



ReSL/WTE/CERC/2023-24/001

Date: 14-03-2024

The Secretary,
Central Electricity Regulatory Commission,
Chanderlok Building, 36, Janpath,
New Delhi- 110001.

Subject: Suggestions related to MSW/RDF Plants for consideration on the draft Regulations of CERC on Tariff Determination for Electricity from Renewable Energy Sources.

Respected Sir,

This is with reference to Draft Notification No.:RA-14026(11)/1/2023-CERC vide public notice dated 17.02.2024 of Central Electricity regulatory Commission (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2024. In relation to these regulations, ReSL have comments / suggestions to determine the Tariff for Electricity from renewable energy sources.

At the outset, the differentiation in the description /definition of MSW/RDF based projects by CERC vide its earliest order 2015 and now in 2024 should be brought on record, because there is a fundamental shift in these definitions/descriptions.

CERC Regulations Explanatory Memorandum 2015	CERC Draft Regulations Explanatory Memorandum 2024	Remarks
<p>MSW Project is defined as a Project inclusive of Processing facility of MSW Cost of Processing plant is considered 35-40% of the project cost of Rs 15 Cr /MW</p> <p>Thus, the Processing plant for manufacturing RDF is Rs 6 Cr/MW & Waste to Energy Plant is Rs 9 Cr/MW</p> <p>Totalling Rs 15 cr/MW</p> <p>The RDF based Power project is Rs 9 Cr/MW as it will not have any Processing plant and instead RDF is procured at a certain price by generator of RDF based WTE Plant</p>	<p>The draft explanatory memorandum makes a monumental change in the definition.</p> <p>Now CERC considers MSW based WTE as mass incineration without involving any pre-processing of the MSW and at a cost of Rs 18 Cr/MW</p> <p>RDF based WTE plant comprising of Pre-processing plant of Rs 3 Cr/MW and Rs 18 Cr/MW of Waste to Energy totalling Rs 21 Cr/MW</p>	<p>CERC reckoning that MSW Waste to Energy as direct mass incineration being permissible is to be re-examined in the light of SWM rules 2016 which makes it mandatory for segregation of MSW into RDF and Wet waste.</p> <p>Secondly, the Hon'ble NGT has laid down clearly in its order Dec 2016 in matter of OP 199/2014, that segregation of MSW is absolutely necessary for incineration /waste to energy. (Para 6 /Page 82 and Para 9/Page 83 and most importantly Para 10/Page 84)</p>

Remarks

1. The definition given by CERC for MSW projects to be direct mass incineration runs counter to the stipulations of SWM 2016 and Directions by Hon'ble NGT vide order in OP 199/2014. It can be even said that CERC is transgressing into the domain of Solid Waste Management arena, governed by SWM Rules 2016 and interpreted by Hon'ble NGT from time to time as required.
2. Secondly, it is to be noted that SWM Rules 2016 have laid out an elaborate framework for treatment & disposal of Municipal waste making it mandatory to segregate, deploy processes for treatment of RDF and wet waste, dispose the residues to Sanitary landfill, post closure of the Sanitary landfill, treatment and disposal of leachate (effluent from Municipal Solid Waste). All these functions are performed by Urban Local Body or by its selected operator usually for a fee called gate fee/tipping

fee which is not an incentive but a consideration for contract with ULB. Such contracts are called Concession Agreements.

3. It is to be noted that Waste to energy is one of the approved processes for utilizing the Refuse derived fuel (RDF/combustible fraction /dry waste) after mandatory segregation of Mixed MSW, while wet waste is treated through aerobic composting or anaerobic digestion. The residues from both Waste to Energy and Aerobic composting/Anaerobic digestion goes to a mandatory sanitary landfill which is not a dump but a scientific operation with a specific construction standard given in the SWM rules 2016 including a mandatory post closure maintenance for 15 years of such SLF after the expiry of concession agreement usually 25 to 30 years.
4. The standards for treatment of leachate (effluent from Municipal waste) are laid down in the SWM rules 2016. The cost of Leachate treatment varies from Rs 2000 to Rs 2500 per KL to meet the laid down standards.

In the light of the above, it is requested that CERC may limit the definition to that the of waste to energy plant encompassing the following

- (i) Storage and handling cranes of RDF in CC Bunker with PEB cover usually called Waste storage Bunker with overhung cranes for managing receipt of Waste and its storage. The waste bunker provides for 7 to 10 days storage, whereby the overhung cranes loosen the stored Waste prior to feeding to the waste fired boilers. The free moisture is released at the bottom of the bunker and such leachate is to be treated by the operator of the facility or dispose as per the Consent orders of the local state PCB
- (ii) The waste fired boilers deploy a reciprocating grate with a drying, combustion and inertization sections with provision for under fire and over fire air, refractory and Inconel lined furnace, followed by three more passes of flue path where evaporators, superheaters and economisers are placed for conversion to superheated steam. The SWM rules prescribe a min temp of 950 Deg C with 2 sec residence time in the furnace for destruction of organic pollutants as a global engineering practice.
- (iii) The design basis /firing principle for these waste fired boilers entail a range of heat value usually ranging from 1100 Kcal/kg to 1900 Kcal/kg. The design point is the upper value of heat value, and the corresponding capacity sizing of the electricity generation, though the

installed capacity of electricity is often is not realized for at least half life of the project. A sample firing diagram is as under

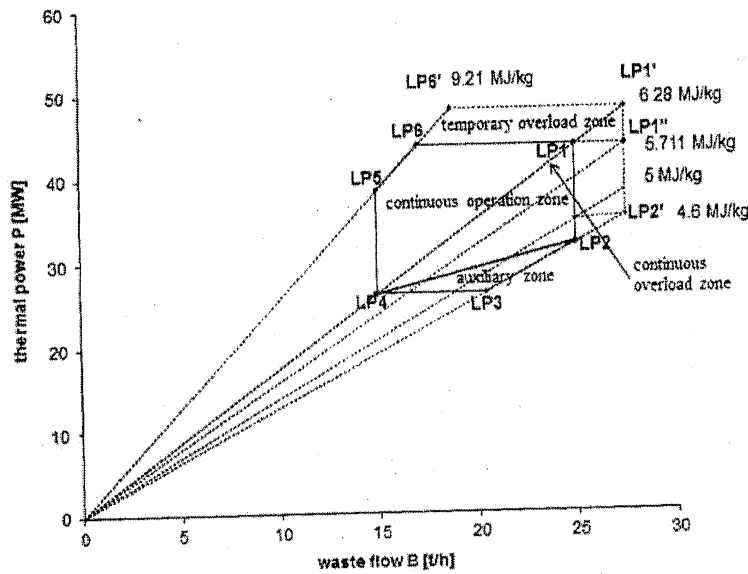


Fig. 4-1 Stoker Capacity Diagram

Table 4-1 Grate Capacity Table For Each Load Point

Point No.	Load rate	P		LHV	
		MW	t/h	kJ/kg	kcal/kg
LP1	100.0%	43.61	25.00	6280	1500
LP2	73.2%	31.94	25.00	4600	1099
LP3	80.0%	26.17	20.48	4600	1099
LP4	60.0%	26.17	15.00	6280	1500
LP5	88.0%	38.38	15.00	9210	2200
LP6	100.0%	43.61	17.05	9210	2200
LP6'	110.0%	47.97	18.75	9210	2200
LP1'	110.0%	47.97	27.50	6280	1500
LP1''	100.0%	43.61	27.50	5709	1364
LP2'	80.6%	35.14	27.50	4600	1099
LP2''	80.6%	35.14	27.50	4600	1099

- (iv) It is mandatory for treating the flue gas emanating from boiler through a wet or semi dry or a dry system, using chemicals such as lime as powder or slurry and activated carbon for neutralizing the acidic nature of the emissions, followed by bag filter.
- (v) The major cost of the waste to energy plant lies in the waste bunker, cranes, reciprocating grate, refractory lining /Inconel weld overlay, flue gas treatment and incremental cost because of air cooled condenser.
- (vi) The evacuation is generally site specific and a conventional cost does not normally work because of the location of the site usually allotted by ULBs with complex ROW issues.

A few photos of the waste to energy plant are enclosed for general appreciation.



Fig: 2x600 TPD RDF based power Plant at Bawana, Delhi



Fig: 2x600 TPD RDF based power Plant at Jawaharnagar, Hyderabad



Fig: 1x800 TPD RDF based power plant at Dundigal, Hyderabad

In the light of aforementioned, it is reiterated that CERC to reconsider & refrain from defining of Mass incineration of MSW which is not legally aligned with SWM Rules and NGT order. It is also submitted that the costs of RDF processing plant cannot be included /clubbed with that of the waste to energy plant, ignoring the other aspects of wet waste processing, residue disposal and leachate treatment etc which pertain to the realm of Solid waste management framework, not falling under the domain of CERC.

The definition of Waste to Energy is thus only one which is RDF Waste to Energy plant and the capital cost of such project should be considered without the processing plant because the elaborate processing of segregation of dry /RDF and wet waste & its further processing, residue disposal to SLF and leachate treatment are laid down separately Swatch Bharat Manual under SWM framework.

These bench marks are followed by ULBs and it is not possible to rate/assess the capital costs of these facilities in terms of MW, because these processing units are defined in terms of processing capacities of MSW namely in Tons per Day (TPD). These aspects do not come under purview of CERC as well.

Other suggestions

Capital Cost

It is submitted that capital costs are generally mentioned as cost per annual capacity of waste disposal of the waste fired boilers, than in terms of MW (e) output for the waste to energy industry.

For example, there are five plants in India with same waste disposal capacity but with different electricity output in terms of MW (E) as stated below.

Name of the Unit	Capacity of Waste fired boilers	Capacity of Electricity /Power Generation
Delhi MSW Energy Solutions Ltd	2 X 600 TPD Equalling 1200 Tons per day of Processed waste	24 MW Cost Rs 490 Cr
Hyderabad MSW Energy Solutions P Ltd	2 X 600 TPD Equalling 1200 Tons per day of Processed waste	19.8 MW initial Assessed and approved to be 24 MW by MOEF&CC, TSPCB. However, TSERC declines to accept the revised capacity Cost Rs 500 Cr
Waste to Energy Plant at Vizag	2 X 600 TPD Equalling 1200 Tons per day of Processed waste	20 MW installed. However, the present approved capacity is 15 MW only and APERC has approved the capacity to be 20 MW Cost mentioned in CERC paper as Rs 23.92 Cr/MW
Waste to Energy plant at Guntur	2 X 600 TPD Equalling 1200 Tons per day of Processed waste	15 MW installed. CERC paper has mentioned that the cost is Rs 18.08 Cr/MW
Waste to Energy plant at Tekhand, Delhi	2 X 600 TPD Equalling 1200 Tons per day of Processed waste	30 MW installed. However, the PPA is reportedly for 25 MW Minimum. Presently operational over 25 MW capacity

Thus, in all above cases, the output of power is rated differently, while the capacity of waste combustion is same namely 1200 TPD. The difference lies in heat value of waste and the resultant heat energy converted to electrical energy.

It is noteworthy that three waste to energy plants in India have been approved for capacity augmentation over the initial capacity

Name of the unit	Initial Capacity MW	Approved revised capacity MW
Okhla Waste to Energy plant 1350 TPD Capacity	16 MW in 2012	23 MW in 2020 Without any change in waste combustion capacity and generator change
Jawahar Nagar, Hyderabad 1200 TPD Capacity	19.8 MW in Year 2000`	Revised to 24 MW in 2022. However, state ERC declines the capacity augmentation
Waste to Energy plant Guntur` 1200 TPD Capacity	15 MW in 2022 but with prior installed capacity of 20 MW	Approved to be 20 MW
Waste to Energy plant in Vizag 1200 TPD Capacity	15 MW in 2023	

Hence, there is lot of diversity in the capital costs vis-à-vis power capacity with same waste combustion capacity. Given such diversity and configuration, the methodology of tariff determination assumes lot of uncertainty and imponderables.

Project life period

CERC until now considered 25 years as project life period; however, in current draft regulations, it is changed to 20 years as most SERCs have adopted such bench mark. Plant abroad have worked for 30-35 years with a major retrofit after 20 years and finally de-commissioned after 35 years.

An important aspect of refurbishment is the asset replacement unique for waste to energy industry starting from 6th year which is a very popular input considered by authorities in countries where Waste to energy as industry has matured such as China, Korea, Japan, Europe etc in contrast to India, with about 12 operational plants as on date.

Plants at Okhla, Guntur, Vizag, Tekhand have got 25 years of PPA, while the rest of the projects have only 20 years. A provision for 25 years for the other plants should be considered.

Incentives /subsidies

An important aspect of digression and aberration caused by TSERC is regarding the tipping fee. Tipping fee is a bid parameter followed by ULBs for selection of MSW Operator for SWM activities with a right of revenue to the operator including risks, on the derivatives such as compost, power, energy, biogas, recyclables etc.

The SERCs have to perform within the realm of Electricity Act and to determine the costs associated with power generation. The provisions of Concession Agreement are beyond the jurisdiction of the SERCs or for that matter even CERC. The generic order of TSERC dated 18.4.2020 stipulating the reimbursement of an unquantified amount of tipping fee has led to a lot imbroglio which continues today with avoidable litigation and costs.

It is submitted that the CERC regulations may make it abundantly clear that the regime of tipping fee is beyond the jurisdiction of SERCs and such orders involving tipping fee as revenue out of power generation should be avoided.

O&M expenses

O&M expenses should include that of asset replacement starting from 6th Year after COD.

It is suggested that 50% of the capital cost of waste fired boilers should be considered as asset replacement fund in 15 years of life after first 5 years after COD.

Plant Load factor

The NTP provisions are clear that 100% power to be procured by DISCOMs at a rate determined under s/62 of Act by SERCs.

Thus, the plant load factor is only a normative for purpose of tariff determination, and the special dispensation given to Waste to Energy sector by NTP should continue without any linkage to any normatives of PLF either under Generic order route or under project specific route.

Our submission for a National Tariff for Waste to Energy for a fixed period of 10 years from COD and review by CERCs thereafter.

Given the nascent nature of the industry and its emerging trend *qua* the need for capacity development for disposal of the waste, it is suggested to prescribe a National Tariff like that of PR China, which is 0.65 RMB/kwh all across the provinces in China, with tipping fee being the sole bid variable.

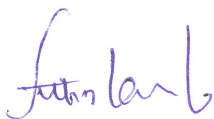
A national tariff for waste to energy say Rs 7.50/kwh levelized to be prescribed applicable all over India in all states without SERCs determining the tariff and without any provision for sharing of revenue nor tipping fee in any manner. The ULBs can carry out a transparent bidding process to select operator for SWM for whom the National Tariff, say Rs 7.5 Kwh for a period of 10 years is prescribed for bidding competitively the tipping fee.

Wit Best Regards.

Thanking you,

Yours Sincerely,

For Re Sustainability Limited,



Authorised Signatory.

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

ORIGINAL APPLICATION NO. 199 OF 2014

IN THE MATTER OF:

1. Mrs. Almitra H. Patel
Convener, INTACH Waste Network
Residing at No. 50, Kothnur
Bangalore 560 077
 2. Capt. J.S. Velu,
Organiser, Exnoraintach Clean India Campaign
Having his address
C/o Anjanappa, No. 2
Oil Mill Road, Satipalya
Lingarajapuram,
Bangalore 560 084
-Applicants

Versus

1. Union of India
Through the Secretary (Health)
Ministry of Health and Family Welfare
Government of India
Having his office at Nirman Bhavan
New Delhi.
2. The State of Andhra Pradesh
Through the Chief Secretary
Having his office at
The Vidhan Sabha
Hyderabad 500 486
3. State of Assam
Through the Chief Secretary
Having his office at
The Secretariat
Dispur 781 005
4. The State of Bihar
Through the Chief Secretary
Having his office at
The Patna Secretariate
Patna – 800 015

5. The State of Gujarat
Through the Chief Secretary
Having his office at the
Vidhan Sabha
Gandhi Nagar - 382010
6. The State of Kerala
Through the Chief Secretary
Having his office at
The Secretariat
Thiruvananthapuram 695 001
7. The State of Madhya Pradesh
Through the Chief Secretary
Having his office at
The Vidhan Sabha
Bhopal 462 003
8. The State of Tamil Nadu
Through the Chief Secretary
Having his office at
The Secretariat
Chennai 600001
9. The State of Maharashtra
Through the Chief Secretary
Having his office at
The Mantralaya
Mumbai 400 032
10. The State of Karnataka
Through the Chief Secretary
Having his office at
The Vidhan Soudha
Bangalore 560 001
11. The State of Orissa
Through the Chief Secretary
Having his office at
The Secretariat
Bubaneswar 751 001
12. The State of Punjab
Through the Chief Secretary
Having his office at
The New Secretariat
Chandigarh 160 001

13. The State of Rajasthan
Through the Chief Secretary
Having his office at
The Secretariat
Jaipur 302 005
14. The State of Uttar Pradesh
Through the Chief Secretary
Having his office at
The Secretariat
Lucknow 226 001
15. The State of West Bengal
Through the Chief Secretary
Having his office at
The Secretariat Bldg.
Calcutta 700 001
16. The State of Jammu & Kashmir
Through the Chief Secretary
Having his office at
The Secretariat
Srinagar 190 001
17. The State of Nagaland
Through the Chief Secretary
Having his office at
The Secretariat
Kohima 797 001
18. The State of Haryana
Through the Chief Secretary
Having his office at
The Secretariat
Chandigarh 160 001
19. The State of Himachal Pradesh
Through the Chief Secretary
Having his office at
The Secretariat
Shimla 171 002
20. The State of Manipur
Through the Chief Secretary
Having his office at
The Secretariat
Imphal 795 001

21. The State of Tripura
Through the Chief Secretary
Having his office at
The Secretariat
Agartala 799 001
22. The State of Sikkim
Through the Chief Secretary
Having his office at
The Secretariat
Gangtok
23. The State of Mizoram
Through the Chief Secretary
Having his office at
The Secretariat
Aizawl 796 001
24. The State of Arunachal Pradesh
Through the Chief Secretary
Having his office at
The Secretariat
Itanagar 791 111
25. The State of Goa
Through the Chief Secretary
Having his office at
The Panaji Secretariat
Panaji 403 001
26. The State of Delhi
Through the Chief Secretary
Having his office at
The Secretariat
New Delhi 110 001
27. The Central Pollution Control Board
Through its Chairman
Dr. Dilip Biswas
Having his office at Parivesh Bhawan
C.B.D.-cum- office complex
East Arjun Nagar, Delhi-110 032
28. The Municipal Corporation of the City of New Delhi,
Through its Municipal Commissioner
/Chief Executive Officer, having his office at
Delhi Municipal Corporation Offices
New Delhi 110 001

29. The Municipal Corporation of the City of Calcutta,
Through its Municipal Commissioner
/Chief Executive Officer, having his office at
Corporation Offices
Calcutta.
30. The Municipal Corporation of the City of Chennai (Madras),
Through its Municipal Commissioner
/Chief Executive Officer, having his office at
Ripon Bldgs. Periyar EVR Salai
Chennai (Madras) 600003.
31. The Municipal Corporation of the City of Mumbai (Bombay),
Through its Municipal Commissioner
/Chief Executive Officer, having his office at
Mahanagar Palika Offices
Mumbai (Madras) 400001.
32. The Municipal Corporation of the City of Bangalore,
Through its Municipal Commissioner
/Chief Executive Officer, having his office at
Corporation Offices, N.R. Square
Bangalore 560 002
33. The Municipal Corporation of the City of Ludhiana,
Through its Municipal Commissioner
/Chief Executive Officer, having his office at
Municipal Corporation Offices
Ludhiana 140001.
34. The Municipal Corporation of the City of Agra,
Through its Municipal Commissioner
/Chief Executive Officer, having his office at
Agra 282001
35. The Municipal Corporation of the City of Mathura,
Through its Municipal Commissioner
/Chief Executive Officer, having his office at
Municipality Offices
Mathura 281001.
36. The Municipal Corporation of the City of Varanasi,
Through its Municipal Commissioner
/Chief Executive Officer, having his office at
Municipality Office
Varanasi 221001.

37. The Municipal Corporation of the City of Hyderabad,
Through its Municipal Commissioner
/Chief Executive Officer, having his office at
Corporation Offices
Hyderabad 500486.
38. The Municipal Corporation of the City Of Ahmedabad,
Through its Municipal Commissioner
/Chief Executive Officer, having his office at
Municipal Corporation Offices
Ahmedabad 380001
39. The Municipal Corporation of the City
Of Rajkot,
Through its Municipal Commissioner
/Chief Executive Officer, having his office at
Municipal Corporation Offices
Rajkot 360001
40. The Municipal Corporation of the City of Surat,
Through its Municipal Commissioner
/Chief Executive Officer, having his office at
Muglisara, Surat.
41. State of Telangana
42. State of Chhattisgarh
43. State of Puducherry
44. State of Jharkhand
45. State of Meghalaya
46. State of Uttarakhand
47. U.T. Dadra and Nagar Haveli and Daman & Diu
48. U.T. Lakshadweep
49. Uttar Pradesh Pollution Control Board
50. Rajasthan State Pollution Control Board
51. Andaman and Nicobar Administration
52. Gujarat State Pollution Control Board
53. Punjab State Pollution Control Board
54. Goa State Pollution Control Board
55. Nagaland State Pollution Control Board
56. Maharashtra State Pollution Control Board
57. Tamil Nadu State Pollution Control Board
58. Arunachal Pradesh State Pollution Control Board
59. Odisha State Pollution Control Board
60. Madhya Pradesh State Pollution Control Board
61. Manipur Pollution Control Board
62. Chhattisgarh Environment Conservation Board
63. Puducherry Pollution Control Committee

64. Karnataka Pollution Control Board
65. Jharkhand State Pollution Control Board
66. Mizoram State Pollution Control Board
67. Meghalaya State Pollution Control Board
68. Assam State Pollution Control Board
69. Haryana State Pollution Control Board
70. Kerala State Pollution Control Board
71. Tripura State Pollution Control Board
72. Bruhat Bangaluru Mahanagar Palike

.....Respondents

COUNSEL FOR APPLICANT:

Mr. Abhinay, Advocate

COUNSEL FOR RESPONDENTS:

Mr. Abhishek Attrey and Mr. Vikas Malhotra, Advocate for MoEF
Mr. Pradeep Misra and Mr. Daleep Dhyani, Advocates for UPPCB
Mr. Suraj Prakash Singh, Advocate
Mr. Mukesh Verma and Mr. Devesh Kumar Agnihotri, Advocate for UPPCB & MPPCB
Mr. Sunny Choudhary, Advocate For M.P. Pollution Control Board
Ms. Preety Makkar, Advocate for Puducherry
Mr. G.M. Kawoosa, Advocate for State of J&K.
Mr. S. Sukumaran, Mr. Anand Sukumar and Mr. Bhupesh Kumar Pathak, Advocates For Municipal Corporation of Greater Mumbai.
Mr. Vijay Panjwani, Advocate with Mr. Bhupender Kumar, LA, CPCB
Mr. E.C. Vidyasagar, Mr. Subhash C. Sagar and Ms. Jenniefer.
Ms. Sakshi Popli, Advocate for NDMC & DJB
Mr. Shibani Ghosh Choudhary, Advocate For State of Maharashtra (Urban Dev. Dept.)
Mr. K. Enatoli Sema, Advocate for State of Nagaland & Nagaland PCB
Mr. Guntur Prabhakar and Mr. Guntur Pramod Kumar and Mr. Prashant Mathur, Advocates for the State of Andhra Pradesh
Mr. Devraj Ashok, Advocate for State of Karnataka
Mr. Gopal Singh, AOR and Ms. Varsha Poddar, Advocate For State of Tripura
Mr. Ashish Negi, Advocate For Ms. Richa Kapoor, Advocate for State Punjab PCB
Mr. Anil Soni, AAG along with Mr. Naginder Benipa, Advocate for the State of Punjab
Ms. Aprajita Mukherjee, Advocate For State of Meghalaya
Mr. Nishe Rajen Shander and Mr. Gajendra Khichi, Advocates for Kerala
Mr. Shubham Bhalla, Advocate
Mr. R. Rakesh Sharma, Advocate for State of Tamilnadu and Mr. M. Marutha Samy, Advocate
Mr. Balendu Shekhar, Advocate For EDMC

Mr. M. Paikaray, Advocate for State of Odisha and Odisha Pollution Control Board
Mr. Shibashish Misra, Advocate for State of Odisha
Mr. Biraja Mahapatra, Advocate with Mr. Dinesh Jindal, LO, Delhi Pollution Control Committee
Mr. Edward Belho, AAG with Mr. K. Luikang Michael and Ms. Elix Gangmei, Advocates for Municipal Corpn. Of Greater Mumbai.
Ms. D. Bharathi Reddy, Advocate for State of Uttarakhand
Mr. P. Venkat Reddy and Mr. Prashant Tyagi, Advocate For State of Telangana
Ms. Yogmaya Agnihotri, Advocate for CECB
Mr. Jogy Scaria, , Advocate for State of Kerala & KSPCB.
Mr. Ajit Sharma and Mr. Mayank Aggarwal, Advocate for Agra Nagar Nigam
Mr. Debarshi Bhuyan and Mr. Santosh S. Rebelo, Advocates for State of Goa and Goa State Pollution Control Board
Mr. Shantala Sankrit, Advocate For Daman & Diu & Dadra & Nagar Haveli
Mr. Jayesh Gaurav, Advocate for JSPCB
Mr. Gaurav dhingra, Advocate for State of Uttar Pradesh
Mr. Raj Kumar, Advocate with Mr. Bhupender Kumar, (LA) Central Pollution Control Board
Mr. Raman Yadav and Mr. Dalsher Singh, Advocate
Mr. Anil Grover, AAG with Mr. Rahul Khurana, Advocates for Haryana State PCB
Ms. Sapam Biswajit Meiteian and Ms. B. Khushbansi, Advocates for State of Manipur and Manipur PCB
Ms. Aruna Mathur and Mr. Avneesh Arputham and Mr. Anuradha Arputham and Mr. Yusuf Khan, Advocate for State of Sikkim
Dr. Abhishek Atrey, Advocate for Lakshadweep
Mr. Rudreshwar Singh and Mr. Gautam Singh, Advocates for Bihar
Mr. Pragyan Sharma, Mr. Ganesh Bapu TR and Mr. Shikhar Garg, Advocates for State of Mizoram and MPCB
Ms. Puja Kalra, Advocate for North & South MCD
Mr. Anchit Sharma and Mr. Satamita Ghosh, Advocate For Delhi Cantonment Board
Mr. Sarthak Chaturvedi, Mr. Rohit Pandey AND Mr. D.N. Tirpathi, Advocates for Andaman and Nicobar
Mr. D.K. Thakur, Advocate for M.C. Shimla
Mr. Harish Sharma, Advocates for State of Chhattisgarh
Mr. Tayenjam Momo Singh, Advocate for Meghalaya SPCB
Mr. Shuvodeep Roy and Mr. Sayoj Mohandas, Advocate for State of Assam and Assam Pollution Control Board
Mr. Anurag Kumar and Ms. Sakshi Popli, Advocate for DJB & NDMC
Ms. Priyanka Sinha, Advocate for State of Jharkhand
Mr. Nikhil Nayyar and Ms. Smiti Shah Advocates for AP PCB and Telangana SPCB
Mr. Suryanarayana Singh, Sr. Addl. Advocate General for State of HP
Ms. Aagam Kaur for Ms. Hemantika Wahi, Advocates for the State of Gujarat

JUDGEMENT

PRESENT:

Hon'ble Mr. Justice Swatanter Kumar (Chairperson)

Hon'ble Mr. Justice U.D. Salvi (Judicial Member)

Hon'ble Mr. Bikram Singh Sajwan (Expert Member)

Hon'ble Dr. Ajay Deshpande (Expert Member)

Reserved on: 25th October, 2016

Pronounced on: 22nd December, 2016

-
1. Whether the judgment is allowed to be published on the net?
 2. Whether the judgment is allowed to be published in the NGT Reporter?

JUSTICE SWATANTER KUMAR, (CHAIRPERSON)

Mrs. Almitra H. Patel and another filed a public interest litigation under Article 32 of the Constitution of India before the Supreme Court of India at New Delhi. In this petition, the petitioner/applicant sought orders and directions for urgently taking steps to improve the practices presently adopted for collection, storage, transportation, disposal, treatment and recycling of Municipal Solid Waste (for short, "MSW") popularly known as "garbage" generated in various cities across India. This problem is of gigantic magnitude. Every single day, over one lakh tonnes of raw garbage is thrown along roads, waterways and wetlands just outside the city limits of India's 300 plus Class-I towns and cities. According to the applicant, no city or town takes end-point responsibility for hygienically managing its municipal solid wastes. According to the applicant, it is absolutely necessary that uniform national standards and practices be adopted and remedial steps be taken on most urgent basis to avoid adverse health impacts on the citizens. The applicant has referred to various

main cities of India and the gravity of the problems arising from the indiscriminate dumping of MSW. The issue is of national significance and grave importance. Applicant has referred to the outbreak of plague in Surat in 1994 as well as many annual epidemics of Hepatitis, Gastroenteritis, Malaria and Typhoid in different cities which are caused, inter-alia, by the extremely poor and at times non-existent sanitation and garbage collection and disposal practices employed by the local authorities. The raw garbage is dumped just outside the city limits on panchayat or revenue lands or highway shoulders, lakes, nalas and land of various PWD authorities. Referring to the city of Bangalore of which the applicant is a resident, it is stated that it is a typical example where garbage is dumped on both sides of every major approach road into the city for want of waste yards since 1987. The sites even if notified have not been utilised. Garbage is dumped at different points less than a kilometre beyond an unused waste-yard, garbage thrown on the roadside by municipal trucks spills directly into an adjacent waterway that serves 10 villages before reaching Yellamallappa Shetty tank which was the city's fall back water supply in drought years. The animals eat the waste including plastic. The petitioner who claims to be a lifelong environmental conservationist has further averred that various State Governments and the local authorities are responsible for this extremely poor state of affairs prevailing in the life of citizens, affecting public health and this issue has been neglected for years. The Centre has power and the State Governments have been delegated power and

authority under Section 5 of the Environment (Protection) Act, 1986 and/or under a constitutional duty and obligation to prevent environmental degradation and to ensure that the urban environment and surrounding areas are preserved, protected and improved within their territory. These respondents have to perform their primary duty including taking proper measures to manage the disposal of MSW. Each of the State Governments has failed and neglected to discharge its constitutional and statutory obligation in relation to proper collection, handling, transportation and ultimately in the hygienic disposal or recycling of MSW. The Central Pollution Control Board (for short, "CPCB") which is the apex pollution control authority in the country has to frame guidelines and recommendations for management of the MSW but till date they have failed to do so. Whatever guidelines have been framed even they have not been followed and implemented in the cities and municipalities and the Central and State Boards have not taken any steps to ensure proper implementation. Thus, they have failed to perform their statutory duties. As per the 1991 census, Urban India constitutes about 26% of the country's population. It is stated that by the turn of this century one third of this country's population will reside in urban centres. The rate of urbanisation has gone up from 10.84% in 1901 to 25.85% in 1991. As much as 32.5% of India's urban population resides in just 23 large cities. Heavy collection of MSW, lack of infrastructural services has resulted in poor disposal of the waste. The applicant has classified the urban solid waste as follows:

- (a) Household waste: including wastes arising from the preparation and consumption of food, generally termed as “garbage”;
- (b) City waste: all matter accumulated from streets, parks, schools, etc. including paper, animal waste, street and drain waste, slaughter house waste;
- (c) Commercial waste: arising from offices, stores, markets, theatres, hospitals and restaurants. These include a high proportion of paper, cardboard and plastics;
- (d) Human excreta;
- (e) Industrial waste: Wastes generated from industries including metallic waste, construction material, etc;
- (f) Hazardous waste: Toxic substances generated at hospitals, at certain industrial units, etc.;

The deficiencies in dealing with the MSW and the MSW management systems have been pointed out as under:

- (1) Absence of the system for storage of waste at source.
- (2) Lack of facilities where households, commercial establishments and institutions deposit the waste.
- (3) Existence of open, unhygienic and inadequate communal waste storage facilities and inaccessibility due to long distances.
- (4) Streets and public places treated as receptacles of waste by the public, growth of slums, defecations on the street by urban poor and indiscriminate disposal of infectious waste by nursing homes on the street.
- (5) Loading of waste into open trucks manually.
- (6) Land filling operations carried out without any environmental impact analysis, and
- (7) Several areas particularly inhabited by the urban poor are either not served or are under served.”

2. Besides the above, the petitioner has also pointed out that in India well managed sanitary landfill for disposal and treatment of MSW do not exist. Raw garbage is dumped by the municipalities in low lying areas through which there is every likelihood of it percolating and contaminating the groundwater resources of the city and its environs. Most places do not have waste yard sites.

Planning by the authorities is defective as the sites are not provided and maintained properly. The waste is hardly subjected to proper treatment. Slaughter house wastes are subjected to very little or no treatment and these pollute and eutrophicate water bodies and pose serious health risks including diseases such as malaria and filariasis. There is no effective collection and disposal method for toxic hospital waste.

Various studies have been referred to by the applicant in support of her contentions and it is also averred that studies including National Commission on Urbanisation report states that the MSW instead of being just garbage, if properly handled and managed can be a profitable exercise for municipalities who privatise waste management. Garbage can yield revenue by way of compost and with proper management. The CPCB published a report on 19th July, 1994 on good management practices of MSW. The solid waste management is an integral part of the environmental management not only of the city but of the country as a whole. Right of the citizens to clean and healthful environment guaranteed under Article 21 of the Constitution of India embraces the right to clean and well maintained city, streets, highways and environs. The Supreme Court of India years back in the case of *Municipal Council, Ratlam vs. Vardhichand*, AIR 1980 SC 1622 had held that it is not open for the municipalities to plead a lack of funds. Indeed, a responsible Municipal Council constituted for precise purpose of preserving public health and providing better facilities cannot run away from its principal duty by pleading

financial inability. In the light of these facts, the applicant prayed before the Supreme Court of India, inter-alia, but primarily the following reliefs:

“A. That this Hon’ble Court may be pleased to issue a Writ of Mandamus or a writ in the nature of Mandamus or any other appropriate Writ. Order or direction under Article 32 of the Constitution of India, ordering and directing –

(I) Respondent No. 1 in relation to Union Territories and the States:

(II) Respondent No. 2 to 26 in respect of respective States:

(a) To make budgetary provision for purchase/acquisition, fencing and development of adequate long-term waste-yards for all class-I cities, and annual budgetary provision for end-point MSW management at these waste-yards, in addition to cost-based budgetary funding for MSW collection and transport.

(b) To financially strengthen their Class-I cities by linking penal interest for non-payment of property taxes and similar municipal fees to 2% above prevailing bank rates of interest;

(c) To issue appropriate directions and order under Section 5 of the Environment (Protection) Act, 1986 to each and every Municipal Corporation/Municipality of Class-II cities, (having a population of over one lakh persons) falling within the respective territory/jurisdiction:-

(i) Identify, designate, notify purchase /acquire and operate waste processing sites adequate for use as waste-yards over a rolling 20 years period in respect of management and handling of MSW,

(ii) Forthwith discontinue the dumping of untreated MSW in areas other than designated sites,

(iii) Take appropriate steps and measures for the collection, storage transportation, hygienic disposal, treatment and recycling of MSW including proper transportation to the designated sites and well-managed placement there for conversion into re-useable/recyclable by-products such as compost, bio-gas, fuel pellets, etc.;

- (iv) Operate the MSW sites and ultimate landfills in a sanitary, scientific and nuisance free manner,
- (v) Direct all local bodies to implement the guidelines issued by the Central Pollution Control Board a copy whereof is annexed as Annexure-13 alongwith National Workshop recommendations in Annexure-14,
- (vi) Frame time bound schemes and/or fiscal instruments to organise, encourage, support and facilitate persons working as rag-pickers/waste separators to enable the recovery with dignity and without health hazard of reusable /recyclable material from MSW, along the lines of Ahmadabad's SEWA and similar initiatives in India and abroad.
- (vii) Ensure the exclusion of hospital and nursing home wastes from MSW and monitor or provide safe and sanitary incineration thereof,
- (d) To introduce legislation to regulate and/or ban and/or impose punitive eco-taxes on excessive packaging and on the use of non-recyclable packaging like Styrofoam, foil coated plastic, plastic-coated paper, or to impose take-back/recall conditions on such packaging,
- (e) To introduce or amend Municipal Acts to facilitate anti-littering fines or penalties.”

3. The above Writ Petition was instituted in 1996. During its pendency, the Supreme Court passed various directions and orders requiring the respondents to consider low cost waste sanitization options. They were also directed to seek expert advice in respect of mosquitoes, flies and other vector control and to phase out the routine use of insecticides like DDT and BHC on garbage heaps and dump sites. The Supreme Court appointed Barman Committee and Barman Committee submitted its report on 16th January, 1998 and it was recorded in the order that none of the States appear to have any opposition to the report of the Committee, in fact, with

reference to the said recommendations the CPCB submitted the draft Management of MSW Rules, 1999 before the Supreme Court. Mainly cities of Mumbai, Calcutta, Delhi and Bangalore were the subject matter of these directions issued by the Supreme Court. In the case of *B.L. Wadhera v. Union of India and Ors.*, (1996) 2 SCC 594-595 where it was observed that the capital of India is one of the most polluted cities in the world. The authorities, responsible for pollution control and environment protection, have not been able to provide clean and healthy environment to the residents of Delhi. The ambient air is so polluted that it is difficult to breathe. Directions issued in *B.L. Wadhera's* case were not implemented and certain difficulties were pointed out. The Supreme Court observed that keeping Delhi clean is not an easy task but then it is not an impossible one either. What is required, is initiative, selfless zeal and dedication and professional pride, elements which are sadly lacking here. Thereupon the Supreme Court issued ten directions for compliance by all concerned. These directions primarily were issued to ensure that the streets, public premises, parks etc. shall be surface cleaned on daily basis, including on holidays. Collection of levy, recover charges and costs from any person littering or violating provisions of the diverse Acts, bye-laws and Regulations to ensure proper and scientific disposal of waste in a manner to subserve the common good. Sites for landfills will be identified bearing in mind the requirement of Delhi for the next 20 years within a period of four weeks by the exercise jointly conducted by Ministry of Urban Development, Government of NCT, Commissioner

MCD and Chairman NDMC and other heads of statutory authorities like the DDA etc. Directions were given to take appropriate steps for preventing any fresh encroachment or unauthorized occupation of public land for the purpose of dwelling resulting in creation of slum. Site selection of compost plants initially considering the extent of solid waste which is required to be treated by compost plants was also stated and the number of sites which should be made available will be eight. Again emphasis was laid by the Supreme Court on two interrelated aspects, one dealing with the solid waste and other being clearing of slums. It was noticed that NDMC spends 35 per cent of its revenue on pay, against the world standards of 15 to 20 per cent and vacant lands act as an open invitation to encroachers. By noticing this in its order dated 24th August, 2000 the Court raised a query vide its order dated 21st November, 2001, whether the States mentioned in the order are willing to privatize garbage collection with an object of ensuring cleanliness. In the order dated 4th October, 2004, the Supreme Court noticed that Municipal Solid Waste Rules have been enforced but have not been implemented properly. It also made a reference to the Steps taken by authorities and their failure to comply. The Committee was also constituted to examine the status with regard to the energy project in Lucknow and other projects in that behalf were not to be started till that time. Vide order dated 15th May, 2007, the Supreme Court examined the report of the Committee and modified its earlier orders and permitted the Ministry of Non-Conventional Energy Sources to go ahead with five pilot projects

keeping in view the expert Committee report. Order dated 15th May, 2007 reads as under:

“I.A. No.18 in W.P. (C) No. 888/1996:

Heard learned Solicitor General for Union of India and respective counsel for the parties.

The matter relates to solid waste management by various Municipal Corporations. After hearing parties, this Court on 6th May, 2005, observed that till the position becomes clear as regards the viability of the projects for generation of energy from municipal waste (by the bio-methanation technology), the Government would not sanction any further subsidies to such projects. This Court also directed that the Central Government to constitute a Committee of Experts and include therein Non-Governmental Organisations as well, to inspect the functioning of the project at Lucknow and its record and file a report before this Court. Pursuant to the said order, a detailed report has been submitted by the Expert Committee on 2.1.2006. Chapter IX of the Report contains its recommendations and conclusions. The Committee is of the opinion that the choice of technology for treatment of MSW should be made on the basis of quantity and quality of waste and local conditions. The Committee has opined that operational problems of one plant (Lucknow) should not form the basis to judge the efficacy of the particular technology and therefore, petitioner's objection to providing support (subsidy) to waste to energy projects may not be justified. We extract below some of the relevant conclusions of the Committee:

“...For all the projects in future, the issues such as Project Development including characterization of wastes, sizing of projects, technology selection and project design, management model and operational issues including close co-ordination between Municipal Corporation and the promoters, financial appraisal and approval of project should be adequately addressed.”

“In view of the problems of treatment and disposal of municipal wastes (solid and liquid) in our cities and towns, which are only likely to increase with the growth of population and urbanization, an integrated approach to waste processing and treatment will be necessary, as brought out in the MSW Rules, 2000. Therefore, Instead of focusing on individual

technologies, it would be desirable to take an integrated approach to the management and treatment of MSW, which would necessitate deployment of more than one technology in tandem.”

“The selection of technology for the solid waste management depends upon the quality of waste to be treated and the local conditions. Therefore, for the segregated waste, which is dedicated in nature, the selection of technology is relatively easier and its performance and success is beyond doubt. Therefore, it is desirable to have solid waste segregated at source, which is also required as per the MSW Rules, 2000.”

The Committee has recommended that projects based on bio-methanation of MSW should be taken up only on segregated/uniform waste unless it is demonstrated that in Indian conditions, the waste segregation plant/process can separate waste suitable for bio-methanation. It has opined that there is a need to take up pilot projects that promote integrated systems for segregation/collection/transportation and processing and treatment of waste.

In view of the report of the Committee and having regard to the relevant facts, we modify the order passed by this Court earlier and permit Ministry of Non-conventional Energy Sources (MNES) to go ahead for the time being with 5 pilot projects chosen by them, keeping in view the recommendations made by the Expert Committee and then take appropriate decision in the matter.

List the application for further orders after six months.

I.A.No.12: Permission to file rejoinder is granted.

I.A.NO.17: Petitioner to file its response to the application, if any, within four weeks.”

4. After passing this order vide its order dated 19th July, 2010, the Supreme Court referring to the interim application, which sought directions to the Development Commissioner, Government of NCT and other Authorities to grant allotment of land at Bhatti Mines for development of landfill site in favour of MCD for disposal

of Municipal Solid Waste. It was also noticed that certain NGOs were raising a serious objection and opposing the prayer. For that purpose the Supreme Court transferred the applications (I.A. No. 12/2002, 13/2002 and 17/2002) to the High Court of Delhi, as it felt that at the time the High Court would be in a better position to decide the matter, keeping in mind the local topography and local conditions. The Supreme Court had observed that the High Court may decide the matter expeditiously. However, the matter has not been finally disposed of as yet. Then the Supreme Court vide its order dated 2nd September, 2014 transferred the Writ Petition No. 888 of 1996 to the Tribunal while passing the following order:

W.P.(C) No.888 of 1996:

This petition filed in public interest as early as in the year 1996 prays for the reliefs that are set out in as many as eleven pages of the petition. It is, therefore, unnecessary to extract the same in extenso. Suffice it to say that several orders have been passed by this Court over the past 18 years or so in regard to the prayers made in the writ petition. One significant development that has taken place pursuant to those orders is the framing of the Municipal Solid Wastes (Management and Handling) Rules, 2000 under the Environment (Protection) Act, 1986. The Rules, in turn, came to be framed pursuant to a report submitted by a committee constituted by this Court. With the framing of the Rules all that remains to be done is an effective enforcement of the said Rules and possible upgradation of technology wherever necessary. Enforcement of the Rules and efforts to upgrade the technology relevant to the handling of solid municipal waste is a perennial challenge and would require constant efforts and monitoring with a view to making the municipal authorities concerned accountable, taking note of dereliction, if any, issuing suitable directions consistent with the said Rules and direction incidental to the purpose underlying the Rules such as upgradation of technology wherever possible. All these matters can, in our opinion, be best left to be handled by the National Green Tribunal established under the National Green Tribunal Act, 2010. The Tribunal, it is common ground, is not only equipped with the

necessary expertise to examine and deal with the environment related issues but is also competent to issue in appropriate cases directions considered necessary for enforcing the statutory provisions.

In the circumstances we deem it proper to transfer W.P.(C) No.888 of 1996 to the National Green Tribunal for further proceedings in the matter and for disposal in accordance with law after hearing all concerned. We make it clear that we have expressed no opinion on any of the aspects that have been raised by the petitioner or by those seeking to be added as parties to the case including an application made by the residents of Sukhdev Vihar, New Delhi, who are aggrieved by the construction of an incinerator, next to the residential colony, affecting the quality life of those residing there. We leave it open to the Tribunal to examine all pending applications and the prayers made in the same including applications for directions wherever the same are prayed for and to pass appropriate orders in accordance with law. Needless to say that anyone of the parties if aggrieved of any order passed by the Tribunal shall be free to seek appropriate redress by way of an appeal in this Court under the provisions of the relevant statute. In case of any difficulty or clarification as to the scope of the proceedings being transferred by this Court, we reserve liberty to the party concerned to seek appropriate clarification from this Court as and when required. With the above observations, we direct transfer of W.P.(C) No.888 of 1996 to National Green Tribunal, Principal Bench, New Delhi. We request the Chairperson of the Tribunal to bestow his attention to the subject which has been pending in this Court for a long time to ensure that a matter of considerable public importance like management of municipal solid waste does not remain neglected any longer.

CONMT. PET. (C) No. 8/2009 In W.P. (C) No. 888/1996:

In the light of the order passed by us in W.P. (C) No.888 of 1996, we do not propose to continue with these contempt proceedings which are dropped and the contempt petition disposed of.

SLP(C) No. 22111/2003:

This special leave petition is delinked from W.P. (C) No.888 of 1996 to be listed separately after four weeks.'

5. Not only the States with capital cities like Chennai, Bangalore, Calcutta, Mumbai and Delhi were respondents in the Writ Petition

but all the States of the Union of India were made respondents in the petition. The State Governments filed their respective stands by way of reply affidavits to the Writ Petition before the Supreme Court and some of them also filed additional affidavits/additional replies before the Tribunal. Before we refer to the pleaded case of the respondents on the material issue one fact needs to be noticed at this stage. In relation to State of Punjab, one *Capt. Mall Singh and Ors* had challenged the order dated 30th August, 2012 vide which Environmental Clearance had been granted for establishment of integrated MSW Management facility and establishment of engineered sanitary landfill facility on Mansa Road, Bhatinda, Punjab. The parties had challenged this by way of an Appeal. The order granting Environmental Clearance to the project came to be registered as Appeal No. 70 of 2012 titled as *Capt. Mall Singh & Ors v. Punjab Pollution Control Board and Ors*. The stand of the Pollution Control Board and other respondents including the States was that it had divided the entire State of Punjab into eight clusters and in each cluster the proposal was to establish a Waste Energy Plant for collection and disposal of the Municipal Solid Waste and to generate energy. According to them, there was proper implementation of the Municipal Solid Waste Rules of 2000. After hearing the parties concerned, by a detailed judgment, the Tribunal disposed of the case. While not setting aside the Environmental Clearance granted to the project, it passed detailed directions with regard to the establishment and operationalization of the Waste Energy Plant as well as for implementation of Municipal Solid Waste

Rules of 2000 including establishment of green belt in a manner in which waste should be disposed off at landfill sites. This judgment was pronounced on 25th November, 2014. In light of the judgment pronounced by the Tribunal, the State Governments were required to file their response and if they had any specific suggestions in addition to the directions contained in the judgment of the Tribunal. In the case of *Capt. Mall Singh (supra)*, directions were given for better implementation of Municipal Waste Rules, 2000 and establishment of Waste to Energy Plants, wherever required. Some but not all the States filed their response in furtherance of the order of the Tribunal.

6. Most of the States filed status report regarding Model Action Plan for Municipal Solid Waste Management. Almost every State is following the cluster based system and are desirous to implement the Model stated in *Capt. Mall Singh (supra)*. Andaman and Nicobar Island is not following the cluster based system since it is not economically viable to them. It is commonly accepted that door to door collection of wastes and its segregation at the source is one of the viable factors of proper management of Municipal Solid Waste. In this regard, public awareness programmes should be encouraged. The State of Haryana in their report submitted that they are also adopting cluster based approach for collection and disposal of waste. They proposed to incinerate waste. There should be greenery around the site, there should be decentralized waste processing and the waste should be composted and primarily used for fertilizer purpose rather than making Refuse Derived Fuel (RDF).

Establishment of such plants would work in favour of the environment as well as the State Government. Site selection for construction of such plants is a serious matter and remains a subject of controversy. The Tribunal vide its order dated 20th March, 2015 had directed that the RDF Plant in Karnal (Haryana), will be operated to its optimum capacity. Some of the States had also prepared Draft Action Plan on Municipal Solid Waste. According to most of the States even the RDF is in the process of being established and some States are working towards establishing bio gas plants in place of RDF.

7. The States were also called upon to specifically state and clarify if there was any MSW disposal plant either RDF or Waste to Energy or any other plants in the state or if even proposals in that behalf were formulated and were at an advance stage. The States of Tamil Nadu, Arunachal Pradesh, Sikkim, Madhya Pradesh, Chandigarh, Odisha submitted that Solid Waste Processing Plants in their State are in operation and consent to establish Waste to Energy plant had been granted. There are three WTE Plants which are operating or/are under trial run. In relation to NCT Delhi, reference can also be made to the recent order of the Tribunal in the case of '*Kudrat Sandhu Vs. Govt. of NCT & Ors.*', Original Application No. 281 of 2016, where the Tribunal has permitted the three WTE Plants to operate, subject to strict provisions and inspection by the High Powered Inspection Team consisting of representatives from CPCB, DPCC, MoEF&CC, IIT etc. In Chhattisgarh, Solid and Liquid Resources Centre has been setup. However, there is a proposal to

set up Waste to Energy Plant in that State. In Lakshadweep Bio gas Plant has been set up and is functioning. Master Plan for Gujarat has been made and a Memorandum of Understanding has been signed with UN Centre for Regional Development, Japan with regard to management of Municipal Waste. In Maharashtra, some Urban Local Bodies (for short, 'ULBs') have put up plants. In Sikkim, there is no Plant for segregation. Andhra Pradesh has 18 vermi composting plants.

8. We may also notice, that in furtherance to the various orders passed by the Tribunal, some of the States submitted the status reports. State of Madhya Pradesh in its report stated that 90% of the population still lingers under the poor waste management system and they have made a long term plan regarding handling of MSW. State of Rajasthan submitted that the municipalities were in the process to develop secure landfill sites for disposal of MSW in accordance with Rules of 2000. Some of the States submitted the action plan for handling Solid Municipal Waste. In furtherance to the order of the Tribunal dated 5th February, 2015, State of Sikkim submitted the MSW Management Action Plan stating that they have adopted cluster based plan for urban centres for management of wastes. They submitted about the standardisation procedure, mobile sanitation courts management plan for institutional strengthening. State of Chhattisgarh submitted a Model Action Plan for disposal of MSW. State of Manipur submitted that there is rapid growth in production of MSW which has not been matched by development of organizational capabilities of ULBs leading to severe

strain on them and deficiencies in execution of this vital function. They have adopted integrated approach which involves all the stakeholders to deal with MSW. They are planning to adopt cluster approach, construct landfill sites and the DPR in that behalf had been submitted. State of Punjab has adopted cluster approach and they are collecting waste and spraying disinfectant. Green belt is being maintained around the landfill sites. State of Gujarat has stated that they are not able to collect and dispose of entire waste in accordance with the Rules of 2000. MSW is being converted to an eco friendly, beneficial end product. Efforts are being made by the corporations to convert MSW into useable material. Plastic is recycled and other waste is being utilized. According to the State of West Bengal, there are 128 Urban Local Bodies and they have taken major steps like adoption of cluster approach with regard to proximity of the ULBs involved in the concerned planning areas. There are serious problems with regard to absence of segregation of wastes at sources, lack of institutional arrangements in ULBs, lack of technical expertise, inadequate resource, lack of community participation, non- availability of sites. State of Bihar has submitted its report along with modified Model Action Plan for implementation of MSW management. Here, the municipal solid waste is not converted in an eco-friendly manner to any beneficial end product. In the annual report 2013-14 State Pollution Control Board Nagaland has published that MSW is not collected in its entirety, neither segregated nor disposed off in accordance with the Rules of 2000. They want to adopt cluster based approach and establish

plants for disposal of waste. They are trying their best to comply with the rules. The State of Telangana has submitted that there is average 85% door to door collection of waste. 25% segregation of waste is done at household level, at primary and secondary collecting points. No specific penalty for littering provided. According to the State of Orissa, total quantity of MSW generated in the State is 2460 tonnes per day out of which ULBs are collecting 2107 tonnes per day. A solid waste management plant is operating. Only 70 ULBs have identified waste processing and disposal facility site but have not developed their sites. There is open dumping of MSW. The District Magistrate has been requested to prepare an action plan. Dadra and Nagar Haveli have submitted that the transportation and dumping of the waste is being done by the Silvassa Municipal Council through outsourced agency. There is a MSW management plan which includes daily door to door collection of waste, segregation of waste at source into bio-degradable and non-biodegradable, Technology involving Refuse Derive Fuel (RDF) composting to be employed, not more than 20-25% of waste would be allowed to be disposed off in the engineered sanitary land fill sites. In Delhi, there is generation of more than 14100 MT of MSW everyday out of which it contains approximately 9600 MT of MSW which also has an element of inert & even C&D material. Out of 9600 MT of solid waste, even if all 3 WTE Plants operate for optimum capacity, in terms of consent & Environmental Clearance granted to them, the city would be left with 4900 MT MSW per day, besides 600 MT silt from drains and road sweeping & 3900 C&D

and inert waste. The dumping sites/landfill sites are in terrible conditions. State of Jammu & Kashmir, in furtherance to order of the Tribunal, submitted status report showing disposal, segregation and transportation of MSW. The State has also shown cluster approach but from the status report as well as the matters before the Tribunal it is clear that the State is not able to handle its MSW appropriately in accordance with rules. State of Haryana has submitted Management Plan and there is no door to door collection of MSW and they are making efforts to comply with the Rules of 2000. Haryana State Pollution Control has issued directions to ULBs for proper implementation of rules from time to time. The Central Pollution Control Board claims that it is in the process of formulation of national policy with regard to collection and disposal of MSW as a model policy to be adopted in the country. Emphasis has been given in the suggestive/indicative Management Action Plan for cluster approach. Other states have also submitted their Management Plan and indicated that they have approved the Plans and are in the process of taking effective steps for dealing with the MSW in the respective States. Most of the States including Goa is not collecting its entire MSW and cannot dispose of the same in terms of Rules of 2000. State of Goa has also plans for manual/mechanized sorting, material recycling centre organic extrusion press, bio-mechanization plant followed by Bio-gas plan, in vessel composting and sanitary landfill. State of Tamil Nadu has prepared a draft policy on Integrated Solid Waste Management and it is in the process of approval by the Government. Some of the

States including Meghalaya is in the process of preparing Draft Managements Plan even at the District Level; however, the same is at the planning stage.

9. The Tribunal passed a detailed order on 20th March, 2015. Referring to various orders of the Supreme Court of India in the order dated 20th March, 2015, the Tribunal passed detailed directions. The Tribunal also accepted the reports filed by the States adopting cluster approach and establishment of RDF. With regard to the directions related to collection, treatment and disposal of the MSW, the Tribunal rejected the contention raised on behalf of some of the parties, including MoEF&CC, that, a) RDF b) Waste to Energy Plant and c) the site for collection, treatment and disposal of MSW should be de-centralized and that cluster system is not an appropriate remedy. The Tribunal noticed that it cannot overlook the limitation of the State in relation to availability of land, finances and geographical concerns. Economical and environmentally sound centralized operation of plants would not only be in the economic interest of the State and the people but would also serve the purpose of environment at protection and compliance with the Rules. The Central Pollution Control Board and MoEF&CC were also directed to prescribe specific standards for emission for insulators used for power generation. They were directed to prepare a consolidated document.

Vide the same order, the Tribunal also directed all the concerned States to file comprehensive affidavits within four weeks

in light of the judgment of the Tribunal passed in Original Application No. 48/2013, people for transparency through *Kamal Anand vs. State of Punjab* as well as in the present application i.e. 199/2014. It was also directed that in the event of non-compliance of the directions to file comprehensive affidavit, the concerned States would be liable to pay cost of Rs. 50,000/- and the concerned Secretary of the States would be present before the Tribunal, as a consequence thereof.

10. Thus, in furtherance to the order of the Tribunal dated 20th March, 2015, various States and even the Pollution Control Board of the States filed affidavits. According to the Punjab Pollution Control Board, there are a total of 163 ULBs which are generating MSW, 2 garbage treatment plants are operating and the State has formulated program for management of the MSW in the ULBs and the State has been divided into 8 clusters. The State of Goa, submitted that it has formulated its action plan on the lines of the judgment of the Tribunal in the case of *Capt. Mall Singh* (supra). The State of Madhya Pradesh also stated that it has formulated a cohesive policy wherein the cluster based approach for effective solid waste management was adopted. The State of Karnataka filed affidavit stating that the State has introduced the program of “clean our city” with 100% door to door collection of waste with source segregation and State has already procured land for waste processing and disposal of MSW. According to the State of Arunachal Pradesh, MSW treatment plants were being operated for composting and fertiliser practices and efforts were being made to

establish bio-gas plants on anaerobic composting. Necessary policy intervention was proposed to be framed to prevent unauthorized rag pickers and for a total prohibition on minor workers. Chandigarh filed an affidavit to state that the Municipal Corporation manages the waste in 56 sectors. There is door to door collection and proposal for two bio-methanation plants were in the works along with plan to purchase new machineries. State of Orissa claimed that its local authorities had invoked the 'Polluter Pays Principles' and had placed dustbins in 'jhuggy' colonies and policy for rag pickers is awaiting approval from the Government. The State of Kerala took up the stand that there was scarcity of land for setting up MSW management facilities and the model plant proposed by the State of Punjab may not be possible in the State of Kerala and the State is proposing to adopt decentralized facilities and to promote disposal of MSW at source of generation itself. According to the State of Kerala, under the Kerala Municipality Act, 1994, it is the responsibility of the LSGIs to manage the MSW and the State cannot interfere with the same. The State Government is performing as a facilitator for helping the LSGIs to perform their functions. It is providing help for preparing detailed project reports to deal with MSW. In Gujarat, there are 159 ULBs and Nagarpalika Action Plan for 126 municipalities has been prepared, for awareness campaign, training program for safai karmacharis. Andaman Nicobar Island submitted before the Tribunal that it has already established RDF plant which is operational but not performing to its optimum capacity. State Government shall frame its policy with regard to

collection of MSW from sites and then transportation of it to its designated places. State government has not put any restriction on use of RDF for power generation but they prefer that there should be composting of wet waste rather than generation of RDF therefrom. State of Andhra Pradesh has prepared a separate action plan to implement in a befitted manner the program for MSW by the ULBs. The proposal is to plan and execute step by step procedure to achieve 100 % door to door garbage collection at source, segregation of wet and dry waste. State of Tripura submitted that there is scarcity of suitable land/site for cluster approach of MSW plants and even the available lands are inadequate and located geographically far apart from each other. State Government is considering Agartala based pilot project as first step that will cover the neighboring ULBs. State of Rajasthan stated that the Government is making very serious efforts for implementation of the MSW Rules in the entire State and it has incorporated Section-226 to 236 in the Rajasthan Municipalities Act, 2009 for effective and proper enforcement of MSW Rules and for prohibiting littering. Policy guidelines, time-bound action plan envisages five years 2015–19 for all 184 ULBs in the State. They have sought financial assistance from the Central Government under the Swachh Bharat Mission guidelines. State of Himachal Pradesh has framed policy for door to door collection and there is only 1 local body whose population is more than 1 lakh i.e. Shimla. The Municipal Corporation has distributed two waste bins of green and yellow colour to all the households of the city for carrying out the

segregation of waste at source. It may be noticed that in the MSW case relating to State of Himachal Pradesh, it has come on record that for a considerable time plant dealing with MSW was not working for dealing with MSW. In the year 2016, they have again awarded a contract to the project proponent to restart the waste to energy project at Shimla. It is undisputable that Shimla and its surrounding cities are facing acute problems in relation to collection and disposal of MSW which is being dumped anywhere and everywhere.

11. Since some of the States had not filed affidavits, the Tribunal vide its order dated 13th July, 2015 granted further time for filing of affidavits. It was also noticed in the said order that the applicant 'Almitra H. Patel' had submitted suggestions before the Tribunal and here M.A. No. 22 of 2011 which was pending before the Supreme Court of India and had been transferred to this Tribunal should also be dealt with on merits. It was in light of this that States/Union Territories were directed to file compliance reports. The States of Tamil Nadu, Arunachal Pradesh, Sikkim, Madhya Pradesh, Orissa, Delhi and Chandigarh had filed their status reports/submissions. The State of Tamil Nadu submitted that there has been sanction of funds, discussion on the draft rules published by the MoEF, sensitization of Heads of the Departments on various provisions of draft rules. Integrated SWM project is being planned. State of Arunachal Pradesh submitted that rapid increase in generation of MSW has not been matched by development of the organizational capabilities of the ULBs leading to severe strain on

them and deficiencies in the execution of this vital function. Awareness programs were being introduced. The State High Powered Committee for Swachh Bharat Mission has already approved for release of fund to ULBs and proposals for setting up of treatment plants in a phased manner has been initiated. According to State of Sikkim, keeping in view of topography, the door to door collection of the municipal solid waste is difficult and it is being carried out by the waste pick-up vans in most of the wards in the urban areas. Waste is then transported to landfill sites. Further, a compost plant has been designed to handle waste up to 50 Metric Tonnes and no RDF plant has been installed there. It is also stated that there is need to have an integrated project involving all stakeholders i.e. Government agencies, private parties, public sector, corporate and institution to tackle huge piles of MSW that is suffocating the cities and towns in India. Sikkim has proposed setting up of a compost plant to deal with 50 MT of MSW and no RDF or bio-gas plant has been installed. The States are also considering the suggestions made by the Applicant as well as the model plants that have been approved by the different States. State of Madhya Pradesh submitted that it has made a comprehensive action plan for waste management. The local bodies have started 100% door to door collection of waste as well as composting but no scientific disposal is being done as landfill site has not been constructed being financially and operationally unviable. The land has been allotted for landfill facilities in almost all towns having a population of over 50,000. Chandigarh again has a massive issue

in relation to disposal of the MSW, despite having garbage processing plant which generates RDF. It has not been able to deal with the disposal of the waste in accordance with the Rules and there is huge waste generation. In the State of Orissa, there are 111 ULBs which are collecting their waste on its own or by engaging private agencies or combination of both. ULBs spend about 40% of the octroi grant on O&M cost of SWM services. Scientific disposal is not yet practiced by the ULBs. Puri Municipality is generating around 30 TPD of municipal solid waste and bio-compost plant, still the waste is not being handled satisfactorily and in accordance with the Rules. Delhi has prepared an action plan for MSW including plants for disposal of the waste. The corporations and other authorities are holding meetings to effectively deal with the issue.

12. Upon analysis of the above status reports, affidavits and documents placed on record, one fact that becomes more that evident is that all the States are at a planning stage and execution is lacking at all relevant stages, whether it is the beautiful city like Chandigarh or nature's gift to earth-city like Srinagar or be it the capital of our country, nowhere the generated MSW is adequately and appropriately collected, segregated, transported and disposed off in accordance with Rules in force, at all the relevant times. Chandigarh is generating a waste of approximately 370 MT per day whereas its garbage procession plant is procession approximately 270 MT per day which is converted into RDF. Waste from other areas including other adjoining States is being sent there, which causes disputes between the project proponent and the authorities

concerned including Corporations which are unavoidable. The plant is not working effectively and in fact the project proponent proposes to close-down the plant by 31st March, 2017. There is no gradual but rapid increase in generation of waste in all these places including Chandigarh. There is absolute necessity to frame proper planning, mechanism and implementation programs to deal with the waste in accordance with the Rules and to ensure that it does not cause environmental and public health problems. Indiscriminate dumping of waste anywhere including on-site would result in mosquito breeding, odour generation due to methane gas and other allied problems which would directly and adversely affect the environment and public health. Delhi is generating MSW which includes municipal waste, inert, C&D waste and different kinds of dust and ash. As noticed, Delhi generates nearly 14100 MT per day which has 9600 MT of municipal solid waste. Out of this, nearly 4900 MT of waste remains untreated everyday and has to be dumped at one site or the other. The landfill/dumping sites have already exceeded the prescribed limit and height. They have a height of 40 meters as opposed to the permissible limit of 20 meters. These landfill/dumping sites are source of serious air pollution, pollution of ground water by leachate and is a consistent and direct source of various diseases. There is hardly any place at plants to squarely and in accordance with Rules, deal with C&D and inert waste. State of Himachal Pradesh has no functional plant which is capable of dealing with the generated MSW in Shimla alone which is 86.01 MT per day or to even treat a substantial part

thereof. Thus, it is throwing its MSW at the site and/or anywhere and everywhere. It seriously and adversely affects the environment and ecology of eco-sensitive areas. Srinagar is generating 350-360 MT MSW per day and the waste from that area and from the surrounding areas is just being dumped and that too in an unscientific and indiscriminate manner at the site or anywhere and everywhere. The city of lakes, natural beauty has a stinking site for which the public at large is complaining everyday and is genuinely aggrieved by the adverse impacts on public health in that area. Similarly, all other States have prepared action plans that are being sent for approval to the Government. They have prepared DPRs which again are in the decision making process and they are planning to construct/install plants of different kinds. All these are at planning stage now for quite a long period. Though, it may be well intended but it still has to enter into the phase of proper execution. Environment and public health has to be the prime concern of the State and Central Government and limitations of different kinds cannot be said as impediment to the fundamental rights of the citizens as they have the right to clean and decent environment; free of any restrictions or limitation.

13. Almitra H. Patel had filed the writ petition before the Hon'ble Supreme Court of India in the year 1996. Various directions had been passed by the Supreme Court directing the State Governments to take expeditious and effective steps in accordance with law for dealing with the menace of MSW to protect the environment and public health. It is unfortunate that none of the States have

implemented and enforced the direction as directed and intended by Apex Court and the Tribunal. This matter has been pending before the Tribunal since 2014 and till date no State has been able to demonstrate that it has or any part of the State has any place which operates a system or a plant which would segregate, transport and dispose of the MSW in accordance with Rules. There are hardly any plants which have the capacity and are capable of dealing with entire MSW generated in that area by any of the scientific and accepted methodology provided under the Rules i.e. bio-composting, bio-methanation, RDF and WTE. Such a state of affairs cannot be permitted to continue indefinitely and every State Government, the Centre and all the Public Authorities should take immediate steps to ensure proper collection and disposal of MSW. With the increase in population, generation of MSW is going to increase. As per the 2011-12 report of the CPCB, the country generates 133760 MT municipal solid waste per day of which 91152 MT per day is collected and 25884 MT per day is treated. Remnant of it either remains uncollected or untreated. This is a significant indicator of the extent of this serious human and environmental problem. If such a huge quantity of waste remains uncollected or untreated then that obviously would mean that the remnant waste is spread anywhere and everywhere and is bound to result in adverse impacts having far reaching consequences on human health and the environment. What needs to be seen further is that these figures are of 2013 while we are already in 2016. With the passage of time, generation of waste has tremendously increased.

Current data of waste generation in our country has not been placed before us. It may be noticed here that even the data provided by CPCB is not based on any physical verification but in turn is based on the data collected by the ULBs. It was fairly conceded before us during the course of the hearing that none of the Corporations have ever physically verified the quantum and/or quality of the waste generated in any district of any State much less for the entire State. They have proceeded with a presumptive figure that per-capita generation of MSW is nearly 450 grams per day in major towns while per capita MSW generated from small towns is 200-300 grams per day. Again as per annual report of the CPCB for the year 2014-15, the waste generated per year was stated to be 141064 TPD out of which 127531 TPD is collected and only 34752 TPD is subjected to treatment. The CPCB report for the year 2014-15 has revealed that out of 7935 ULBs as per 2011 census only 389 ULBs have established compost/vermi-compost sites. Open dumping continues in 7327 ULBs, which means that practically 92% of the ULBs are dumping its MSW in open area. Having referred to the gravity of the issues relating to MSW and the ineffective and regressive steps taken by the respective State Governments, we would have no hesitation in stating that all concerned need to give up the attitude of laxity and casualness and become aggressive and effective in the implementation of the mechanism and methodology of collection and disposal of MSW for the entire country. The installation of different mechanisms including establishment of plants is the need of the hour as it is

either impractical or not possible to increase the number and size of dumping sites throughout the country. In capital cities of the States and all major towns, land is very scarce and there are financial constraints as well. On the contrary, there is rapid increase in generation of MSW. This means that methodologies which are scientifically acceptable, performable and in consonance with the Rules have to be established without any further delay and this should be the subject of utmost priority for every State. The regulatory authorities like, CPCB, MoEF&CC have to become more aggressive in ensuring that the provisions of law in relation to collection and disposal of MSW are enforced and implemented without default and delay now. They are vested with wide powers including those of punitive nature and time has come to take recourse to such measures and not leave the matters to the sweet will of the implementing agencies. It is evident that any further delay or deferment in enforcing of the Rules would lead to environment and public health disasters resulting from adverse and negative contribution of the public authorities and the officers manning the said authorities. The time has come when the officers/authorities who are persistent defaulters must be dealt with in accordance with the law and be penalized for their attitude and defaults.

14. India is one of the highest generators of MSW in the world. The MSW generated in our country has two very distinguishable features. Firstly, the quantum of waste that is generated and

secondly the composition of waste generated is very typical. The waste generated primarily has the following composition:

- | | |
|-----------------------------|-------|
| a. Organic Waste | 51% |
| b. Inert and no-organic | 31.5% |
| c. Recyclable | 17% |
| d. Average Moisture content | 47% |

15. The Municipal Solid Waste (Management and Handling) Rules, 2000 in practice were found deficient in various aspects. One of the main drawbacks of these Rules of 2000 was that it did not provide for and deal with certain basics of waste management. These rules did not provide for effective implementation and fixation of responsibility in regard to management and disposal of waste. Various improvements and amendments to these Rules were suggested by the Applicant in the present case as well as by the Applicant in other similar cases. All these cases were dealing with the management, collection and disposal of different kind of wastes. MoEF&CC had submitted before the Tribunal from time to time that it was undertaking the exercise for enacting the new set of Rules.

16. The said Ministry on 3rd June, 2015, published in the Gazette of India, Part-II Draft of Solid Waste Management Rules. Objections were invited to these draft Rules and parties were required to file their objection before the expiry of 60 days from the date of publication of the draft Rules. The Applicant in the present case, was also directed amongst others to file her objections/suggestions to the draft Rules before the Ministry which the Applicant did.

Finally, the Solid Waste Management Rules, 2016 was notified on 8th April, 2016. The Rules of 2016 have a very elaborate definition section, inter-alia, but importantly they define domestic hazardous waste to mean 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. Waste hierarchy means prior order in which solid waste is to be managed by giving methods for prevention, reduction, recycling, recover and disposal, with prevention being most preferred option and disposal in landfills being the least. These definitions were included for the first time. Rule-4 onwards, the duties of various stakeholders were spelt out. Rule-4 imposed the duty on waste generators. It required the waste generators to segregate waste and dispose of it as provided for, not litter waste and pay user fee. Bio-degradable waste was required to be disposed of at the premises by the prescribed methods. Rule-5 provided for duties of MoEF&CC. It was required to monitor implementation of these rules and constitute a Committee for the same. It had the discretion to co-opt experts, if needed.

17. The Committee constituted under Rule-5(2) shall meet at least once in a year to monitor and review the implementation of these Rules. In our considered view, the period postulated under these Rules is wholly inadequate. The meeting of the Central Committee should be held more often to make the supervisory role of the Committee more effective and result oriented.

At the central level the Rules provide for duties of Department of Fertilizers, Ministry of Chemicals and Fertilisers, Ministry of Agriculture, Ministry of Power, Ministry of New and Renewable Energy Sources. These duties primarily relate to co-ordination with the State Governments and Union Territory Administration to review the measures taken by the State and Local bodies and help them to improve the steps taken to implement these Rules such as undertaking training for capacity building, formulation of national policy and strategy and scientific guidelines for dealing with MSW, to provide market development assistance on city compost and ensuring promotion of co-marketing of compost with chemical fertilisers, to provide flexibility in Fertiliser Control for manufacturing and sale of compost and propagating the utilisation of compost on farm land, setting up of laboratories to test quality, issuing suitable guidelines for maintaining quality of compost. Ministry of Power should decide tariff or charges for the power generated from the Waste to Energy plants based on solid waste and ensure compulsory purchase of power generated from such WTE plants by the Distribution Company. The Ministry of New and Renewable Energy Sources should provide appropriate subsidy or incentives for such Waste to Energy plants. The Rules also contemplate duties at the State level. The Secretary, State Urban Development Department in the State or Union Territory through the Municipal Commissioner or Director Administration or Director of Local Bodies has to perform the duties stated under Rule-11. It has to prepare policy for waste management and ensure

implementation of the Rules, capacity building for local authorities, registration scheme of rag pickers, notification for buffer zone, issuing directions for town planning authorities for making provisions of SWM, sanitary landfill and directing developers to set-aside area for SWM. The duties and responsibilities under the Rules do not restrict themselves to the State projects but even the District Magistrate or District Collector are obliged to perform the duties which shall help facilitate setting up of SWM facilities in tandem with local authorities and review performance of local bodies. It even goes to the Panchayat level and they are also to perform similar functions.

18. The CPCB and SPCB have also been directed to perform the stated duties and functions under Rules 14 and 16 of the Notification. These primarily relate to enforcement of the Rules, monitoring of environmental standards and their compliance, coordination between the Central and the State Boards, issuance of requisite guidelines. In terms of Rule-15, duties have been cast upon the local authorities and village Panchayats to establish centres for proper and safe disposal of storage of waste and its transportation, etc. Duties have been imposed upon manufacturer or brand owners of disposable products and sanitary napkins and diapers and the industrial units located within one hundred km from the refused derived fuel and waste to energy plants based on solid waste. The industries were required to use the RDF generated from plants. This obligation was to be discharged within six months from the date of the Notification of the Rules which is long over. The

Rules also provided detailed criteria for setting up solid waste treatment and facilities plant. The criteria have been specified for waste processing, waste management in hill areas and waste to energy process. It also gives specifications for landfills and other matters in relation to composting treated leachate insulation, processing treatment and monitoring of solid waste.

19. Rule 22 provides time frame for implementation. The authorities are required to create the necessary infrastructure and perform directly or through engaging agencies in the activities specified in that Rule within the time mentioned therein. This period varies from one year to five years with reference to various activities including setting up of various plants and sanitary landfill sites, etc. The State Level Advisory Committee has to be constituted within six months in terms of Rule 23 which again is long over. The landfill operations should adopt the methodologies which are pollution preventive. Criteria for Ambient Air Quality, monitoring has to be specified. Schedule-I deals with specifications for sanitary landfills, while Schedule-II deals with the standards of processing and treatment of solid waste.

20. The apparent lacuna that emerges from the bare reading of these Rules is that there are no punitive consequences for violation or non-compliance of these Rules. In absence of such provisions, the very purpose of these Rules will stand defeated. Enforcement of such regulatory regime is of essence. If there is no serious and effective implementation of these Rules, then they will not be able to

achieve the noble goal of prevention and control of environmental degradation resulting from MSW. These Rules have been framed in exercise of powers vested in the Ministry under a delegated legislation. The Rules have been enacted under Section 3, 6 and 25 of the Environment (Protection) Act, 1986. The violation of the directions, rules and provisions is made punishable under Section 15 of the Act of 1986. Whoever fails to comply with or contravenes any of the provisions of this Act, or the rules made or orders or directions issued there-under, shall, be liable for punishment with imprisonment for a term which may extend to five years with fine which may extend to one lakh rupees, or with both, or higher punishment in the case of repeated failure. It is for this reason that no specific rule has been framed by the Ministry. It is obvious that the punitive provisions contained in Section-15 of the Act would come into play the moment there is violation, non-compliance or failure to comply with the directions, orders, rules framed and issued under the provisions of the Act of 1986.

21. Rule 21 of the Rules of 2016 provide for criteria for waste to energy process. This rule requires that non-recyclable waste having calorific value of 1500 K/cal/kg or more shall not be disposed of on the 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. High calorific waste shall be used for co-processing in cement or thermal power plants. The local bodies or an operator of a facility or an agency designated by them proposing to set up waste to energy plant of more than five TPD

processing capacity has to move an application in Form-I to the Pollution Control Board for authorisation. Such application is to be dealt with and permission granted within sixty days. It is on record before the Tribunal that plastic paper and glass constitute nearly 17% of the waste. Plastic wastes including non-recyclable plastic for a high calorific value are suitable for MSW to energy plant. Of course, some plants have already been set up which are generating energy by mass burning. They do apply some degree of segregation but there are certain problems associated with such mass incineration like:

- Low calorific value, as it is mixed up with organic wet waste.
- High moisture content
- Presence of inerts like stones, sand and soil
- High input of energy for the incineration process to take place at high enough temperature
- Problem of waste streams being heterogeneous resulting in incomplete combustion efficiency of furnace to maintain adequate high and uniform temperature throughout the furnace during the residence period of the waste thereby possibility of release of toxins like dioxins and furans.
- Production of high ash content into burnt residue due to the presence of inerts.

22. However, despite the above, the plants which are having a very effective mechanism for segregation and are putting through boilers the waste as fuel for generating energy can also perform while maintaining requisite standards of emission, etc. The criteria under the Rules of 2016 primarily talks about power generation through

RDF. As already indicated, there are following techniques or processes for effective management of the SMW:

1. Bio-methanation
2. Vermi-composting
3. Waste to RDF, RDF to energy and
4. Direct mass incineration for power generation.

Whichever of the above processes are found to be suitable to the concerned stakeholders, the same could be adopted. There may be cases where more than one of the above processes are collectively utilised for generation of power and/or monitoring the solid waste, for instance, waste to RDF and then using RDF for generation of power. In a plant from waste to RDF, compost and/or bio-methanation may be used. This would depend on a large number of factors. The Rules do provide for the criteria but not comprehensively and in relation to all the processes. On the contrary, there are cases of direct waste to energy plants but in such plants, greater caution has to be taken for preventing pollution of air and the environment. They require better technology and more effective supervision to ensure compliance of the relevant laws. Rule-21 does contemplate that the plastic and non-recyclable waste, etc. which has high calorific value as provided under Rules would be used directly for power generation and/or through RDF.

23. For establishment and operationalization of any process founded on any technology, the first and foremost requirement is a comprehensive criteria for selection of appropriate solid waste

treatment technology. In addition to what has been stated in the Rules, There are various factors. We may herein indicate few of them. They are not exhaustive.

- (i) Availability of land
- (ii) Quantity of waste
- (iii) Quality (characteristics) of waste i.e. inert content, moisture content and more significantly, the calorific value.
- (iv) Financial viability: funding opportunities, viability gap funding (associated technology constraints, if any).
- (v) Segregation practices (efficiency of segregation, particularly to segregate the hazardous and toxic industrial waste, by identification of industrial pockets).
- (vi) Market availability for various products/outputs like biogas, electricity, RDF, fly ash, etc.
- (vii) Availability of buffer zone.
- (vii) Waste management philosophy (centralized/ decentralized, common or regional plant)
- (viii) Capacity (financial and infrastructure) of Local body to collect, segregate and transport the waste.
- (ix) Possibility of establishing dedicated brick manufacturing plant.

24 Generated waste could be converted, upon proper segregation to RDF which has a double advantage. Firstly, the RDF could be used by the project proponent in its own plant for generation of power. The other benefit could be that RDF could be sold as fuel to cement or power plants in the open market.

25. We may also notice here that the Rules of 2016 are in furtherance to the Waste Framework Directive of the European Union. It has a direct relation as well as nexus to International Framework on MSW. Certain definitions and rules relating to imposition of duties are part and parcel of the international regime as well.

In the European Union, the *Thematic Strategy on Waste Prevention and Recycling, 2005* resulted in the revision of the *Waste Framework Directive (2006/12/EC)*, the cornerstone of EU waste policy. The Directive introduces a five-step waste hierarchy where prevention is the best option, followed by re-use, recycling and other forms of recovery, with disposal such as landfill as the last resort. The directive include Extended Producer Responsibility makes producers financially responsible once their products become waste, providing them with an incentive to develop products which avoid unnecessary waste and can be used in recycling and recovery operations. An example of producer responsibility is the 'Green Dot' system currently in operation wherein producers placing material on the market pay a levy for the collection and recycling of a related amount of waste material. This forces them to consider the whole life cycle of the goods they produce. This establishes an encouragement to apply the waste hierarchy in accordance with the polluter-pays principle, a requirement that the costs of disposing of waste must be borne by the holder of waste, by

previous holders or by the producers of the product from which the waste came.

Waste prevention is becoming more and more important as the global population increases and we eat away at our finite supply of natural resources. However, this is a very challenging concept as it is difficult to measure something which, by definition, never existed.

One of the key tools being used to encourage waste prevention is eco-design, which focuses on environmental aspects during the conception and design phase of a product. Eco-friendly products should be made using recycled secondary raw materials and should avoid the use of hazardous substances. These products should consume less energy during the use phase and should be able to be recycled once they have been discarded. Waste prevention is closely linked to improving manufacturing methods and influencing consumers so that they demand greener products and less packaging.

Waste management strategies shifted from landfill towards a combination of recycling and incineration, and in some cases also mechanical–biological treatment. Many countries use ‘pay-as-you-throw’ schemes (i.e. fees based on the weight or volume of the waste as an economic incentive for households to recycle their waste). All the countries that show landfill rates well below the EU-28 average of 28 % have either banned landfill of biodegradable or mixed municipal waste, or implemented a ban combined with a landfill tax of at least EUR 30/tonne.

26. As per the Buffer zone specifications in the *National Guidelines for Hazardous Waste Landfills* in Canada, the waste fill area of an engineered hazardous waste landfill facility should be completely surrounded by a buffer area that is established and managed according to the following guidelines provided therein:

- a) At every point, the buffer area should extend beyond the distance calculated for a reasonable contaminant travel time in the groundwater or beyond a reasonable width.
- b) The buffer area should be sufficient to ensure that the land filling operation does not have any unacceptable impacts outside the site (such as surface runoff, the spread of litter or vermin, the escape of leachate, or the subsurface migration of landfill gas).
- c) The buffer area should accommodate all performance monitoring sites and still be able to implement contingency measures inside the property boundary if necessary.
- d) The buffer area should either be
 - (i) not planted with any vegetative screening that would increase the rate of contaminant travel in the buffer area, or
 - (ii) widened to allow for an increase in contaminant travel due to plantings.
- e) Encroachment onto the buffer area should be avoided for a minimum period of time (such as 25 years) following the completion of post-closure care. Jurisdictions of authority may have specific numerical criteria regarding buffer areas and should be consulted regarding their specific requirements.

Within the legal boundary of the engineered hazardous waste landfill facility site, a buffer zone should be provided around the perimeter to act as a visual screen and a noise barrier among other functions. In addition to the above, the following should also be noted:

- The buffer zone should also contain a site access road, site services and buildings, groundwater monitoring wells and landscaping.
- The width of the buffer zone, the visual screen and the noise attenuation features may vary according

to land use, local regulations and the proposed contingency systems

- Access to the site should be strictly controlled. Both incoming and outgoing traffic should pass through a single control point for: manifest, movement document or shipping document verification; waste sampling; and any other regulatory or administrative actions.
- Appropriate signage, signals and lighting should be used to direct the flow of traffic on the site (see Appendix C).

27. The International or Municipal Solid Waste regime in other countries may not be applicable to the municipal solid waste conditions present in our country. As already noticed, the quantum as well as the characteristics of the municipal solid waste in India is quite distinct. The waste collected consists of variety of wastes like the domestic waste, wet waste, green waste, inert C&D waste, dust and ash. Normally, the waste collected is not segregated at source. Proper segregation is a condition precedent to scientific and proper disposal of municipal solid waste in accordance with the Rules in force. Direct incineration of the segregated wastage for power generation is one of the accepted methods of processing the mixed waste. The Rules of 2016 do deal with various aspects of management and disposal of municipal solid waste in greater detail. The Rules of 2016 are still deficient and non-specific in some areas. The success of effectiveness of any regulatory regime is directly dependent upon the extent to which they are implemented at the ground level. After and even prior to the coming into force of the Rules of 2016, the various courts and this Tribunal have issued direction in regard to the management and disposal of municipal solid waste. The Supreme Court of India

in the case of *M.C. Mehta* (Non-Conventional energy and Agra Heritage matter) *v. Union of India and Ors.* (2003) 10 SCC 719 while dealing with the Rules of 2000, directed that the Rules should be strictly complied with. The Court also recommended the States to take appropriate action against concerned officers who fail to discharge their duties in accordance with the Rules and even directed removal and clearing of unauthorized encroachments within a week of the order. Further, in the case of *Lakshmi Narain Modi v. Union of India* (2013) 10 SCC 227, the Supreme Court directed review of the performance of Committees constituted for proper implementation of the provisions of relevant legislations with regard to the transportation of animals, maintenance of slaughter houses, Effluent and solid waste disposal. The guidelines were directed to be framed by the MoEF&CC and to implement the provisions of the Act. In cases of *Irfan Ahmed v. Nawang Regzin Jora*, [2015 (1) ALL INDIA NGT REPORTER Part 2 31] and *Mohali Industry and Commercial Association v. State of Punjab*, [2015 (1) ALL INDIA NGT REPORTER Part 3 124], the Tribunal passed detailed direction in light of the Rules of 2000 with regard to the landfill site. The Tribunal found that presently the site was neither constructed nor maintained nor operationalized in accordance with the Rules. The Court also invoked the Polluter Pays Principle and directed the Corporation to pay compensation for restoration of environment on account of violation of Rules of 2000. The directions were issued in regard to making the plant operational and to create green belt around the plant. The directions were also

passed with regard to the deposit and dumping of waste strictly in accordance with the Rules of 2000. The Jammu and Kashmir Pollution Control Board was directed to grant consent to construct and operate a plant to the Corporation expeditiously and in accordance with law. In the case of *Mohali Industry Commercial Association* (supra), the Tribunal while declining to issue prohibitory orders for closure of the dumping site, issued direction for proper collection and disposal of the waste, in accordance with Rules of 2000. Keeping in view the Principle of Sustainable Development, IT permitted the use of the site in accordance with rules till the Municipal Solid Waste Plant was established and made operational. Besides this, certain regulatory directions were also passed in the judgments.

28. In the case of *Kudrat Sandhu v. Govt. of NCT of Delhi and Ors.*, Original Application No. 281/2016 decided on 2nd December, 2016, the Tribunal observed that the collection and disposal of MSW was one of the material components for keeping the environment decent and clean, which in turn was a Fundamental Right of the citizens within the ambit of Article 21 of the Constitution of India. Noticing that MSW is one of the most serious pollutants in our country, particularly in metropolitan cities like the NCT of Delhi, it was obligatory upon the municipal and other authorities to ensure that the waste is collected, transported and disposed of in accordance with the Solid Waste Management Rules, 2016. In that case, the Tribunal was primarily concerned with the operationalization of the two waste to energy plants which had been set up at Ghazipur and

Narela in Delhi. Out of the total generated waste of 14,100 metric tonnes per day, these two plants have the capacity of 2000 metric tonnes per day. The plant at Ghazipur was receiving waste of only 800 metric tonnes of municipal solid waste while the plant at Narela-Bawana was receiving full capacity waste of 2000 metric tonnes. Out of this, up to 20 per cent was C&D waste, mixed with the municipal solid waste.

29. From the above two factors, it become evident that, firstly, the waste generated is a mixture of variety of other wastes including the waste which may not be acceptable in terms of the installed technology and secondly, that the plant at Ghazipur is underutilized. These plants generate fly as well bottom ash which is presently being dumped at a site within the plant or is being taken to another dumping site. Another important issue that was raised in the case was with regard to mismanagement of MSW in Delhi and the terrible conditions that prevail in relation to landfill/dumping sites. The MSW generated is expected to be 16500 MT per day approximately. The Tribunal by a detailed order and upon considering the necessity for operating waste to energy plants passed the following directions:

1. “We direct all authorities concerned to ensure that the waste to energy plant at Narela and Ghazipur operate to their optimum capacity in accordance with law, in terms of the conditions of consent to operate order granted and the environmental clearances.
2. All the Local Authorities and the Development Authorities shall ensure that segregated municipal solid waste is supplied to the waste to energy

- plants in Delhi in accordance with terms and conditions of their Agreement.
3. The plant at Ghazipur is presently receiving only 1000 MT of mixed municipal solid waste out of which 200 metric tons is excluded as inert and Construction and Demolition debris (in short 'C&D') waste thus, leaving 800 MT of mixed waste to be processed in the plant for generation of energy. This plant is capable of manufacturing Refuse Derived Fuels (in short 'RDF') and then use the same for marketing purposes or entirely and partly for generation of energy within the plant. We direct East Delhi Municipal Corporation to supply immediately, at least 1500 MT, of municipal solid waste, out of which upon exclusion of segregated inert and C&D waste, at least 1300 MT of waste should be available to the plant for the purpose of manufacturing of RDF and generation of energy. The plant in terms of consent to operate can process 1300 MT of municipal solid waste while it has a capacity of 2000 MT of waste.
 4. We grant liberty to the plant owner to approach Delhi Pollution Control Committee for operating with increased capacity of 2000 MT. If such an application is filed, the Delhi Pollution Control Committee shall dispose it with utmost expeditiousness, in any case, not later than two months from the date of filing of such application, in accordance with law.
 5. The C&D waste plant at Shastri Park is ready to operate, in all respect. We direct the Project Proponent to approach all the concerned Authorities and complete all the requirements of law including consent to operate and Environmental Clearance, if required. All the authorities concerned including Delhi Pollution Control Committee and NCT, Delhi shall fully cooperate and ensure that this plant becomes operative at the earliest, in any case, not later than six weeks from today.
 6. We make it clear that we are not issuing directions to any Authority to grant consent/permission if the plant is not entitled to perform in accordance with law.
 7. The plant at Narela is a kind of self-contained plant as it has its own landfill site adjacent to its premises to dump inert waste. It is the exclusive responsibility of the Project Proponent. It has a capacity of 2000 MT/day processing of municipal solid waste and it is presently receiving 2000 MT of municipal solid waste. Out of this, as already noticed, the plant is getting about 20% of inert and

C&D waste which leaves the plant with approximately 1600 MT of municipal solid waste. Thus, we direct the Corporation to permit the Project Proponent to collect waste to the extent of 2400 MT/day so that it can operate to its optimum capacity after segregating inert and C&D waste. The Corporation and the Project Proponent is ad idem that the Delhi Electricity Regulatory Commission has fixed tariff of power charges @ 7.43% per unit. Furthermore, revenue sharing shall be effective between the parties @ 3% but from the date they commission generation of power. This, however, is an interim direction without prejudice to the rights and contention of the parties. Under the agreement between the parties dated 17th July, 2009, clause 12.2 is the arbitration clause for resolving dispute between the parties. The Project Proponent or the Corporation, as the case may be, are at liberty to invoke arbitration proceedings in accordance with the agreement and the rate and date both for revenue sharing would be fixed by the arbitrator and the parties would be entitled to proceed with reference to the interim directions issued by the Tribunal above.

8. The Project Proponent shall start revenue sharing with the Corporation from the date on which plant is commissioned i.e. energy is generated and sold but it will be subject to final award of the arbitration. The Delhi Electricity Regulatory Commission shall deal with the matters of approval of power purchase agreement with utmost expeditiousness, with respect to generation of power and its sale.
9. We expect both these plants to operate to their optimum capacity without causing any pollution either in their process or through their emissions. They shall operate strictly as per the prescribed norms in relation to ambient air quality, stack emissions provided under the Air Act and collect and dispose of waste strictly in terms of Solid Waste Management Rules, 2016.
10. In the event, they are found at default at any one point of time, they shall be liable to pay environmental compensation of Rs. 5 Lakh for each default. The default would be determined by the joint inspection team that we will constitute under these directions.
11. The joint inspection team shall consist of Member Secretary, Central Pollution Control Board; Member Secretary, Delhi Pollution Control Committee; Senior Scientist from Ministry of

Environment, Forest and Climate Change and a member of faculty nominated by the Director, I.I.T., Delhi.

12. The Okhla plant shall continue to operate but it would be subject to the orders of the Tribunal that may be passed in Original Application No. 22 of 2013.
13. This committee shall be Supervisory Committee and would visit the plant in question at least once in two months. The day-to-day working of the plant shall be examined and report be submitted to the supervisory committee by a team selected by the Supervisory Committee consisting of members of the above organizations.
14. We also expect that all the Authorities would cooperate and provide required assistance, help and guidance to the plant owners if they are found to be deficient and not performing as per the prescribed norms. Polluter Pays Principle has to be adhered to but it should not be converted into 'pay and pollute'. The goal of achieving decent and clean environment is possible only with due cooperation of the Authorities, in the position of satisfactory performance by the Project Proponent and full cooperation from the public at large. The public cannot ignore its duty provided by the constitution itself under Article 51(g) of the Constitution of India. There are three landfill sites/dumping sites in Delhi at Ghazipur, Bhalswa and Okhla. Each of these sites is a depiction of mess that can be created adversely affecting environment and health of the people of Delhi.

All the Corporation, Delhi Development Authority and all other public authorities including Government of NCT, Delhi are directed to take immediate steps for reduction and utilization of dumped waste for other purposes. We are informed that an agreement has been entered into with National Highways Authority of India and the Ministry concerned for utilization of the segregated waste from the dumping site for the purpose of road construction including expansion of National Highway No. 24. We direct Corporation and all Authorities to take all appropriate and immediate steps for segregation of waste in terms of the agreement entered into by them. Maximum efforts should be made to utilize segregated waste for road construction of NH-24 in terms of the agreement and even other roads. We hereby direct CPWD, PWD, Delhi to take segregated waste from all the three dumping sites and use the same for construction of the road and embankment,

wherever required.

We hereby appoint a High Level Committee under Additional Secretary, Ministry of Urban Development, Govt. of India, comprising of Secretary, Environment; NCT, Delhi, Chairman, CPCB; Chairman, DPCC; DDA and all Municipal commissioners. The Committee shall prepare a clear cut action plan for disposal of entire solid waste generated in Delhi and shall prepare a comprehensive plan for Bio-stabilization of all these sites and submit it before the Tribunal within one month. The Additional Secretary, Ministry of Urban Development would be entitled to co-opt or call any other person besides members that we have directed i.e. Delhi Pollution Control Committee, Central Pollution Control Board, CPWD, PWD, Delhi Development Authority and Corporation.

All the Corporation, Public Authorities, Delhi Development Authority, including Ministry while issuing tender for construction of road in any part of NCT, Delhi would make it compulsory, to whomever the work is awarded, to utilize the usable waste for the said purpose.

15. It is stated that one point of time there were nearly 24 landfill sites for waste management identified in the Master Plan 2021. We direct the Committee constituted above, chaired by Additional Secretary, Urban Development, to identify and submit report to the Tribunal as to the possibility of providing landfill site for waste management in Delhi particularly out of 24 sites stated in the Master Plan. We are informed by the Government about scarcity of land in Delhi, therefore, it has become necessary that we should have greater number of Waste to Energy Plant and RDF Plant so that the waste generated can be processed and very limited residue remains. The remaining residue is manageable, possible to store and to dump the same without adversely affecting environment and public health. We further direct Public Authorities, Corporation and Development Agencies to ensure that these dump sites are covered with clay particularly disinfected in terms of Solid Waste Management Rules, 2016 without any further delay.
16. From the entire discussions above, it is evident that none of the authorities whatsoever till today has any correct data of generation of municipal solid waste with all its components in Delhi, upon conducting physical survey. We have no hesitation in observing that the statistics and data furnished

to the court and Tribunal are based on some imaginary figures of questionable authenticity. Everybody relies on data furnished by the other or by some studies to which they were not involved as a party. It is undisputed before us that none of the Corporation, Delhi Development Authority or any other agency responsible for development has ever physically conducted survey to collect primary data even for smaller part of Delhi so as to find out the exact generation of municipal solid waste, per capita, which is formally stated to be adopted by them. Therefore, we direct each Corporation, Development Agencies or Authorities to at least pick up two colonies, one from unauthorized colony and one from authorized colony, under their jurisdiction. They shall engage agencies who shall collect data in their presence or collect data themselves in relation to population as well as municipal solid waste generated in that colony as a whole or per capita and they shall also state the composition of waste. The Corporations will maintain special records in regular course of day-to-day business showing as to how much waste has been collected, its components and how much waste remained uncollected. The Corporation will also ensure that such waste, if collected by the Corporation, it should be at the source or in any case at the Dhalao or point of collection.

17. We direct the Commissioner of each Corporation to submit a scheme before the Tribunal for providing incentive to the people who give segregated waste at source, by way of rebate in property tax and on the other hand to impose penalties on residents, societies, RWAs who do not provide segregated waste. It should be kept in mind that on Polluter Pays Principle, each person would be liable to pay for causing pollution, if the waste is generated. It is the duty of a citizen to ensure that said waste is handled properly and not to cause any pollution or cause inconvenience to other persons. The entire burden cannot be shifted on the state and authorities. It shall be submitted, within one month, to the Tribunal.
18. All major sources of municipal solid waste generation – hotels, restaurants, slaughter houses, vegetable markets etc. should be directed to provide segregated waste and handover the same to the Corporation in accordance with rules. Any such body, person, hotels, residents, slaughter houses, vegetable markets etc. which does not comply with the directions or throw their waste over any drain or public place shall be liable to pay

environmental compensation at the rate of Rs. 10,000/- per default. It is their obligation to segregate the waste at their place and handover the same to the Corporation centres for waste collection or the Agencies appointed.

19. The NCT, Delhi, all Authorities and concerned Ministries will ensure complete implementation of the notification 1999 as amended by 2016, in all respect. The Delhi Development Authority and Corporation shall collectively consider and submit a proposal to the Tribunal for establishment of brick manufacturing plant with mixtures of fly ash. We direct that all the construction activity in Delhi should be preferably done, to the extent notified in the notification, by bricks produced from such plant rather than clay bricks. The Government has already issued directions thus it will be the obligation of NCT, Delhi to see that direction is implemented in its spirit and substance. The possibility of establishing more such plants should be comprehensively examined. We may notice that there are at least 3 or 4 thermal power plants within 300 Kms. which are generating considerable fly ash/bottom ash. The Government and Authorities concerned should ensure that the fly ash/bottom ash generated or collected in ash ponds shall be utilized for the purpose of manufacturing blocks etc. and is not merely dumped. We further direct that wherever fly ash or bottom ash is dumped, should be sprinkled on regular intervals and should be particularly covered by all the Agencies, Corporation, Project Proponent and other concerned stakeholders.
20. We direct that Corporations, Development Agencies and Fire Departments of Delhi should ensure that none of the dumping site is ever seen at fire. It shall be a collective responsibility and Fire Department shall, in consultation with the Commissioner of Corporations, fix responsibility and dedicated fire vehicles would be made available for each site, in addition to their normal duties.
21. Wherever it is feasible, the waste shall be composted or biomethanated near to the point of its generation and collection and in that case it may not be necessary for transporting the compostable waste to the landfill site or waste processing plant. We direct that the Corporation shall make every attempt to segregate compostable and C&D waste out of 4900 MT municipal solid waste that they receive. That segregated C&D waste along with 3900 MT C&D waste collected

shall be utilized henceforth for construction activity, particularly in relation to road embankment wherever needed and other allied construction project. Every Public Authority, all Corporations, Cantonment Board and Delhi Development Authority should immediately stipulate such a condition in their tender documents.

22. The High Level Committee constituted under this order shall be at liberty to require NCT, Delhi and even the Government to provide fund for compliance of these directions and implementation of the project prepared there under. The Corporation and Public Authorities would also be at liberty to invoke Polluter Pays Principle and require the public at large to pay for that purpose.
23. We further direct that the use of disposable plastic glasses is prohibited in entire NCT, Delhi at hotels, restaurants and public as well as private functions. The NCT, Delhi shall take appropriate steps against storage, sale and use of such plastic material at above places and it shall stand prohibited w.e.f. 01st of January, 2017.
24. There should be segregation of waste at source. In order to ensure that the waste segregated at source is transported, stored and processed separately, the existing Dhalaos wherever constructed within the limits of NCT, Delhi should be compartmentalized, one chamber for bio-degradable waste, the second for non-biodegradable and recyclable waste and the third for the hazardous & other wastes. Even, wherever Dhalaos are not provided the concerned Corporation should provide/construct three separate bins as indicated above, of proper sizes which can be mechanically handled and are in accordance with Solid Waste Management Rules, 2016.
25. The planning and municipal authorities shall, while approving the layout plan for new housing colonies where the area exceeds 5000 sqms, mandate provision for decentralised processing of segregated, biodegradable and compostable waste of the colony within its premises in terms of the Solid Waste Management Rules 2016. Even in respect of the existing Colonies/Group Housing Societies/ Residential Welfare Associations, the Planning and Municipal Authorities should identify areas within the premises of colony / RWA where such decentralised processing of biodegradable/ compostable waste could be carried out either by bio-methanation or composting.

26. Recognising that the waste generated in Delhi will have to be processed within its territory, all the Municipal authorities, other public authorities including DDA and State of NCT Delhi should draw up an integrated waste management plan for city of Delhi identifying landfill sites, improvement of existing landfill sites as also the efficiency and functioning of waste processing units. Such integrated action plan shall be prepared within a period of two months. The Committee Constituted, under para 14 of this order, should examine and submit the Action Plan to the Tribunal, within the period specified above.
27. We direct that all the concerned Authorities, Corporation, Delhi Development Authority, Cantonment Board, NDMC, all Boards, Project Proponents, Railway, NCT, Delhi should co-operate with each other to comply with these directions in their true spirit and substance. In the event of default the person, irrespective of status in hierarchy of the Government or Department, shall be liable to be proceeded against personally in accordance with law. Both the Committees constituted under this order shall submit their reports to the Tribunal within the specified time, in any case, not later than six weeks from today. Report as and when submitted shall be numbered separately by the Registry and matter be placed before the Tribunal for appropriate orders. We grant liberty to the applicant to approach the Tribunal in the event of non-compliance of the directions contained herein.

The above judgments of the Supreme Court and the Tribunal are illustrative of the fact that the Courts or Tribunals have issued appropriate directions for ensuring environmental protection. The right to decent and clean environment should not remain illusionary but should be a right which is enforceable and benefits of which should accrue to the citizens of the country. The gaps in the Rules or directions issued by the executives have to be supplied by judicial pronouncement, if it is necessary to do so. The Rules of 2016 do have certain gaps or they do not comprehensively deal with the requirements of the Act of 1986. For instance, clause (i) of

Schedule-I limits utilisation of inert and non-biodegradable waste to be used for building up of roads but only in the hills. It does not provide for why such waste and particularly non-recyclable plastic be not used for actual construction of roads in all parts of the country. For instance, in a place like Delhi, the generation of non-biodegradable and non-recyclable waste is huge and it could easily be used for construction of roads and/or embankments.

30. There is no punitive provision in the Rules. However, in terms of Rule-15, a duty has been cast upon local authorities and village Panchayats to form bylaws and formulate a criteria for levying spot fine for persons who litter or fail to comply with the provisions of these Rules. The Rule could safely provide for applicability of the punitive provisions of the Act of 1986, as afore-indicated. The Rules are silent as to whether the specified purpose in the Rules and the Schedules is extendable, and if, they are mandatory or directory. The Rules are also silent with regard to management of domestic hazardous waste collected along with domestic or other waste under the Rules of 2016.

31. Upon placing on record, the Notification of the Rules, 2016, the parties were given opportunity to put on record their suggestions or additional factors that need to be added to the Rules of 2016. This was primarily directed to ensure that there were no linguistic or practical deficiencies or gaps in the Rules of 2016 and they should be enforced without exceptions effectively and purposefully. The Applicant her filed suggestions to the Rules of

2016 on 6th May, 2016. To these suggestions, CPCB, MoEF&CC and other parties were required to respond. These Respondents filed their response to the suggestions made by the Applicant for effective implementation of the Rules.

32. The Applicant proposed the following four aspects which require deliberation and decision by the Tribunal. They are:

- a) Ban on short life PVC and chlorinated plastics
- b) RDF to Cement Plants
- c) Buffer Zone
- d) Tipping Fee

Applicant has sought following directions from the Tribunal;

1. *WTE projects be approved on the following conditions:*
 - a. *Energy balance, Mass balance and Water balance shall be submitted with the initial proposal for consideration and form part of the agreement.*
 - b. *No commitment in the agreement shall be made for mixed waste or waste of any specific calorific value.*
 - c. *No unprocessed wet waste or recyclables shall form part of the feedstock.*
 - d. *No commitment for guaranteed supply of waste in excess of 85% of their current total waste generation as minimizing residual waste is a key objective of SWM.*
 - e. *Incinerator ash shall be sent to haz. waste landfill at the operators cost.*
2. All SPCBs/PCC shall not only permit but encourage supply of combustibles including mixed plastics as RDF to nearby industries, power plants and cement plants.
3. Union of India, Respondent No.1 herein shall phase out with clear timelines the use of PVC in all packaging, hoardings/banners, use-and-throw and short-life items.

CPCB by affidavit dated 20th September 2016 has generally concurred with these suggestions particularly related to short life plastic and RDF for cement plants. As far as Buffer zone is considered, the CPCB informs that it is in the process of preparing the '*National Guidelines for Buffer Zone around waste processing and Disposal Facilities*'. CPCB further submits that the applicant is correct in submitting that though the term 'Tipping Fee' has been defined in the SWM Rules 2016, but the same is not mentioned in Para/Rule for its application, and MoEF needs to take a view in this regard.

The MoEF&CC has filed its affidavit on the suggestions of the applicant on 18th October 2016 and submits that as far as PVC and Chlorinated Plastics are concerned the MoEF&CC is open to such consideration but only after necessary examination of the issue by formation of group of experts. MoEF&CC further states that in any case, the incinerators for solid waste incineration have been prescribed with emission criteria which include standards for toxic emissions i.e. Hydrochloric Acid, Heavy Metals, Total Dioxins and Furans. Further, the Bio- Medical Waste Rules, 2016 also stipulate phasing out the use of chlorinated plastic bags within 2 years.

As regards the suggestions related to use of RDF in Cement plants the Ministry has elaborated the present legislative framework and submits that the National Policy and State Policy as envisaged in the SWM Rules 2016 will consider such aspect. Ministry further submits that the CPCB is in process of formulating the guidelines

for buffer zone which will be duly considered and examined by the Ministry. The Ministry also undertakes to examine the issue relating to the Tipping Fee to the output in consultation with the stake holders.

It is a matter of record that the Municipal Solid Waste Management Rules 2000 were notified after the effective intervention of the Hon'ble Apex Court, in the present matter which is under consideration, transferred by the Apex Court to this Tribunal. The MSW Rules, 2000 also contained elaborate time bound action plan and also details of various technologies and procedure for segregation, collection, transport, treatment and disposal of the MSW. It is also a matter of record that all the cities in the country including major metropolitan cities have failed to achieve the benchmarks and objectives of the MSW Rules, 2000. As per CPCBs report maximum 27% of the municipal solid waste generated in the country is treated. It is also well established that improper collection, treatment and disposal of the MSW has serious implications on the human health and has direct correlation with the health burden of the respective cities.

It would therefore have been prudent if the Ministry had carried out a critical analysis of the reasons for non-implementation of the MSW Rules, 2000 by identifying the concerns/issues/weaknesses in the said Rules while framing the new rules. This is relevant because though in the Rules of 2000, three years' time period was given for implementation of the rules, even after 16 years, there is

abysmal progress in the implementation of the Rules. Moreover, the SWM Rules 2016, further gives a time frame spanning over six months to five years for implementation of various provisions of the Rules. It is, therefore, reasonably apprehended that such a time frame for implementation of the Rule will further aggravate the problems of public health impacts and nuisance in mainly urban areas of the country where the poor and weaker sections of the society are predominantly affected.

As regards the Buffer Zone, it is to be noted that this term also existed in Notification of 2000. In the last, 16 years, this term has not been comprehensively defined with any objective criteria. It is true that the nature and the extent of the buffer area will vary based on specific site conditions.

In most of the cities, the waste processing plants are located outside the city limits, in the rural areas. This is typically in line with the ill famed “not in my backyard” principle. The waste generated by the cities is practically dumped in the rural areas and the surrounding population faces the adverse impacts of such indiscriminate and unscientific disposal. Providing of buffer zone can have an impact on the rights of the owners of the adjacent properties and impose limitations on the use of the land as well. This is one of the main reasons that the rural population is opposing the waste processing plants located outside the city. On the other hand, if the waste processing plants are designed and operated strictly as per the provision of the Rules, there may not be

any compelling need of having larger buffer area. In fact, if the population or development is allowed near the waste processing plant, it will directly put the plant operator and the city authorities on notice, to operate their plant scientifically on continuous basis. One of the demands, the Tribunal has received in many cases is that if the city authorities are keen to have buffer areas, they should also acquire the proposed buffer area as a part of the project which will reduce the hardship of the local residents. In other words, the buffer area shall be part and parcel of the waste processing facility.

Applicant has stressed segregation of waste at source, even in case of provision of incineration/ waste to energy plant. The Rules are very clear on this aspect, and stipulate the waste segregation as mandatory, irrespective of the technology or process of waste processing. There seems to be no ambiguity or any scope for the misinterpretation of Rules related to segregation of waste at source.

33. Incineration of MSW involving combustion in a furnace which converts waste into ash, gaseous and particulate emissions and heat energy. In the process the volume reduction is of the order of 90-95% and recovery of heat to produce steam which in turn produces power through steam turbines. The efficiency of the technology is linked to the waste characteristics and properties such as moisture content and calorific values. It requires high temperature of the 800-1000 degrees Celsius and sufficient air and mixing of waste.

34. A waste to energy plant based on mass incineration, besides having low efficiency of waste to energy conversion, is contrary to SWM Rules 2016 which requires segregation at source.

35. A Waste to RDF plant offers an alternative use as fuel for cement plant in case not used in power generation in the Waste to energy plant. The RDF once pelleted and briquetted has a long shelf life and can be transported over long distance for use as fuel. However what is critical is the calorific value of the RDF and moisture content. SMW Rules 2016 require a minimum calorific value of 1500 K/cal/kg.

36. Considering low percentage of non-recyclable and combustible organic and inorganic waste in the waste generated in most cities, and recovery of recyclable plastics from the mixed waste by the rag pickers, clusterization of urban civic bodies has been started in some states like Punjab and Haryana pursuant to the *Capt. Mall Singh's judgment* by the Tribunal. However what is essential is that only waste that is proposed to be used in Waste to RDF or Waste to Energy plants, and the waste that is non-recyclable and combustible should alone be transported to the WtE or WtRDF plant after segregating the biodegradable and compostable waste to be composted or bio-methanated at the level of the Municipality. Similarly recyclable waste also should be segregated before transporting non-recyclable waste to the WtE plant. This will minimise expenditure on transportation and saving on diesel fuel and reduce emissions. Additionally, the civic agency will be required

to do segregation at the house hold as well as at the municipal level. This will also be in conformity with the SWM Rules 2016.

37. Thus while segregation of inert (C&D), biodegradable and non biodegradable and combustible waste needs to be organized in a decentralised manner as prescribed even in the new SWM Rules, setting up of the WtE and WtRDF Plants needs to be organized in a centralised approach so that the plant receives a certain minimum quantity of usable waste to make it economically viable. The Task Force on Waste to Energy Plant Report (2014) has recommended a minimum of 300 MT of combustible waste for setting up a WtE or WtRDF Plant.

38. The Applicant has pointed out that the cement companies are asking for payment to incinerate hazardous waste besides requiring the municipal authorities to transport the Hazardous waste and the RDF to the cement plants. The Applicant has suggested that the RDF should be supplied to the Cement/thermal power plants at a price based on the calorific value and they should also bear the cost of transportation of RDF. While this is a welcome suggestion the financial viability of this need to be worked out between the agency producing RDF and the Cement company/thermal power plant and this will obviously depend upon the calorific value as well as the transportation cost involved. She has sought a direction from the NGT in this behalf. This argument has merit and calls for issue of direction to the State Governments and the agencies operating

thermal plants and cement companies to pay for the RDF based on the calorific value and also undertake transportation at its cost.

39. SWM Rules require the CPCB to formulate citing guidelines for locating SWM facilities. The Manual on SWM brought out by MoUD has suggested that a SWM facility for 300 MT per day may require about 6 ha of land for composting and RDF. It has also been suggested that a buffer zone of about 500 metres be provided around the SWM facility.

40. Similar guidelines were prescribed in the earlier Manual brought out by the Ministry of Urban Development though the MSW Rules did not prescribe any quantitative figure of buffer zone. By way of illustration, identifying a buffer zone of 500 metres around a MSW site measuring about 6 ha will require more than 100 Ha around the MSW site if a buffer zone of 500 metres all around is insisted upon. Such a huge chunk of land free from habitations in urban settlement is an impossibility. What is required is creating green belts around the plant by prescribing very high environmental standards to be maintained.

41. As already stated for establishing WTE plant, availability of auxiliary/supporting fuels such as high calorific value bio-mass or solid/liquid fuel like coal, liquid fuel is necessary. All relevant material on the subject has emphasised reuse, recycle of the waste and also for improving the capacity of local bodies for segregation, recycling and reuse of MSW, recognizing inter alia the positive impacts which it may have on the welfare of the stakeholders. The

approach of local authorities and other stake holders should be very objective and rational in making decisions for site selection, establishment of the plant/processing facilities and welfare of the public at large. The buffer zones to be provided should have a direct nexus with the area available and the green belt should be created so that no land is wasted unnecessarily. The relation between the activity of the plant and the green barriers should be practical and necessary for proper functioning of the plant in accordance with the Rules of 2016. Keeping in view the scarcity of land, even 20 metres buffer zone would be sufficient, provided it has rich green belt to serve the requisite purposes. Another aspect in our considered view that needs consideration is the biostabilization of the new and existing landfill sites. The biodegradable waste mixed with other wastes or otherwise when piled in heaps releases highly polluting leachate during decomposition which irreversibly contaminates ground and surface water around large dumps. It may even render the wells and borewells entirely unfit for drinking and agricultural purposes and besides, the decomposition in the absence of oxygen also releases Methane, a toxic gas and Hydrogen Sulphide which produces bad odour. Therefore, the mixed waste when unloaded in an orderly fashion in long parallel heaps called windrows, could be turned weekly four to five times to expose all parts to the air. The waste then stops releasing leachate and methane and is then called stabilised. The heaps also need to be kept moist with the addition of fresh cow dung to speed up the digestion of cellulose in the food

waste. The stabilised waste then be subjected to vermi-composting, which can be utilized as compost ready for use as organic manure. The concept of adoption of technologies for waste handling stabilisation is referred to in Rule 15 (v) of the Rules of 2016. The Hon'ble Supreme Court of India as early as 28th July, 1997 passed an order and directed all the States to submit their plan for waste-stabilisation, and that order does not appear to have been complied with even as of now. Providing separate bins at the 'dhallaos' where the waste is dumped again would be necessary. In fact, the Resident Welfare Associations should be required to segregate the waste within the colonies before the same is dumped at the 'dhallaos'.

Tipping fees is one of the important factors for operating WTE plants. Rule 3(50) defines, 'tipping fee' to mean 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 the waste processing facility or for disposal of residual solid waste at the landfill. Besides this definition, the Rules of 2016 are completely silent as to the manner in which such tipping fee should be paid. The criteria for such determination, is conspicuous by its absence. The tipping fee is generally charged by the plant operators based on the quantity of the mixed waste received at the plant. This practice does not prescribe any relation or dependency with the output of such plant, that is the efficiency and also the availability of operation of the plant. The plant's performance, efficiency and availability are

relevant for compliance with the Waste Management Rules, as the generation of waste will be on a day to day basis without any break and any outage of the plant, even for few days will create waste disposal crisis. Therefore, it may be relevant to link the tipping fee to the efficient and regular operation of waste processing plant along with the load of waste provided to the plant for actual processing. The definition clause is also suggestive of the fact that the concessionaire or operator of the waste processing facility is to be paid. This fee is the support price, to be determined by the local authorities and is payable to the operator of the facility for processing the waste or for disposal of the residual solid waste at the landfill. In other words, the concessionaire who is just dumping the waste at the landfill site be entitled to tipping fee. The essence appears to be the handling of the waste by the concessionaire or operator of the facility, but that waste should not merely be determined with reference to the load given but should be the actual waste which the concessionaire or operator of the facility actually uses in its plant for processing. To put it simply, the efficiency and better availability of the plant along with the waste provided or collected by the concessionaire or operator of the facility should be the criteria for determination of the tipping fee and payment thereof. Of course, we are not oblivious of the fact that these rights and obligations are to be governed by a specific contract entered into between the concerned stakeholders/parties. This is merely the criteria that we have indicated to. If the tipping fee is to be paid to the concessionaire/operator of the facility then

the waste sent to that plant or collected and brought to the plant should be weighed mechanically by installing computerised weighing machines which are directly linked by an online system to the local authorities or any stakeholder who is responsible for performance of such activity. It is difficult to develop an analytically objective criteria for determination and payment of tipping fee model but it is an incentive for an operator to operate the systems efficiently, effectively and to deal with the waste in consonance with the Rules. It will be ideal if the operator of such plant is also responsible for collection, treatment and disposal of waste. This will give appreciable results. Even where the local authority is responsible for providing the waste to the operator at his plant, every effort should be there to segregate the waste at source and provide the operator with the waste which would directly be usable in the plant. This would be beneficial to both the parties. The operator would be able to deal with the waste without causing pollution while the local authority would be able to save undue expenditure which would be caused by sending heavy load of mixed un-segregated waste. The tipping fee has relevancy to all the techniques for processing and dealing with the waste. RDF and WTE are the safest routes which are in consonance with economic principles as well as the techniques for environmental protection.

42. All the States should at least now, comply with the Rules of 2016 without any further delay and demur. The Rules of 2016 provide time limits which have already expired. None of the States or UTs have taken action in accordance with such Rules. In other

words, the time frame postulated under the Rules of 2016 already stands defeated. The period of six months stated under Rule 6(b) has expired on 8th October, 2016 and none of the State Governments or the local authorities have prepared any action plan, constituted committee or submitted their reports to the Central Government or the Central Committee for finalization thereof. It is a matter of record that SWM is one of the greatest challenges that our country is facing. Not only that, the State Government and the local authorities have failed to perform their statutory and constitutional obligations and even the people at large who generate waste, have also failed to perform their constitutional duty. Environment cannot be kept decent and clean if we continue to dump MSW anywhere and everywhere. The plants meant to process the waste do not perform effectively and to the prescribed standards in law. The landfill or dumping sites are so ill maintained that they have not only gone beyond the permissible heights but are continuously polluting the underground and ground water through leachate pollution. They produce Methane and Hydrogen Sulphide which are a continuous source of pollution for the environment and cause public health hazards. Besides all this, it is an eyesore be it located in the beautiful city of Chandigarh, gift of nature Srinagar or the capital of the country, Delhi. All stakeholders, particularly, the local authorities upon whom burden lies to ensure proper collection, segregation, transportation and disposal of solid waste should act in complete coordination and coherence to ensure that the country tackles this menace of MSW

objectively, effectively and ensures that there is no pollution of the environment and consequent adverse impacts on public health. The Rules of 2016 need to be adhered to in entirety and without exception. All the bodies, officers and citizenry who have failed to adhere to and/or have violated these precautionary and preventive measures in any form whatsoever, should have punitive action initiated against them by the concerned authorities.

43. The present application relates to the management of solid municipal waste in the entire country. We have already noticed that the country is generating 133760 MT of waste/day as in 2012-2013 which apparently has increased rapidly with the passage of time. A city like Delhi alone generates approximately 14100 MT of waste per day. Hardly any land is available for creation of land fill sites. Indiscriminate dumping of such huge quantity of mixed waste would inevitably have adverse impacts on environment and public health. The only possible solution is to treat this waste in accordance with the Rules of 2016 to ameliorate this situation. We have to convert this health hazardous humongous waste to a source of power, fuel and benefit for society at large, in consonance with the Principles of Circular Economy. Processing of waste by adopting bio-methanation, composting, conversion to RDF and converting waste to power generation, is the only solution which must be adopted by all stakeholders without wasting any further time. Immediate attention to preparation of action plan and effective execution thereof is the need of the day and is the essence of the only solution. It is neither possible nor even prudent to

provide unequivocally a certain criteria for adoption of any or more of the technologies for management, processing and disposal of SMW by the respective States. The factors that are required to be taken into consideration for site selection and establishment of a particular plant, have been mentioned above which are not exhaustive but merely illustrative. It would depend primarily on geographical, financial and other conditions as stipulated above. Irrespective of the fact that which technology is adopted by a State, it is absolutely essential that the State should prepare complete and comprehensive action plan for management, for processing and for disposal of its solid municipal waste in accordance with the Rules. Every State has spent considerable money and manpower but without any desired results. Any further delay in proper enforcement of such action plans in accordance with the Rules is likely to prove disastrous for environmental protection and public health. It is, therefore, necessary for this Tribunal to issue comprehensive directions to ensure effective and expeditious implementation of the Rules of 2016 and which would also bridge the gaps in these Rules. Thus, we issue the following directions in the interest of the environment and public health:

1. Every State and Union Territory shall enforce and implement the Solid Waste Management Rules, 2016 in all respects and without any further delay.
2. All the State Governments and Union Territories shall prepare an action plan in terms of the Rules of 2016 and the directions in this Judgment, within four weeks from

the date of pronouncement of the judgment. The action plan would relate to the management and disposal of waste in the entire State. The steps are required to be taken in a time bound manner. Establishment and operationalization of the plants for processing and disposal of the waste and selection and specifications of landfill sites which have to be constructed, be prepared and maintained strictly in accordance with the Rules of 2016.

3. The period of six months specified under Rule 6(b), 15 of the Rules of 2016 has already lapsed. The State Governments have failed to take action in terms thereof within the stipulated period. By way of last opportunity, we direct that the period of six months shall be reckoned w.e.f. 1st January, 2017. There shall be no extension given to any State for compliance with these provisions any further.

The period of one year specified under Rule 11(a), 11(f), 15 (e) and 22 for compliance of the prepared plans and directions issued by the Committees shall, therefore, commence with effect from 1st July, 2017. For this also, no extension shall be provided.

Any State or Union Territory which now fails to comply with the statutory obligations as afore indicated shall be liable to be proceeded against in accordance with Section 15 of the Environment (Protection) Act, 1986.

Besides that, it would also be liable to pay environmental compensation, as may be imposed by this Tribunal. In addition to this, the senior most officer in-charge in the State Government/Urban Local Body shall be liable to be personally proceeded against for violation of the Rules and orders passed by this Tribunal.

4. The Central Government, State Government, Local Authorities and citizens shall perform their respective obligations/duties as contemplated under the Rules of 2016, now, without any further delay or demur.
5. All the State Governments, its departments and local authorities shall operate in complete co-ordination and cooperation with each other and ensure that the solid waste generated in the State is managed, processed and disposed of strictly in accordance with the Rules of 2016.
6. Wherever a waste to energy plant is established for processing of the waste, it shall be ensured that there is mandatory and proper segregation prior to incineration relatable to the quantum of the waste.
7. It shall be mandatory to provide for a buffer zone around plants and landfill sites whether they are geographically integrated or are located separately. The buffer zone necessarily need not be of 500 meters wherever there is a land constraint. The purpose of the buffer zone should be to segregate the plant by means of a green belt from

surrounding areas so as to prevent and control pollution, besides, the site of the project should be horticulturally beautified. This should be decided by the authorities concerned and the Rules are silent with regard to extent of buffer zone. However, the Urban Development Manual provides for the same. Hence, we hold that this provision is not mandatory, but is directory.

We make it clear that buffer zone and green belt are essential and their extent would have to be decided on a case to case basis.

8. We direct that the Committees constituted under Rule-5 would meet at least once in three months and not once in a year. The minutes of the meeting shall be placed in the public domain. Directions, on the basis of the minutes, shall be issued immediately after the meeting, to the concerned States, local bodies, departments and Project Proponents.
9. The State Government and the local authorities shall issue directives to all concerned, making it mandatory for the power generation and cement plants within its jurisdiction to buy and use RDF as fuel in their respective plants, wherever such plant is located within a 100 km radius of the facility.

In other words, it will be obligatory on the part of the State, local authorities to create a market for

consumption of RDF. It is also for the reason that, even in waste to energy plants, Waste-RDF-Energy is a preferred choice.

10. In waste to energy plant by direct incineration, absolute segregation shall be mandatory and be part of the terms and conditions of the contract.
11. The tipping fee, wherever payable to the concessionaire/operator of the facility, will not only be relatable to the quantum of waste supplied to the concessionaire/operator but also to the efficient and regular functioning of the plant. Wherever, tipping fee is related to load of the waste, proper computerised weighing machines should be connected to the online system of the concerned departments and local authorities mandatorily.
12. Wherever, the waste is to be collected by the concessionaire/operator of the facility, there it shall be obligatory for him to segregate inert and C&D waste at source/collection point and then transport it in accordance with the Rules to the identified sites.
13. The landfill sites shall be subjected to bio-stabilisation within six months from the date of pronouncement of the order. The windrows should be turned at regular intervals. At the landfill sites, every effort should be made to prevent, leachate and generation of Methane. The

stabilised waste should be subjected to composting, which should then be utilized as compost, ready for use as organic manure.

14. Landfills should preferably be used only for depositing of inert waste and rejects. However, if the authorities are compelled to use the landfill for good and valid reasons, then the waste (other than inert) to be deposited at such landfill sites be segregated and handled in terms of clause-12.
15. The non-biodegradable waste and non-recyclable plastic should be segregated from the landfill sites and be used for construction of roads and embankments in all road projects all over the country. To this effect, there should be a specific stipulation in the contract awarding work to concessionaire/operator of the facility.
16. The State Government, Local Authorities, Pollution Control Boards of the respective States, Pollution Control Committees of the UTs and the concerned departments would ensure that they open or cause to be opened in discharge of Extended Producer Responsibility, appropriate number of centers in every colony of every district in the State which would collect or require residents of the locality to deposit the domestic hazardous waste like fluorescent tubes, bulbs, batteries, electronic items, syringe, expired medicines and such

other allied items. Hazardous waste, so collected by the centers should be either sent for recycling, wherever possible and the remnant thereof should be transported to the hazardous waste disposal facility.

17. We direct MoEF&CC, and the State Governments to consider and pass appropriate directions in relation to ban on short life PVC and chlorinated plastics as expeditiously as possible and, in any case, not later than six months from the date of pronouncement of this judgment.
18. The directions and orders passed in this judgment shall not affect any existing contracts, however, we still direct that the parties to the contract relating to management or disposal of waste should, by mutual consent, bring their performance, rights and liabilities in consonance with this judgment of the Tribunal and the Rules of 2016. However, to all the concessionaire/operators of facility even under process, this judgment and the Rules of 2016 shall completely and comprehensively apply.
19. We specifically direct that there shall be complete prohibition on open burning of waste on lands, including at landfill sites. For each such incident or default, violators including the project proponent, concessionaire, ULB, any person or body responsible for such burning, shall be liable to pay environmental compensation of Rs.

5,000/- (Rs. Five Thousand only) in case of simple burning, while Rs. 25,000/- (Rs. Twenty Five Thousand only) in case of bulk waste burning. Environmental compensation shall be recovered as arrears of land revenue by the competent authority in accordance with law.

20. All the local authorities, concessionaire, operator of the facility shall be obliged to display on their respective websites the data in relation to the functioning of the plant and its adherence to the prescribed parameters. This data shall be placed in the public domain and any person would be entitled to approach the authority, if the plant is not operating as per specified parameters.
21. We direct the CPCB and the respective State Boards to conduct survey and research by monitoring the incidents of such burning and to submit a report to the Tribunal as to what pollutants are emitted by such illegal and unauthorized burning of waste.
22. That the directions contained in the judgment of the Tribunal in the case of '*Kudrat Sandhu Vs. Govt. of NCT & Ors*', O.A. No. 281 of 2016, shall *mutatis mutandis* apply to this judgment and consequently to all the stakeholders all over the country.
23. That any States/UTs, local authorities, concessionaires, facility operators, any stakeholders, generators of waste

and any person who violates or fails to comply with the Rules of 2016 in the entire country and the directions contained in this judgment shall be liable for penal action in accordance with Section-15 of the Environment (Protection) Act, 1986 and shall also be liable to pay environmental compensation in terms of Sections 15 & 17 of the National Green Tribunal Act, 2010 to the extent determined by the Tribunal.

24. That the State Government/UT, public authorities, concessionaire/operators shall take all steps to create public awareness about the facilities available, processing of the waste, obligations of the public at large, public authorities, concessionaire and facility operators under the Rules and this judgment. They shall hold program for public awareness for that purpose at regular intervals. This program should be conducted in the local languages of the concerned States/UTs/Districts.

25. We expect all the concerned authorities to take note of the fact that the Rules recognize only a landfill site and not dumping site and to take appropriate actions in that behalf.

26. We further direct that the directions contained in this judgment and the obligations contained under the Rules

of 2016 should be circulated and published in the local languages.

27. Every Advisory Committee in the State shall also act as a Monitoring Committee for proper implementation of these directions and the Rules of 2016.

28. Copy of this judgment be circulated to all the Chief Secretaries/Advisers of States/UTs by the Registry of the Tribunal. The said authorities are hereby directed to take immediate steps to comply with all the directions contained in this judgment and submit a report of compliance to the Tribunal within one month from the date they receive copy of this judgment.

44. With the above directions, this application and all other miscellaneous applications shall stand disposed of without any order as to cost.

Swatanter Kumar
Chairperson

U.D. Salvi
Judicial Member

Bikram Singh Sajwan
Expert Member

Ajay Deshpande
Expert Member

New Delhi
22nd December, 2016