

# Comparison of Municipal Solid Waste (Management and Handling) Rules, 2000 with the proposed Draft Municipal Solid Waste (Management and Handling) Rules, 2013

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## 1. Definitions:

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	<b>Sec. 3: Definitions</b>		
1.1.	(i) <b>"anaerobic digestion"</b> means a controlled process involving microbial decomposition of organic matter in the absence of oxygen;	(i) <b>"anaerobic digestion"</b> means a controlled process involving microbial decomposition of organic matter in absence of oxygen;	No change. However, there is no clarification issued in regard to what "microbial" entails, which is important considering the fact that genetically modified organisms are widely used in such processes. It is thereby critical that any employment of microbial agents in waste management is done in full comprehension and compliance with The Manufacture, Use, Import, Export and Storage of Hazardous Micro-organisms/Genetically Engineered Organisms or Cells Rules, 1989. The use of the term "microbial" poses the same problem wherever else it has been used in these Rules.
1.2.	(ii) <b>"authorization"</b> means the consent given by the Board or Committee to the "operator of a facility" ;	(ii) <b>"authorization"</b> means the consent given by the State Pollution Control Board or Committee as the case may	The power of according consent by any agency ought to be consistent with the provisions of Article 243ZD of the Constitution of India (enacted through the Constitutional 74 <sup>th</sup> Amendment

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		be, to the "operator of a facility" or "municipal 'authority", "panchayat" or any other agency as applicable;	(Nagarpalika) Act), in particular involving the District Planning Committee and the Metropolitan Planning Committee, as appropriate. The Pollution Control Boards are mandated to clear per the Water (Prevention and Control of Pollution) Act, 1974 and is only limited to concerns relating to pollution of air and water, but not any other issues that often confound such facilities. Thus, the involvement of District and Metropolitan Planning Committees per the Nagarpalika Act remains a crucial gap in current decision making.
1.3.	(iii) " <b>biodegradable substance</b> " means a substance that can be degraded by microorganisms;	(iii) " <b>biodegradable substance</b> " means a substance that can be degraded by micro-organisms;	No change. The definition is nebulous about the kind of substance and the kind of micro-organisms used. Problems are similar to what exists in "anaerobic digestion".
1.4.	(iv) " <b>biomethanation</b> " means a process which entails enzymatic decomposition of the organic matter by microbial action to produce methane rich biogas;	(iv) " <b>biomethanation</b> " means a process which entails enzymatic decomposition of the organic matter by microbial action to produce methane rich biogas;	No change.
1.5.		(v) " <b>buffer zone</b> " mean a zone of no-development which shall be maintained around landfills, processing and disposal facilities of municipal solid waste;	Introduced in 2013 draft rules. Loosely defined, without any specific clarity on the spatial extent of "a zone of no-development" and could thus result in elastic definition and politically expedient decision making on the extent of "no-development" zone. These are aspects that can be standardised giving no room for discretion or re-interpretation.
1.6.		(vi) " <b>Central Pollution Control Board (CPCB)</b> " means the Central Pollution Control Board constituted under sub-	Introduced in 2013 draft rules.

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		section (1) of Section 3 of the Water (Prevention and Control of Pollution) Act, 1974 (6 of 1974);	
1.7.	(v) " <b>collection</b> " means lifting and removal of solid wastes from collection points or any other location;	(vii) " <b>collection</b> " means lifting and removal of <b>municipal</b> solid waste from collection points or any other location;	Term "municipal" added with solid waste. Definition uncategorical and lends itself to mean collection of unsegregated waste, thus promoting such problematic practices of mixing waste at source, thereby limiting or comprehensively making impossible possibilities of reuse and recycling of solid waste. The new Rules, therefore, do not seem to have improved on the existing definition.
1.8.	(vi) " <b>composting</b> " means a controlled process involving microbial decomposition of organic matter;	(viii) " <b>composting</b> " means a controlled process involving microbial decomposition of organic matter;	No change. Defined rather unscientifically, as it has not explained what a "controlled process" involves.
1.9.	(vii) " <b>demolition and construction waste</b> " means wastes from building materials debris and rubble resulting from construction, re-modelling, repair and demolition operation;	(ix) " <b>construction and demolition waste</b> " means the waste arising from building materials debris and rubble resulting from construction, re-modelling, repair and demolition operation;	No change. Has all sorts of terminologies employed to describe including "rubble" and "waste arising from building materials debris" which could easily be re-interpreted to mean and involve everything that the builder finds a nuisance, including liquid waste, for instance. The new Rules, therefore, do not seem to have improved on the existing definition.
1.10.	(viii) " <b>disposal</b> " means final disposal of municipal solid wastes in terms of the specified measures to prevent contamination of ground-water, surface water and ambient air quality;	(x) " <b>disposal</b> " means the final disposal of municipal solid waste in terms of the specified measures to prevent contamination of ground-water, surface water, ambient air quality and <b>source of bird attraction</b> ;	"source of bird attraction" added. Described in a manner that gives credence to a dumping culture, and without in the least being categorical of the consequences of such practices. Also such terminologies as "source of bird attraction" provide room for non-specific and unscientific interpretation. The emphasis on "final disposal" of waste without pre-defining the processes to contain

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			waste generation and limiting of volume of "waste" lends credence to a wasteful culture.
1.11.	(ix) " <b>Form</b> " means a Form appended to these rules;	(xi) " <b>form</b> " means a form appended to these rules;	No change.
1.12.	(x) " <b>generator of wastes</b> " means persons or establishments generating municipal solid wastes;	(xii) " <b>generator of waste</b> " means persons or establishments generating municipal solid waste;	No change. Needs to be defined more elaborately to include different categories of waste generators. Else domestic and bulk generators would be addressed in the same manner though the scales of waste generated are massively different.
1.13.	(xi) " <b>landfilling</b> " means disposal of residual solid wastes on land in a facility designed with protective measures against pollution of ground water, surface water and air fugitive dust, wind-blown litter, bad odour, fire hazard, bird menace, pests or rodents, greenhouse gas emissions, slope instability and erosion;	(xiii) " <b>landfilling</b> " means the disposal of residual <b>municipal</b> solid waste on land in a facility designed with protective measures against pollution of ground water, surface water and air fugitive dust, wind-blown litter, bad odour, fire hazard, bird menace, pests or rodents, greenhouse gas emissions, slope instability and erosion;	"municipal" added to solid waste. What constitutes "residual" waste is not clear. "landfilling" has been defined in an highly problematic way as the "protective measures" aren't defined. Further, the lessons learnt in over a decade and more of implementation of the MSW Rules, 2000, that landfills should not be encouraged, is being lost in the process. The possibility of defining the actual conditions and methods of landfilling has not been explored.
1.14.	(xii) " <b>leachate</b> " means liquid that seeps through solid wastes or other medium and has extracts of dissolved or suspended material from it;	(xiv) " <b>leachate</b> " means the liquid <b>generated from municipal solid waste</b> that seeps through solid waste or other medium and has extracts of dissolved or suspended material from it;	Does not conform to the definition in science and leads to confusion when read with the definitions of "trade effluent" as defined in the Water (Prevention and Control of Pollution), Act, 1974. This is particularly relevant considering that several landfills and waste holding and transfer stations generated leachates that pollute, and affixing responsibility for the same has become an issue of major

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			concern. Besides there are different kinds of leachates generated from the variety of wastes within a landfill, for instance. It would immensely help regulators in specifically defining such a variety of leachates, rather than grouping them all under one generic definition.
1.15.	(xiii) " <b>lysimeter</b> " is a device used to measure rate of movement of water through or from a soil layer or is used to collect percolated water for quality analysis;		Removed from the draft rules 2013.
1.16.		(xv) " <b>materials recovery facility (MRF)</b> " means a facility where municipal solid waste can be segregated, baled and temporarily stored;	Introduced in 2013 draft rules. Very loosely defined and could result in a wide range of highly subjective and problematic interpretations over time. The emphasis on "temporarily" storing waste could result in highly problematic interpretations on the field and confound the task of regulators.
1.17.	(xiv) " <b>municipal authority</b> " means Municipal Corporation, Municipality, Nagar Palika, Nagar Nigam, Nagar Panchayat, Municipal Council including notified area committee (NAC) or any other local body constituted under the relevant statutes and, where the management and handling of municipal solid waste is entrusted to such agency;	(xvi) " <b>municipal authority</b> " means the Municipal Corporation, Municipality, Nagar Palika, Nagar Nigam, Nagar Panchyat, Municipal Council including notified area committee (NAC) or any other local body constituted <b>under the Acts for time being in force and</b> , where the management and handling of municipal solid waste is entrusted to such agency.	Needs to be consistent with the Constitutional 74 <sup>th</sup> Amendment (Nagarpalika) Act, 1992.

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1.18.	(xv) " <b>municipal solid waste</b> " includes commercial and residential wastes generated in a municipal or notified areas in either solid or semi-solid form excluding industrial hazardous wastes but including treated bio-medical wastes;	(xvii) " <b>municipal solid waste</b> " includes the commercial and residential waste generated in a municipal or notified areas in either solid or semi-solid form excluding industrial hazardous waste, <b>e-waste</b> and including treated bio-medical waste;	Shockingly, the 2013 draft includes "treated bio-medical waste" which questions the very purpose of the Biomedical Waste (Management and Handling) Rules, 1998, and could potentially undermine the implementation of the latter if the former were to have a <i>non-obstante</i> clause. It is extremely worrisome and dangerous that the same has not been changed in the 2013 draft rules. Term "e-waste" is also included in the definition. There is an emergent need now for specifying domestically generated bio-medical and electronic waste for the purpose of safe collection from homes and small businesses in urban areas and for effective reuse and recovery of valuable metals and toxic material and ensuring safe disposal of hazardous material.
1.19.		(xviii) " <b>municipal solid waste management</b> " means the collection, segregation, storage, transportation, processing and disposal of municipal solid waste, including reduction, re-use, recovery, recycling in a scientific and hygienic manner;	Introduced in 2013 draft rules. The first and critical step of "segregation at source" not included in the definition. This disastrous flaw will cause a cascade of irreversible problems and is in violation of orders passed by the Hon'ble Karnataka High Court which has already directed source segregation as the vital step in Municipal Solid Waste Management. This flaw creates many more flaws in the draft rules, making the manner of MSW management mentioned here totally inefficient and dangerous.
1.20.	(xvi) " <b>operator of a facility</b> " means a person who <b>owns or</b> operates a facility for <b>collection, segregation, storage, transportation,</b> processing and disposal of municipal solid wastes and also includes any other agency appointed as such by the	(xix) " <b>operator of a facility</b> " means a person who operates a facility for processing and disposal of municipal solid waste which also includes any other agency appointed by the municipal authority for the management	Suggests that a "person" only qualifies for such operations, and could potentially create a host of problems to ongoing operators or potential ones, such as those who are setting up composting and biomethanation plants in compliance with the directions of the Hon'ble High Court of Karnataka on behalf of bulk generators, for instance. It is present in the 2000 rules and repeated in the 2013 draft

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	municipal authority for the management and handling of municipal solid wastes in the respective areas;	of processing and disposal facility;	rules despite such court orders.
1.21.	(xvii) " <b>pelletisation</b> " means a process whereby pellets are prepared which are small cubes or cylindrical pieces made out of solid wastes and includes fuel pellets which are also referred as refuse derived fuel;	(xx) " <b>pelletisation</b> " means a process whereby pellets are prepared which are small cubes or cylindrical pieces made out of solid waste and includes the fuel pellets which are referred as refuse derived fuel;	No change. Is a technically unsound definition, as it cannot mean only that material that is made out of solid waste.
1.22.		(xxi) " <b>Prescribed Authority</b> " means the Authority to undertake and ensure periodical implementation of the provisions of the these rule mentioned in rule 4;	Introduced in 2013 draft rules.
1.23.	(xviii) " <b>processing</b> " means the process by which solid wastes are transformed into new or recycled products;	(xxii) " <b>processing</b> " means the process by which <b>municipal</b> solid waste is transformed into new or recycled products;	No change. Highly problematic definition as it works to confuse and probably contradict the meaning of the term "recycling" that follows.
1.24.	(xix) " <b>recycling</b> " means the process of transforming segregated solid wastes <b>into</b>	(xxiii) " <b>recycling</b> " means the process of transforming segregated solid waste for	The 2013 version of the definition is regressive, and problematically also opens up room for discretion in defining "new products".

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	raw materials for producing new products, which may or may not be similar to the original products;	producing new products;	
1.25.		(xxiv) " <b>refuse derived fuel (RDF)</b> " is fuel in the form of pellets or fluff produced by shredding and dehydrating combustible components of municipal solid waste;	Introduced in 2013 draft rules. Clearly untechnical and vague definition.
1.26.	(xx) " <b>Schedule</b> " means a Schedule appended to these rules;	(xxv) " <b>Schedule</b> " means a Schedule appended to these rules;	No change.
1.27.	(xxi) " <b>segregation</b> " means to separate the municipal solid wastes into the groups of organic, inorganic, recyclables and hazardous wastes;	(xxvi) " <b>segregation</b> " means to separate the municipal solid waste into the groups of organic, inorganic, recyclables, <b>industrial</b> hazardous waste and <b>e-waste</b> ;	"Industrial" and "e-waste" included in 2013 draft rules. Unless the emphasis is on segregating waste at source, and separating hazardous, bio-medical and electronic waste at source into a different stream for recycling and treatment, it could cause various environmental and public health problems, especially if mixed at source. Quite questionably involves "industrial hazardous waste" without explaining how such material can at all be found in the municipal waste stream.
1.28.	(xxii) " <b>State Board or the Committee</b> " means the State Pollution Control Board of <b>a State</b> , or as the case may be, the Pollution Control Committee of <b>a Union territory</b> ;	(xxvii) " <b>State Pollution Control Board or Pollution Control Committee</b> " means the State Pollution Control Board or the Pollution Control Committee, as the case may be, <b>constituted under subsection (1) of Section 4 of the Water (Prevention and Control of Pollution) Act, 1974</b> ;	

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1.29.	(xxiii) <b>"storage"</b> means the temporary containment of municipal solid wastes in a manner so as to prevent littering, attraction to vectors, stray animals and excessive foul odour;	(xxviii) <b>"storage"</b> means the temporary containment of municipal solid waste in a manner so as to prevent littering, attraction to vectors, stray animals and excessive foul odour;	No change. Quite questionably implies and promotes mixing of waste, without defining what "temporary" means and involves and rather loosely describes safeguards.
1.30.	(xxiv) <b>"transportation"</b> means conveyance of municipal solid wastes from place to place hygienically through specially designed transport system so as to prevent foul odour, littering, unsightly conditions and accessibility to vectors;	(xxix) <b>"transportation"</b> means conveyance of municipal solid waste from place to place hygienically through specially designed transport system so as to prevent the foul odour, littering, unsightly conditions and accessibility to vectors;	No change. Has a variety of terminologies that further qualify its meaning, such as "specially designed transport system" and "from place to place hygienically", "unsightly", etc. all of which could be subjectively used to lower the standards of management
1.31.		(xxx) <b>"Treated bio-medical wastes"</b> means the wastes generated in hospitals and health care institutions which have been prescribed as treated under the Bio-medical Waste (Management and Handling) Rule 1998, as amended time to time;	Introduced in 2013 draft rules.
1.32.	(xxv) <b>"vadose water"</b> water which occurs between the ground, surface and the water table that is the unsaturated zone;		Not included in 2013 draft rules.

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1.33.		(xxxix) " <b>treatment</b> " means the method, technique or process, designed to modify physical, chemical or biological characteristics or composition of any waste so as to reduce its potential to cause harm;	Introduced in 2013 draft rules. Read with definitions relating to "treated bio-medical wastes", and also the highly questionable inclusion of "industrial hazardous waste" under "segregation" and given the emphasis "to reduce its potential to cause harm" is such a problematic way to define a critical activity, that it essentially knocks off the possibility of monitoring and regulating municipal and other wastes through evolving and appropriate techniques and standards.
1.34.	(xxvi) " <b>vermicomposting</b> " is a process of using earthworms for conversion of bio-degradable wastes into compost.	(xxxii) " <b>vermicomposting</b> " is a process of using earthworms for conversion of bio-degradable waste into compost;	No change. Wrongly defines the process as it results in <i>vermicompost</i> which is biochemically quite different from "compost" as defined.
1.35.		(xxxiii) " <b>waste pickers</b> " mean the individuals or groups of individuals engaged in the collection of municipal solid waste.	Introduced in 2013 draft rules. Comprehensively undermines, demeans, and messes with accepted norms of appreciating the due statutory roles of Pourakarmikas and informal waste pickers, and could possibly be a definition that undermines applicable labour laws and norms. Besides it gives room for any private contractor to claim benefits from the waste stream by organising "waste pickers" as defined here.

## 2. Prescribed Authority (Sec. 4 in 2013 draft rules)

This section was added in the draft 2013 rules and was not present in the 2000 rules.

(1) The Prescribed Authorities are mentioned in column (2) of the table below:

**Table 1:**  
**List of Authorities and corresponding duties**

S. No.	Prescribed Authority (2)	Corresponding Duties (3)	Comments
2.1.	The Ministry of Environment and Forests, Government of India	To undertake periodic review of these rules.	It defines the roles of various authorities in such manner that it actually promotes a top-down approach in formulating waste management strategies and policies and is thus in direct contradiction with the letter and spirit of the Nagarpalika Act. While the need for coordination of roles amongst the Centre, State and Local Governments is to be appreciated, the Constitution guarantees independent and autonomous functioning of the different layers of governance, and actively promotes the role of municipal authorities in attending to such matters as municipal solid waste management by employing progressive and citizen friendly methods. In particular, the Constitutionally guaranteed and mandated roles of District and Metropolitan Planning Authorities in such matters has been comprehensively overlooked. Terms such as "periodic review" leaves such critical activities vulnerable to being delayed or not done at all depending on how "periodic" and "review" are interpreted as the duration of "periodic" has not been defined and what "review" entails is not specified either.
2.2.	The Ministry of Urban Development, Government of India	Coordinate and review of implementation of these rules.	
2.3.	The Central Pollution Control Board	(i) To maintain Co-ordination with State Pollution Control Boards and Pollution Control Committees for <b>review</b> and enforcement of standards and guidelines;  (ii) to prepare a consolidated annual review report on implementation of these rules.	
2.4.	The Municipal Authority	(i) Collection, segregation, transportation and infrastructure development for the disposal of municipal solid waste. (ii) to seek authorization for setting up waste processing and disposal facility including landfills and to ensure compliance with specified standards; (iii) to seek environmental clearance for setting up municipal solid waste processing and disposal facility including	

S. No.	Prescribed Authority (2)	Corresponding Duties (3)	Comments
		landfills as per the Environmental Impact Assessment notification dated 14 <sup>th</sup> September, 2008 notified vide S.O 1533 as amended time to time; (iv) to prepare and submit annual report to the Urban Development Department, concerned State Government and to the concerned State Pollution Control Board or Committee, as the cases may be.	
2.5.	The State Pollution Control Board or Pollution Control Committee	(i) Authorization, monitoring of parameters stipulated in the authorization or consents under the rules for the municipal solid waste processing and disposal facility including landfills; (ii) to prepare and submit annual report to the Central Pollution Control Board.	

(2) The Prescribed Authorities referred under column (2) of the Table shall exercise the corresponding duties mentioned under column (3).

### 3. Responsibility of Municipal Authority

The rules in this section comprehensively ignore the Nagarpalika Act, in particular the 12<sup>th</sup> Schedule to the Constitution, and the due roles of Municipalities as defined therein. Thus, the legality of this Section is itself in question, particularly given that the responsibilities of municipal authorities in relation to solid waste management are defined without correlating the roles as defined in the 74<sup>th</sup> Constitutional Amendment.

S. No.	Current MSW rules 2000	Proposed Draft MSWrules 2013	Comments
	<b>Sec. 4: Responsibility of Municipal Authority</b>	<b>Sec. 5: Responsibility of Municipal Authority</b>	
3.1	1. Every municipal authority shall, <b>within the territorial area of the municipality</b> , be responsible for the implementation of the provisions of these rules, and for any infrastructure development for collection, storage, segregation, transportation, processing and disposal of municipal solid wastes.	(1) Every municipal authority shall be responsible for the implementation of the provisions of these rules and for <b>the necessary</b> infrastructure development for collection, storage, segregation, transportation, processing and disposal of municipal solid waste <b>directly or by engaging agencies or groups working in waste management including' waste pickers.</b>	The inclusion of the word "necessary" infrastructure development leaves it susceptible to any manner of interpretation, jeopardizing efficient solid waste management.
3.2		(2) The municipal authority or an operator of a facility shall make an application for grant of <b>environmental clearance from the State Level Environment Impact Assessment Authority for setting up municipal solid waste processing and disposal facility including landfills as per the Environment Impact Assessment notification 2006 as amended time to time. The sites for landfills, processing and disposal</b>	The discretion extended to State Level Environmental Impact Assessment Authority to provide case-to-case basis of standards for "buffer zones" is highly problematic. It would be necessary to establish minimum standards and provided discretion to the Authority to add more stringent standards in ecologically and socially sensitive areas.

S. No.	Current MSW rules 2000	Proposed Draft MSWrules 2013	Comments
		facilities of municipal solid waste shall be incorporated in the Town Planning Department's land-use plans. The buffer zones shall be specified by the State Level Environment Impact Assessment Authority, on a case to case basis.	
3.3		(3) The municipal authority or an operator of a facility shall obtain the authorization or consent for setting up waste processing and disposal facility including landfills from the State Pollution Control Board or the Pollution Control Committee, as the case may be.	Amended provision. The need for prior consent in conformance with EIA Notification, 2006 and Constitutional 74 <sup>th</sup> Amendment (Nagarpalika) Act, is not clearly addressed.
3.4	2. The municipal authority or an operator of a facility shall make an application <b>in Form-I</b> , for grant of authorization for setting up waste processing and disposal facility including landfills from the State Board or the Committee <b>in order to comply with the implementation programme laid down in Schedule I.</b>	(4) The municipal authority or an operator of a facility shall make an application in the form of Form-I, for grant of authorization for setting up waste processing and disposal facility including landfills from the State Pollution Control Board or the Pollution Control Committee, <b>as the case may be.</b>	Amended provision. The need for prior consent in conformance with EIA Notification, 2006 and Constitutional 74 <sup>th</sup> Amendment (Nagarpalika) Act, is not clearly addressed.
3.5		(5) The municipal authority or an operator of a facility shall obtain the consents for the	Amended provision. The need for prior consent in conformance with EIA Notification, 2006 and Constitutional 74 <sup>th</sup> Amendment

S. No.	Current MSW rules 2000	Proposed Draft MSWrules 2013	Comments
		establishment and operations of the municipal solid waste processing, recycling, treatment under the provisions of the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981 from the State Pollution Control Board or the Pollution Control Committee.	(Nagarpalika) Act, is not clearly addressed.
3.6		(6) The municipal authority may determine the service fee for collection and transportation of municipal solid waste.	Introduced in 2013 draft rules. This appears to be providing a questionable backdoor entry to such highly controversial monetary incentives as "tipping fee", as the proviso provides for general interpretation of "service fee" which is undefined in the Definitions clause.
3.7	3. The municipal authority shall comply with these rules as per the implementation schedule laid down in <b>Schedule I</b> .	(7) The municipal authority or an operator of a facility shall comply with these rules as per the Schedules.	
3.8	(4) The municipal authority shall furnish its annual report in <b>Form-II</b> - to the Secretary-incharge of the Department of Urban Development of the concerned State or as the case may be of the Union territory, in case of a metropolitan city; or a. to the District Magistrate or the		Included as Section 11. (1) in 2013 draft rules.

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	Deputy Commissioner concerned in case of all other towns and cities, b. with a copy to the State Board or the Committee on or before the 30th day of June every year.		
3.9		(8) The municipal authority shall prepare a municipal solid waste management plan as per policy or strategy of the concerned State Government or Union Territory.	Introduced in 2013 draft rules. Promotes a centralised process of decision making, as it requires conformance with a State Plan that may necessarily not be more progressive, and probably not evolved based on consultative and democratic frameworks of decision making.
3.10		(9) The municipal authority or an operator of a facility shall be responsible to design, set up and operate the facility as per the technical guidelines issued by the Central Pollution Control Board from time to time and shall obtain the approval for the design and layout from the concerned State Pollution Control Board or Pollution Control Committee of the Union Territories.	Introduced in 2013 draft rules.
3.11		(10)The municipal authority or an operator of a facility shall provide personal protection equipment namely hand gloves, high boots made of tough leather, goggles and masks to all workers for handling municipal solid waste.	Introduced in 2013 draft rules. Clearly a problematic provision as it introduces terms such as "tough leather", "goggles", "masks", etc., which are all non-technical expressions that leave room for discretion and abuse of law.
3.12		(11 )In case of existing engineered facilities	Introduced in 2013 draft rules. Promotes legalisation of illegal

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		that are in operation and have not obtained the requisite environmental clearances, consents and authorization, it shall be obtained within a period of one year from the issue of this notification.	facilities, such as the one run by M/s Ramky in Mavallipura, and which is in gross violation of the letter and spirit of the Environment Protection Act, 1986, and the "Polluter Pays Principle" as has been held by various decisions of the Hon'ble Supreme Court of India.

#### 4. Responsibility of the State Government and the Union territory Administrations

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	<b>Sec. 5. Responsibility of the State Government and the Union territory Administrations</b>	<b>Sec. 8. Responsibilities of the State or Union Territory</b>	
4.1	(1) The Secretary-in-charge of the Department of Urban Development of the concerned State or the Union territory, as the case may be, shall have the overall responsibility for the enforcement of the provisions of these rules in the metropolitan cities.	The State Level Urban Development Department shall prepare a Municipal Solid Waste Management Strategy for the State or the Union Territory and the strategy shall be consistent with the State Sanitation Strategy under the National Urban Sanitation Policy (NUSP) of the Ministry of Urban Development.	Amended Provision. Provides no clear line of responsibility, especially of the Urban Development Department. The emphasis on compulsory compliance with National Urban Sanitation Policy is problematic, as the policy has several vague expressions that could lead to confusing interpretations in practice.
4.2	(2) The District Magistrate or the Deputy Commissioner of the concerned district shall have the overall responsibility for the enforcement of the provisions of these rules within the territorial limits of		A critical provision that is dropped. If this were to be made the responsibility of the District/Metropolitan Planning Committee, the chain of accountability could be restored, and more democratically.

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	their jurisdiction.		

5. Responsibility of the Central Pollution Control Board and the State Board or the Committees

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	<b>Sec. 6. Responsibility of the Central Pollution Control Board and the State Board or the Committees</b>	<b>Sec. 6. Responsibility of the State Pollution Control Board or the Pollution Control Committees</b> <b>Sec. 7. Responsibility of the Central Pollution Control Board</b>	
5.1	1.The State Board or the Committee shall monitor the compliance of the standards regarding ground water, ambient air, leachate quality and the compost quality including incineration standards as specified under <b>Schedules II, III and IV.</b>	<b>6.</b> (1) The State Pollution Control Board or the Pollution Control Committee, as the case may be, shall monitor <b>the progress of implementation of Action Plan</b> and the compliance of the standards regarding ground water, ambient air, leachate quality and the compost quality including incineration standards or any other such condition as specified under the Schedules I and II.	Amended provision. What the "Action Plan" here refers to is not clear.
5.2		(2) (i) For grant of authorization, the Municipal Authority or the operator of facility shall make an application in the form of Form I to the State Pollution Control Board or the Pollution	

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		Control Committee, as the case may be.	
5.3	2. The State Board or the Committee, after the receipt of application from the municipal authority or the operator of a facility in <b>Form I, for grant of authorization for setting up waste processing and disposal facility including</b>	(ii)The State Pollution Control Board or the Pollution Control Committee, as the case may be, after the receipt of the application, from the Municipal Authority or the operator facility, shall examine the proposal.	
5.4	<b>landfills</b> , shall examine the proposal taking into consideration the views of other agencies like the State Urban Development Department, the Town and Country Planning Department, Air Port or Air Base Authority, the Ground Water Board or any such other agency <b>prior to issuing the authorization.</b>	(iii) <b>While examining the proposal the State Pollution Control Board or the Pollution Control Committee, as the case may be</b> , shall take into consideration the views of other agencies like the State Urban Development Department, the Town and Country Planning Department, Airport or Airbase Authority, the Ground Water Board or any such other agencies.	Taking the views of relevant agencies “prior to issuing the authorization” has been removed and is highly problematic.
5.5	3.The State Board or the Committee shall issue the authorization in <b>Form-III</b> to the municipal authority or an operator of a facility <b>within forty-five days</b> stipulating compliance criteria and standards as specified in <b>Schedules II, III and IV</b> including such other conditions, as may be necessary.	(3) The State Pollution Control Board or the Pollution Control Committee shall issue the authorization in form of Form-III to the municipal authority or an operator of a facility <b>within a period of sixty days</b> stipulating compliance criteria and standards as specified in Schedule I and II including other conditions, as may be necessary.	Time period to issue authorization extended from 45 to 60 days.

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5.6	4.The authorization shall be valid for a given period and after the validity is over, <b>a fresh authorization</b> shall be required.	(4) The authorization shall be valid for a specified period <b>depending upon the type of waste processing or disposal facility</b> ; and after the validity is over, <b>renewal of authorization</b> shall be required.	No specific time period for validity has been mentioned. The 2000 rules say after validity "a fresh authorization" will be required, while the 2013 states only "renewal" is required; both are totally different and it needs to be stated clearly what "renewal" means.
5.7		(5) The State Pollution Control Board or the Pollution Control Committee, as the case may be, shall monitor the compliance of the conditions stipulated in the authorization and the standards specified in Schedules I; and II annexed to these rules as and when required.	Introduced in 2013 draft rules. This provision raises questions about the compliance with EIA Notification, 2006, wherein the State Environment Impact Assessment Authority is mandated the task of regulation and review.
5.8	(5) The Central Pollution Control Board shall co-ordinate with the State Boards and the Committees with particular reference to implementation and review of standards and guidelines and compilation of monitoring data.	<b>7.</b> (1) The Central Pollution Control Board shall co-ordinate with the State Pollution Control Boards and the Pollution Control Committees with particular reference to implementation and review of standards and guidelines and compilation of monitoring data.	No change.
5.9		(2) The Central Pollution Control Board shall publish requisite guidelines for processing/treatment and disposal of municipal solid waste from time to time.	Introduced in 2013 draft rules.
5.10		(3) The Central Pollution Control Board shall review the use of any new technology for processing, recycling and treatment of	Introduced in 2013 draft rules.

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		municipal solid waste and may prescribe standards in this regard.	

#### 6. Management of municipal solid wastes

S. No.	Current MSW rules 2000	Proposed Draft MSW rules 2013	Comments
	<b>Sec. 7. Management of municipal solid wastes</b>	<b>Sec. 9. Management of municipal solid waste</b>	
6.1	1. Any municipal solid waste generated in a city or a town, shall be managed and handled in accordance with the compliance criteria and the procedure laid down in <b>Schedule-II</b> .	1. The waste collection, segregation, storage, transportation, and the processing and the disposal facilities to be set up by the municipal authority on their own or through an agency or an operator of a facility, shall fulfill the following specifications and standards namely:	The critical step of "segregation at source" is completely ignored, leading to a series of cascading problems.
6.2		(a) the safe collection and segregation of municipal solid waste into biodegradable and non-biodegradable components;	This segregation is to be done first at source by the generators themselves and the penalty for non-segregation has to be mentioned as well.
6.3	1. Littering of municipal solid waste shall be prohibited in cities, towns and in urban areas notified by the State Governments. To prohibit	(k) to ensure that the generator of municipal solid waste avoids littering, delivers the municipal solid waste to authorised agency or waste pickers as notified by the Municipal	Changed. The rule that littering shall be prohibited could not be found anywhere in the 2013 draft rules.

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	littering and facilitate compliance, the following steps shall be taken by the municipal authority, namely :-	Authority and open burning of municipal solid waste is not permitted;	
6.4	i.Organising house-to-house collection of municipal solid wastes through any of the methods, like community bin collection (central bin), house-to-house collection, collection on regular pre-informed timings and scheduling by using bell ringing of musical vehicle (without exceeding permissible noise levels);		Removed. Not included in 2013 draft rules.
6.5	ii. Devising collection of waste from slums and squatter areas or localities including hotels, restaurants, office complexes and commercial areas;		Removed. Not included in 2013 draft rules.. The 2013 draft rules do not mention cleaning of slum areas.
6.6	iii. Wastes from slaughter houses, meat and fish markets, fruits and vegetable markets, which are biodegradable in nature, shall be managed to make use of such wastes;		Removed. Not included in 2013 draft rules.
6.7	v. Collected waste from residential and other areas shall be transferred to		Removed. Not included in 2013 draft rules.

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	community bin by hand-driven containerised carts or other small vehicles;		
6.8	viii.Stray animals shall not be allowed to move around waste storage facilities or at any other place in the city or town and shall be managed in accordance with the State laws.		Removed. Not included in 2013 draft rules.
6.9	2. The municipal authority shall notify waste collection schedule and the likely method to be adopted for public benefit in a city or town.		Removed. Not included in 2013 draft rules.
6.10	3. It shall be the responsibility of generator of wastes to avoid littering and ensure delivery of wastes in accordance with the collection and segregation system to be notified by the municipal authority as per para 1(2) of this Schedule.		Removed. Not included in 2013 draft rules.
6.11	<b>Schedule II. vi.</b> Horticultural and construction or demolition wastes or debris shall be separately collected and disposed off following proper norms.	(b) the horticultural and construction or demolition or debris or dairy waste shall be 'separately collected and disposed of in accordance with the Bye laws and not to be	"horticultural" waste has not been defined and therefore what it comprises remains unclear. If understood as plant trimmings or any other plant parts, it is unclear why these parts of the waste cannot be specifically defined and categorised for handling considering the

S. No.	Current MSW rules 2000	Proposed Draft MSW rules 2013	Comments
	Similarly, wastes generated at dairies shall be regulated in accordance with the State laws; vii. Waste (garbage, dry leaves) shall not be burnt;	mixed with municipal solid waste;	high volumes generated in cities, and their potential use in composting.
6.12	<b>Schedule II. 3.</b> Municipal authorities shall establish and maintain storage facilities in such a manner as they do not create unhygienic and insanitary conditions around it. Following criteria shall be taken into account while establishing and maintaining storage facilities, namely :- Storage facilities shall be created and established by taking into account quantities of waste generation in a given area and the population densities. A storage facility shall be so placed that it is accessible to users;		Not included in 2013 draft rules. In the 2013 draft rules there is no mention of the number of storage facilities to be put up, based on the quantity of waste generated. This is problematic as it will encourage mass production and installation of such units which will mostly be unnecessary and may take up unnecessary amount of space.
6.13	<b>Schedule II. 3. i.</b> Storage facilities to be set up by municipal authorities or any other agency shall be so designed that wastes stored are not exposed to open	<b>(c) the municipal authority shall identify storage spaces such as materials recovery facility, as appropriate, for segregation of municipal solid waste and the storage</b>	There is a regression in the 2013 draft in terms of not mandating aesthetically developed storage facilities, which could immensely enhance social acceptability of such facilities in every neighbourhood.

S. No.	Current MSW rules 2000	Proposed Draft MSW rules 2013	Comments
	atmosphere and shall be aesthetically acceptable and user-friendly;	<b>facilities to be set up by municipal authorities</b> shall be so designed that the municipal solid waste stored are not exposed to open atmosphere and shall be user-friendly;	
6.14	<b>Schedule II. 3. ii.</b> Storage facilities or 'bins' shall have 'easy to operate' design for handling, transfer and transportation of waste. Bins for storage of bio-degradable wastes shall be painted green, those for storage of recyclable wastes shall be printed white and those for storage of other wastes shall be printed black;	(d) the storage facilities or 'bins' shall have 'easy to operate' design for handling and transportation of municipal solid waste. Bins for storage of bio-degradable waste shall be painted green, those for storage of recyclable waste shall be painted white and those for storage of other waste shall be painted black; manual handling of municipal solid waste shall be prohibited: provided that in case unavoidable due to constraints,	"easy to operate" not defined. Circumstances which qualify as "unavoidable" and "constraints" not elaborated about or explained. Such unclear use of words, without specifying any sort of standards can lead to regular, highly unsafe work practices.
6.15	<b>Schedule II. 3. iii.</b> Manual handling of waste shall be prohibited. If unavoidable due to constraints, manual handling shall be carried out under proper precaution with due care for safety of workers.	(e) manual handling shall be carried out under proper precaution with due care for safety of workers;	"proper precaution" not defined.
6.16	<b>Schedule II. 4.</b> Vehicles used for transportation of wastes shall be covered. Waste should not be visible to public, nor exposed to open environment preventing their scattering.		Removed from 2013 draft rules. This is a major regression as transportation of waste in closed vehicles has become a major demand in every city.

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	<p>The following criteria shall be met, namely:-            The storage facilities set up by municipal authorities shall be daily attended for clearing of wastes. The bins or containers wherever placed shall be cleaned before they start overflowing;            ii. Transportation vehicles shall be so designed that multiple handling of wastes, prior to final disposal, is avoided.</p>		
6.17		(f) the landfill site may provide an appropriate facility for removing any recyclable material;	The word "removing" is problematic. The intended word must have been "recovering" but is not clear.
6.18	<b>Schedule II. 6.</b> Land filling shall be <b>restricted</b> to non-biodegradable, inert waste and other waste that are not	(g) the landfilling of mixed waste shall be avoided unless it is found unsuitable for waste processing;	What mixed waste can be categorized as "unsuitable" is not mentioned anywhere. That mixed waste exists is a problem that arises as a result of "segregation at source" not being done.
6.19	suitable either for recycling or for biological processing. Land filling shall also be carried out for residues of waste processing facilities as well as pre-processing rejects from waste processing facilities. Land filling of	(h) the landfill shall only be <b>permitted for non-usable, non-recyclable</b> , non-biodegradable, non-reactive inert waste and other waste such as residues of waste processing facilities as well as pre-processing rejects from waste processing facilities <b>and the like nature</b>	Introduced in 2013 Draft rules, it contains many progressive features, but the introduction of "high temperature furnaces" without defining the context lends itself to be loosely interpreted as legitimising the establishment of incinerators.

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	mixed waste shall be avoided unless the same is found unsuitable for waste processing. Under unavoidable circumstances or till installation of alternate facilities, land-filling shall be done following proper norms. Landfill sites shall meet the specifications as given in Schedule-III.	<b>provided that effort shall be done by the municipal authority or operators to utilize inert waste for making bricks, pavement blocks, construction blocks, non-recyclable plastics and other incinerable waste for co-incineration in cement kilns or any high temperature furnaces or manufacture of door panels, and the like nature so that the burden on landfill is reduced</b> and the landfill sites shall meet the specifications as given in Schedule -I;	
6.20		(i) to ensure that compost or any other end product shall comply with standards as specified in Schedule-II and also ensure that no damage is caused to the environment during this process;	What comprises "damage" is not clear and is open-ended.
6.21	<b>Schedule II. 2.</b> In order to encourage the citizens, municipal authority shall organise awareness programmes for segregation of wastes and shall promote recycling or reuse of segregated materials. The municipal authority shall undertake phased programme to ensure community participation in waste segregation. For this purpose, regular meetings at	j) to create awareness among all stakeholders about their responsibilities;	The well meaning clause (in the 2000 rules) for plans to create awareness among citizens about segregation, has been completely removed. It is unclear why the word "stakeholders" is used in the 2013 draft rules instead of "citizens" in the 2000 rules.

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	quarterly intervals shall be arranged by the municipal authorities with representatives of local resident welfare associations and non-governmental organizations.		
6.22	<b>Schedule II. 1. iv.</b> Bio-medical wastes and industrial wastes shall not be mixed with municipal solid wastes and such wastes shall follow the rules separately specified for the purpose;	(l) the bio-medical waste, industrial hazardous waste and <b>e-waste</b> shall not be mixed with municipal solid waste and such waste shall follow the rules separately specified for the purpose.	e-waste added to the rule.
6.23		2. The municipal authority shall incorporate the said. rules in the Municipal bye laws of all the Urban Local Bodies;	This would mandate legislative amendments to the Municipal laws.
6.24	(2) The waste processing and disposal facilities to be set up by the municipal authority on their own or through an operator of a facility shall meet the specifications and standards as specified in <b>Schedules III and IV.</b>		
6.25	<b>Schedule II.5.</b> Municipal authorities shall adopt suitable technology or combination of such technologies to make use of wastes so as to minimize	3. The municipal authority <b>shall encourage the use of municipal solid waste by</b> adopting suitable technology which may include; composting, vermicomposting, anaerobic	Incineration being promoted as a waste management solution, when its deleterious environmental impacts are known. Better solutions exist that can avoid the need for incineration.

S. No.	Current MSW rules 2000	Proposed Draft MSW rules 2013	Comments
	burden on landfill. Following criteria shall be adopted, namely:- <b>(i) The biodegradable wastes shall be processed by</b> composting, vermicomposting, anaerobic digestion	digestion with or without energy recovery, co-incineration, or combination of such technologies as appropriate, to make use of municipal solid waste so as to minimize burden on landfill.	
6.26	or <b>any other appropriate biological processing for stabilization of wastes. It shall be ensured that compost or any other end product shall comply with standards as specified in Schedule-IV;</b>  <b>(ii) Mixed waste containing recoverable resources shall follow the route of recycling.</b> Incineration <b>with or without energy recovery including pelletisation can also be used for processing wastes in specific cases.</b> Municipal authority or the operator of a facility wishing to use other state-of-the-art technologies shall approach the Central Pollution Control Board to get the standards laid down before applying for grant of authorisation.	4. The municipal authority or the operator, as the case may be, intending to use any other new technology may approach the State Pollution Control Board to get the standards laid down and seek authorization so as to ensure the compliance with the specified standards including pollution control norms prescribed by the competent authority in this regard.	A general norm for introducing new technologies based on common standards may be introduced, say by the Central Pollution Control Board through a public review process, rather than allowing discretion to State Pollution Control Boards who may not have the necessary competence to review such technologies.
6.27		5. The State Pollution Control Board or	Builds in redundancy when read with previous clause of 2013 Rules.

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		Pollution Control Committee, as the case may be, may approach Central Pollution Control Board for getting specified standards	
6.28		6. The existing dumpsites which are not engineered landfill sites shall be closed down and capped as per the provisions of the rules.	This would enable current and past waste disposal agencies who have dumped illegally to escape without having to bear any punitive action, as per the Polluter Pays Principle.
6.29		7. The new sites for solid waste disposal facility shall be in accordance with the provisions of the proposed rules.	
6.30		8. The transition time for closing of such existing facilities and operation of new facilities shall be decided by the municipal authority in consultation with the State Urban Development Department.	

## 7. State Level Advisory Body

This section was added in the MSW draft rules 2013 and is not present in the MSW rules 2000.

S. No.	Current MSW rules 2000	Proposed Draft MSW rules 2013	Comments
		<b>Sec. 10. State Level Advisory Body</b>	Introduced in 2013 draft rules
7.1		(1) The Government of every State or Union Territory shall constitute a State Level Advisory Board.	The purpose of this new body has not been clearly defined or justified. This may result in over-bureaucratisation of the decision making process. Further, it could result in avoidable centralisation

S. No.	Current MSW rules 2000	Proposed Draft MSW rules 2013	Comments
			of decision making processes. When District/Metropolitan Planning Committees are mandated with the task of developing District/Metropolitan land-use, natural resource and social and economic needs 5 year plans, which contains plans for solid waste management, the need for a State Advisory body to replicate this task could complicate decision making as the necessary separation of powers are not clearly defined.
7.2		(2) The Body shall be constituted by Urban Development department of the concerned State Government or Union Territory.	
7.3		(3) The constitution of the State Level Advisory Body shall be as given below:	
7.4		(a) Secretary, Department of Urban Development -Chairperson, ex-officio	
7.5		(b) one representative from each State Government, the Department of Environment - Member, ex-officio	
7.6		(c) one representative from the Central Pollution Control Board or Central Pollution Control Board Zonal Office- Member, ex-officio	
7.7		(d) one representative from the State Pollution Control Board or Pollution Control Committee - Member, ex-officio	
7.8		(e) three. representatives from the Urban Local	

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		Bodies - Member	
7.9		(f) three representatives from the Non-Governmental Organisation or Civil Society working in the field of environment or waste management - Member	
7.10		(4) The State Level Advisory Body shall meet at least once in a year to review all the matters related to implementation of Municipal Solid Waste (Management and Handling) Rules, 2013.	
7.11		(5) The copies of the review report shall be forwarded to all the 'Prescribed Authorities' under these rules for necessary action.	
7.12		(6) The Body shall also advise the Government of State or Union Territory, as the case may be, and also the Prescribed Authorities on the matters related to implementation of these rules.	
7.13		(7) The State Level Advisory Body may co-opt experts, as necessary.	

## 8. Annual Reports

S. No.	Current MSW rules 2000	Proposed Draft MSW rules 2013	Comments
	<b>Sec. 8. Annual Reports</b>	<b>Sec. 11. Annual Report</b>	
8.1	Section 4. (4) The municipal authority shall furnish its annual report in <b>Form-II</b> - to the Secretary-incharge of the Department of Urban Development of the concerned State or <b>as the case may be of the</b> Union territory, in case of a metropolitan city; or <b>a. to the District Magistrate or the Deputy Commissioner concerned in case of all other towns and cities,</b> b. with a copy to the State Board or the Committee on or before the 30th day of June every year.	(1) The municipal authority shall furnish its annual report in the form of Form-II to the Secretary-incharge of the Department of Urban Development of the concerned State or Union Territory in case of metropolitan city and the State Pollution Control Board or the Committee on or before the 30" day of June every year.	The option of requiring an environmental audit has not been explored. Requirement to furnish the annual report to the "District Magistrate or the Deputy Commissioner concerned in case of all other towns and cities" removed.
8.2		(2) The Operator of facility shall submit the annual report to the municipal authority as per Form-III.	
8.3		(3) The annual report shall include the progress on action taken to comply with these rules and as per conditions stipulated by the State Pollution Control Board or Committee, as the case may be.	
8.4	1.The State Boards and the Committees shall prepare and submit to the Central Pollution Control Board an annual	(4) Each State Pollution Control Board or Pollution Control Committee <b>as the case may be,</b> shall prepare and submit the annual report	Period increased by 15 days.

S. No.	Current MSW rules 2000	Proposed Draft MSW rules 2013	Comments
	report with regard to the implementation of these rules <b>by the 15th of September</b> every year in <b>Form-IV</b> .	to the Central Pollution Control Board on the implementation of these rules <b>by the 30 th day of September</b> of each year in the form of Form-IV;	
8.5	2.The Central Pollution Control Board shall prepare the consolidated annual review report on management of municipal solid wastes and forward it to the Central Government alongwith its recommendations before the 15th of December every year.	(5) The Central Pollution Control Board shall prepare a consolidated annual review report on <b>the use and</b> management of municipal solid waste and forward <b>the same to the Ministry of Urban Development and Ministry of Environment and Forests</b> , Government of India along with its recommendations before the 30-h day of December each year.	This raises questions about which is the Ministry to report to and which is the one that reviews compliance.
8.6		(6) The Ministry of Urban Development, Government of India shall make annual review for implementation of said rules with relevant stakeholders.	This raises questions about which is the Ministry to report to and which is the one that reviews compliance.

## 9. Accident Reporting

S. No.	Current MSW rules 2000	Proposed Draft MSW rules 2013	Comments
	<b>Sec. 9. Accident Reporting</b>	<b>Sec. 12. Accident Reporting</b>	
9.1	When an accident occurs at any	When an accident occurs at any municipal	The due role of District/Metropolitan Planning Committee has been

S. No.	Current MSW rules 2000	Proposed Draft MSW rules 2013	Comments
	municipal solid wastes collection, segregation, storage, processing, treatment and disposal facility or landfill site or during the transportation of such wastes, the municipal authority shall forthwith report the accident in <b>Form-V</b> to the Secretary in-charge of the Urban Development Department in <b>metropolitan cities</b> , and to District Collector or Deputy Commissioner in <b>all other cases</b> .	solid waste collection, segregation, storage, processing, treatment and disposal facility or landfill site or during the transportation of such waste, the municipal authority or an operator of facility shall forthwith report of the accident in the form of Form-V to the Secretary in-charge of the Urban Development Department and District Collector <b>and the instructions issued by the said authorities shall be followed.</b>	ignored.

#### 10. Schedule I of 2000 rules

S. No.	Current MSW rules 2000	Proposed Draft MSW rules 2013	Comments
	<b>Schedule I: Implementation schedule</b>		Not included in 2013 draft rules.
10.1	Setting up of waste processing and disposal facilities By 31.12.2003 or earlier		Not included in 2013 draft rules.
10.2	Monitoring the performance of waste processing and disposal facilities Once in six months		Not included in 2013 draft rules.
10.3	Improvement of existing landfill sites as		Not included in 2013 draft rules.

S. No.	Current MSW rules 2000	Proposed Draft MSW rules 2013	Comments
	per provisions of these rules By 31.12.2001 or earlier		
10.4	Identification of landfill sites for future use and making site (s) ready for operation By 31.12.2002 or earlier		Not included in 2013 draft rules.

#### 11. Site Selection

S. No.	Current MSW rules 2000	Proposed Draft MSW rules 2013	Comments
	<b>Schedule III: Specifications for landfill site</b>	<b>Schedule I: A. Criteria for Site Selection</b>	
11.1	1. In areas falling under the jurisdiction of Development Authorities it shall be the responsibility of such Development Authorities to identify the landfill sites and hand over the sites to the concerned municipal authority for development, operation and maintenance. Elsewhere, this responsibility shall lie with the concerned municipal authority.	1. In areas falling under the jurisdiction .of 'Development Authorities' it shall be the responsibility of such Development Authorities to identify the landfill sites and hand over the sites to the concerned municipal authority for development, operation and maintenance. Elsewhere, this responsibility shall lie with the concerned municipal authority. .	No change.

S. No.	Current MSW rules 2000	Proposed Draft MSW rules 2013	Comments
11.2	2. Selection of landfill sites shall be based on examination of environmental issues. <b>The Department of Urban Development of the State or the Union territory shall co-ordinate with the concerned organisations for obtaining the necessary approvals and clearances</b>	2. Selection of landfill sites shall take into consideration the relevant environmental issue.	No clarity on what are "relevant environmental issue".
11.3	3. The landfill site shall be planned and designed with proper documentation of a phased construction plan as well as a closure plan.	3. The landfill site shall be planned and designed with proper documentation of a phased construction plan as well as a closure plan. <b>In case a new landfill facility is created adjoining an existing landfill site, the closure plan of existing landfill should form a part of the proposal of such new landfill.</b>	
11.4	4. The landfill sites shall be selected to make use of nearby wastes processing facility. Otherwise, wastes processing facility shall be planned as an integral part of the landfill site.	4. The landfill sites shall be selected to make use of nearby wastes processing facility. Otherwise, wastes processing facility shall be planned as an integral part of the landfill site.	No change.
11.5		5. Landfill sites shall be set up as per the guidance notes formulated by the Ministry of Urban Development, Government of India.	This brings to light, once more, the confusions involved when multiple Ministries are involved, without due and prior consultation with each other, as appears to be the case in the formulation of the 2013 Draft Rules.

S. No.	Current MSW rules 2000	Proposed Draft MSW rules 2013	Comments
11.6	6. Biomedical wastes shall be disposed off in accordance with the Bio-medical Wastes (Management and Handling) Rules, 1998 and hazardous wastes shall be managed in accordance with the <b>Hazardous Wastes (Management and Handling) Rules, 1989</b> , as amended from time to time.	11. Biomedical waste shall be disposed of in accordance with the Bio-medical Waste (Management and Handling) Rules, 1998, <b>as amended</b> . The hazardous waste shall be managed in accordance with <b>the Hazardous Waste (Management, Handling and Trans-boundary Movement) Rules, 2008</b> , as amended, from time to time. <b>The E-waste shall be managed in accordance with the e-Waste (Management and Handling) Rules, 2011.</b>	Rules to be complied with for Hazardous Waste changed. E-waste Management rules included.
11.7	5. The existing landfill sites which continue to be used for more than five years, shall be improved in accordance of the specifications given in this Schedule.	6. The existing landfill sites which are in use for more than five years, shall be improved in accordance of the specifications given in this Schedule	No change.
11.8	7. The landfill site shall be large enough to last for 20-25 years.	7. The landfill site shall be large enough to last for at least 20-25 years.	No change.
11.9	8. The landfill site shall be away from habitation clusters, forest areas, water bodies monuments, National Parks, Wetlands and places of important cultural, historical or religious interest.	B. The landfill site shall be away from habitation clusters, forest areas, water bodies monuments, National Parks, Wetlands and places of important cultural, historical or religious interest <b>and the distance to be maintained, as prescribed by the State Environment Impact Assessment Authority</b>	

S. No.	Current MSW rules 2000	Proposed Draft MSW rules 2013	Comments
		<b>(SEIAA) on a case to case basis.</b>	
11.10	9. A buffer zone of no-development shall be maintained around landfill site and shall be incorporated in the Town Planning Department's land-use plans.	9. A buffer zone of no development shall be maintained around landfill sites and sites for processing and disposal of municipal solid waste. The sites for landfill, and processing and disposal of municipal solid waste shall be incorporated in the Town Planning Department's land-use plans. <b>The buffer zone shall be prescribed by the State Environment Impact Assessment Authority (SEIAA), on a case to case basis. The site, as approved by the State Environment Impact Assessment Authority shall be notified by the concerned Local Government.</b>	
11.11	10. Landfill site shall be away from airport including airbase. Necessary approval of airport or airbase authorities prior to the setting up of the landfill site shall be obtained in cases where the site is to be located within 20 km of an airport or airbase.	10. Landfill site shall be away from airport including airbase. Necessary approval of airport or airbase authorities prior to the setting up of the landfill site shall be obtained in cases where the site is to be located within 20 km of an airport or airbase.	No change.

12. Facilities at the Site

S. No.	Current MSW rules 2000	Proposed Draft MSW rules 2013	Comments
	<b>Schedule III: Specifications for landfill site. Facilities at the site</b>	<b>Schedule I. B. Facilities at the site</b>	
12.1	11. Landfill site shall be fenced or hedged and provided with proper gate to monitor incoming vehicles or other modes of transportation.	1. Landfill site shall be fenced or hedged and provided with proper gate to monitor incoming vehicles or other modes of transportation. .	No change.
12.2	12. The landfill site shall be well protected to prevent entry of unauthorised persons and stray animals.	2. The landfill site shall be well protected to prevent entry of unauthorized persons and stray animals.	No change.
12.3	13. Approach and other internal roads for free movement of vehicles and other machinery shall exist at the landfill site.	3. Approach and other internal roads for free movement of vehicles and other machinery shall exist at the landfill site.	No change.
12.4	14. The landfill site shall have wastes inspection facility to monitor wastes brought in for landfill, office facility for record keeping and shelter for keeping equipment and machinery including pollution monitoring equipments.	4. The landfill site shall have waste inspection facility to monitor waste brought in for landfill, office facility for record keeping and shelter for keeping equipment and machinery including pollution monitoring equipments.	No change.
12.5	15. Provisions like weigh bridge to measure quantity of waste brought at	5. Provisions like weigh bridge to measure quantity of waste brought at landfill site, fire	No change.

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	landfill site, fire protection equipments and other facilities as may be required shall be provided.	protection equipments and other facilities as may be required shall be provided.	
12.6	16. Utilities such as drinking water (preferably bathing facilities for workers) and lighting arrangements for easy landfill operations when carried out in night hours shall be provided.	6. Utilities such as drinking water (preferably bathing facilities for workers) and lighting arrangements for easy landfill operations when carried out in night hours shall be provided.	No change.
12.7	17. Safety provisions including health inspections of workers at landfill site shall be periodically made.	7. Safety provisions including health inspections of workers at landfill site shall be periodically made.	No change. "periodically" not defined specifically.

### 13. Specifications for land filling

S. No.	Current MSW rules 2000	Proposed Draft MSW rules 2013	Comments
	<b>Schedule III: Specifications for landfill site. Specifications for landfilling</b>	<b>Schedule I. C. Criteria for specifications for land filling operations and closure on completion of landfill</b>	
13.1	18. Wastes subjected to land filling shall be compacted in thin layers using landfill compactors to achieve high density of the wastes. In high rainfall areas where	1. Waste subjected to land filling shall be compacted in thin layers using landfill compactors to achieve high density of the waste. In high rainfall areas where heavy compactors cannot be used alternative	No change.

S. No.	Current MSW rules 2000	Proposed Draft MSW rules 2013	Comments
	heavy compactors cannot be used alternative measures shall be adopted.	measures shall be adopted.	
13.2	19. Wastes shall be covered immediately or at the end of each working day with minimum 10 cm of soil, inert debris or construction material till such time waste processing facilities for composting or recycling or energy recovery are set up as per Schedule I.	2. Waste shall be covered immediately or at the end of each working day with minimum 10 cm of soil, inert debris or construction material till such time waste processing facilities for composting or recycling or energy recovery are set up as per Schedule II.	No change.
13.3	20. Prior to the commencement of monsoon season, an intermediate cover of 40-65 cm thickness of soil shall be placed on the landfill with proper compaction and grading to prevent infiltration during monsoon. Proper drainage berms shall be constructed to divert run-off away from the active cell of the landfill.	3. Prior to the commencement of monsoon season, an intermediate cover of 40-65 cm thickness of soil shall be placed on the landfill with proper compaction and grading to prevent infiltration during monsoon. Proper drainage shall be constructed to divert run-off away from the active cell of the landfill.	No change.
13.4	21. After completion of landfill, a final cover shall be designed to minimize infiltration and erosion. The final cover shall meet the following specifications,	4. After completion of landfill, a final cover shall be designed to minimize infiltration and erosion. The final cover shall meet the following specifications, namely :--	No change.

S. No.	Current MSW rules 2000	Proposed Draft MSW rules 2013	Comments
	<p>namely :--</p> <p>a. The final cover shall have a barrier soil layer comprising of 60 cms of clay or amended soil with permeability coefficient less than <math>1 \times 10^{-7}</math> cm/sec.</p> <p>b. On top of the barrier soil layer there shall be a drainage layer of 15 cm. On top of the drainage layer there shall be a vegetative layer of 45 cm to support natural plant growth and to minimize erosion.</p>	<p>(i) The final cover shall have a barrier soil layer comprising of 60 cms of clay or amended soil with permeability coefficient less than <math>1 \times 10^{-7}</math> cm/sec. .</p> <p>(ii) On top of the barrier soil layer there shall be a drainage layer of 15 cm.</p> <p>(iii) On top of the drainage layer there shall be a vegetative layer of 45 cm to support natural plant growth and to minimize erosion.</p>	

#### 14. Pollution prevention

S. No.	Current MSW rules 2000	Proposed Draft MSW rules 2013	Comments
	<b>Schedule II: Specifications for landfill site. Pollution prevention</b>	<b>Schedule 1. D. Criteria for Pollution prevention</b>	
14.1	<p>22. In order to prevent pollution problems from landfill operations, the following provisions shall be made, namely :-</p> <p>a. Diversion of storm water drains to minimize leachate generation and</p>	<p>In order to prevent pollution problems from landfill operations, the following provisions shall be made, namely:-</p> <p>1. Diversion of storm water drains to minimize leachate generation and prevent pollution of</p>	No change.

S. No.	Current MSW rules 2000	Proposed Draft MSW rules 2013	Comments
	prevent pollution of surface water and also for avoiding flooding and creation of marshy conditions;	surface water and also for avoiding flooding and creation of marshy conditions;	
14.2	b.Construction of a non-permeable lining system at the base and walls of waste disposal area. For landfill receiving residues of waste processing facilities or mixed waste or waste having contamination of hazardous materials (such as aerosols, bleaches, polishes, batteries, waste oils, paint products and pesticides) minimum liner specifications shall be a composite barrier having 1.5 mm high density polyethylene (HDPE) geomembrane, or equivalent, overlying 90 cm of soil (clay or amended soil) having permeability coefficient not greater than $1 \times 10^{-7}$ cm/sec. The highest level of water table shall be at least two meter below the base of clay or amended soil barrier layer;	2. Construction of a non-permeable lining system at the base and walls of waste disposal area. For landfill receiving residues of waste processing facilities or mixed waste or waste having contamination of hazardous materials (such as aerosols, bleaches, polishes; batteries, waste oils, paint products and pesticides) minimum liner specifications shall be a composite barrier having 1.5 mm high density polyethylene (HOPE) geo-membrane / geo-synthetic liners, or equivalent, overlying 90 cm of soil (clay or amended soil) having permeability coefficient not greater than $1 \times 10^{-7}$ cm/sec. The highest level of water table shall be at least two meter below the base of clay or amended soil barrier layer;	No change.
14.3	c. Provisions for management of leachates collection and treatment shall	3. Provisions for management of leachates collection and treatment shall be made. The	No change.

S. No.	Current MSW rules 2000	Proposed Draft MSW rules 2013	Comments
	be made. The treated leachates shall meet the standards specified in Schedule- IV;	treated leachates shall meet the standards specified in Schedule- II;	
14.4	d. Prevention of run-off from landfill area entering any stream, river, lake or pond.	4. Prevention of run-off from landfill area entering any stream, river, lake or pond.	No change.

#### 15. Water Quality Monitoring

S. No.	Current MSW rules 2000	Proposed Draft MSW rules 2013	Comments
	<b>Schedule II: Specifications for landfill site. Water Quality Monitoring</b>	<b>Schedule I. E. Criteria for Water Quality Monitoring</b>	
15.1	23. Before establishing any landfill site, baseline data of ground water quality in the area shall be collected and kept in record for future reference. The ground water quality within 50 metres of the periphery of landfill site shall be periodically monitored to ensure that the ground water is not contaminated beyond acceptable limit as decided by	1.Before establishing any landfill site, baseline data of ground water quality in the area shall be collected and kept in record for future reference. The ground water quality within 50 metres of the periphery of landfill site shall be periodically monitored to ensure that the ground water is not contaminated beyond acceptable limit as decided by the Ground Water Board or the State Board or	No change.

S. No.	Current MSW rules 2000	Proposed Draft MSW rules 2013	Comments
	the Ground Water Board or the State Board or the Committee. Such monitoring shall be carried out to cover different seasons in a year that is, summer, monsoon and post-monsoon period.	the Committee. Such monitoring shall be carried out to cover different seasons in a year that is, summer, monsoon and post-monsoon period.	
15.2	24. Usage of groundwater in and around landfill sites for any purpose (including drinking and irrigation) is to be considered after ensuring its quality. The following specifications for drinking water quality shall apply for monitoring purpose, namely	2. Usage of groundwater in and around landfill sites for any purpose (including drinking and irrigation) is to be considered after ensuring its quality. The following specifications for drinking water quality shall apply for monitoring purpose, namely	No change.

#### 16. Ambient Air Quality Monitoring

S. No.	Current MSW rules 2000	Proposed Draft MSW rules 2013	Comments
	<b>Schedule II: Specifications for landfill site. Ambient Air Quality Monitoring</b>	<b>Schedule I. F. Criteria for Ambient Air Quality Monitoring</b>	
16.1	25. Installation of landfill gas control system including gas collection system shall be made at landfill site to minimize odour generation, prevent off-site	1. Installation of landfill gas control system including gas collection system shall be made at landfill site to minimize odour generation, prevent off-site migration of gases and to	No change.

S. No.	Current MSW rules 2000	Proposed Draft MSW rules 2013	Comments
	migration of gases and to protect vegetation planted on the rehabilitated landfill surface.	protect vegetation planted on the rehabilitated landfill surface.	
16.2	26. The concentration of methane gas generated at landfill site shall not exceed 25 per cent of the lower explosive limit (LEL).	2: The concentration of methane gas generated at landfill site shall not exceed 25 per cent of the lower explosive limit (LEL).	No change.
16.3	27. The landfill gas from the collection facility at a landfill site shall be utilized for either direct thermal applications or power generation, as per viability. Otherwise, landfill gas shall be burnt (flared) and shall not be allowed to directly escape to the atmosphere or for illegal tapping. Passive venting shall be allowed if its utilization or flaring is not possible.	3. The landfill gas from the collection facility at a landfill site shall be utilized for either direct thermal applications or power generation, as per viability. Otherwise, landfill gas shall be burnt (flared) and shall not be allowed to directly escape to the atmosphere or for illegal tapping. Passive venting shall be allowed if its utilization or flaring is not possible.	No change.
16.4	28. Ambient air quality at the landfill site and at the vicinity shall be monitored to meet the following specified standards, namely	4. Ambient air quality at the landfill site and at the vicinity shall be monitored to meet the following specified standards, namely	No change.

## 17. Plantation at Landfill Site

S. No.	Current MSW rules 2000	Proposed Draft MSW rules 2013	Comments
	<b>Schedule II: Specifications for landfill site. Plantation at landfill site</b>	<b>Schedule 1. G. Criteria for Plantation at Landfill Site</b>	
17.1	<p>30. A vegetative cover shall be provided over the completed site in accordance with the and following specifications, namely :-</p> <p>(a) Selection of locally adopted non-edible perennial plants that are resistant to drought and extreme temperatures shall be allowed to grow;</p> <p>(b) The plants grown be such that their roots do not penetrate more than 30 cms. This condition shall apply till the landfill is stabilised;</p> <p>(c) Selected plants shall have ability to thrive on low-nutrient soil with minimum nutrient addition;</p> <p>(d) Plantation to be made in sufficient density to minimize soil erosion.</p>	<p>1. A vegetative cover shall be provided over the completed site in accordance with the and following specifications, namely:-</p> <p>(a) Selection of locally adopted non-edible perennial plants that are resistant to drought and extreme temperatures shall be allowed to grow;</p> <p>(b) The plants grown are such that their roots do not penetrate more than 30 cms. This condition shall apply till the landfill is stabilised;</p> <p>(c) Selected plants shall have ability to thrive on low-nutrient soil with minimum nutrient addition;</p> <p>(d) Plantation to be made in sufficient density to minimize soil erosion.</p>	No change.

18. Criteria for Post-care of Landfill Site

S. No.	Current MSW rules 2000	Proposed Draft MSW rules 2013	Comments
	<b>Schedule II: Specifications for landfill site. Closure of Landfill Site and Post-care</b>	<b>Schedule 1. H. Criteria for Post-care of Landfill Site</b>	
18.1	<p>31. The post-closure care of landfill site shall be conducted for at least fifteen years and long term monitoring or care plan shall consist of the following, namely :-</p> <p>(a) Maintaining the integrity and effectiveness of final cover, making repairs and preventing run-on and run-off from eroding or otherwise damaging the final cover;</p> <p>(b) Monitoring leachate collection system in accordance with the requirement;</p> <p>(c) Monitoring of ground water in accordance with requirements and maintaining ground water quality;</p> <p>(d) Maintaining and operating the landfill gas collection system to meet the standards.</p>	<p>1. The post-closure care of landfill site shall be conducted for at least fifteen years and long term monitoring or care plan shall consist of the following, namely :-</p> <p>(a) Maintaining the integrity and effectiveness of final cover, making repairs and preventing run-on and runoff from eroding or otherwise damaging the final cove;</p> <p>(b) Monitoring leachate collection system in accordance with the requirement;</p> <p>(c) Monitoring of ground water in accordance with requirements and maintaining ground water quality;</p> <p>(d) Maintaining and operating the landfill gas collection system to meet the standards.</p>	No change.

S. No.	Current MSW rules 2000	Proposed Draft MSW rules 2013	Comments
18.2	32. Use of closed landfill sites after fifteen years of post-closure monitoring can be considered for human settlement or otherwise only after ensuring that gaseous and leachate analysis comply with the specified standards.	2. Use of closed landfill sites after fifteen years of post-closure monitoring can be considered for human settlement or otherwise only after ensuring that gaseous and leachate analysis complies with the specified standards.	No change.

#### 19. Special provisions for hilly areas

S. No.	Current MSW rules 2000	Proposed Draft MSW rules 2013	Comments
	<b>Schedule II: Specifications for landfill site. Special provisions for hilly areas</b>	<b>Schedule 1. I. Criteria for Special provisions for hilly areas</b>	
19.1	33. Cities and towns located on hills shall have location-specific methods evolved for final disposal of solid wastes by the municipal authority with the approval of the concerned State Board or the Committee. The municipal authority shall set up processing facilities for utilization of biodegradable organic wastes. The inert and non-biodegradable waste shall be used for building roads or filling-up of	Cities and towns located on hills shall have location-specific methods evolved for final disposal of solid waste by the municipal authority with the approval of the concerned State Board or the Committee. The municipal authority shall set up processing facilities for utilization of biodegradable organic waste. The inert and non-biodegradable waste shall be used for building roads or filling-up of appropriate areas on hills. Because of constraints in finding adequate land in hilly	No change. "Location-specific methods" has not been defined in any detail and leaves it open to anybody's interpretation, often encouraging unscientific, inefficient and corrupt practices.

	appropriate areas on hills. Because of constraints in finding adequate land in hilly areas, wastes not suitable for road-laying or filling up shall be disposed of in specially designed landfills.	areas, waste not suitable for road-laying or filling up shall be disposed of in specially designed landfills.	
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## 20. Standards for Composting, Treated Leachates and Incineration

S. No.	Current MSW rules 2000	Proposed Draft MSW rules 2013	Comments
	<b>Schedule IV: Standards for Composting, Treated Leachates and Incineration</b>	<b>Schedule II A. Standards for composting</b>	
20.1	1. The waste processing or disposal facilities shall include composting, incineration, pelletisation, energy recovery or any other facility <b>based on state-of-the-art technology duly approved by the Central Pollution Control Board</b>	1. The waste processing or disposal facilities shall include composting, <b>controlled bioremediation</b> , incineration, pelletisation, energy recovery or any other facility using suitable technology.	"Bioremediation" added to the methods of waste processing and disposal.
20.2	2. In case of engagement of private agency by the municipal authority, a specific agreement between the municipal authority and the private agency shall be made particularly, for supply of solid waste and other relevant terms and conditions.	2. In case of engagement of private agency by the municipal authority, a specific agreement between the municipal authority and the private agency shall be made particularly, for supply of solid waste and other relevant terms and conditions.	No change.

S. No.	Current MSW rules 2000	Proposed Draft MSW rules 2013	Comments
20.3	3. In order to prevent pollution problems from compost plant and other processing facilities, the following shall be complied with, namely :-	3. In order to prevent pollution problems from compost plant and other processing facilities, the following shall be complied with, namely :-	No change.
20.4	i. The incoming wastes at site shall be maintained prior to further processing. To the extent possible, the waste storage area should be covered. If, such storage is done in an open area, it shall be provided with impermeable base with facility for collection of leachate and surface water run-off into lined drains leading to a leachate treatment and disposal facility;	(i) The incoming waste at site shall be maintained prior to further processing. To the extent possible, the waste storage area should be covered. If, such storage is done in an open area, it shall be provided with impermeable base with facility for collection of leachate and surface water run-off into lined drains leading to a leachate treatment and disposal facility;	No change. The terms "maintained", "To the extent possible", "facility" which describe critical processes are not defined in any detail and remain open to anybody's interpretation.
20.5	ii. Necessary precautions shall be taken to minimise nuisance of odour, flies, rodents, bird menace and fire hazard;	(ii) Necessary precautions shall be taken to minimize nuisance of odour, flies, rodents, bird menace and fire hazard;	No change. "Necessary", "minimize" again do not specify in any way the degree to which these are to be followed or attained.
20.6	iii. In case of breakdown or maintenance of plant, waste intake shall be stopped and arrangements be worked out for diversion of wastes to the landfill site;	(iii) In case of breakdown or maintenance of plant, waste intake shall be stopped and arrangements be worked out for diversion of waste to the <b>temporary processing site or temporary landfill sites which will be again reprocessed when plant is in order;</b>	Promotes "temporary landfill"ing.
20.7	iv. Pre-process and post-process rejects shall be removed from the processing facility on regular basis and shall not be	(iv) Pre-process and post-process rejects shall be removed from the processing facility on regular basis and shall not be allowed to pile at the site.	No change. "regular" does not define any specific time period. "Appropriate" vendors does not define who these are to be employed by or what agencies these are.

S. No.	Current MSW rules 2000	Proposed Draft MSW rules 2013	Comments
	allowed to pile at the site. Recyclables shall be routed through appropriate vendors. The non-recyclables shall be sent for well designed landfill site(s).	Recyclables shall be routed through appropriate vendors. The non-recyclables shall be sent for well-designed landfill site(s).	
20.8	v. In case of compost plant, the windrow area shall be provided with impermeable base. Such a base shall be made of concrete or compacted clay, 50 cm thick, having permeability coefficient less than 10 <sup>-7</sup> cm/sec. The base shall be provided with 1 to 2 per cent slope and circled by lined drains for collection of leachate or surface run-off;	(v) In case of compost plant, the windrow area shall be provided with impermeable base. Such a base shall be made of concrete or compacted clay, 50 cm thick, having permeability coefficient less than 10 <sup>-7</sup> cm/sec. The base shall be provided with 1 to 2 per cent slope and circled by lined drains for collection of leachate or surface run-off;	No change.
20.9	vi. Ambient air quality monitoring shall be regularly carried out particularly for checking odour nuisance at down-wind direction on the boundary of processing plant.	(vi) Ambient air quality monitoring shall be regularly carried out particularly for checking odor nuisance at down-wind direction on the boundary of processing plant	No change. "Regularly" does not define any specific time period.
20.10		(vii) Leachate shall be re-circulated in compost plant for moisture maintenance.	Introduced in 2013 draft rules. The leachate, with sometimes hazardous chemical composition, is very unlikely to be suitable for moisture maintenance in the compost plant and may even lead to the complete destruction of the composting process.
20.11	In order to ensure safe application of compost, the following specifications for	4. In order to ensure safe application of compost, the following specifications for	No change. This could have been updated considering the wealth of knowledge that has been gained on the short term and long term

S. No.	Current MSW rules 2000	Proposed Draft MSW rules 2013	Comments																																																		
	<p>compost quality shall be met, namely:-</p> <table border="0"> <tr> <td><b>Parameters</b></td> <td><b>Concentration not to exceed * (mg/kg dry basis</b></td> </tr> <tr> <td></td> <td><b>except pH value and</b></td> </tr> <tr> <td><b>C/N</b></td> <td></td> </tr> <tr> <td>Arsenic</td> <td>10.00</td> </tr> <tr> <td>Cadmium</td> <td>5.00</td> </tr> <tr> <td>Chromium</td> <td>50.00</td> </tr> <tr> <td>Copper</td> <td>300.00</td> </tr> <tr> <td>Lead</td> <td>100.00</td> </tr> <tr> <td>Mercury</td> <td>0.15</td> </tr> <tr> <td>Nickel</td> <td>50.00</td> </tr> <tr> <td>Zinc</td> <td>1000.00</td> </tr> <tr> <td>C/N ratio</td> <td>20-40</td> </tr> <tr> <td>PH</td> <td>5.5-8.5</td> </tr> </table>	<b>Parameters</b>	<b>Concentration not to exceed * (mg/kg dry basis</b>		<b>except pH value and</b>	<b>C/N</b>		Arsenic	10.00	Cadmium	5.00	Chromium	50.00	Copper	300.00	Lead	100.00	Mercury	0.15	Nickel	50.00	Zinc	1000.00	C/N ratio	20-40	PH	5.5-8.5	<p>compost quality shall be met, namely:-</p> <table border="0"> <tr> <td><b>Parameters</b></td> <td><b>Concentration not to exceed * (mg/kg dry basis</b></td> </tr> <tr> <td></td> <td><b>except pH value and C/N</b></td> </tr> <tr> <td>Arsenic</td> <td>10.00</td> </tr> <tr> <td>Cadmium</td> <td>5.00</td> </tr> <tr> <td>Chromium</td> <td>50.00</td> </tr> <tr> <td>Copper</td> <td>300.00</td> </tr> <tr> <td>Lead</td> <td>100.00</td> </tr> <tr> <td>Mercury</td> <td>0.15</td> </tr> <tr> <td>Nickel</td> <td>50.00</td> </tr> <tr> <td>Zinc</td> <td>1000.00</td> </tr> <tr> <td>C/N ratio</td> <td>20-40</td> </tr> <tr> <td>PH</td> <td>5.5-8.5</td> </tr> </table>	<b>Parameters</b>	<b>Concentration not to exceed * (mg/kg dry basis</b>		<b>except pH value and C/N</b>	Arsenic	10.00	Cadmium	5.00	Chromium	50.00	Copper	300.00	Lead	100.00	Mercury	0.15	Nickel	50.00	Zinc	1000.00	C/N ratio	20-40	PH	5.5-8.5	health implications of low level releases of pollutants into the web of life.
<b>Parameters</b>	<b>Concentration not to exceed * (mg/kg dry basis</b>																																																				
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20.12	* Compost (final product) exceeding the above stated concentration limits shall not be used for food crops. However, it may be utilized for purposes other than growing food crops.	• Compost (final product) exceeding the above stated concentration limits shall not be used for food crops. However, it may be utilized for purposes other than growing food crops.	No change.																																																		

21. Incineration

S. No.	Current MSW rules 2000	Proposed Draft MSW rules 2013	Comments
	<b>Schedule IV: Incineration</b>	<b>Schedule II</b> C. Incineration	
21.1	The incinerators shall meet the following operating and emission standards, namely:- <b>A. Operating Standards</b> (1) The combustion efficiency (CE) shall be at least 99.00%. (2) The combustion efficiency is computed as follows : $\text{C.E.} = \frac{\%CO_2}{\%CO_2 + \%CO} \times 100$	The incinerators shall meet the following operating and emission standards, namely Operating Standards (1) The combustion efficiency (CE) shall be at least 99.00%. (2) The combustion efficiency is computed as follows: $\text{C.E.} = \frac{\%CO_2}{\%CO_2 + \%CO} \times 100$	No change.
21.2	<b>1. Emission Standards</b> Parameters Concentration mg/Nm <sup>3</sup> at (12% CO <sub>2</sub> correction) (1) Particulate matter            150 (2) Nitrogen Oxides                450 (3) HCl                                    50 (4) Minimum stack height shall be 30 metres above ground. (5) Volatile organic compounds in ash	Emission Standards Parameters Concentration mg/Nm <sup>3</sup> at (12% CO <sub>2</sub> correction) (1) Particulate matter                150 (2) Nitrogen Oxides                450 (3) HCl                                    50 (4) Minimum stack height shall be 30 meters above ground. (5) Volatile organic compounds in ash shall not	No change.

S. No.	Current MSW rules 2000	Proposed Draft MSW rules 2013	Comments
	<p>shall not be more than 0.01%.</p> <p><b>Note :</b></p> <ol style="list-style-type: none"> <li>1. Suitably designed pollution control devices shall be installed or retrofitted with the incinerator to achieve the above emission limits, if necessary.</li> <li>2. wastes to be incinerated shall not be chemically treated with any chlorinated disinfectants</li> <li>3. Chlorinated plastics shall not be incinerated.</li> <li>4. Toxic metals in incineration ash shall be limited within the regulatory quantities as specified in the Hazardous Wastes (Management and Handling) Rules, 1989 as amended from time to time.</li> <li>5. Only low sulphur fuel like l.d.o., l.s.h.s or Diesel shall be used as fuel in the incinerator.</li> </ol>	<p>be more than 0.01 %.</p> <p>Note:</p> <ol style="list-style-type: none"> <li>1. Suitably designed pollution control devices shall be installed or retrofitted with the incinerator to achieve the above emission limits, if necessary.</li> <li>2. Waste to be incinerated shall not be chemically treated with any chlorinated disinfectants.</li> <li>3. Chlorinated plastics shall not be incinerated.</li> <li>4. Toxic metals in incineration ash shall be limited within the regulatory quantities as specified in the Hazardous Waste (Management, Handling and Trans boundary Movement) Rules, 2008, as amended from time to time.</li> <li>5. Only low sulphur fuel like l.d.o., l.s.h.s or Diesel shall be used as fuel in the incinerator.</li> </ol>	

## 22. Waste to Energy

Introduced in 2013 draft rules.

S. No.	Current MSW rules 2000	Proposed Draft MSW rules 2013	Comments
		<b>Schedule II D. Waste to Energy</b>	
22.1		<p>The State Pollution Control Board or Committee, on examination of the proposal on case-to-case basis, shall prescribe such standards for maintenance of ambient air quality around such facilities. The standards and other specifications shall be in consonance with the emission standards prescribed for incineration and or disposal of treated leachates.</p> <p>The State Pollution Control Board or Pollution Control Committee shall examine the proposal submitted by Municipal Authority or an operator on behalf of these authorities and if it includes the technology other than mentioned in these rules shall be approved by the State Pollution Control Board or Committee.</p> <p>However, if the State Pollution Control Board or Committee so desire, may forward to Central Pollution Control Board for technical advice.</p>	<p>Introduced in 2013 draft rules. Incineration technologies has been proven to be highly environmentally damaging and are being phased out from the developed world. This technology is ineffective, highly uneconomical and highly polluting and, as per the orders of the Hon'ble High Court of Karnataka, cannot be implemented, as more efficient, beneficial and environmentally-sound solutions exist and are being put to work successfully. The very need for introducing this Section is highly questionable.</p>