issued on the subject. On 07.12.2021, the Tribunal noted that the PMC has filed suit for recovery of Rs. 9,71,20,087.76/- for the violations. Stand of CPCB is that standards are specified in the Rules and the facilities are to be setup by the local authorities in the light of the guidelines on the subject. Further affidavit has been filed by the CPCB mentioning various guidelines issued by it.

3. We have heard learned Counsel for the parties. It remains undisputed that there has been violation of statutory Rules in composting process undertaken by the PMC through a service provider. Though PMC is said to have terminated the contract and blacklisted the contractor, the State PCB needs to take appropriate action for violation of the Rules by way of initiating prosecution and recovery of compensation on 'Polluter Pays' principle. We also direct CPCB to have interaction with all the State PCBs/PCCs on the subject of waste composting processes in the interest of rule of law and protection of environment and public health, including MSW Rules, 2016.

The application is disposed of.

I.A. No. 67/2021 also stands disposed of.

A copy of this order be forwarded to CPCB and Maharashtra State PCB by e-mail for compliance.

Adarsh Kumar Goel, CP

Sudhir Agarwal, JM

Dr. Nagin Nanda, EM

Dr. Vijay Kulkarni, EM

Dr. Afroz Ahmad, EM

February 3, 2022  
Original Application No. 190/2016(WZ)  
I.A. No. 67/2021  
DV

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*By*  
*[Signature]*

Item No.9

(Pune Bench)

**BEFORE THE NATIONAL GREEN TRIBUNAL  
WESTERN ZONE BENCH, PUNE**

(By Video Conferencing)

Execution Application No. 07/2022(WZ)

In

Original Application No. 190/2016(WZ)  
(Disposed on 03-02-2022)

Maj. Gen S.C. N. Jatar (Retd.)

.....Applicant(s)

Versus

The Municipal Corporation of City Pune &amp; Ors.

....Respondent(s)

Date of hearing: 28.09.2022

**CORAM: HON'BLE MR. JUSTICE DINESH KUMAR SINGH, JUDICIAL MEMBER  
HON'BLE DR. VIJAY KULKARNI, EXPERT MEMBER**

Applicant(s) : Mr. Agney Sail, Advocate  
Respondent : Mr. Rahul Garg, Advocate for R-1  
Ms. Manasi Joshi, Advocate for R-2  
Mr. Bipin Salunke, Advocate for R-5  
Mr. Aniruddha Kulkarni, Advocate for R-6

**ORDER**

1. Through present application, the execution Applicant has prayed for execution of order dated 03.02.2022, the conclusive paragraph of which is as follows:-

*"3. We have heard learned Counsel for the parties. It remains undisputed that there has been violation of statutory Rules in composting process undertaken by the PMC through a service provider. Though PMC is said to have terminated the contract and blacklisted the contractor, the State PCB needs to take appropriate action for violation of the Rules by way of initiating prosecution and recovery of compensation on 'Polluter Pays' principle. We also direct CPCB to have interaction with all the State PCBs/PCCs on the subject of waste composting processes in the interest of rule of law and protection of environment and public health, including MSW Rules, 2016."*



P-A [Handwritten signature]

2. After the institution of this execution case, notices were directed to be issued to the Respondents vide order dated 26.07.2022 and in compliance thereof, service affidavit has been filed as per which all the Respondents have been served.
3. From the side of Respondent No. 1/The Municipal Corporation of the City of Pune- Mr. Rahul Garg, Learned Counsel has appeared and apprised that no direction is there on record in that order against him, hence no reply has been submitted.
4. From the side of Respondent No. 2/MPCB- Ms. Manasi Joshi, Learned Counsel has appeared and apprised that she wants to file reply affidavit, for which four weeks' time is allowed and no more. As per the order which is sought to be executed, it was the MPCB which had to initiate prosecution against the defaulting contractors and also to recover the compensation on the basis of Polluter Pays Principle.
5. None has appeared from the side of Respondent No. 3/Ministry of Urban Development Department, Maharashtra & Respondent No. 4/Department of Agriculture, Maharashtra, hence, proceedings will go ahead against them *ex- parte*.
6. From the side of Respondent No. 5/Ecoman Enviro Solutions Pvt. Ltd.- Mr. Bipin Salunke, Learned Counsel has appeared but has not filed the reply affidavit nor does she want to file.
7. From the side of Respondent No. 6/CPCB- Mr. Aniruddha Kulkarni, Learned Counsel has appeared and apprised that reply affidavit has already been filed where-in it is stated that in compliance with the said order, an interaction was held with the PCBs or PCCs of all the States on 27.05.2022 and the copy of the Minutes of the said Meeting are

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annexed at page 17 & 18 of the paper book. In the said Minutes of the Meeting, following conclusions have been drawn:-

**" a) Major issues related to composting :**

*Based on the deliberations and discussion, the following were identified as the major issues related to composting:*

- *Compost quality: Compost does not meet specified standards.*
- *Leachate treatment facility is not available.*
- *Odour related issues*
- *Composting and bio-remediation in hilly areas.*

*b) All SPCBs/ PCCs should tie up with big composting facilities specifically with the concerned fertilizers units to address issue related to quality of compost. They can undertake necessary steps to ensure that compost is meeting the standard quality and market them.*

*c) CPCB will prepare comprehensive document for which all the SPCBs/PCCs will have to submit details regarding composting facility in given format."*

8. It appears from the above conclusions that several directions have been issued by the Central Pollution Control Board (CPCB) but no time line has been fixed for their compliances. We provide two months' time within which to ensure that the said directions have carried out.

9. From the side of the Learned Counsel for the execution Applicant, it is pointed out that in the Minutes, the list of participants is also annexed at page 19 of the paper book which shows that from only 10 States, participation was made while there was no participation from the rest of the States. It is thing of great concern, therefore, we direct the Central Pollution Control Board (CPCB) that the Member Secretary of State Pollution Control Board of respective States be contacted and again appropriate meeting be held in respect to compliance of the order which has been sought to be executed and the said meeting should be held within a period of one month.



10. Put up this case for further hearing on 21.11.2022

Dinesh Kumar Singh, JM

Dr. Vijay Kulkarni, EM

September 28, 2022  
Execution Application No. 07/2022(WZ) In  
Original Application No. 190/2016(WZ)  
(Disposed on 03-02-2022)  
P.Kr

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**MAHARASHTRA POLLUTION CONTROL BOARD  
REGIONAL OFFICE -PUNE**

Phone No. 020-25816451  
Fax No. 020-25811701  
e-mail:  
[ropune@mpcb.gov.in](mailto:ropune@mpcb.gov.in)



Jog Centre, 3<sup>rd</sup> Floor,  
Wakdevadi,  
Old Pune Mumbai Road,  
Pune- 411003

'Your Service, Our Duty'

MPCB/ROPI/ 22 11180001

Date: 18/11/2022

BY R.P.A.D./FAX/HAND DELIVERY

To  
The Commissioner,  
Pune Municipal Corporation,  
Tal. : Havelli, District : Pune. 411001.

Sub. : - Prosecution Notice for non-compliance of the Solid Waste Management Rules, 2016.

- Ref. : - i) Order dated 3/2/2022 passed by Hon'ble National Green Tribunal in Original Application No. 190/2016 Maj. Gen. Jatar vs. Pune Municipal Corporation & Ors.  
ii) Execution Application no. 7/2022 filed by Maj. Gen. Jatar in OA No. 190/2016  
iii) Authorization granted by M.P.C.Board under the Solid Waste Management Rules, 2016  
iv) Compost samples collected by Board Officials at Pune on 23/5/2018  
v) Prosecution Proposal received from the Sub-Regional Office, MPCB-Pune-1 vide Legal Action No. MPCB-Legal-Action-260822008 and approval received from MPCB HQ

WHEREAS the Maharashtra Pollution Control Board has granted the combined Authorization under the Solid Waste Management Rules, 2016 to Pune Municipal Corporation on 4/5/2017 to operate total 48 nos. of Solid Waste processing / waste disposal facility including thermal composting technology (24 hr based thermal composting) processing plants - total 10 numbers which was valid up to 31/12/2021.

AND WHEREAS the officials of the MPC Board in compliance of the Order passed by Hon'ble National Green Tribunal, Western Zone Bench, Pune in Original Application No. 190/2016 (WZ) had carried out the visit at your thermal composting plants on 23/5/2018 and had collected compost samples and as per analysis reports

: 1 :

कॉन्स / सी-टेल / शेडिक्ल  
अधोप नि. सहायक प्रमुख असे

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प्रशासक व आयुक्त  
पुणे महानगरपालिका

- अति कडा कायदा (२)  
- ३ का. (घनक. २१)

2  
M

1/10  
6/12

: 2 :

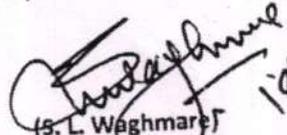
of the same, it was found that the parameters are exceeding the prescribed standards for Organic Compost (FCO-2009) as per the Solid Waste Management Rules, 2016.

AND WHEREAS after examining the record of your case and the reports of the Board Officers and in compliance of the Order dated 3/2/2022 passed by Hon'ble National Green Tribunal, I am satisfied that you have not complied the provisions of the Solid Waste Management Rules, 2016 and thus damaged the environment and caused pollution.

AND WHEREAS you are hereby called upon to show cause as to why prosecution shall not be launched against your Corporation and persons who are responsible for day to day affairs of the Corporation and the operator of the said plants for non-compliances of the Solid Waste Management Rules, 2016.

Your reply to the said show cause notice shall reach this office within a period of 10 days from the date of receipt of this notice, failing which, necessary legal action shall be initiated against you without giving you further opportunity, which please note.

This is issued with the approval of the competent Authority.

  
(S. L. Waghmare)  
Regional Officer, MPCB Pune 18/11/22

Copy submitted for information to:  
Joint Director (WPC)/RO-HQ/Law Officer (P&L Divn.), MPCB, Mumbai - for information and necessary follow up.

Copy to :  
Sub-Regional Officer, MPCB, Pune-1 - for information and necessary follow up action.

पुणे महानगरपालिका  
घनकचरा व्यवस्थापन विभाग  
आवक क्र.: - ९०६५  
दिनांक: - ५/१२/२०२२  
टीकन: - डा. धारणे शिव के. वी. कारा अभियंता  
पुणे महानगरपालिका सहायक आयुक्त उप. आयुक्त

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स्वागत कक्षा  
पुणे महानगरपालिका  
पुणे-४११००४  
आवक क्र. 8551  
दिनांक 23/11/22  
भाग H1 आयुक्त

श्री व. के. ए. ए.  
श्री. निलीन शिंदे  
PSP  
06/11/22  
Pravin Wadga  
For. N.A.  
18/11/22  
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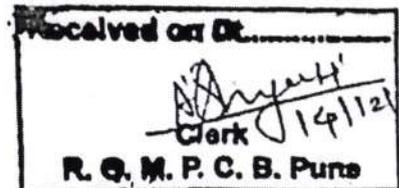
Solid waste Management  
Pune Municipal Corporation  
Outward no. SWM/4930  
Date - 13/12/2022

To,  
Regional Officer  
Maharashtra State Pollution Control Board,  
Jog centre, 3<sup>rd</sup> floor, Wakdewadi,  
Old Pune Mumbai Road,  
Pune-411003

Sub: Reply to Your Notice dated 18/11/2022.

Dear Sir,

1. This is in relation to your notice dated 18/11/2022. Pune Municipal Corporation invited tenders for Mechanical Thermal Composting Plant in the year 2014. Thereafter by following all due procedure, the work orders being 62-2014 and 63-2014 were awarded to "M/s. Ecoman Enviro Solutions Pvt. Ltd". Total 10 plants were to be established under the said work orders, for processing 50 MT per day wet waste per day.
2. The PMC and Ecoman executed Agreements in the month of November 2015. It is to be noted that as per the terms of the Agreements.
  - a. "M/s Ecoman Environ Solutions Pvt. Ltd" shall be responsible for testing and assure that the quality of the compost produced in said plants shall be comply with the Solid Waste Management Rule, 2000.
  - b. It is to be noted that as per the Agreement Ecoman solely was responsible for setting up and operating the plants.



11 A. Stagnant

- c. PMC was responsible only for providing electricity, water, land/locations for the plants and to supply requisite amount of waste to the said plants.
3. PMC also obtained Authorization for setting up and operating these plants from your office under MSW Rules letter no. BO/MSWA/B-1854 dated 04/05/2016 to ensure that all environment norms are followed.
4. It is to be noted that as soon as PMC came to know there are several irregularities and deficiencies on the part of the Ecoman in operating the Plant, PMC immediately issued show cause and other notices dated 19/09/2017, 22/11/2017, 22/11/2017, 30/11/2017, 14/12/2017 21/07/2018 to Ecoman.
5. Operations of the Plant were shut down since Dec 2017, PMC has also forfeited the Deposit amount of the Ecoman of Rs. 96,18,660/- and 5% security deposit of Rs. 59,33,440/-. PMC also black listed M/s Ecoman Environ Solutions Pvt. Ltd so that they may not be permitted to enter into any contract/agreement with PMC in future. PMC has also initiated a Suit for Damages of Rs. 17,03,50,528/- in the Commercial Court, Pune against Ecoman.
6. As per the Agreement between PMC and Ecoman Environ Solution Pvt. Ltd, it was the sole responsibility of M/s Ecoman Environ Solution Pvt. Ltd. to ensure the quality of the compost therefore PMC is not liable for the act done by M/s Ecoman Environ Solutions Pvt. Ltd.

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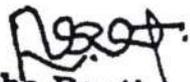
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7. As per order dated 03/02/2022 passed by the Hon'ble National Green Tribunal passed in EA No. 7 of 2022, it is specifically directed that prosecution and recovery of compensation for violations of Rules should be initiated against the defaulting contractor.
8. Based on the facts stated above and the actions initiated by the PMC against the M/s Ecoman Environ Solutions Pvt. Ltd you are requested not to initiate prosecution against the officers of PMC. PMC has always abided with all the environments laws and have acted in good faith for disposal of the waste generated in the City.

Date

Pune

  
(Asha Raut)

Deputy Commissioner  
Solid waste Management  
Pune municipal corporation

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**(1996) 3 Supreme Court Cases 212**

(BEFORE B.P. JEEVAN REDDY AND B.N. KIRPAL, JJ.)

INDIAN COUNCIL FOR ENVIRO-LEGAL ACTION AND OTHERS . .

Petitioners;

*Versus*

UNION OF INDIA AND OTHERS . . Respondents.

Writ Petitions (C) No. 967 of 1989 with Nos. 94 of 1990, 824 of 1993 and 76 of 1994<sup>±</sup>, decided on February 13, 1996

**A. Constitution of India — Arts. 32, 21, 48-A and 51-A(g) — PIL — Petition alleging environmental pollution caused by private industrial units — Maintainability — Writ petition filed by an environmentalist organisation, not for issuance of writ, order or direction against such units but against Union of India, State Govt. and State Pollution Board concerned to compel them to perform their statutory duties on ground that their failure to carry on such duties violated rights guaranteed under Art. 21 of the residents of the affected area — Held, maintainable — Court can, after ascertaining that the alleged industrial units were responsible for causing ecological fragility in the area, direct the authorities concerned to perform their statutory duties — Environment (Protection) Act, 1986, Ss. 3, 4, 5 — Water (Prevention and Control of Pollution) Act, 1974, Ss. 24(1), 25(1) (as amended by Act 53 of 1988), 33, 33-A (as introduced by Act 53 of 1988) — Air (Prevention and Control of Pollution) Act, 1981 — Hazardous Wastes (Management and Handling) Rules, 1989**

**B. Constitution of India — Arts. 32, 21, 48-A, 51-A(g) — Environmental pollution — Compensation — Imposition of cost of remedial measures — Principles of Strict Liability and Polluter Pays — Applicability — Hazardous and inherently dangerous activity carried on by industrial units — Principle laid down by Supreme Court in *Oleum Gas Leak case* regarding strict and absolute liability of such units to compensate to persons adversely affected thereby, held, not obiter but binding — Rule in *Rylands v. Fletcher*, which is**

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subject to exceptions of 'foreseeability' and 'non-natural user', not suitable for Indian conditions and hence not applicable — Discharge of highly toxic effluents viz. waste water and sludge, both iron-based and gypsum-based, from respondents' chemical factories manufacturing 'H' Acid, poisoning earth, underground water, wells, agriculture and other vegetation and rendering the village, where the factories located, ecologically fragile — Respondents operating contrary to law without obtaining clearances from authorities concerned and also disobeying orders of authorities as well as of Supreme Court — Respondents alone found to be responsible for such extensive damages — Held on facts, principles of Strict Liability and Polluter Pays applicable — Power of Central Govt. to direct such industries to defray costs for undertaking remedial measures implicit under Ss. 3 and 4 of Environment (Protection) Act — Determination of the amount required for carrying out the remedial measures, recovery/realisation thereof and undertaking such measures are functions of Central Govt. — Court can therefore issue appropriate directions to the Central Govt. to invoke and exercise the powers under Ss. 3 and 4 of the said Act — Environment (Protection) Act, 1986, Ss. 3 to 5 — Water (Prevention and Control of Pollution) Act, 1974, Ss. 24(1), 25(1) (as amended by Act 53 of 1988), 33, 33-A (as introduced by Act 53 of 1988) — Air (Prevention and Control of Pollution) Act, 1981 — Hazardous Wastes (Management and Handling) Rules, 1989 — Tort

**C. Constitution of India — Art. 32 — PIL — Reports submitted by experts pursuant to court's orders — Absence of opportunity to respondents to cross-examine the experts — Plea regarding raised at very late stage, unacceptable**

The units/factories of Respondents 4 to 8, located in an industrial complex in village Bichhri in Udaipur (Rajasthan), were all chemical industries and were controlled by the same group of

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individuals. Respondent 4 started producing in 1987 certain chemicals like Oleum (concentrated form of sulphuric acid) and Single Super Phosphate. Respondent 5 (Silver Chemicals) and Respondent 8 (Jyoti Chemicals) commenced production of 'H' acid. Respondents 6 and 7 were producing fertilizers and a few other products. The respondents had not obtained the requisite clearances/consents/licences; nor did they install any equipment for treatment of highly toxic effluents discharged by them. 'H' acid was meant for export exclusively. Its manufacture gives rise to enormous quantities of highly toxic effluents — in particular, iron-based and gypsum-based sludge — which if not properly treated, pose grave threat to Mother Earth. It poisons the earth, the water and everything that comes in contact with it. The chemicals produced by Respondents 5 and 8 gave birth to about 2400-2500 MT of highly toxic sludge (iron-based sludge and gypsum-based sludge) besides other pollutants. Since the toxic untreated waste waters were allowed to flow out freely and because the untreated toxic sludge was thrown in the open in and around the complex, the toxic substances percolated deep into the bowels of the earth polluting the aquifers and the subterranean supply of water. The water in the wells and the streams turned dark and dirty rendering it unfit for human consumption, unfit for cattle to drink and for irrigating the land. The soil became polluted rendering it unfit for cultivation, the mainstay of the villagers. It spread diseases, death and disaster in the village and the surrounding areas. The villagers then rose in virtual revolt leading to the imposition of Section 144 CrPC by the District Magistrate in the area. It was averred by the respondents that both the units, Silver Chemicals and Jyoti Chemicals had stopped manufacturing 'H' acid since January 1989 were dosed. Yet the consequences of their action remained — the sludge, the long-lasting damage to earth, to underground water, to human beings, to cattle and the village economy. An environmentalist organisation filed the present

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writ petition before the Supreme Court by way of social action litigation, complaining precisely of the above situation and requesting for appropriate remedial action. Pursuant to notice issued by the Supreme Court, the Government of India, Government of Rajasthan, Rajasthan Pollution Control Board (RPCB) and Respondents 4 to 8 filed counter-affidavits. The Court by its order dated 11-12-1989 requested the National Environmental Engineering Research Institute (NEERI) to study the situation in and around Bichhri village and submit their report "as to the choice and scale of the available remedial alternatives". From the affidavits of the parties, various orders of the Court, technical reports and other data, it was found that out of 2440 tonnes of sludge, about 720 tonnes had been stored in the pits provided by the respondents. The remaining sludge was still there either within the area of the complex of the respondents or outside their complex. With a view to conceal it from the eyes of the inspection teams and other authorities, the respondents dispersed it all over the area and covered it with earth. In some places, the sludge was lying in mounds. The units continued to function even after and in spite of the closure orders of the RPCB. They never did carry out the orders of the Supreme Court fully (e.g., entombing the sludge), nor did they fulfil the undertaking given by them to the court (in the matter of removal of sludge and de-watering of the wells). In spite of repeated reports of officials and expert bodies, they persisted in their illegal course of action in a brazen manner exhibiting their contempt for law, for the lawful authorities and the courts. Allowing the writ petition with costs

**Held :**

The contention that the respondents being private corporate bodies and not 'State' within the meaning of Article 12, a writ petition under Article 32 would not lie against them, cannot be accepted. If the Supreme Court finds that the Government/authorities concerned have not taken the action required of them by law and that their inaction is jeopardising the right to life of the citizens of this country or of any section thereof, it is the duty of the Supreme Court to intervene. If it is found that the respondents are flouting the provisions of law and the directions and orders issued by the lawful authorities, the Court can certainly make appropriate directions to ensure compliance with law and lawful directions made thereunder. This is a social action litigation on behalf of the villagers whose right to life, is invaded and seriously infringed by the respondents as is established by the various reports of the experts called for, and filed before, the Court. If an industry is established without obtaining the requisite permission and clearances and if the industry is continued to be run in blatant disregard of law to the detriment of life and liberty of the citizens living in the vicinity, the Supreme Court has power to intervene and protect the fundamental right to life and liberty of the citizens of



this country.

(Para 54)

The contention of respondents that the reports submitted by various expert bodies could not be relied upon by the Court in absence of opportunity to cross-examine the experts cannot be accepted. These reports were called by the Court and several orders passed on the basis of those reports. It was never suggested on behalf of offending industrial units (Respondents 4 to 8) that unless they are permitted to cross-examine the experts or the persons who made those reports, their reports cannot be acted upon. This objection, urged at this late stage of proceedings — after a lapse of several years — is wholly unacceptable. The persons who made the said reports are all experts in their field and under no obligation either to the State Pollution Control Board or for that matter to any other person or industry. It is in view of their independence and competence that their reports were relied upon and made the basis of passing orders by the Supreme Court from time to time.

(Para 54)

Relying on the reports submitted by the National Environmental Engineering Research Institute by the Central team (experts from the Ministry of Environment

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and Forests, Government of India) and the Rajasthan PCB, it must be held that the respondents alone were responsible for all the damage to the soil, to the underground water and to the village in general.

(Paras 54 and 57)

[See also 'Conclusions' at para 69]

The question is whether and to what extent can the respondents be made responsible for defraying the cost of remedial measures in these proceedings under Article 32.

(Para 57)

Any principle evolved in this behalf should be simple, practical and suited to the conditions obtaining in this country. According to the rule laid down by the Constitution Bench of the Supreme Court in *Oleum Gas Leak case*, once the activity carried on is hazardous or inherently dangerous, the person carrying on such activity is liable to make good the loss caused to any other person by his activity irrespective of the fact whether he took reasonable care while carrying on his activity. The rule is premised upon the very nature of the activity carried on. In the words of the Constitution Bench, such an activity "... can be tolerated only on condition that the enterprise engaged in such hazardous or inherently dangerous activity indemnifies all those who suffer on account of the carrying on of such hazardous or inherently dangerous activity regardless of whether it is carried on carefully or not". The Constitution Bench has also assigned the reason for stating the law in the said terms. It is that the enterprise (carrying on the hazardous or inherently dangerous activity) alone has the resource to discover and guard against hazards or dangers — and not the person affected and the practical difficulty (on the part of the affected person) in establishing the absence of reasonable care or that the damage to him was foreseeable by the enterprise. The Bench also observed that such liability is not subject to any of the exceptions which operate vis-à-vis the tortious principle of strict liability under the rule in *Rylands v. Fletcher*. The twin tests laid down in *Rylands v. Fletcher* — apart from the proof of damage to the plaintiff by the act/negligence of the defendants — which must be satisfied to attract its rule are 'foreseeability' and 'non-natural' user of the land. The observation of Ranganath Misra, C.J. in his concurring opinion in *Union Carbide Corpn. case* that the view declared in *Oleum* was only obiter cannot be accepted. It does not appear to be unnecessary for the purposes of that case. Thus the law stated by the Supreme Court in *Oleum Gas Leak case* is by far the more appropriate one — apart from the fact that it is binding.

(Paras 65, 58 and 62)

*M.C. Mehta v. Union of India*, (1987) 1 SCC 395 : 1987 SCC (L&S) 37, *affirmed*

*Rylands v. Fletcher*, (1868) LR 3 HL 330 : (1861-73) All ER Rep 1, *disapproved*

*Union Carbide Corpn. v. Union of India*, (1991) 4 SCC 584, paras 14 and 15, *overruled on this aspect*

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*Cambridge Water Co. Ltd. v. Eastern Counties Leather, plc*, (1994) 2 WLR 53 : (1994) 1 All ER 53; *Burnie Port Authority v. General Jones Pty Ltd.*, (1994) 68 Aus LJ 331, *considered*

*Pravinbhai Jashbhai Patel v. State of Gujarat*, (1995) 2 GLR 1210 : (1995) 2 GLH 352, *referred to* *Ballard v. Tomlinson*, (1885) 29 Ch D 115 : (1881-5) All ER Rep 688, *cited*

The question of liability of the respondents to defray the costs of remedial measures can also be looked into from another angle, which has now come to be accepted universally as a sound principle, viz., the "Polluter Pays" principle. According to this principle, the responsibility for repairing the damage is that of the offending industry.

(Para 67)

Carolyn Shelbourn: "*Historic Pollution — Does the Polluter Pay?*" — *Journal of Planning and Environmental Law*, Aug. 1974 issue), *approved*

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Read with the wide definition of 'environment' in Section 2(a), Sections 3 and 5 clothe the Central Government with all such powers as are "necessary or expedient for the purpose of protecting and improving the quality of the environment". The Central Government is empowered to take all measures and issue all such directions as are called for for the above purpose. Levy of costs required for carrying out remedial measures is implicit in Sections 3 and 4.

(Para 60)

In the present case, the said powers will include giving directions for the removal of sludge, for undertaking remedial measures and also the power to impose the cost of remedial measures on the offending industry and utilise the amount so recovered for carrying out remedial measures. The Supreme Court can certainly give directions to the Central Government or its delegate to take all such measures, if in a given case the Court finds that such directions are warranted. Therefore, appropriate directions can be given by the Court to the Central Government to invoke and exercise those powers with such modulations as are called for in the facts and circumstances of this case.

(Paras 60 and 66)

*Indian Council for Enviro-Legal Action v. Union of India*, (1995) 3 SCC 77 : (1995) 5 Scale 578, *relied on*

Further, in this case, there is a clear violation of law and disobedience to the orders of the Supreme Court apart from the orders of the lawful authorities. In this respect it is distinct from *Oleum Gas Leak case*. The Supreme Court has to ensure the observance of law and of its orders as a part of enforcement of fundamental rights. That power cannot be disputed. If so, the Court is competent to make orders necessary for a full and effective implementation of its orders — and that includes the imposition and recovery of cost of all measures including remedial measures.

(Para 60)

However, in all the circumstances, it is appropriate that the task of determining the amount required for carrying out the remedial measures, its recovery/realisation and the task of undertaking the remedial measures is placed upon the Central Government in the light of the provisions of the Environment (Protection) Act, 1986. It is, of course, open to the Central Government to take the help and assistance of State Government, the Rajasthan Pollution Control Board or such other agency or authority, as they think fit. It is but appropriate that an estimate of the cost of remedial measures be made now with notice to the respondents, which amount should be paid to Central Government and/or recovered from them by the Central Government. Other directions are also called for in the light of the facts and circumstances mentioned above.

(Paras 67 and 68)

[See 'Directions' in para 70]

Suggested Case Finder Search Text:

(1) **environment or ecology or pollution or (hazardous near substance\*)**



Search again:

(compensation or costs or directions)

- (2) (pil or "public interest litigation") (standing or maintainabl\*)  
 (3) (rylands or "strict liability") not criminal

**D. Constitution of India — Arts. 32 and 21, 48-A & 51-A(g) — PIL — Environmental pollution — Central Govt. directed to consider and examine the advisability of treating chemical industries as a category apart for scrutinising their establishments and functioning more rigorously and allowing these industries to be established in arid area (most of them being water-intensive industries); establishment of environment courts; strengthening the**

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environment protection machinery both at the Centre and the States and providing them more teeth; personal accountability of the industrial units for their lapses and negligence and formation of environmental audit directed to be considered and examined by Central Govt. — Environment (Protection) Act, 1986, Ss. 3 to 5

[Paras 70(4), (6) and (7)]

**E. Constitution of India — Art. 32 — PIL — Costs — Actions of voluntary bodies in furtherance of public interest deserve encouragement — Hence while allowing the public interest writ petition respondents directed to pay Rs 50,000 by way of costs to the petitioner — Supreme Court Rules, 1966, Or. 41**

(Para 71)

R-M/15795/C

Advocates who appeared in this case:

Altaf Ahmed, Additional Solicitor General, Harish N. Salve, K.N. Bhat and P.P. Malhotra, Senior Advocates (M.C. Mehta, Ms Seema Midha, K.R.R. Pillai, P.R. Seetharaman, R.P. Wadhvani, K.S. Rohtagi, M.K. Aggarwal, Ms Aparna Rohtagi, Mukul Mudgal, Aruneshwar Gupta, S.B. Wad, Surya Kant, Ms Sushma Suri and Wasim A. Qadri, Advocates, with them) for the appearing parties.

**Chronological list of cases cited**

in para(s)

- |   |                             |
|---|-----------------------------|
| 1. (1995) 3 SCC 77 : (1995) 5 Scale 578, <i>Indian Council for Enviro-Legal Action v. Union of India</i>  | 43, 60                      |
| 2. (1995) 2 GLR 1210 : (1995) 2 GLH 352, <i>Pravinbhai Jashbhai Patel v. State of Gujarat</i>             | 4, 46                       |
| 3. (1994) 2 WLR 53 : (1994) 1 All ER 53, <i>Cambridge Water Co. Ltd. v. Eastern Counties Leather, plc</i> | 63                          |
| 4. (1994) 68 Aus LJ 331, <i>Burnie Port Authority v. General Jones Pty Ltd.</i>                           | 64                          |
| 5. (1991) 4 SCC 584, <i>Union Carbide Corpn. v. Union of India</i>  | 46, 59                      |
| 6. (1987) 1 SCC 395 : 1987 SCC (L&S) 37, <i>M.C. Mehta v. Union</i>                                       | 38, 43, 46, 58, 59, 60, 61, |

of India

65, 66, 69

7. (1885) 29 Ch D 115 : (1881-5) All ER Rep 688, *Ballard v. Tomlinson*

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8. (1868) LR 3 HL 330 : (1861-73) All ER Rep 1, *Rylands v. Fletcher*

58, 59, 61, 63, 64

The Judgment of the Court was delivered by

**B.P. JEEVAN REDDY, J.—**

*Writ Petition (C) No. 967 of 1989*

1. This writ petition filed by an environmentalist organisation brings to light the woes of people living in the vicinity of chemical industrial plants in India. It highlights the disregard, nay, contempt for law and lawful authorities on the part of some among the emerging breed of entrepreneurs, taking advantage, as they do, of the country's need for industrialisation and export earnings. Pursuit of profit has absolutely drained them of any feeling for fellow human beings — for that matter, for anything else. And the law seems to have been helpless. Systemic defects? It is such instances which have led many people in this country to believe that disregard of law pays and that the consequences of such disregard will never be visited upon them — particularly, if they are men with means. Strong words indeed — but nothing less would reflect the deep sense of hurt, the hearing of this case has instilled in us. The facts of the case will bear out these opening remarks.

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2. Bichhri is a small village in Udaipur District of Rajasthan. To its north is a major industrial establishment, Hindustan Zinc Limited, a public sector concern. That did not affect Bichhri. Its woes began somewhere in 1987 when the fourth respondent herein, Hindustan Agro Chemicals Limited started producing certain chemicals like Oleum (said to be the concentrated form of sulphuric acid) and Single Super Phosphate. The real calamity occurred when a sister concern, Silver Chemicals (Respondent 5), commenced production of 'H' acid in a plant located within the same complex. 'H' acid was meant for export exclusively. Its manufacture gives rise to enormous quantities of highly toxic effluents — in particular, iron-based and gypsum-based sludge — which if not properly treated, pose grave threat to Mother Earth. It poisons the earth, the water and everything that comes in contact with it. Jyoti Chemicals (Respondent 8) is another unit established to produce 'H' acid, besides some other chemicals. Respondents 6 and 7 were established to produce fertilizers and a few other products.

3. All the units/factories of Respondents 4 to 8 are situated in the same complex and are controlled by the same group of individuals. All the units are what may be called "chemical industries". The complex is located within the limits of Bichhri village.

4. Because of the pernicious wastes emerging from the production of 'H' acid, its manufacture is stated to have been banned in the western countries. But the need of 'H' acid continues in the West. That need is catered to by the industries like the Silver Chemicals and Jyoti Chemicals in this part of the world. (A few other units producing 'H' acid have been established in Gujarat, as would be evident from the decision of the Gujarat High Court in *Pravinbhai Jashbhai Patel v. State of Gujarat*<sup>1</sup>, a decision



rendered by one of us, B.N. Kirpal, J. as the Chief Justice of that Court.) Silver Chemicals is stated to have produced 375 MT of 'H' acid. The quantity of 'H' acid produced by Jyoti Chemicals is not known. It says that it produced only 20 MT, as trial production, and no more. Whatever quantity these two units may have produced, it has given birth to about 2400-2500 MT of highly toxic sludge (iron-based sludge and gypsum-based sludge) besides other pollutants. Since the toxic untreated waste waters were allowed to flow out freely and because the untreated toxic sludge was thrown in the open in and around the complex, the toxic substances have percolated deep into the bowels of the earth polluting the aquifers and the subterranean supply of water. The water in the wells and the streams has turned dark and dirty rendering it unfit for human consumption. It has become unfit for cattle to drink and for irrigating the land. The soil has become polluted rendering it unfit for cultivation, the mainstay of the villagers. The resulting misery to the villagers needs no emphasis. It spread disease, death and disaster in the village and the surrounding areas. This sudden degradation of earth and water had an echo in Parliament too. An Hon'ble Minister said, action was

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being taken, but nothing meaningful was done on the spot. The villagers then rose in virtual revolt leading to the imposition of Section 144 CrPC by the District Magistrate in the area and the closure of Silver Chemicals in January 1989. It is averred by the respondents that both the units, Silver Chemicals and Jyoti Chemicals have stopped manufacturing 'H' acid since January 1989 and are closed. We may assume it to be so. Yet the consequences of their action remain — the sludge, the long-lasting damage to earth, to underground water, to human beings, to cattle and the village economy. It is with these consequences that we are to contend with in this writ petition.

5. The present social action litigation was initiated in August 1989 complaining precisely of the above situation and requesting for appropriate remedial action. To the writ petition, the petitioner enclosed a number of photographs illustrating the enormous damage done to water, cattle, plants and to the area in general. A good amount of technical data and other material was also produced supporting the averments in the writ petition.

#### *Counter-affidavits of the Respondents*

6. On notice being given, counter-affidavits have been filed by the Government of India, Government of Rajasthan, Rajasthan Pollution Control Board (RPCB) and Respondents 4 to 8. Since the earliest *counter-affidavit* in point of time is that of RPCB, we shall refer to it in the first instance. It was filed on 26-10-1989. The following are the averments:

(a) Re Hindustan Agro Chemicals Limited (R-4): The unit obtained "No Objection Certificate" from the PCB for manufacturing sulphuric acid and alumina sulphate. The Board granted clearance subject to certain conditions. Later "No Objection Certificate" was granted under the Water (Prevention and Control of Pollution) Act, 1974 (Water Act) and Air (Prevention and Control of Pollution) Act, 1981 (Air Act), again subject to certain conditions. However, this unit changed its product without clearance from the Board. Instead of sulphuric acid, it started manufacturing Oleum and Single Super Phosphate (SSP). Accordingly, consent was refused to the unit on 16-2-1987. Directions were also issued to close down the unit.

(b) Re Silver Chemicals (R-5): This unit was promoted by the fourth respondent without obtaining "No Objection Certificate" from the Board for the manufacture of



'H' acid. The waste water generated from the manufacture of 'H' acid is highly acidic and contains very high concentration of dissolved solids along with several dangerous pollutants. This unit was commissioned in February 1988 without obtaining the prior consent of the Board and accordingly, notice of closure was served on 30-4-1988. On 12-5-1988, the unit applied for consent under Water and Air Acts which was refused. The Government was requested to issue directions for cutting off the electricity and water

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to this unit but no action was taken by the Government. The unit was found closed on the date of inspection, viz., 2-10-1989.

(c) Re Rajasthan Multi Fertilizers (R-6): This unit was installed without obtaining prior "No Objection Certificate" from the Board and without even applying for consent under Water and Air Acts. Notice was served on this unit on 20-2-1989. In reply where to, the Board was informed that the unit was closed since last three years and that electricity has also been cut off since 12-2-1988.

(d) Re Phosphates India (R-7): This unit was also established without obtaining prior "No Objection Certificate" from the Board nor did it apply for consent under the Water and Air Acts. When notice dated 20-2-1989 was served upon this unit, the Management replied that this unit was closed for a long time.

(e) Re Jyoti Chemicals (R-8): This unit applied for "No Objection Certificate" for producing ferric alum. "No Objection Certificate" was issued imposing various conditions on 8-4-1988. The "No Objection Certificate" was withdrawn on 30-5-1988 on account of non-compliance with its conditions. The consent applied for under Water and Air Acts by this unit was also refused. Subsequently, on 9-2-1989, the unit applied for fresh consent for manufacturing 'H' acid. The consent was refused on 30-5-1989. The Board has been keeping an eye upon this unit to ensure that it does not start the manufacture of 'H' acid. On 2-10-1989, when the unit was inspected, it was found closed.

7. The Board submitted further (in its counter-affidavit) that the sludge lying in the open in the premises of Respondents 4 to 8 ought to be disposed of in accordance with the provisions contained in the Hazardous Wastes (Management and Handling) Rules, 1989 framed under Environment (Protection) Act, 1986. According to the Board, the responsibility for creating the said hazardous situation was squarely that of Respondents 4 to 8. The Board enclosed several documents to its counter in support of the averments contained therein.

8. *The Govt. of Rajasthan filed its counter-affidavit on 20-1-1990. It made a curious statement in para 3 to the following effect:*

"(T)hat the State Government is *now* aware of the pollution of underground water being caused by liquid effluents from the firms arrayed as Respondents 4 to 8 in the writ petition. Therefore, the State Government has initiated action through the Pollution Control Board to check further spread of pollution."

The State Government stated that the water in certain wells in Bichhri village and some other surrounding villages has become unfit for drinking by human beings and cattle, though in some other wells, the water remains unaffected.

9. *The Ministry of Environment and Forests, Government of India filed its counter on 8-2-1990. In their counter, the Government of India stated that Silver Chemicals was merely granted a Letter of Intent but it never applied*

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for conversion of the Letter of Intent into industrial licence. Commencing production before obtaining industrial licence is an offence under Industries (Development and Regulation) Act, 1951. So far as Jyoti Chemicals is concerned, it is stated that it has not approached the Government at any time even for a Letter of Intent. The Government of India stated that in June 1989, a study of the situation in Bichhri village and some other surrounding villages was conducted by the Centre for Science and Environment. A copy of their report is enclosed to the counter. The report states the consequences emanating from the production of 'H' acid and the manner in which the resulting wastes were dealt with by Respondents 4 to 8 thus:

"The effluents are very difficult to treat as many of the pollutants present are refractory in nature. Setting up such highly polluting industry in a critical groundwater area was essentially ill-conceived. The effluents seriously polluted the nearby drain and overflowed into Udaisagar main canal, severely corroding its cement-concrete lined bed and banks. The polluted waters also seriously degraded some agricultural land and damaged standing crops. On being ordered to contain the effluents, the industry installed an unlined holding pond within its premises and resorted to spraying the effluent on the nearby hill slope. This only resulted in extensive seepage and percolation of the effluents into groundwater and their spread down the aquifer. Currently about 60 wells appear to have been significantly polluted but every week a few new wells, down the aquifer start showing signs of pollution. This has created serious problems for water supply for domestic purposes, cattle-watering crop irrigation and other beneficial uses, and it has also caused human illness and even death, degradation of land and damage to fruit, trees and other vegetation. There are serious apprehensions that the pollution and its harmful effects will spread further after the onset of the monsoon as the water percolating from the higher parts of the basin moves down carrying the pollutants lying on the slopes — in the holding pond and those already underground."

**10.** Each of the *Respondents 4 to 8* filed separate counter-affidavits. All the affidavits filed on behalf of these respondents are sworn to by Lt. Gen. M.L. Yadava, who described himself as the President of each of these units. In the counter-affidavit filed on behalf of the fourth respondent, it is stated that it is in no way responsible for the situation complained of. It is engaged in the manufacture of sulphuric acid and had commenced its operations on 6-1-1987. It has been granted "No Objection Certificates" from time to time. The consent obtained from RPCB is valid up to 15-8-1988. Application for extension of consent has already been filed. This counter-affidavit was filed on 18-1-1990.

**11.** In the counter-affidavit filed on behalf of the fifth respondent (Silver Chemicals), it is stated that the manufacture of 'H' acid which was commenced in February 1988 has been completely stopped after January 1989. The respondent is fully conscious of the need to conserve and protect

environment and is prepared fully to cooperate in that behalf. It is ready to comply with any stipulations or directions that may be made for the purpose. It, however, submitted that the real culprit is Hindustan Zinc Limited. The Archaeological Department of the Government of Rajasthan had issued environmental clearance for its unit (rather surprising statement). "No Objection Certificates" had also been issued



by the Executive Engineer (Irrigation), Udaipur Division and the Wild Life Warden. So far as the requirement of 'consent' under Water and Air Acts is concerned, it merely stated that it had applied for it. Its closure in January 1989 was on account of promulgation of an order under Section 144 CrPC by the District Magistrate in view of widespread agitation by the villagers against its functioning.

**12.** In the counter-affidavit filed on behalf of the sixth respondent (Rajasthan Multi Fertilizers), it is stated that it commenced production on 14-3-1982 and closed down in December 1985. Electrical connection to it was disconnected on 13-2-1988. It was submitted that since it is a small-scale industry, no consent was asked for from anyone. It denied that it was causing any pollution, either ground, air or water.

**13.** In the counter-affidavit filed on behalf of the seventh respondent (Phosphates India), it is stated that this unit commenced production on 15-5-1988 but was closed on and with effect from 1-9-1988 for want of support from the Central Government in the form of subsidies. It submitted that it has merged with the fourth respondent in 1987-88.

**14.** In the counter-affidavit filed on behalf of the eighth respondent (Jyoti Chemicals), it is stated that it has no electrical connection, that it had commenced production in April 1987 and closed down completely in January 1989. It is stated that the unit produced 'H' acid to an extent of 20 MT as a trial measure for one month with the permission of the Industries Department. It is no longer manufacturing 'H' acid and, therefore, is not responsible for causing any pollution. It is further submitted that it is a small-scale industry and was registered with the District Industry Centre, Udaipur for the manufacture of ferric alum and 'H' acid. It began its operation simultaneously with the fifth respondent, Silver Chemicals, and several of the clearances are common to both, as both of them are located together. The trial production of 'H' acid, it is stated, took place in January 1987.

**15.** *Hindustan Zinc Limited* was impleaded as the ninth respondent at the instance of Respondents 4 to 8. It has filed a counter-affidavit denying that it is responsible in any manner for causing any pollution in Bichhri village or the surrounding areas. According to it, its plants are situated downstream, towards north of Bichhri village. We do not think it necessary to refer to this affidavit in any detail inasmuch as we are not concerned, in this writ petition, with the pollution, if any, caused by the ninth respondent in other villages but only with the pollution caused by Respondents 4 to 8 in Bichhri or surrounding villages.

#### *Orders passed and steps taken during the period 1989-1992*

**16.** The first considered order made, after hearing the parties, by this Court is of 11-12-1989. Under this order, the court requested the National Environmental Engineering Research Institute (NEERI) to study the situation in and around Bichhri village and submit their report "as to the choice and scale of the available remedial alternatives". NEERI was requested to suggest both short-term and long-term measures required to combat the hazard already caused. Directions were also made for supply of drinking water to affected villages by the State of Rajasthan. The RPCB was directed to make available to the court the Report it had prepared concerning the situation in Bichhri village.

**17.** On the next date of hearing, i.e., 5-3-1990, the court took note of the

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statements made on behalf of Respondents 4 to 8 that they have completely stopped the manufacture of 'H' acid in their plants and that they did not propose to resume its manufacture. The court also took note of the petitioner's statement that though the manufacture of 'H' acid may have been stopped, a large quantity of highly dangerous effluent waste/sludge has accumulated in the area and that unless properly treated, stored and removed, it constitutes a serious danger to the environment. Directions were given to the RPCB to arrange for its transportation, treatment and safe storage according to the technically accepted procedures for disposal of chemical wastes of that kind. All reasonable expenses for the said operation were to be borne by Respondents 4 to 8 (hereinafter referred to in this judgment as the 'respondents'). So far as the polluted water in the wells was concerned, the court noted the offer made by the learned counsel for the respondents that they will themselves undertake the de-watering of the wells. The RPCB was directed to inspect and indicate the number and location of the wells to be de-watered.

**18.** The matter was next taken up on 4-4-1990. It was brought to the notice of the court that no meaningful steps were taken for removing the sludge as directed by this Court in its order dated 5-3-1990. Since the monsoon was about to set in, which would have further damaged the earth and water in the area, the court directed the respondents to immediately remove the sludge from the open spaces where it was lying and store it in safe places to avoid the risk of seepage of toxic substances into the soil during the rainy season. The respondents were directed to complete the task within five weeks therefrom.

**19.** It is not really necessary to refer to the contents of the various orders passed in 1990 and 1991, i.e., subsequent to the order dated 4-4-1990 for the present purposes. Suffice it to say that the respondents did not comply with the direction to store the sludge in safe places. The de-watering of wells did not prove possible. There was good amount of bickering between the respondents on one side and the RPCB and the Ministry of Environment and Forests on the other. They blamed each other for lack of progress in the



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matter of removal of sludge. Meanwhile, years rolled by and the hazard continued to rise. NEERI submitted an interim report. (We are, however, not referring to the contents of this interim report inasmuch as we would be referring to the contents of the final report presently after referring to a few more relevant orders of this Court.)

**20.** On 17-2-1992, this Court passed a fairly elaborate order observing that Respondents 5 to 8 are responsible for discharging the hazardous industrial wastes; that the manufacture of 'H' acid has given rise to huge quantities of iron sludge and gypsum sludge — approximately 2268 MT of gypsum-based sludge and about 189 MT of iron-based sludge; that while the respondents blamed Respondent 9 as the main culprit, Respondent 9 denied any responsibility therefor. The immediate concern, said the Court, was the appropriate remedial action. The report of the RPCB presented a disturbing picture. It stated that the respondents have deliberately spread the hazardous material/sludge all over the place which has only heightened the problem of its removal and that they have failed to carry out the order of this Court dated 4-4-1990. Accordingly, the court directed the Ministry of Environment and Forests, Government of India to depute its experts immediately to inspect the area to ascertain the existence and extent of gypsum-based and iron-based sludge, to suggest the handling and disposal procedures and to prescribe a package for its transportation and safe storage. The cost of such storage and transportation was to be recovered from the



respondents.

**21.** Pursuant to the above order, a team of experts visited the area and submitted a report along with an affidavit dated 30-3-1992. The report presented a highly disturbing picture. It stated that the sludge was found inside a shed and also at four places outside the shed but within the premises of the complex belonging to the respondents. It stated further that sludge has been mixed with soil and at many places it is covered with earth. A good amount of sludge was said to be lying exposed to sun and rain. The report stated:

"Above all, the extent of pollution in groundwater seems to be very great and the entire aquifer may be affected due to the pollution caused by the industry. The organic content of the sludge needs to be analysed to assess the percolation property of the contents from the sludge. It is also possible that the iron content in the sludge may be very high which may cause the reddish colouration. As the mother liquor produced during the process (with pH-1) was highly acidic in nature and was indiscriminately discharged on land by the unit, it is possible that this might have eroded soil and caused the extensive damage. It is also possible that the organic contents of the mother liquor would have gone into soil with water together with the reddish colour."

The report also suggested the mode of disposal of sludge and measures for reconditioning the soil.

**22.** In view of the above report, the court made an order on 6-4-1992 for entombing the sludge under the supervision of the officers of the Ministry of

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Environment and Forests, Government of India. Regarding revamping of the soil, the court observed that for this purpose, it might become necessary to stop or suspend the operation of all the units of the respondent but that, the court said, requires to be examined further.

**23.** The work of entombment of sludge again faced several difficulties. While the respondents blamed the government officers for the delay, the government officials blamed the said respondents of non-cooperation. Several orders were passed by this Court in that behalf and ultimately, the work commenced.

*Orders passed in 1993, filing of Writ Petition (C) No. 76 of 1994 by Respondent 4 and the orders passed therein*

**24.** With a view to find out the connection between the wastes and sludge resulting from the production of 'H' acid and the pollution in the underground water, the court directed on 20-8-1993, that samples should be taken of the entombed sludge and also of the water from the affected wells and sent for analysis. Environment experts of the Ministry of Environment and Forests were asked to find out whether the pollution in the well water was on account of the said sludge or not. Accordingly, analysis was conducted and the experts submitted the Report on 1-11-1993. Under the heading 'Conclusion', the report stated:

**"5.0 Conclusion**

5.1 On the basis of the observations and analysis results, it is concluded beyond doubt that the sludge inside the entombed pit is the contaminated one as evident from the number of parameters analysed.

5.2 The groundwater is also contaminated due to discharge of H-acid plant effluent as well as H-acid sludge/contaminated soil leachates as shown in the photographs and also supported by the results. The analysis results revealed good

correlation between the colour of well water and H-acid content in it. The analysis results show high degree of impurities in sludge/soil and also in well water *which is a clear indication of contamination of soil and groundwater due to disposal of H-acid waste.*"

The report which is based upon their inspection of the area in September 1993 revealed many other alarming features. It represents a commentary on the attitude and actions of the respondents. In para 2, under the heading "Site Observations and Collection of Sludge/Contaminated Soil Samples", the following facts are stated:

"2.1. The Central team, during inspection of the premises of M/s HACL, observed that *H-acid sludge (iron/gypsum) and contaminated soil are still lying at different places, as shown in Fig. 1, within the industrial premises (Photograph 1) which are the leftovers. The area, where the solar evaporation pond was existing with H-acid sludge dumped here and there, was observed to have been levelled with borrowed soil (Photograph 2). It was difficult to ascertain whether the*

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sludge had been removed before filling. However, there are visual evidences of contaminated soil in the area.

2.2 As reported by the Rajasthan Pollution Control Board (RPCB) representatives, *about 720 tonnes out of the total contaminated soil and sludge scraped from the sludge dump sites is disposed of in six lined entombed pits covered by lime/flyash mix, brick soling and concrete (Photographs 3 and 4). The remaining scraped sludge and contaminated soil was lying near the entombed pits for want of additional disposal facility. However, during the visit, the left over sludge and contaminated soil could not be traced at site. Inspection of the surrounding area revealed that a huge heap of foreign soil of 5 metre height (Photograph 5) covering a large area, as also indicated in Fig. 1, was raised on the slopy ground at the foothill within the industry premises. The storm water run-off pathway over the area showed indication of H-acid sludge leachates coming out of the heap. Soil in the area was sampled for analysis.*

2.3 *M/s HACL has a number of other industrial units which are operating within the same premises without valid consents from the Rajasthan Pollution Control Board (RPCB). These plants are sulphuric acid (H<sub>2</sub>SO<sub>4</sub>), fertilizer (SSP) and vegetable oil extraction. The effluent of these units are not properly treated and the untreated effluent particularly from the acid plant is passing through the sludge dump area playing havoc (Photograph 7). The final effluent was collected at the outlet of the factory premises during operation of these units, at the time of groundwater monitoring in September 1993, by the RPCB. Its quality was observed to be highly acidic (pH: 1.08, Conductivity: 37,100 mg/1, SO<sub>4</sub>: 21,000 mg/1, Fe: 392 mg/1, COD: 167 mg/1) which was also revealed in the earlier visits of the Central teams. However, these units were not in operation during the present visit."*

Under para 4.2.1, the report stated inter alia:

*"The sludge samples from the surroundings of the (presently non-existent) solar evaporation and the contaminated soil due to seepage from the newly raised dump site also exhibited very high values of the above-mentioned parameters. This revealed that the contaminated soil is buried under the new dump found by the team."*

**25.** So much for the waste disposal by the respondents and their continuing good conduct! To the same effect is the report of the RPCB which is dated 30-10-1993.



**26.** In view of the aforesaid reports, all of which unanimously point out the consequences of the 'H' acid production, the manner in which the highly corrosive waste water (mother liquor) and the sludge resulting from the production of 'H' acid was disposed of and the continuing discharge of highly toxic effluents by the remaining units even in the year 1993, the authorities (RPCB) passed orders closing down, in exercise of their powers under Section 33-A of the Water Act, the operation of the Sulphuric Acid

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Plant and the solvent extraction plant including oil refinery of the fourth respondent with immediate effect. Orders were also passed directing disconnection of electricity supply to the said plants. The fourth respondent filed Writ Petition (C) No. 76 of 1994 in this Court, under Article 32 of the Constitution, questioning the said orders in January 1994. The main grievance in this writ petition was that without even waiting for the petitioner's (Hindustan Agro Chemicals Limited) reply to the show-cause notices, orders of closure and disconnection of electricity supply were passed and that this was done by the RPCB with a mala fide intent to cause loss to the industry. It was also submitted that sudden closure of its plants is likely to result in disaster and, may be, an explosion and that this consideration was not taken into account while ordering the closure. In its Order dated 7-3-1994, this Court found some justification in the contention of the industry that the various counter-affidavits filed by the RPCB are self-contradictory. The Board was directed to adopt a constructive attitude in the matter. By another order dated 18-3-1994, the RPCB was directed to examine the issue of grant of permission to restart the industry or to permit any interim arrangement in that behalf. On 8-4-1994, a 'consent' order was passed whereunder the industry was directed to deposit a sum of Rupees sixty thousand with RPCB before 11-4-1994 and the RPCB was directed to carry on the construction work of storage tank for storing and retaining ten days' effluents from the Sulphuric Acid Plant. The construction of temporary tank was supposed to be an interim measure pending the construction of an ETP on permanent basis. The order dated 28-4-1994 noted the report of the RPCB stating that the construction of temporary tank was completed on 26-4-1994 under its supervision. The industry was directed to comply with such other requirements as may be pointed out by RPCB for prevention and control of pollution and undertake any work required in that behalf forthwith. Thereafter, the matter went into a slumber until 13-10-1995.

#### *NEERI Report*

**27.** At this juncture, it would be appropriate to refer to the report submitted by NEERI on the subject of "Restoration of Environmental Quality of the affected area surrounding Village Bichhri due to past Waste Disposal Activities". This report was submitted in April 1994 and it states that it is based upon the study conducted by it during the period November 1992 to February 1994. Having regard to its technical competence and reputation as an expert body on the subject, we may be permitted to refer to its report at some length.

**28.** At p. 7, the report mentions the industrial wastes emerging from the manufacture of 'H' acid. It reads:

"Solid wastes generated from H-acid manufacturing process are:

Gypsum sludge produced during the neutralisation of acidic solution with lime after nitration stage (around 6 tonnes/tonne of H-acid manufactured)

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Iron sludge produced during the reduction stage (around 0.5 tonnes/tonne of H-acid manufactured)

Gypsum sludge contains mostly calcium sulphate along with sodium salts and organics. Iron sludge constitutes unreacted iron powder, besides ferric salts and organics.

It is estimated that, for each tonne of H-acid manufactured, about 20 m<sup>3</sup> of highly corrosive waste water was generated as mother liquor, besides the generation of around 2.0 m<sup>3</sup> of wash water. The mother liquor is characterised by low pH (around 2.0) and high concentration of total dissolved solids (80-280 g/L). High COD of the waste water (90 g/L) could be attributed to organics formed during various stages of manufacture. These include naphthalene trisulphonic acid, nitro naphthalene sulphonic acid, Koch acid and H-acid, besides several other intermediates."

29. At pp. 8 and 9, the report describes the manner in which the sludge and other industrial wastes were disposed of by the respondents. It states inter alia:

"The total quantities of waste water and that of sludge generated were around 8250 m<sup>3</sup> and 2440 tonnes respectively for a production of 375 tonnes by M/s Silver Chemicals Ltd. and M/s Jyoti Chemicals Ltd....

Majority of sludge brought back from disposal sites located outside the plant was transferred inside a covered shed.

The sludge lying in the plant premises was entombed in the underground pit by RPCB as per the directions of the Hon'ble Supreme Court. It may be mentioned that *only 720 MT of sludge out of the estimated quantity of 2440 MT could be entombed as the capacity of the underground tanks provided by the industry for the purpose was only to that extent.*

*Remaining sludge and sludge-mixed soil were, however, present in the plant premises as these could not be transferred into underground tanks.* It has also been observed that only sludge above the soil was removed from the six sites and transferred to the plant site. Sub-surface soil of these sites appears to have been contaminated as the soil has reddish colour akin to that of the sludge.

A fertilizer plant (single superphosphate), a sulphuric acid plant and an oil extraction and oil refining plant were in operation in the same premises where H-acid was earlier manufactured. *The acidic waste water (around pH 1.0) presently generated from these units was flowing over the abandoned dump site. This leaches the sludge-mixed soil from the abandoned dump site and the contaminated water flows by gravity towards east and finds its way into a nullah flowing through the compound and conveys the contaminated water to an irrigation canal which originates from Udaisagar Lake (Pate 1.4)."*

(emphasis added)

30. At p. 10, the report mentions the six dump sites outside the 'H' acid plant premises where the sludge was lying in the open. At pp. 26 and 27, the

report states on the basis of VES investigations that while certain wells were found contaminated, others were not. At p. 96, the report states thus:



### "DAMAGE TO CROPS AND TREES

The field surveys in contaminated fields in *Zones I and II* showed that no crops were coming in the fields particularly in low-lying areas. On some elevated areas, crops like jowar, maize were growing; however the growth and yield were very poor.

Further it was also observed that even trees like eucalyptus planted in contaminated fields show leaf burning and stunted growth. Many old trees which were badly affected due to contamination are still growing under stress conditions as a result of soil contamination.

The top soils at the old dump sites outside the plant premises are still contaminated and require de-contamination before the land is used for other purposes.

It was observed that even after the operation of hauling the sludge back to the industry premises, some sludge-mixed soil was still lying in the premises of a primary school (Table 1.1), which needs de-contamination."

**31.** In Chapter 6, the report mentions the remedial measures. Para 6.1, titled INTRODUCTION, states:

"As could be seen from the data reported in Chapters 4 and 5, *the groundwater and soils within 2 kms from the plant have been contaminated*. After critically scrutinising the data, it was concluded that there is an *urgent need to work out a de-contamination strategy* for the affected area. This strategy includes the de-contamination of the soil, contaminated groundwater and abandoned dump sites. This chapter details the remedial measures that can be considered for implementation to restore the environmental quality of the affected area."

**32.** The chapter then sets out the various remedial measures, including land treatment, soil washing, revegetation, control over the flow of the contaminated water to adjoining lands through canals, leaching of soluble salts, design of farm to development of agro-forestry and/or forestry plantation with salt tolerant crops/plants and groundwater de-contamination. Inter alia, the report states:

"The entire contaminated area comprising of 350 ha of contaminated land and six abandoned dump sites outside the industrial premises has been found to be ecologically fragile due to reckless past disposal activities practised by M/s Silver Chemicals Ltd. and M/s Jyoti Chemicals Ltd. Accordingly, it is suggested that the whole of the contaminated area be developed as a green belt at the expense of M/s Hindustan Agrochemicals Ltd. during the monsoon of 1994."

**33.** Under para 6.3.2, the report suggests "De-contamination Alternatives for Groundwater" including bioremediation, degradation of H-



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acid by *Azotobacter Vinelandii*, isolation of bacterial population from H-acid contaminated soil and several other methods.

**34.** Under para 6.4.2, the report mentions the several de-contamination alternatives including containment of contaminated soil, surface control, groundwater control, leachate collection and treatment, gas migration control and direct waste treatment.

**35.** At pp. 157 and 158, the report mentions the continuing discharge of effluents in an illegal and dangerous manner. It reports:

"It was also observed by NEERI's team during the current study that the industry *has not provided adequate effluent treatment facilities* and the waste

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waters (pH<1.5) from the existing plants (sulphuric acid, fertilizer, and oil extraction) are being discharged, without treatment, on land within the plant premises. This indiscriminate and wilful disposal activity is *further aggravating the contamination problem in the area. Acidic effluent leaches the pollutants from the dumped sludge and the contaminated soil and facilitates their penetration through the ground* and thereby increasing the concentration of sulphates and dissolved solids in groundwater. *What is most serious is the fact that the industry produced chlorosulfonic acid for a few months during late 1992 which is a hazardous and toxic substance as per MEF Notification titled 'Manufacture, Storage and Import of Hazardous Chemical Rules, 1989' and even floated public shares for the manufacture of this obnoxious chemical. The production was however ceased due to the intervention of the Rajasthan Pollution Control Board in December 1992 as the industry was operating without obtaining site clearance, No Objection Certificate (NOC)/Consent from the concerned appropriate regularity (regulatory?) authorities and without providing for any pollution-control measures.* It is, therefore, essential for M/s Hindustan Agrochemicals Ltd. to comply with these requirements for carrying out the present industrial activities. *The abatement of further contamination warrants the closure of all industrial operations till an appropriate effluent treatment plant is installed, and certified by RPCB for its functionality in keeping with the provisions of Water Act."*

The report adds:

"The Industry management in the past (during 1988-89) has shown scant respect for Pollution Control and Environment Protection Acts. Not only this, the management *continues industrial activity producing obnoxious waste waters and dumping the same without any treatment, contaminating land and groundwater without any concern for ecology and public health.* It is necessary that the provisions of relevant legislations are imposed on the industry to avoid environmental damage and harm to public welfare."

(emphasis added)

**36.** We do not think that the above report requires any emphasis at our hands. It speaks for itself — and it speaks volumes of the "high regard" the respondents have for law!

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**37.** From p. 179 onwards, the report refers to the damage to the crops and the land and to the psychological and mental torture inflicted upon the villagers by the respondents and suggests that the principle of "Polluter Pays" should be applied in this case inasmuch as *"the incident involved deliberate release of untreated acidic process waste water and negligent handling of waste sludge knowing fully well the implication of such acts"*. The report suggests that compensation should be paid under two heads, viz., (a) for the losses due to damage and (b) towards the cost of restoration of environmental quality. It then works out the total cost of restoration of environmental quality at Rs 3738.5 lakhs — i.e., Rs 37.385 crores.

**38.** Para 7.4 states the conclusions flowing from the material in Chapter 6 thus:

"The cost of damage to be disbursed to the affected villagers is estimated at Rs 342.8 lakhs and remediation of impacted well waters and soil at Rs 3738.5 lakhs. This cost needs to be borne by the management of the industry in keeping with the Polluter Pays principle and the doctrine of Strict/Absolute liability, as applied to Shri

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**Ram Food and Fertilizers Industry in the case of *Oleum leak*<sup>2</sup> in 1985."**

*Report of RPCB submitted in January 1996 during the final hearing of these matters*

**39.** When all these matters were posted before the court on 13-10-1995, we realised that the matter requires to be heard on a priority basis. Having regard to the voluminous data gathered by this Court and the several orders passed from time to time, the matter was listed for regular hearing. We heard all the parties at length on 10th, 11th, 16th and 17th January, 1996. We have been taken through the voluminous record. Submissions have also been made on the questions of law arising herein.

**40.** At the end of the first day of regular hearing, we made an order calling upon the RPCB to send a team of high officials to the spot and report to us the latest position on the following aspects:

(i) Whether the factories of Silver Chemicals, Rajasthan Multi Fertilizers and Jyoti Chemicals are still working and whether the machinery installed in the said plant is still existing? (This information was required to check the statement of the respondents that the said units are lying closed since last several years.)

(ii) To report whether the factory or factories of Respondent 4, Hindustan Agrochemicals Limited, are working and if they are working, what are the products being manufactured by them? The Board was also directed to report whether the seventh respondent, Phosphate India, which was said to have merged with the fourth respondent, is having a separate factory and if so, what is being produced therein?

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(iii) The approximate quantity of sludge — whether "iron sludge" or "gypsum sludge" — lying in the area. The report was to indicate what quantity was entombed pursuant to the orders of this Court and whether any further sludge was lying in the area or in the premises of the respondents' complex, its approximate quantity and the time, effort and cost required to remove the same.

(iv) The Board was also to take samples of the water in wells and tanks in the area and have them analysed and tell us whether it is fit for drinking by cattle and/or fit for irrigation purposes.

**41.** Accordingly, the RPCB officials visited the site and have filed a report dated 16-1-1996 along with an affidavit. The report discloses the following facts:

(1) The two units, Silver Chemicals and Jyoti Chemicals, do not exist now. There is no machinery. A godown and a Ferric Alum Plant have been constructed at the site of the said plant. The Ferric Alum Plant was not in operation at the time of inspection though plant and machinery for manufacturing it was found installed therein. Certain old stock of Ferric Alum was also found lying within the plant premises.

(2) Hindustan Agrochemicals Limited (R-4) has seven industrial plants, viz., Rajasthan Multi Fertilizers [manufacturing Granulated Single Super Phosphate (GSSP)], a Sulphuric Acid Plant, a Chlorosulphonic Acid Plant, Edible Oil Solvent Extraction Plant, Edible Oil Refinery and a Ferric Alum Plant (known as M/s Jyoti Chemicals), all of which are located within the same premises. All these seven plants were found not operating on the date of inspection by the RPCB officials though in many cases the machinery and the other equipment was in place.

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So far as the sludge still remaining in the area is concerned, the report stated:

"3. Village Bichhri and other adjoining areas were visited by the undersigned officials to know whether gypsum and iron sludge is still lying in the aforesaid area. In area adjoining the irrigation canal, sludge mixed with soil were found on an area of about 3000 sq.ft. The area was covered with foreign soil. Sample of the sludge-mixed soil was collected for the perusal of the Hon'ble Court. Entire premises of M/s Hindustan Agrochemicals Ltd. was also inspected and sludge mixed with soil was observed in a large area. It was further observed that fresh soil in the varying depth has been spread over in most of the area. In view of the fact that sludge was mixed with the soil and difficult to separate out of the soil it is very difficult to estimate the exact quantity of the sludge required to be removed. Samples of sludge mixed with soil were collected from different parts of this area after serving due notices under Environment Protection Act, 1986."

So far as the water in the wells was concerned, the report mentioned that they took samples from the wells from Bichhri and other surrounding villages, i.e., from thirty-two different locations and that water in sixteen

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locations was found to "contain colour of varying intensities ranging from very dark brown to light pink which apparently shows that these wells/handpumps are still polluted".

42. Shri K.N. Bhat, learned counsel for the respondents, however, submitted that the RPCB officials have throughout been hostile to the respondents and that, therefore, the reports submitted by them should not be acted upon. He also submitted that respondents have had no opportunity to file objections to the said report or to produce material to contradict the statements made therein. While taking note of these submissions, we may, however, refer to the letter dated 13-1-1996 written by the fourth respondent to the RPCB. In this letter, the particulars of the stocks remaining in each of its seven plants are mentioned along with the date of the last production in each of those plants. The last dates of production are the following: Sulphuric Acid Plant — 10-11-1995, SSP Plant (Phosphate India) — 11-11-1995, GSSP Plant (Rajasthan Multi Fertilizers) — 7-7-1995, Solvent Extraction Plant and Refinery — 2-12-1993, Jyoti Chemicals — October 1990 and Chlorosulphonic Acid Plant — 29-9-1995. It is worthy of note that these dates are totally at variance with the dates of closure mentioned in the counter-affidavits filed by these units in 1990-91.

#### *Contentions of the parties*

43. Shri M.C. Mehta, learned counsel appearing for the petitioner, brought to our notice the several reports, orders and other material on record. He submitted that the abundant material on record clearly establishes the culpability of the respondents for the devastation in Village Bichhri and surrounding areas and their responsibility and obligation to properly store the remaining sludge, stop discharge of all untreated effluents by taking necessary measures and defray the total cost required for remedial measures as suggested by NEERI (Rupees forty crores and odd). Learned counsel suggested that in view of the saga of repeated and continuous violation of law and lawful orders on the part of the respondents, they must be closed forthwith. So far as the legal propositions are concerned, the learned counsel relied strongly upon the Constitution Bench decision in *M.C. Mehta v. Union of India (Oleum Gas Leak case<sup>2</sup>)* as well as the recent order of this Court in *Indian Council for Enviro-Legal Action v. Union of India<sup>3</sup>*. Learned counsel also invited our attention to quite a few foreign decisions

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and text books on the subject of environment. Shri Altaf Ahmad, the learned Additional Solicitor General appearing for the Union of India, also stressed the need for urgent appropriate directions to mitigate and remedy the situation on the spot in the light of the expert reports including the one made by the Central team of experts.

**44.** The learned counsel for the State of Rajasthan, Shri Aruneshwar Gupta, expressed the readiness of the State Government to carry out and

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enforce such orders as this Court may think fit and proper in the circumstances.

**45.** Shri K.B. Rohatgi, learned counsel for the RPCB, invited our attention to the various orders passed, action taken, cases instituted and reports submitted by the Board in this matter. He submitted that until recently the Board had no power to close down any industry for violation of environmental laws and that after conferment of such power, they did pass orders of closure. He denied the allegations of mala fides or hostile intent on the part of the Board towards the respondents. Learned counsel lamented that despite its best efforts, the Board has not yet been successful in eradicating the pollution in the area and hence asked for stringent orders for remedying the appalling conditions in the village due to the acts of the respondents.

**46.** Shri K.N. Bhat, learned counsel for the respondents, made the following submissions:

(1) The respondents are private corporate bodies. They are not 'State' within the meaning of Article 12 of the Constitution. A writ petition under Article 32 of the Constitution, therefore, does not lie against them.

(2) The RPCB has been adopting a hostile attitude towards these respondents from the very beginning. The reports submitted by it or obtained by it are, therefore, suspect. The respondents had no opportunity to test the veracity of the said reports. If the matter had been fought out in a properly constituted suit, the respondents would have had an opportunity to cross-examine the experts to establish that their reports are defective and cannot be relied upon.

(3) Long before the respondents came into existence, Hindustan Zinc Limited was already in existence close to Bichhri village and has been discharging toxic untreated effluents in an unregulated manner. This had affected the water in the wells, streams and aquifers. This is borne out by the several reports made long prior to 1987. Blaming the respondents for the said pollution is incorrect as a fact and unjustified.

(4) The respondents have been cooperating with this Court in all matters and carrying out its directions faithfully. The report of the RPCB dated 13-11-1992 shows that the work of entombment of the sludge was almost over. The report states that the entire sludge would be stored in the prescribed manner within the next two days. In view of this report, the subsequent report of the Central team, RPCB and NEERI cannot be accepted or relied upon. There are about 70 industries in India manufacturing 'H' acid. Only the units of the respondents have been picked upon by the Central and State authorities while taking no action against the other units. Even in the matter of disposal of sludge, the directions given for its disposal in the case of other units are not as stringent as have been prescribed in the case of respondents. The decision of the Gujarat High Court in *Pravinbhai Jashbhai Patel*<sup>1</sup> shows

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that the method of disposal prescribed there is different and less elaborate than the one prescribed in this case.

(5) The reports submitted by the various so-called expert committees that sludge is still lying around within and outside the respondents' complex and/or that the toxic wastes from the Sulphuric Acid Plant are flowing through and leaching the sludge and creating a highly dangerous situation is untrue and incorrect. The RPCB itself had constructed a temporary ETP for the Sulphuric Acid Plant pursuant to the orders of this Court made in Writ Petition (C) No. 76 of 1994. Subsequently, a permanent ETP has also been constructed. There is no question of untreated toxic discharges from this plant leaching with sludge. There is no sludge and there is no toxic discharge from the Sulphuric Acid Plant.

(6) The case put forward by the RPCB that the respondents' units do not have the requisite permits/consents required by the Water Act, Air Act and the Environment (Protection) Act is again unsustainable in law and incorrect as a fact. The respondents' units were established before the amendment of Section 25 of the Water Act and, therefore, did not require any prior consent for their establishment.

(7) The proper solution to the present problem lies in ordering a comprehensive judicial enquiry by a sitting Judge of the High Court to find out the causes of pollution in this village and also to recommend remedial measures and to estimate the loss suffered by the public as well as by the respondents. While the respondents are prepared to bear the cost of repairing the damage, if any, caused by them, the RPCB and other authorities should be made to compensate for the huge losses suffered by the respondents on account of their illegal and obstructionist policy adopted towards them.

(8) The decision in *Oleum Gas Leak case*<sup>2</sup> has been explained in the opinion of Ranganath Misra, C.J., in the decision in *Union Carbide Corp. v. Union of India*<sup>4</sup>. The law laid down in *Oleum Gas Leak case*<sup>2</sup> is at variance with the established legal position in other Commonwealth countries.

47. Shri Bhat suggested that in the larger interests of environment, industry and public, this Court may direct the Government of India to constitute, by proper legislation, environment courts all over the country — which courts alone should be empowered to deal with such cases, to give appropriate directions including orders of closure of industries wherever necessary, to make necessary technical and scientific investigations, to suggest remedial measures and to oversee their implementation. Proceedings by way of a writ in this Court under Article 32 or in the High Court under Article 226, the learned counsel submitted, are not appropriate to deal with such matters, involve as they do several disputed questions of fact and technical issues.

48. Before we proceed to deal with the submissions of the learned counsel, it would be appropriate to notice the relevant provisions of law.

*Relevant statutory provisions*

49. Article 48-A is one of the Directive Principles of State Policy. It says that the State shall endeavour to protect and improve the environment and to safeguard the forests and wildlife of the country. Article 51-A sets out the fundamental duties of the

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citizens. One of them is "(g) to protect and improve the natural environment including forests, lakes, rivers and wild life, and to have compassion for living creatures;"

**50.** The problem of increasing pollution of rivers and streams in the country — says the Statement of Objects and Reasons appended to the Bill which became the Water (Prevention and Control of Pollution) Act, 1974 — attracted the attention of the State legislatures and Parliament. They realised the urgency of ensuring that domestic and industrial effluents are not allowed to be discharged into water courses without adequate treatment and that pollution of rivers and streams was causing damage to the country's economy. A committee was set up in 1962 to draw a draft enactment for prevention of water pollution. The issue was also considered by the Central Council of Local Self-Government in September 1963. The Council suggested the desirability of having a single enactment for the purpose. A Draft Bill was prepared and sent to various States. Several expert committees also made their recommendations meanwhile. Since an enactment on the subject was relatable to Entry 17 read with Entry 6 of List II in the Seventh Schedule to the Constitution — and, therefore, within the exclusive domain of the States — the State Legislatures of Gujarat, Kerala, Haryana and Mysore passed resolutions as contemplated by Article 252 of the Constitution enabling Parliament to make a law on the subject. On that basis, Parliament enacted the Water (Prevention and Control of Pollution) Act, 1974. (The State of Rajasthan too passed the requisite resolution.) Section 24(1) of the Water Act provides that:

"24. (1) Subject to the provisions of this section,—

(a) no person shall knowingly cause or permit any poisonous, noxious or polluting matter determined in accordance with such standards as may be laid down by the State Board to enter (whether directly or indirectly) into any stream or well...."

Section 25(1), before it was amended by Act 53 of 1988, provided that:

"25. (1) Subject to the provisions of this section, no person shall, without the previous consent of the State Board, bring into use any new or altered outlet for the discharge of sewage or trade effluent into a stream or well or begin to make any new discharge of sewage or trade effluent into a stream or well."

As amended by Act 53 of 1988, Section 25 now reads:

"25. (1) Subject to the provisions of this section, no person shall, without the previous consent of the State Board,—

(a) establish or take any steps to establish any industry, operation or process, or any treatment and disposal system or an extension or addition thereto, which is likely to discharge sewage or trade effluent into a stream or well or sewer or on land (such discharge being hereafter in this section referred to as 'discharge of sewage'); or

(b) bring into use any new or altered outlets for the discharge of sewage; or

(c) begin to make any new discharge of sewage...."

(It is stated that the Rajasthan Assembly passed resolution under Article 252 of the Constitution adopting the said Amendment Act vide Gazette Notification dated 9-5-1990.) Section 33 empowers the Pollution Control Board to apply to the court, not inferior to that of a Metropolitan Magistrate or a Judicial Magistrate of the First Class, to restrain any person causing pollution if the said pollution is likely to prejudicially

affect water in a stream or a well. Section 33-A, which has been introduced by Amendment Act 53 of 1988, empowers the Board to order the closure of any industry and to stop the electricity, water and any other service to such industry if it finds such a direction necessary for effective implementation of the provisions of the Act. Prior to the said Amendment Act, the Pollution Control Board had no such power and the course open to it was to make a recommendation to the Government to pass appropriate orders including closure.

**51.** The Air (Prevention and Control of Pollution) Act, 1981 contains similar provisions.

**52.** In the year 1986, Parliament enacted a comprehensive legislation, Environment (Protection) Act. The Act defines 'environment' to include "water, air and land and the interrelationship which exists among and between water, air and land, and human beings, other living creatures, plants, micro-organism and property". The preamble to the Act recites that the said Act was made pursuant to the decisions taken at the United Nations Conference on Human Environment held at Stockholm in June 1972 in which India also participated. Section 3 empowers the Central Government "to take all such measures as it deems necessary or expedient for the purpose of protecting and improving the quality of the environment and preventing, controlling and abating environmental pollution". Sub-section (2) elucidates the several powers inhering in the Central Government in the matter of protection and promotion of environment. Section 5 empowers the Central Government to issue appropriate directions to any person, officer or authority to further the objects of the enactment. Section 6 confers rule-making power upon the Central Government in respect of matters referred to in Section 3. Section 7 says that "no person carrying on any industry, operation or process shall discharge or emit or permit to be discharged or emitted any environmental pollutant in excess of such standards as may be prescribed".

**53.** The Central Government has made the Hazardous Wastes (Management and Handling) Rules, 1989 in exercise of the power conferred upon it by Section 6 of the Environment (Protection) Act prescribing the manner in which the hazardous wastes shall be collected, treated, stored and disposed of.

*Consideration of the submissions*

**54.** Taking up the objections urged by Shri Bhat first, we find it difficult to agree with them. This writ petition is not really for issuance of appropriate writ, order or directions against the respondents but is directed against the Union of India, Government of Rajasthan and RPCB to compel them to perform their statutory duties enjoined by the Acts aforementioned on the ground that their failure to carry out their statutory duties is seriously undermining the right to life (of the residents of Bichhri and the affected area) guaranteed by Article 21 of the Constitution. If this Court finds that the said authorities have not taken the action required of them by law and that their inaction is jeopardising the right to life of the citizens of this country or of any section thereof, it is the duty of this Court to intervene. If it is found that the respondents are flouting the provisions of law and the directions and orders issued by the lawful authorities, this Court can certainly make appropriate directions to ensure compliance with law and lawful directions made thereunder. This is a social action litigation on behalf of the villagers of Bichhri whose right to life, as elucidated by this Court in several decisions, is invaded and seriously infringed by the respondents as is



established by the various reports of the experts called for, and filed before, this Court. If an industry is established without obtaining the requisite permission and clearances and if the industry is continued to be run in blatant disregard of law to the detriment of life and liberty of the citizens living in the vicinity, can it be suggested with any modicum of reasonableness that this Court has no power to intervene and protect the fundamental right to life and liberty of the citizens of this country. The answer, in our opinion, is self-evident. We are also not convinced of the plea of Shri Bhat that RPCB has been adopting a hostile attitude towards his clients throughout and, therefore, its contentions or the reports prepared by its officers should not be relied upon. If the respondents establish and operate their plants contrary to law, flouting all safety norms provided by law, the RPCB was bound to act. On that account, it cannot be said to be acting out of animus or adopting a hostile attitude. Repeated and persistent violations call for repeated orders. That is no proof of hostility. Moreover, the reports of RPCB officials are fully corroborated and affirmed by the reports of the Central team of experts and of NEERI. We are also not prepared to agree with Shri Bhat that since the report of NEERI was prepared at the instance of RPCB, it is suspect. This criticism is not only unfair but is also uncharitable to the officials of NEERI who have no reason to be inimical to the respondents. If, however, the actions of the respondents invite the concern of the experts and if they depict the correct situation in their reports, they cannot be accused of any bias. Indeed, it is this Court that asked NEERI to suggest remedial measures and it is in compliance with



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those orders that NEERI submitted its interim report and also the final report. Similarly, the objection of Shri Bhat that the reports submitted by the NEERI, by the Central team (experts from the Ministry of Environment and Forests, Government of India) and RPCB cannot be acted upon is equally unacceptable. These reports were called by this Court and several orders passed on the basis of those reports. It was never suggested on behalf of Respondents 4 to 8 that unless they are permitted to cross-examine the experts or the persons who made those reports, their reports cannot be acted upon. This objection, urged at this late stage of proceedings — after a lapse of several years — is wholly unacceptable. The persons who made the said reports are all experts in their field and under no obligation either to the RPCB or for that matter to any other person or industry. It is in view of their independence and competence that their reports were relied upon and made the basis of passing orders by this Court from time to time.

**55.** Now coming to the question of alleged pollution by Hindustan Zinc Limited (R-9), it may be that Respondent 9 is also responsible for discharging untreated effluents at one or the other point of time but that is not the issue we are concerned with in these writ petitions. These writ petitions are confined to the pollution caused in Bichhri village on account of the activities of the respondent. No report among the several reports placed before us in these proceedings says that Hindustan Zinc Limited is responsible for the pollution at Bichhri village. Shri Bhat brought to our notice certain reports stating that the discharges from Hindustan Zinc Limited were causing pollution in certain villages but they are all downstream, i.e., to the north of Bichhri village and we are not concerned with the pollution in those villages in these proceedings. The bringing in of Hindustan Zinc Limited in these proceedings is, therefore, not relevant. If necessary, the pollution, if any, caused by Hindustan Zinc Limited can be the subject-matter of a separate proceeding.

**56.** We may now deal with the contentions of Shri Bhat based upon the affidavit of

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RPCB dated 13-11-1992 which has been repeatedly and strongly relied upon by the learned counsel in support of his submission that the entire sludge has been properly stored by or at the expense of his clients. It is on the basis of this affidavit that Shri Bhat says that the subsequent reports submitted showing the existence of sludge within and outside their complex should not be accepted or acted upon. Let us turn to the affidavit of RPCB dated 13-11-1992 and see how far does it support Shri Bhat's contention. It is in para 2(b) that the sentence, strongly relied upon by Shri Bhat occurs, viz., "remaining work is likely to be completed by 15-11-1992". For a proper appreciation of the purport of the said sentence, it would be appropriate to read the entire para 2(b), which is to the following effect:

"(b) that all the six tanks have been entombed with brick toppings. Roofing is complete on all tanks which have also been provided with proper outlets for the exit of gases which may form as a result of possible chemical reactions in the sludge mass. The tanks have also been

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provided with reinforced concrete to prevent drooping of the roof. Remaining work is likely to be completed by 15-11-1992."

We find it difficult to read the said sentence as referring to the storage of the remaining about 1700 MT of sludge. When the storage of 720 MT itself took up all the six tanks provided by the respondent, where was the remaining 1700 tonnes stored? Except relying upon the said sentence repeatedly, Shri Bhat has not been able to tell us where this 1700 MT has been stored, whether in tanks and if so, who constructed the tanks and when and how were they covered and sealed. He is also not able to tell us on what dates the remaining sludge was stored. It is evident that the aforesaid sentence occurring in clause 2(b) refers to the proper sealing and completion of the said tanks wherein 720 MT of sludge was stored. If, in fact, the said 1700 MT has also been entombed, it was not difficult for the respondents to give the particulars of the said storage. We are, therefore, unable to agree with Shri Bhat that the subsequent reports which repeatedly and uniformly speak of the presence of sludge within and outside the complex of the respondents should not be accepted. It may be recalled that the report of the team of Central experts was submitted on 1-11-1993 based upon the inspection made by them in September/October 1993. To the same effect is the affidavit of RPCB dated 30-10-1993 and the further affidavit dated 1-12-1993. These reports together with the report of NEERI clearly establish that huge quantities of sludge were still lying around either in the form of mounds or placed in depressions, or spread over the contiguous areas and covered with local soil to conceal its existence. It is worth reiterating that the said sludge is only part of the pernicious discharges emanating from the manufacture of 'H' acid. The other part, which is unfortunately not visible now (except in its deleterious effects upon the soil and underground water) is the "mother liquor" produced in enormous quantities which has either flowed out or percolated into the soil.

57. So far as the responsibility of the respondents for causing the pollution in the wells, soil and the aquifers is concerned, it is clearly established by the analysis report referred to in the report of the Central experts' team dated 1-11-1993 (p. 1026 of Vol. II). Indeed, number of orders passed by this Court, referred to hereinbefore, are premised upon the finding that the respondents are responsible for the said pollution. It is only because of the said reason that they were asked to defray the cost of removal and storage of sludge. It is precisely for this reason that, at one stage, the respondents had also undertaken the de-watering of polluted wells. Disclaiming the



responsibility for the pollution in and around Bichhri village, at this stage of proceedings, is clearly an afterthought. We accordingly hold and affirm that the respondents alone are responsible for all the damage to the soil, to the underground water and to Village Bichhri in general, damage which is eloquently portrayed in the several reports of the experts mentioned hereinabove. NEERI has worked out the cost for repairing the damage at more than Rupees forty crores. Now, the question is

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whether and to what extent can the respondents be made responsible for defraying the cost of remedial measures in these proceedings under Article 32. Before we advert to this question, it may perhaps be appropriate to clarify that so far as removal of remaining sludge and/or the stoppage of discharge of further toxic wastes are concerned, it is the absolute responsibility of the respondents to store the sludge in a proper manner (in the same manner in which 720 MT of sludge has already been stored) and to stop the discharge of any other or further toxic wastes from its plants including Sulphuric Acid Plant and to ensure that the wastes discharged do not flow into or through the sludge. Now, turning to the question of liability, it would be appropriate to refer to a few decisions on the subject.

**58.** In *Oleum Gas Leak case*<sup>2</sup>, a Constitution Bench discussed this question at length and held thus: (SCC pp. 420-21, paras 31-32)

"We are of the view that an enterprise which is engaged in a hazardous or inherently dangerous industry which poses a potential threat to the health and safety of the persons working in the factory and residing in the surrounding areas owes an absolute and non-delegable duty to the community to ensure that no harm results to anyone on account of hazardous or inherently dangerous nature of the activity which it has undertaken. The enterprise must be held to be under an obligation to provide that the hazardous or inherently dangerous activity in which it is engaged must be conducted with the highest standards of safety and if any harm results on account of such activity, the enterprise must be absolutely liable to compensate for such harm and it should be no answer to the enterprise to say that it had taken all reasonable care and that the harm occurred without any negligence on its part. Since the persons harmed on account of the hazardous or inherently dangerous activity carried on by the enterprise would not be in a position to isolate the process of operation from the hazardous preparation of substance or any other related element that caused the harm the enterprise must be held strictly liable for causing such harm as a part of the social cost of carrying on the hazardous or inherently dangerous activity. If the enterprise is permitted to carry on an hazardous or inherently dangerous activity for its profit, the law must presume that such permission is conditional on the enterprise absorbing the cost of any accident arising on account of such hazardous or inherently dangerous activity as an appropriate item of its overheads. Such hazardous or inherently dangerous activity for private profit can be tolerated only on condition that the enterprise engaged in such hazardous or inherently dangerous activity indemnifies all those who suffer on account of the carrying on of such hazardous or inherently dangerous activity regardless of whether it is carried on carefully or not. ... We would therefore hold that where an enterprise is engaged in a hazardous or inherently dangerous activity and harm results to anyone on account of an accident in the operation of such

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hazardous or inherently dangerous activity resulting, for example, in escape of toxic gas the enterprise is strictly and absolutely liable to compensate all those who are affected by the accident and such liability is not subject to any of the exceptions which operate vis-à-vis the tortious principle of strict liability under the rule in *Rylands v. Fletcher*<sup>2</sup>.

We would also like to point out that the measure of compensation in the kind of cases referred to in the preceding paragraph must be correlated to the magnitude and capacity of the enterprise because such compensation must have a deterrent effect. The larger and more prosperous the enterprise, the greater must be the amount of compensation payable by it for the harm caused on account of an accident in the carrying on of the hazardous or inherently dangerous activity by the enterprise."

59. Shri Bhat, however, points out that in the said decision, the question whether the industry concerned therein was a 'State' within the meaning of Article 12 and, therefore, subject to the discipline of Part III of the Constitution including Article 21 was left open and that no compensation as such was awarded by this Court to the affected persons. He relies upon the observations in the concurring opinion of Ranganath Misra, C.J., in *Union Carbide Corpn.*<sup>4</sup> The learned Chief Justice referred in the first instance, to the propositions enunciated in *Oleum Gas Leak case*<sup>2</sup> and then made the following observations in paras 14 and 15: (SCC pp. 607-08)

"14. In *M.C. Mehta case*<sup>2</sup>, no compensation was awarded as this Court could not reach the conclusion that Shriram (the delinquent company) came within the meaning of 'State' in Article 12 so as to be liable to the discipline of Article 21 and to be subjected to a proceeding under Article 32 of the Constitution. Thus what was said was essentially obiter.

15. The extracted part of the observations from *M.C. Mehta case*<sup>2</sup> perhaps is a good guideline for working out compensation in the cases to which the ratio is intended to apply. The statement of the law ex facie makes a departure from the accepted legal position in *Rylands v. Fletcher*<sup>2</sup>. We have not been shown any binding precedent from the American Supreme Court where the ratio of *M.C. Mehta decision*<sup>2</sup> has in terms been applied. In fact Bhagwati, C.J. clearly indicates in the judgment that his view is a departure from the law applicable to western countries."

60. The majority judgment delivered by M.N. Venkatachaliah, J. (on behalf of himself and two other learned Judges) has not expressed any opinion on this issue. We on our part find it difficult to say, with great respect to the learned Chief Justice, that the law declared in *Oleum Gas Leak case*<sup>2</sup> is obiter. It does not appear to be unnecessary for the purposes of that case. Having declared the law, the Constitution Bench directed the parties and other organisations to institute actions on the basis of the law so

declared.\*\* Be that as it may, we are of the considered opinion that even if it is assumed (for the sake of argument) that this Court cannot award damages against the respondents in these proceedings that does not mean that the Court cannot direct the Central Government to determine and recover the cost of remedial measures from the respondents. Section 3 of the Environment (Protection) Act, 1986 expressly empowers the Central Government (or its delegate, as the case may be) to "take all such measures as it deems necessary or expedient for the purpose of protecting and



*improving the quality of environment...".* Section 5 clothes the Central Government (or its delegate) with the power to issue directions for achieving the objects of the Act. Read with the wide definition of 'environment' in Section 2(a), Sections 3 and 5 clothe the Central Government with all such powers as are "necessary or expedient for the purpose of protecting and improving the quality of the environment". The Central Government is empowered to take all measures and issue all such directions as are called for for the above purpose. In the present case, the said powers will include giving directions for the removal of sludge, for undertaking remedial measures and also the power to impose the cost of remedial measures on the offending industry and utilise the amount so recovered for carrying out remedial measures. This Court can certainly give directions to the Central Government/its delegate to take all such measures, if in a given case this Court finds that such directions are warranted. We find that similar directions have been made in a recent decision of this Court in *Indian Council for Enviro-Legal Action*<sup>3</sup>. That was also a writ petition filed under Article 32 of the Constitution. Following is the direction:

"It appears that the Pollution Control Board had identified as many as 22 industries responsible for the pollution caused by discharge of their effluents into Nakkavagu. They were responsible to compensate to farmers. It was the duty of the State Government to ensure that this amount was recovered from the industries and paid to the farmers."

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It is, therefore, idle to contend that this Court cannot make appropriate directions for the purpose of ensuring remedial action. It is more a matter of form.

**61.** Shri K.N. Bhat submitted that the rule of absolute liability is not accepted in England or other Commonwealth countries and that the rule evolved by the House of Lords in *Rylands v. Fletcher*<sup>2</sup> is the correct rule to be applied in such matters. Firstly, in view of the binding decision of this Court in *Oleum Gas Leak case*<sup>2</sup>, this contention is untenable, for the said decision expressly refers to the rule in *Rylands*<sup>2</sup> but refuses to apply it saying that it is not suited to the conditions in India. Even so, for the sake of completeness, we may discuss the rule in *Rylands*<sup>2</sup> and indicate why that rule is inappropriate and unacceptable in this country. The rule was first stated by Blackburn, J. (Court of Exchequer Chamber) in the following words: (All ER p. 7)

"We think that the true rule of law is that the person who, for his own purposes, brings on his land and collects and keeps there anything likely to do mischief if it escapes, must keep it in at his peril, and, if he does not do so, he is prima facie answerable for all the damage which is the natural consequence of its escape. He can excuse himself by showing that the escape was owing to the plaintiff's default, or perhaps, that the escape was the consequence of vis major, or the act of God; ... and it seems but reasonable and just that the neighbour who has brought something on his own property which was not naturally there, harmless to others so long as it is confined to his own property, but which he knows will be mischievous if it gets on his neighbour's, should be obliged to make good the damage which ensues if he does not succeed in confining it to his own property."

**62.** The House of Lords, however, added a rider to the above statement, viz., that the user by the defendant should be a "non-natural" user to attract the rule. In other words, if the user by the defendant is a natural user of the land, he would not be liable for damages. Thus, the twin tests — apart from the proof of damage to the plaintiff by

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the act/negligence of the defendants — which must be satisfied to attract this rule are 'foreseeability' and 'non-natural' user of the land.

**63.** The rule in *Rylands*<sup>5</sup> has been approved by the House of Lords in the recent decision in *Cambridge Water Co. Ltd. v. Eastern Counties Leather, plc*<sup>6</sup>. The plaintiff, Cambridge Water Company, was a statutory corporation engaged in providing public water supply within a certain area including the city of Cambridge. It was lifting water from a bore well situated at some distance from Sawstyn. The defendant-Company Eastern Leather, was having a tannery in Sawstyn. Tanning necessarily involves degreasing of pelts. For that purpose, the defendant was using an organo chlorine called PCE. PCE was stored in a tank in the premises of the defendant. The plaintiff's case was that on account of the PCE percolating into the ground, the water in its well became contaminated and unfit for human consumption

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and that on that account it was obliged to find an alternative source at a substantial cost. It sued the defendant for the resulting damages. The plaintiff based his claim on three alternative grounds, viz., negligence, nuisance and the rule in *Rylands*<sup>5</sup>. The trial Judge (High Court) dismissed the action in negligence and nuisance holding that the defendant could not have reasonably foreseen that such damage could occur to the plaintiff. So far as the rule in *Rylands*<sup>5</sup> was concerned, the trial Judge held that the user by the defendant was not a non-natural user and hence, it was not liable for damages. On appeal, the Court of Appeal declined to decide the matter on the basis of the rule in *Rylands*<sup>5</sup>. It relied strongly upon the ratio in *Ballard v. Tomlinson*<sup>2</sup> holding that no person having a right to use a common source is entitled to contaminate that source so as to prevent his neighbour from having a full value of his right of appropriation. The Court of Appeal also opined that the defendant's use of the land was not a natural use. On appeal by the defendant, the House of Lords allowed the appeal holding that *foreseeability* of the harm of the relevant type by the defendant was a pre-requisite to the right to recover damages both under the heads of *nuisance* and also under the rule in *Rylands*<sup>5</sup> and since that was not established by the plaintiff, it has to fail. The House of Lords, no doubt, held that the defendant's use of the land was a non-natural use *but dismissed the suit, as stated above, on the ground that the plaintiff has failed to establish that pollution of their water supply by the solvent used by the defendant in his premises was in the circumstances of the case foreseeable by the defendant.*

**64.** The Australian High Court has, however, expressed its disinclination to treat the rule in *Rylands*<sup>5</sup> as an independent head for claiming damages or as a rule rooted in the law governing the law of nuisance in *Burnie Port Authority v. General Jones Pty Ltd.*<sup>3</sup> The respondent, General Jones Limited, had stored frozen vegetables in three cold storage rooms in the building owned by the appellant, Burnie Port Authority (Authority). The remaining building remained under the occupation of the Authority. The Authority wanted to extend the building. The extension work was partly done by the Authority itself and partly by an independent contractor (Wildridge and Sinclair Pty. Ltd.). For doing its work, the contractor used a certain insulating material called EPS, a highly inflammable substance. On account of negligent handling of EPS, there was a fire which inter alia damaged the rooms in which General Jones had stored its vegetables. On an action by General Jones, the Australian High Court held by a majority that the rule in *Rylands*<sup>5</sup> having attracted many difficulties, uncertainties, qualifications and exceptions, should now be seen, for the purposes of Australian Common Law, as absorbed by the principles of ordinary *negligence*. The Court held



further that under the rules governing negligence, if a person in control of a premises, introduces a dangerous substance to carry on a dangerous activity, or allows another to do one of those things, owes a duty of reasonable care to

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avoid a reasonably foreseeable risk of injury or damage to the person or property of another. In a case where a person or the property of that other is lawfully in a place outside the premises, the duty of care varies in degree according to the magnitude of the risk involved and extends to ensuring that such care is taken. Applying the said principle, the court held that the authority allowed the independent contractor to introduce or retain a dangerous substance or to engage in a dangerous activity in its premises which substance and activity caused a fire that destroyed the goods of General Jones. The evidence, the court held, established that the independent contractor's work was a dangerous activity in that it involved real and foreseeable risk of a serious conflagration unless special precautions were taken. In the circumstances, it was held that *the authority owed a non-delegable duty of care to General Jones to ensure that its contractor took reasonable steps to prevent the occurrence of a fire and the breach of that duty attracted liability pursuant to the ordinary principles of negligence for the damage sustained by the respondent.*

**65.** On a consideration of the two lines of thought (one adopted by the English courts and the other by the Australian High Court), we are of the opinion that any principle evolved in this behalf should be simple, practical and suited to the conditions obtaining in this country. We are convinced that the law stated by this Court in *Oleum Gas Leak case*<sup>2</sup> is by far the more appropriate one — apart from the fact that it is binding upon us. (We have disagreed with the view that the law stated in the said decision is *obiter*.) According to this rule, once the activity carried on is hazardous or inherently dangerous, the person carrying on such activity is liable to make good the loss caused to any other person by his activity *irrespective* of the fact whether he took reasonable care while carrying on his activity. The rule is premised upon the very nature of the activity carried on. In the words of the Constitution Bench, such an activity: (SCC p. 421, para 31)

"... can be tolerated only on condition that the enterprise engaged in such hazardous or inherently dangerous activity indemnifies all those who suffer on account of the carrying on of such hazardous or inherently dangerous activity regardless of whether it is carried on carefully or not".

The Constitution Bench has also assigned the reason for stating the law in the said terms. It is that the enterprise (carrying on the hazardous or inherently dangerous activity) alone has the resource to discover and guard against hazards or dangers — and not the person affected *and* the practical difficulty (on the part of the affected person) in establishing the absence of reasonable care or that the damage to him was foreseeable by the enterprise.

**66.** Once the law in *Oleum Gas Leak case*<sup>2</sup> is held to be the law applicable, it follows, in the light of our findings recorded hereinbefore, that Respondents 4 to 8 are absolutely liable to compensate for the harm caused by them to the villagers in the affected area, to the soil and to the underground water and hence, they are bound to take all necessary measures to remove the sludge and other pollutants lying in the affected area (by affected area, we mean the area of about 350 ha indicated in the sketch at

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p. 178 of NEERI report) and also to defray the cost of the remedial measures required to restore the soil and the underground water sources. Sections 3 and 4 of Environment (Protection) Act confers upon the Central Government the power to give directions of the above nature and to the above effect. Levy of costs required for carrying out remedial measures is implicit in Sections 3 and 4 which are couched in very wide and expansive language. Appropriate directions can be given by this Court to the Central Government to invoke and exercise those powers with such modulations as are called for in the facts and circumstances of this case.

**67.** The question of liability of the respondents to defray the costs of remedial measures can also be looked into from another angle, which has now come to be accepted universally as a sound principle, viz., the "Polluter Pays" principle.<sup>2</sup>

"The Polluter Pays principle demands that the financial costs of preventing or remedying damage caused by pollution should lie with the undertakings which cause the pollution, or produce the goods which cause the pollution. Under the principle it is not the role of Government to meet the costs involved in either prevention of such damage, or in carrying out remedial action, because the effect of this would be to shift the financial burden of the pollution incident to the taxpayer. The 'Polluter Pays' principle was promoted by the Organisation for Economic Cooperation and Development (OECD) during the 1970s when there was great public interest in environmental issues. During this time there were demands on Government and other institutions to introduce policies and mechanisms for the protection of the environment and the public from the threats posed by pollution in a modern industrialised society. Since then there has been considerable discussion of the nature of the Polluter Pays principle, but the precise scope of the principle and its implications for those involved in past, or potentially polluting activities have never been satisfactorily agreed.

Despite the difficulties inherent in defining the principle, the European Community accepted it as a fundamental part of its strategy on environmental matters, and it has been one of the underlying principles of the four Community Action Programmes on the Environment. The current Fourth Action Programme [(1987) OJC 328/1] makes it clear that 'the cost of preventing and eliminating nuisances must in principle be borne by the polluter', and the Polluter Pays principle has now been incorporated into the European Community Treaty as part of the new articles on the environment which were introduced by the Single European Act of 1986. Article 130-R(2) of the Treaty states that environmental considerations are to play a part in all the policies of the community, and that action is to be based on three principles: the need

for preventive action; the need for environmental damage to be rectified at source; and that the polluter should pay."

Thus, according to this principle, the responsibility for repairing the damage is that of the offending industry. Sections 3 and 5 empower the Central Government to give directions and take measures for giving effect to this principle. In all the circumstances of the case, we think it appropriate that the task of determining the amount required for carrying out the remedial measures, its recovery/realisation and

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the task of undertaking the remedial measures is placed upon the Central Government in the light of the provisions of the Environment (Protection) Act, 1986. It is, of course, open to the Central Government to take the help and assistance of State Government, RPCB or such other agency or authority, as they think fit.

**68.** The next question is what is the amount required for carrying out the necessary remedial measures to repair the damage and to restore the water and soil to the condition it was in before the respondents commenced their operations. The report of NEERI has worked out the cost at more than Rupees forty crores. The estimate of cost of remedial measures is, however, not a technical matter within the expertise of NEERI officials. Moreover, the estimate was made in the year 1994. Two years have passed by since then. Situation, if at all, must have deteriorated further on account of the presence of — and dispersal of the sludge — in and around the complex of the respondents by them. They have been discharging other toxic effluents from their other plants, as reported by NEERI and the Central team. It is but appropriate that an estimate of the cost of remedial measures be made now with notice to the respondents, which amount should be paid to Central Government and/or recovered from them by the Central Government. Other directions are also called for in the light of the facts and circumstances mentioned above.

#### Conclusions

**69.** From the affidavits of the parties, orders of this Court, technical reports and other data, referred to above (even keeping aside the latest report of the RPCB), the following facts emerge:

(I) Silver Chemicals (R-5) and Jyoti Chemicals (R-8) had manufactured about 375 MT of 'H' acid during the years 1988-89. This had given rise to about 8250 m<sup>3</sup> of waste water and 2440 tonnes of sludge (both iron-based and gypsum-based). The waste water had partly percolated into the earth in and around Bichhri and part of it had flowed out. Out of 2440 tonnes of sludge, about 720 tonnes has been stored in the pits provided by the respondents. The remaining sludge is still there either within the area of the complex of the respondents or outside their complex. With a view to conceal it from the eyes of the inspection teams and other authorities, the respondents have dispersed it all over the area and covered it with earth. In some places, the sludge is lying in mounds. The story of entombing the entire quantity of sludge is untrue.

The units manufacturing 'H' acid — indeed most of the units of the respondents — had started functioning, i.e., started manufacturing

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various chemicals without obtaining requisite clearances/consents/licences. They did not instal any equipment for treatment of highly toxic effluents discharged by them. They continued to function even after and in spite of the closure orders of the RPCB. They never did carry out the orders of this Court fully, (e.g., entombing the sludge) nor did they fulfil the undertaking given by them to the court (in the matter of removal of sludge and de-watering of the wells). In spite of repeated reports of officials and expert bodies, they persisted in their illegal course of action in a brazen manner, which exhibits their contempt for law, for the lawful authorities and the courts.

(II) That even after the closure of 'H' acid plant, the fourth respondent had not taken adequate measures for treating the highly toxic waste water and other wastes emanating from the Sulphuric Acid Plant. The untreated highly toxic waste water



was found — by NEERI as well as the Central team — flowing through the dumps of iron/gypsum sludge creating a highly potent mix. The letter of the fourth respondent dated 13-1-1996, shows that the Sulphuric Acid Plant was working till 10-11-1995. An assertion is made before us that permanent ETP has also been constructed for the Sulphuric Acid Plant in addition to the temporary tank which was constructed under the orders of this Court. We express no opinion on this assertion, which even if true, is valid only for the period subsequent to April 1994.

(III) The damage caused by the untreated highly toxic wastes resulting from the production of 'H' acid — and the continued discharge of highly toxic effluent from the Sulphuric Acid Plant, flowing through the sludge (H-acid waste) — is indescribable. It has inflicted untold misery upon the villagers and long lasting damage to the soil, to the underground water and to the environment of that area in general. The report of NEERI contains a sketch, at p. 178, showing the area that has been adversely affected by the production of 'H' acid by the respondents. The area has been divided into three zones on the basis of the extent of contamination. A total area of 350 ha has become seriously contaminated. The water in the wells in that area is not fit for consumption either by human beings or cattle. It has seriously affected the productivity of the land. According to NEERI report, Rupees forty crores is required for repairing the damage caused to men, land, water and the flora.

(IV) This court has repeatedly found and has recorded in its orders that it is the respondents who have caused the said damage. The analysis reports obtained pursuant to the directions of the court clearly establish that the pollution of the wells is on account of the wastes discharged by Respondents 4 to 8, i.e., production of 'H' acid. The report of the environment experts dated 1-11-1993 has already been referred to hereinbefore. Indeed, several orders of this Court referred to *supra* are also based upon the said finding.

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(V) Sections 3 and 5 of the Environment (Protection) Act, 1986, apart from other provisions of Water and Air Acts, empower the Government to make all such directions and take all such measures as are necessary or expedient for protecting and promoting the 'environment', which expression has been defined in very wide and expansive terms in Section 2(a) of the Environment (Protection) Act. This power includes the power to prohibit an activity, close an industry, direct and/or carry out remedial measures, and wherever necessary impose the cost of remedial measures upon the offending industry. The principle "Polluter Pays" has gained almost universal recognition, apart from the fact that it is stated in absolute terms in *Oleum Gas Leak case*<sup>2</sup>. The law declared in the said decision is the law governing this case.

#### Directions

**70.** Accordingly, the following directions are made:

1. The Central Government shall determine the amount required for carrying out the remedial measures including the removal of sludge lying in and around the complex of Respondents 4 to 8, in the area affected in Village Bichhri and other adjacent villages, on account of the production of 'H' acid and the discharges from the Sulphuric Acid Plant of Respondents 4 to 8. Chapters VI and VII in NEERI report (submitted in 1994) shall be deemed to be the show-cause notice issued by



the Central Government proposing the determination of the said amount. Within six weeks from this day, Respondents 4 to 8 shall submit their explanation, along with such material as they think appropriate in support of their case, to the Secretary, Ministry of Environment and Forests, Government of India, (MEF). The Secretary shall thereupon determine the amount in consultation with the experts of his Ministry within six weeks of the submission of the explanation by the said respondents. The orders passed by the Secretary, (MEF) shall be communicated to Respondents 4 to 8 — and all concerned — and shall also be placed before this Court. Subject to the orders, if any, passed by this Court, the said amount shall represent the amount which Respondents 4 to 8 are liable to pay to improve and restore the environment in the area. For the purpose of these proceedings, the Secretary, (MEF) and Respondents 4 to 8 shall proceed on the assumption that the affected area is 350 ha, as indicated in the sketch at p. 178 of NEERI report. In case of failure of the said respondents to pay the said amount, the same shall be recovered by the Central Government in accordance with law. The factories, plant, machinery and all other immovable assets of Respondents 4 to 8 are attached herewith. The amount so determined and recovered shall be utilised by the MEF for carrying out all necessary remedial measures to restore the soil, water sources and the environment in general of the affected area to its former state.

2. On account of their continuous, persistent and insolent violations of law, their attempts to conceal the sludge, their discharge of toxic



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effluents from the Sulphuric Acid Plant which was allowed to flow through the sludge, and their non-implementation of the orders of this Court — all of which are fully borne out by the Expert Committee's reports and the findings recorded hereinabove — Respondents 4 to 8 have earned the dubious distinction of being characterised as "rogue industries". They have inflicted untold misery upon the poor, unsuspecting villagers, de-spoiling their land, their water sources and their entire environment — all in pursuance of their private profit. They have forfeited all claims for any consideration by this Court. Accordingly, we herewith order the closure of all the plants and factories of Respondents 4 to 8 located in Bichhri village. The RPCB is directed to seal all the factories/units/plants of the said respondents forthwith. So far as the Sulphuric Acid Plant is concerned, it will be closed at the end of one week from today, within which period Respondent 4 shall wind down its operations so as to avoid risk of any untoward consequences, as asserted by Respondent 4 in Writ Petition (C) No. 76 of 1994. It is the responsibility of Respondent 4 to take necessary steps in this behalf. The RPCB shall seal this unit too at the end of one week from today. The reopening of these plants shall depend upon their compliance with the directions made and obtaining of *all* requisite permissions and consents from the relevant authorities. Respondents 4 to 8 can apply for directions in this behalf after such compliance.

3. So far as the claim for damages for the loss suffered by the villagers in the affected area is concerned, it is open to them or any organisation on their behalf to institute suits in the appropriate civil court. If they file the suit or suits in *forma pauperis*, the State of Rajasthan shall not oppose their applications for leave to sue in *forma pauperis*.

4. The Central Government shall consider whether it would not be appropriate, in the light of the experience gained, that chemical industries are treated as a category apart. Since the chemical industries are the main culprits in the matter of polluting the environment, there is every need for scrutinising their establishment

and functioning more rigorously. No distinction should be made in this behalf as between a large-scale industry and a small-scale industry or for that matter between a large-scale industry and a medium-scale industry. All chemical industries, whether big or small, should be allowed to be established only after taking into consideration all the environmental aspects and their functioning should be monitored closely to ensure that they do not pollute the environment around them. It appears that most of these industries are water-intensive industries. If so, the advisability of allowing the establishment of these industries in arid areas may also require examination. Even the existing chemical industries may be subjected to such a study and if it is found on such scrutiny that it is necessary to take any steps in the interests of environment, appropriate directions in that behalf may be issued under Sections 3 and 5 of the

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Environment Act. The Central Government shall ensure that the directions given by it are implemented forthwith.

5. The Central Government and the RPCB shall file quarterly reports before this Court with respect to the progress in the implementation of Directions 1 to 4 aforesaid.

6. The suggestion for establishment of environment courts is a commendable one. The experience shows that the prosecutions launched in ordinary criminal courts under the provisions of the Water Act, Air Act and Environment Act never reach their conclusion either because of the workload in those courts or because there is no proper appreciation of the significance of the environment matters on the part of those in charge of conducting of those cases. Moreover, any orders passed by the authorities under Water and Air Acts and the Environment Act are immediately questioned by the industries in courts. Those proceedings take years and years to reach conclusion. Very often, interim orders are granted meanwhile which effectively disable the authorities from ensuring the implementation of their orders. All this points to the need for creating environment courts which alone should be empowered to deal with all matters, civil and criminal, relating to environment. These courts should be manned by legally trained persons/judicial officers and should be allowed to adopt summary procedures. This issue, no doubt, requires to be studied and examined in depth from all angles before taking any action.

7. The Central Government may also consider the advisability of strengthening the environment protection machinery both at the Centre and the States and provide them more teeth. The heads of several units and agencies should be made personally accountable for any lapses and/or negligence on the part of their units and agencies. The idea of an environmental audit by specialist bodies created on a permanent basis with power to inspect, check and take necessary action not only against erring industries but also against erring officers may be considered. The idea of an environmental audit conducted periodically and certified annually, by specialists in the field, duly recognised, can also be considered. The ultimate idea is to integrate and balance the concern for environment with the need for industrialisation and technological progress.

71. Respondents 4 to 8 shall pay a sum of Rupees fifty thousand by way of costs to the petitioner which had to fight this litigation over a period of over six years with its own means. Voluntary bodies, like the petitioner, deserve encouragement wherever their actions are found to be in furtherance of public interest. The said sum shall be

deposited in this Court within two weeks from today. It shall be paid over to the petitioner.

**72.** Writ Petition (C) No. 967 of 1989 is allowed with the above directions with costs as specified hereinabove.

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*Writ Petition (C) No. 76 of 1994*

**73.** In view of the decision in Writ Petition (C) No. 967 of 1989, the writ petition is dismissed.

**74.** No costs.

*Writ Petition (C) No. 94 of 1990*

**75.** In view of the decision in Writ Petition (C) No. 967 of 1989, no separate orders are necessary in this petition. The writ petition is accordingly dismissed.

**76.** No costs.

*Writ Petition (C) No. 824 of 1993*

**77.** In view of the decision in Writ Petition (C) No. 967 of 1989, no separate orders are necessary in this petition. The writ petition is accordingly dismissed.

**78.** No costs.

<sup>1</sup> Under Article 32 of the Constitution of India

<sup>1</sup> (1995) 2 GLR 1210 : (1995) 2 GLH 352

<sup>2</sup> *M.C. Mehta v. Union of India*, (1987) 1 SCC 395 : 1987 SCC (L&S) 37

<sup>3</sup> (1995) 3 SCC 77 : (1995) 5 Scale 578

<sup>4</sup> (1991) 4 SCC 584

<sup>5</sup> (1868) LR 3 HL 330 : (1861-73) All ER Rep 1

\*\* A distinction between the *Oleum Gas Leak case* and the present case may be noticed. That was not a case where the industry was established or was being operated contrary to law as in the present case. That was also not a case where the orders of lawful authorities and courts were violated with impunity as in this case. In this case, there is a clear violation of law and disobedience to the orders of this Court apart from the orders of the lawful authorities. The facts stated above and findings recorded by us hereinafter bear it out. This Court has to ensure the observance of law and of its orders as a part of enforcement of fundamental rights. That power cannot be disputed. If so, a question may arise why is this Court not competent to make orders necessary for a full and effective implementation of its orders — and that includes the imposition and recovery of cost of all measures including remedial measures. Above all, the Central Government has the power under the provisions of Sections 3 and 5 of the Environment (Protection) Act, 1986 to levy and recover the cost of remedial measures — as we shall presently point out. If the Central Government omits to do that duty, this Court can certainly issue appropriate directions to it to take necessary measures. Is it not open to the court, in an appropriate situation, to award damages against private parties as part of relief granted against public authorities. This is a question upon which we do not wish to express any opinion in the absence of a full debate at the Bar.

<sup>6</sup> (1994) 2 WLR 53 : (1994) 1 All ER 53

<sup>7</sup> (1885) 29 Ch D 115 : (1881-5) All ER Rep 688

<sup>8</sup> (1994) 68 Aus LJ 331

<sup>9</sup> (Historic Pollution — Does the Polluter Pay? by Carolyn Shelbourn — Journal of Planning and Environmental Law, Aug. 1974 issue.)

*Ry*

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*True Copy*  
*Rgarg*

**MAHARASHTRA POLLUTION CONTROL BOARD**  
**REGIONAL OFFICE - PUNE**

Phone No. 020-25811694  
 Fax No. 020-25811701

e-mail  
 ropune@mpcb.gov.in  
 visit us : www.mpcb.gov.in



"Your Service is our Duty"

Jog Centre, 3<sup>rd</sup> Floor,  
 Wakdewadi,  
 Old-Pune Mumbai Road,  
 Pune- 411003

MPCB/ROP/230109-FTS-0141

Date: 09/01/2023

To  
 The Deputy Commissioner,  
 Pune Municipal Corporation (PMC),  
 Opposite Mangala Theater,  
 Shivaji nagar, Pune - 411005

**Sub. :-** Assessment of Environment Compensation for non-compliance of the Solid Waste Management Rules, 2016

**Ref. :-** 1) Order passed by Hon'ble NGT on 3/2/2022 in Original Application No. 190/2016 (WZ) Maj. Gen. Jatar vs. PMC & Ors.  
 2) Order passed by Hon'ble NGT on 26/7/2022 in Execution Application no. 7/2022 in O.A. No. 190/2016 filed by Maj. Gen. Jatar vs. PMC & Ors.  
 3) Prosecution Notice issued to PMC dated 18/11/2022  
 4) Reply submitted by PMC dated 13/12/2022 & 28/12/2022  
 5) Office Note submitted by MPCB SRO Pune 1 vide MPCB-ON-2617 dated 3/1/2023 and approval received from the competent authority on 9/1/2023

**WHEREAS** Applicant Maj. Gen. S.C.N. Jatar has filed an Original Application No. 190/2016 (WZ) before Hon'ble National Green Tribunal, Western Zone Bench, Pune against violation of the Solid Waste Management Rules, 2016 by you i.e. PMC in operation of 24-hours composting plants operated by M/s Ecoman Enviro Solutions Pvt. Ltd..

**AND WHEREAS** the MPC Board official in compliance of NGT Orders dated 27/1/20217 carried out the visit at thermal composting plants and collected compost samples on 7/2/2017 & on 3/3/2017 and on 23/5/2018 and as per analysis results it was noted that the compost quality was not meeting the standards prescribed in Schedule - II of the Solid Waste Management Rules, 2016.

**AND WHEREAS** Hon'ble NGT vide Order dated 3/2/2022 directed MPC Board to take appropriate action for violation of the Rules by way of initiating prosecution and recovery of compensation on 'Polluter Pays' principle.

**AND WHEREAS** MPC Board has issued Prosecution Notice to you on 18/11/2022 and after referring you reply to the said notice dated 13/12/2022 &

True Copy : 1;  
 Reply  
 Jyoti

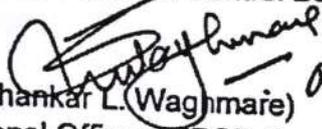
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28/12/2022 and as per all records and reports of the MPC Board Officials in this matter it is noted that you have failed to comply the Solid Waste Management Rules, 2016.

**NOW THEREFORE**, you are hereby informed to deposit the amount of **Rs. 1,82,41,900/- (Rs. One Crore Eighty-Two Lakhs Forty One Thousand Nine Hundred only)** towards the assessment of damage already caused to the environment and recovery of environmental compensation as per 'Polluters Pay' Principle to the Maharashtra Pollution Control Board, Kalpataru Point, 3rd Floor, Sion (East), Mumbai-400 022, within a period of 7 days from date of receipt of these directions, failing which, the Board will have no option than to initiate appropriate legal action against you, which please note.

This is issued with the approval of the competent authority.

For and on behalf of the  
Maharashtra Pollution Control Board

  
(Shankar L. Waghmare) 9/1/2023  
Regional Officer, MPCB-Pune

Copy submitted to: Hon'ble Member Secretary, MPCB, Mumbai- for favour of information.

Copy f.w.c. to: Joint Director (APC)/Law Officer (P& L Div), M. P. C. Board, Sion, Mumbai – for information.

Copy for information and necessary follow up: Sub-Regional Officer, Pune-I .

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Sarg