

**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL
AT NEW DELHI.**

Original Application No.: 138/2025

IN THE MATTER OF:

SOHAN LAL & ORS.

...APPLICANTS

VERSUS

STATE OF HARYANA

...RESPONDENTS

NDOH: 09.07.2025

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PLACE: GURUGRAM

DATE: 07.07.2025




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ARTLO

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9582209633**

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HSPCB, PANCHKULA REGION.**

MOST RESPECTFULLY SHOWETH:

1. The Applicant has filed the captioned the Original Application against the illegal development/construction of *Material Recovery Facility*, herein after referred to as '*MRF*' of more than five (5) ton capacity per day (As per a project report of Jhuriwala by E & Y TEFRR, Panchkula generates 143.45 metric tons of Municipal Solid Waste TPD) on a parcel of land situated near Kami Village road at village Alipur, ward no.20 MC Panchkula.
2. That this Hon'ble Tribunal issued notice to the Respondents vide order dated 07.04.2025 and the Respondents were directed to file their response by way of an affidavit. The matter was next listed for hearing on 23.05.2025. That the Respondents filed their reply only one day prior to the date of hearing i.e. on 22.05.2025 and therefore the counsel for the Applicants sought time to file its Rejoinder. Hence, the present rejoinder is being filed by the Applicants to the reply filed by Respondent No. 2, 3 and 4.

3. That at the outset, the Applicants herein deny each and every statement and contentions set forth in the reply to the extent the same are contrary to and/or inconsistent with the true and complete facts of the case and/or the submissions made on behalf of the Applicants in the Original Application as well as in the present Rejoinder. That the Applicants further humbly submit that the averments and contentions, as stated in the reply, may not be taken to be deemed to have been admitted by the Applicant, save and except what are expressly and specifically admitted and the rest may be read as travesty of facts.
4. At the very outset, the Applicants respectfully submit that the stand taken by the Respondents in their reply—namely, that the Material Recovery Facility (MRF) under construction is intended merely to serve as a transition-cum-transfer point for the temporary storage and handling of municipal solid waste—is factually and legally untenable. In this regard, the Applicants place on record newspaper articles dated 17.11.2024 and 27.05.2025 annexed herewith and marked as **Annexure-A/1(Colly)**, which unequivocally indicate that the said project entails the establishment of compost pits, a drainage system, multiple segregation points, a leachate treatment unit, structural sheds, and a boundary wall, among other infrastructural components. As per Rule 3(29) of the Solid Waste Management Rules, 2016, "leachate" is defined as the liquid that percolates through solid waste and contains dissolved or suspended contaminants. Further, Heading B of Schedule II to the SWM Rules prescribes specific standards for the disposal of treated leachate, thereby confirming that leachate treatment is an essential and regulated process that goes beyond mere temporary storage or segregation. Additionally, FORM-1 for authorization under the SWM Rules explicitly requires disclosure of information pertaining to leachate treatment technology and quantity under Serial No. 6, under the heading "Processing/Recycling/Treatment of Solid Waste". This

reinforces the Applicants' contention that the project in question involves full-fledged waste processing and treatment operations, contrary to the Respondents limited characterization. Consequently, such a facility attracts various regulatory approvals and compliance requirements, which the Respondents appear to be circumventing by misrepresenting the nature and scope of the project.

5. That the news article dated 17.11.2024 further also states that: ***“We will ensure that the waste brought to the MRF centre is segregated and lifted within 28 days”***. This statement, when read in conjunction with the submissions already made by the Applicants in the present Original Application, demonstrates the magnitude and gravity of the environmental and public health concerns arising from the operation of the Material Recovery Facility (MRF) in question. As per the Techno-Economic Feasibility Report (TEFR) for the Jhuriwala project prepared by Ernst & Young, it is on record that Panchkula generates approximately **143.45 metric tons** of Municipal Solid Waste (MSW) per day. If such a volume of waste is brought to the MRF site daily and stored for up to **28 days**, it would result in the accumulation of over **4,016 metric tons** of waste at any given time before it is lifted or processed further. Such prolonged on-site storage of massive quantities of untreated and unprocessed MSW in a populated area would inevitably lead to severe public nuisance and environmental degradation. The risks include, but are not limited to, emission of foul odours, increased air and water pollution, leachate seepage into the soil and groundwater, proliferation of disease vectors such as flies and rodents, and adverse impacts on the health and wellbeing of the local residents. This scenario clearly contradicts the Respondents' claim that the MRF is a mere transition point with minimal environmental footprint. It also underscores the Applicants contention that the facility, in its current form and functioning, amounts to an unregulated solid waste processing and storage unit that ought to be subject to stringent regulatory

scrutiny and mandatory approvals under the Solid Waste Management Rules, 2016, as well as relevant environmental laws. The failure to conduct a proper environmental impact assessment or obtain the necessary consents prior to the commencement of such operations is a serious lapse that warrants the intervention of this Hon'ble Tribunal.

6. The Applicants respectfully submit that the requirement of obtaining *prior Environmental Clearance* (EC) for the project in question is mandatory and arises squarely under the *Environmental Impact Assessment (EIA) Notification, 2006*, particularly under Clause 7(i) of the Schedule thereto. In the Original Application, the Applicants have categorically contended that in terms of the said Notification, all *Common Municipal Solid Waste Management Facilities* (CMSWMFs), without exception or categorization, are required to obtain prior EC before commencement of construction or operation. The Respondents, however, seek to circumvent this requirement by relying upon an *Office Memorandum dated 07.11.2017*, contending that since the Material Recovery Facility (MRF) in question is allegedly limited to mere *storage and segregation*, it is exempted from the purview of the EIA Notification. Such a contention is legally unsustainable. The *Solid Waste Management Rules, 2016* provide a binding and comprehensive definition of the term "*facility*" under Rule 3(22), which includes within its ambit all solid waste management processes such as "segregation, recovery, storage, collection, recycling, processing, treatment or safe disposal." The language of this definition is inclusive and expansive, clearly establishing that even a facility limited to *storage and segregation* falls within the meaning of a solid waste management "facility." Facility as defined under the SWM Rules, 2016 is reproduced herein below for the ready reference of this Hon'ble Tribunal:

3(22). “facility” means any establishment wherein the solid waste management processes namely **segregation**, recovery, **storage**, collection, recycling, processing, treatment or safe disposal are carried out;

Further, Entry 7(i) of the Schedule of the EIA Notification, 2006 is as follows:

PROJECT OR ACTIVITY		CATEGORY WITH THRESHOLD LIMIT		CONDITIONS IF ANY
		(A)	(B)	
(1)	(2)	(3)	(4)	(5)
7(i)	Common Municipal Solid Waste Management Facility (CMSWMF)		All projects	General Conditions shall apply

Crucially, the said entry makes **no distinction** as to the nature or scope of activities undertaken at such a facility. The phrase “*All projects*” signifies that the applicability of the EIA Notification under this entry is broad and all-encompassing, and does not exclude any facility merely because it is engaged in storage or segregation alone. Thus, when read harmoniously with the definition under Rule 3(22) of the SWM Rules, it becomes evident that any facility carrying out even basic solid waste management operations—such as storage and segregation—would squarely fall within the ambit of Clause 7(i), thereby necessitating prior Environmental Clearance.

7. The Office Memorandum dated 07.11.2017, seeks to dilute the mandatory nature of the EIA Notification by introducing a distinction not borne out of the parent Notification or the statutory rules. The Office Memorandum is contrary to and in contradiction with the provisions of the Notification of 2006; the Notification of 2006 having been issued under the provisions of Section 3 of Act of 1986, cannot be diluted, rendered ineffective or infructuous by issuance of an Office Memoranda.

All types of common municipal solid waste management facilities were included under the purview of the EIA Notification 2006, keeping in mind the effect of the same on the surrounding environment and public living in the near vicinity of such facilities. By excluding Material Recovery Facilities from the requirement of obtaining Environment Clearance, the very purpose of the provisions of Act of 1986 and the Notification of 2006 stands frustrated by the Office Memorandum dated 07.11.2017. Reliance in this regard is placed on the Judgments passed by the Hon'ble Supreme Court in the cases of *Lafarge Umiam Mining Pvt. Ltd. v. Union of India (UOI), (2011) 7 SCC 338* and *M.C. Mehta v. Union of India (UOI), (2004) 12 SCC 118*, to contend that the **circulars issued by the MoEF cannot nullify a statutory Notification**. In the case of *M.C. Mehta* (supra), the MoEF had issued a circular dated 14 May, 2002, thereby providing an opportunity to people to seek clearance in relation to projects which were already operational but in violation of the Notification of 2006. The Hon'ble Apex Court questioned MoEF's intent to legalize the commencement or continuance of mining activity without compliance to the stipulations of the Notification of 2006. However, it was observed that in any case, a statutory notification cannot be notified by issuance of circular. Such actions demonstrate non-sensitivity of MoEF to the principles of sustainable development and the object behind the issuance of the notification.

8. It is in the humble submission of the Applicants herein that the Office Memorandum at best are administrative orders and therefore, cannot amend or modify the Notifications. It is further the contention of the Applicants that these Office Memorandum are in derogation to the Notification of 2006. The Office Memorandum, in fact, destroys the very object of the Act of 1986, Notification of 2006 and they have the effect of going beyond scope of the Notification of 2006. The Office Memorandum not only dilutes the provisions of the Notification of 2006

but completely upset the scheme of environmental protection as contemplated under the environmental laws. On its plain reading, they are *ultra vires* the Notification of 2006 and the Ministry had no jurisdiction to issue such Office Memoranda. The Office Memorandum is not supplementing but is supplanting the Notification of 2006. Such exercise of powers is impermissible in law. It is relevant to mention herein that the issue of two such office memorandums having been issued by MoEF was taken into consideration by this Hon'ble Tribunal in the matter of **MR. IRBA MASHNAJI KONAPURE & ANR vs. UNION OF INDIA & ORS. (OA/107/2022 (WZ))**, wherein the Hon'ble Bench categorically held that:

“The impugned orders have been titled as ‘Office Memorandum’ and content of the orders captioned as ‘guidelines’ but in fact, are Office Memoranda which directly vary the substantive law in force. This has been adopted by the Ministry as a viamedia to bypass the statutory requirements of law or for truncating the prescribed process of environmental protection, in terms of Notification of 2006. These Office Memoranda not only substantially amend or alter its application but even frustrate the requirements of the existing law.

.....

Upon proper analysis of the language of these Office Memoranda and the law (referred herein after), these Office Memoranda whether they be issued as administrative orders or issued in exercise of executive power, are not clarificatory or supplementary to the Notification of 2006. On the contrary, under no

uncertain terms, they are supplanting the Notification of 2006 and are in complete derogation to the laws in force. The Office Memoranda have been issued without proper application of mind, where casualty is the Notification of 2006 and the environment.....”

9. The Applicants would like to submit that it is a well settled law that an office memorandum cannot supersede a notification. Office memorandums are generally considered executive instructions, which can supplement but not supplant statutory rules. Reliance in this regard is placed on the judgment passed by the Hon’ble Supreme Court in the matter of **Jaiveer Singh & Ors. Vs. The State of Uttarakhand & Ors. (Arising out of SLP (C) No. 23943 of 2022)**, wherein it was held that:

“It can thus be seen that it is a trite law that the Government cannot amend or supersede statutory rules by administrative instructions, but if the rules are silent on any particular point, it can fill up the gaps and supplement the rules and issue instructions not inconsistent with the rules already framed. It is a settled proposition of law that an authority cannot issue orders/office memorandum/executive instructions in contravention of the statutory rules. However, instructions can be issued only to supplement the statutory rules but not to supplant it.”

10. That a Bench of this Tribunal while dealing somewhat similar situation in the case of **Himmat Singh Shekhawat v. State of Rajasthan, 2015 All (I) NGT Reporter (1) (Delhi) 44** held as under:

“.....But the greater part of such Office Order or Office Memorandum should be such that it would not vary the content or be contrary to the statutory provisions which are in place by virtue of enacting such provisions either by primarily legislative or delegated legislative power.

It is a settled principle that legislature can only delegate to an outside body subordinate or ancillary legislative power for carrying out a policy of the act. The body to whom such power is delegated is required to act strictly within the framework of such delegated powers. Such power is incidental to the exercise of all powers in as much as it is necessary to delegate for the proper discharge of all the public duties. It is because the body constituted should act in the manner indicated in law and should exercise its discretion by following the procedure therein itself or by such delegation as is permissible. Unlike the situation the judges are not allowed to surrender their judgments to others. The legislature and executive can delegate powers within the framework of law. It is an axiom of Constitutional law that representative legislative bodies are given the legislative powers because the representative Government vested in the persons chosen to exercise the power of voting taxes and enacting laws which is the most important and sacred trust known to civil Government. The Delegation has its own restrictions. For instance, the legislature cannot delegate its functions of laying down legislative policy in respect of a measure and its formulation as a rule of conduct. A memorandum which is

nothing but administrative order or instruction cannot amend or supersede the Statutory Rules adding something therein which would specifically alter the content and character of the Notification itself. It has been consistently reiterated with approval by the Hon'ble Supreme Court that administrative practice/administrative order cannot supersede or override the statutory rule of Notification and it is stated to be a well settled proposition of law.

The delegated power is primarily for carrying out the purposes of the Act and this power could hardly be exercised to bring into existence a substantive right or obligation or disabilities not contemplated by the provisions of the Act or the primary Notification.”

11. That a Constitution Bench of the Hon'ble Supreme Court in the case of *Sant Ram v. State of Rajasthan, AIR 1965 SC 1910*, while dealing with the scope of executive instructions held that:

“Instructions can be issued only to supplement the statutory rules and not to supplant it. Such instructions should be subservient to the statutory provisions. They would have a binding effect provided the same has been issued to fill up the gaps between the statutory provisions and are not inconsistent with the said provisions.”

12. In view of the foregoing submissions and placing firm reliance on the binding principles laid down by the Hon'ble Supreme Court as well as this Hon'ble Tribunal in various landmark judgments, the Applicants most respectfully submit that the

Environmental Impact Assessment (EIA) Notification, 2006, being a statutory instrument issued under the provisions of the Environment (Protection) Act, 1986, mandates the requirement of *prior Environmental Clearance* (EC) for **all types of solid waste management facilities**, including *Material Recovery Facilities (MRFs)*, under Clause 7(i) of its Schedule. This statutory obligation, being rooted in delegated legislation, carries the full force of law and cannot be overridden, diluted, or modified by an *Office Memorandum (OM)* issued by executive fiat. The Office Memorandum dated 07.11.2017, relied upon by the Respondents to assert exemption from the EC requirement on the basis that the MRF is merely a storage and segregation unit, is ultra vires to the parent Notification and impermissibly seeks to alter its clear mandate. It is a settled principle of law, as reiterated by the Hon'ble Supreme Court in multiple pronouncements that executive instructions or memoranda, such as Office Memorandums, may supplement but **cannot supplant** or override statutory rules or notifications issued under delegated legislative authority. The said OM, far from merely clarifying the scope of the Notification, effectively carves out an exemption that the EIA Notification, 2006 does not provide for, thereby rendering it inconsistent with and repugnant to the statutory scheme. Such an executive instrument, which attempts to circumvent the express requirement of prior EC for all CMSWMFs—including those that involve only storage and segregation, as per the inclusive definition of “facility” under Rule 3(22) of the Solid Waste Management Rules, 2016—cannot be accorded any binding legal status. Therefore, the Applicants respectfully contend that the reliance placed by the Respondents on the said Office Memorandum is wholly misplaced and unsustainable in law. The statutory requirement under the EIA Notification, 2006 for prior Environmental Clearance remains applicable and enforceable in its entirety, and the impugned project cannot lawfully proceed in derogation thereof. This Hon'ble

Tribunal is thus prayed to consider the overriding nature of the statutory notification and the judicially affirmed principle that subordinate executive directions cannot defeat legislative mandates.

13. Further, the averment of the Respondents that an MRF, in its functional scope, does not attract the requirement of Consent to Establish (CTE) or Consent to Operate (CTO) under the Water (Prevention and Control of Pollution) Act, 1974 or the Air (Prevention and Control of Pollution) Act, 1981 is wrong and is therefore vehemently denied by the Applicants herein. It is relevant to mention herein that the Central Pollution Control Board (CPCB) issued directions dated 07.03.2016 under section 18(1)(b) of the Water Act and the Air Act regarding classification of Industries. The purpose of categorization was to ensure that the industry is established in a manner consistent with the environmental objectives and to prompt industrial sectors to adopt cleaner technologies, ultimately resulting in generation of no or minimum pollutants. The 'Categorization' was based on the relative pollution potential of the industrial sectors and grouping of the industrial sectors based on the use of raw materials, manufacturing process adopted and pollutants likely to be generated. That vide the said directions dated 07.03.2016, CPCB introduced White Category of Industries which were exempted from the Consent Mechanism. Relevant portion from the direction dated 07.03.2016 is reproduced herein below for the ready reference of this Hon'ble Tribunal:

“WHEREAS, there shall be no necessity of obtaining the Consent to Operate” for White category of industries and an intimation to concerned SPCB / PCC shall suffice.”

That the CPCB directed all the State Pollution Control Boards to adopt the revised classification of industries. Copy of the directions dated 07.03.2016 under section 18(1)(b) of the Water Act and the Air Act are marked and annexed herewith as **Annexure-A/2**.

14. That pursuant to the directions issued by the Central Pollution Control Board (CPCB), the Respondent—Haryana State Pollution Control Board—vide Office Order dated 06.07.2016, issued a revised classification of industries. It is pertinent to state that, in accordance with the said classification, Common Treatment and Disposal Facilities (including CETP, TSDF, i.e., Treatment, Storage and Disposal Facility, E-waste recycling, Common Bio-Medical Waste Treatment Facility [CBMWTF], effluent conveyance projects, incinerators, solvent/acid recovery plants, and Municipal Solid Waste [MSW] sanitary landfill sites) have been placed under the ‘Red’ category of industries at Entry No. 73. Furthermore, it is significant to note that the list of ‘White’ category industries, which are exempt from the requirement of obtaining prior consent, does not include Material Recovery Facilities (MRFs). This clearly indicates that MRFs were not explicitly exempted from the consent mechanism under the said classification issued by the Respondent Board. Copy of the Office Order dated 06.07.2016 issued by the Respondent Haryana State Pollution Control Board is marked and annexed herewith as **Annexure-A/3**.

15. That the Respondent Board, vide Office Order dated 03.12.2020, issued an amended procedure for obtaining Consent to Establish and Consent to Operate under the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981. Alongside, a revised categorization of Red, Orange, Green, and White categories for Industrial and Non-Industrial Sectors/Projects/Units

was notified under the consent management framework of the Board. It is pertinent to submit that, as per the said classification, Common Treatment and Disposal Facilities—comprising CETPs, TSDFs (i.e., Treatment, Storage and Disposal Facilities), E-waste recycling units, Common Bio-Medical Waste Treatment Facilities (CBMWTFs), effluent conveyance systems, incinerators, solvent/acid recovery plants, and Municipal Solid Waste (MSW) sanitary landfill sites—are listed under Entry No. 73 in the ‘Red’ category of industries. Additionally, it is noteworthy that the ‘White’ category list, which enumerates activities exempt from the requirement of obtaining prior consent, does not include Material Recovery Facilities (MRFs). This omission clearly establishes that MRFs were not expressly exempted from the consent mechanism under the revised classification issued by the Respondent Board. Copy of the Office Order dated 03.12.2020 issued by the Respondent Haryana State Pollution Control Board is marked and annexed herewith as **Annexure-A/4**.

16. That further, the Central Pollution Control Board issued directions dated 12.02.2025 under Section 18(1)(b) of the Water Act and the Air Act regarding harmonization of classification of industrial sectors under Red, Orange, Green, White and Blue categories. That vide the said direction, CPCB formed a new category- Blue Category- for essential environmental services for management of environmental pollution arising from domestic/household activities. The Central Pollution Control Board has defined essential environmental services (EES) as:

“Essential Environmental Services may be defined as those facilities which are essential to control, abate and mitigate pollution generated from Domestic and Industrial activities. Such Essential environment services for Industrial Activity

*includes CETP, CHWTSDF, Effluent conveying system etc. and essential environment services for domestic activities includes STP, MSW etc. Both the type of EES plays a vital role in Environment Management. However, during the treatment of waste, some EES generates/handle hazardous waste/infectious waste. **The EES which do not generate Hazardous Waste, and which otherwise have large littering potential can be categorized as Blue Category Projects.** Further, there are past legal references wherein Hon'ble Apex court has also considered the importance and requirement of such Essential Environment Services.*

*Human settlements whether located in rural/urban/eco-sensitive area generate sewage, solid waste, and C&D waste, which are required to be managed to prevent adverse impact on environment and human health. Basic environment management facilities are required to be set-up to manage such waste which includes STP, C&D waste processing facility, MSW management facility like sanitary landfill, **material recovery facility** & waste processing units, bio-methanation, bio-composting, waste to energy, etc.*

*As the role and importance of these facilities is different in nature as compared to other activities and industries in the sense that they are primarily set-up for prevention, control and abatement of soil, water and air pollution. **It is more appropriate to have a***

separate color category-Blue Category for essential environmental services facilitates related to environmental pollution arising from domestic/household activities. These activities are required to meet all the prescribed environmental norms/rules notified from time to time and the pollution index for such Essential Environmental Services (EES) shall continue to be calculated as per the formula and consent to operate will be governed based on the pollution index. However, the category of the EES will be termed “Blue Category sector” and as an incentive for the essential services, additional 2 years validity for consent to operate (as per PI) will be provided. The list of EES facilities is given at Annexure-II.”

That therefore, the Material Recovery Facility (MRF) falls under the 'Blue' category as per the revised classification of industries issued by the Central Pollution Control Board (CPCB) vide notification dated 12.02.2025. It is further submitted that, in accordance with the said classification, only those industries having a Pollution Index (PI) of up to 25 are eligible for exemption from the consent mechanism. However, the Material Recovery Facility is specifically listed at Entry 1.6 of the Blue Category Industries, and has been assigned a Pollution Index of 66, which significantly exceeds the prescribed threshold of 25. This clearly establishes that MRFs are not eligible for exemption and remain subject to the requirement of obtaining prior consent under the applicable environmental laws and regulations. Copy of directions dated 12.02.2025 issued by CPCB under Section 18(1)(b) of the Water Act and the Air Act regarding harmonization of classification of industrial sectors under Red, Orange, Green, White and Blue categories is marked and annexed herewith as **Annexure-A/5**.

17. As elaborated in the preceding submissions, *Office Memorandums* (OMs) issued by competent authorities, such as the Ministry of Environment, Forest and Climate Change (MoEF&CC), may be accorded binding effect only to the extent that they serve to **supplement** and not **supersede** or **dilute** statutory rules or notifications. Such OMs may be considered legally valid where they are issued to fill interpretative or procedural gaps, and are consistent with the parent statutory framework. In this context, the *Office Memorandum dated 04.01.2019*, issued by the MoEF&CC, is one such example of a legally permissible clarification, laying down *Standard Environmental Clearance Conditions* applicable to various sectors, including specifically to projects falling under Clause 7(i) of the Schedule to the *EIA Notification, 2006*, i.e., *Common Municipal Solid Waste Management Facilities* (CMSWMFs). The Applicants reiterate that the *EIA Notification, 2006*, being a statutory instrument issued in exercise of the powers conferred under the *Environment (Protection) Act, 1986*, has the full force of law and mandates *prior Environmental Clearance* (EC) for **all types of solid waste management facilities**, including *Material Recovery Facilities* (MRFs), which are subsumed within the definition of “facility” under Rule 3(22) of the *Solid Waste Management Rules, 2016*. This statutory obligation cannot be diluted by an OM that seeks to selectively exclude certain categories of facilities. Importantly, the *OM dated 04.01.2019* affirms the statutory scheme rather than undermining it, and stipulates mandatory compliance conditions for projects requiring EC under Clause 7(i). That the relevant standard Environment Clearance conditions for **all types of solid waste management facilities** as stipulated under the OM dated 04.01.2019 are as follows:

“I (iv). The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the

Water (Prevention & Control of Pollution) Act, 1974 from the concerned State Pollution Control Board/ Committee.

This condition affirms that even after obtaining prior EC, compliance with pollution control statutes remains mandatory, thereby highlighting the layered regulatory framework governing such facilities. Copy of the office memorandum dated 04.01.2019 is marked and annexed herewith as **Annexure-A/6**.

18. That further, the Ministry of Housing and Urban Affairs, Government of India, Swach Bharat Mission – Urban, issued an advisory dated June 2020 on Material Recovery Facility (MRF) for Municipal Solid Waste. That as per the said advisory permissions have to be sought from the State Pollution Control Board (SPCB) in the form of consent to establish, consent to operate, etc. for establishing a Material Recovery Facility (MRF). Relevant portion of the said advisory is reproduced herein below for the ready reference of this Hon'ble Tribunal:

3.6- “Authorizations/ Permissions Required

The permissions have to be sought from the State Pollution Control Board (SPCB) in the form of consent to establish, consent to operate, etc. Later, an annual report needs to be given to the SPCB / Pollution Control Committee (PCC). The various forms can be in the SWM Rules 2016 and the Plastic Waste Management Rules 2016. There may be exceptions for small capacity MRF's.”

Copy of the advisory dated June 2020 on Material Recovery Facility (MRF) for Municipal Solid Waste issued by the Ministry of Housing and Urban Affairs, Government of India, Swach Bharat Mission – Urban is marked and annexed herewith as **Annexure-A/7**.

19. The Applicants respectfully draw the attention of this Hon'ble Tribunal to the *Standing Operating Procedure (SOP) dated 23.12.2024*, issued by the *Central Pollution Control Board (CPCB)*, titled "*SOP for Setting Up and Operation of Secondary Storage & Transportation Facilities for Municipal Solid Waste*," which specifically includes *Material Recovery Facilities (MRFs)* within its scope. A true copy of the said SOP is annexed herewith and marked as *Annexure-A/8*. The SOP was issued recognizing the numerous environmental and public health concerns arising from mismanaged or improperly located secondary storage facilities. It identifies key issues observed at such sites, which are consistently found to contribute to environmental degradation and community nuisance. These issues include:

- (i) indiscriminate dumping of unsegregated waste in violation of the *Solid Waste Management Rules, 2016*,
- (ii) persistent foul odour impacting the surrounding air quality,
- (iii) littering caused by stray animals and rag pickers,
- (iv) leachate seepage into the soil and surrounding areas, posing a serious risk of groundwater contamination,
- (v) pest and vector breeding,
- (vi) traffic congestion due to poor planning near roads,
- (vii) aesthetic degradation of the area,
- (viii) unhygienic and disease-prone conditions,
- (ix) repeated non-compliance with Rule 15 of the *SWM Rules, 2016* relating to waste segregation, and
- (x) overall environmental degradation leading to adverse impacts on land use, real estate value, and quality of life.

Importantly, the CPCB SOP prescribes *strict siting criteria* for the establishment of such secondary storage facilities, including MRFs. The SOP unequivocally states that such facilities **should not be located in densely populated areas**, and instead should be established in isolated areas to mitigate the above risks. However, in the present case, the Respondents have proceeded to construct the impugned MRF at a distance of merely *173 meters* from *Village Alipur*, the residential village where the Applicants reside; *216 meters* from *Industrial Area 2*; and only *271 meters* from the *Eco Village, Village Alipur, Sector 12, Panchkula*. These distances clearly establish the proximity of the proposed MRF to human habitation and sensitive land uses, in direct contravention of the CPCB's SOP. The placement of the facility within such close range to densely populated area threatens the health, environment, and livelihood of the local population, including the Applicants herein. It is submitted that the Respondents' failure to adhere to the SOP's minimum location safeguards and environmental standards constitutes a gross violation of regulatory directives and the *precautionary principle*, which underpins Indian environmental jurisprudence. The construction of an MRF at the impugned site, without due regard to the siting criteria laid down by the apex pollution control authority, warrants immediate intervention by this Hon'ble Tribunal. The Applicants, therefore, pray for necessary directions to prevent the continuation of the project at the present site and to ensure that the provisions of the *SWM Rules, 2016* and CPCB SOP dated 23.12.2024 are strictly complied with.

PRAYER

It is therefore, most respectfully prayed that this Hon'ble Tribunal may kindly be pleased to:

- i. allow this OA in terms of the prayer made therein;
- ii. take the present Rejoinder on record;

Pass such and/or further orders as deemed fit and proper in the peculiar facts and circumstances of this case in favor of the Applicants/Petitioners No 1 to 9.

Note: Affidavit of Applicants is attached.

Sohan Lal

APPLICANT NO 1
SOHAN LAL S/O SH. JAGIRA

Malkeet Singh

APPLICANT NO 2
MALKEET SINGH S/O DAYAL SINGH

Sarwan Kumar

APPLICANT NO 3
SARWAN KUMAR S/O SH. BHIKHA RAM

Krishan Lal

APPLICANT NO 4
KRISHAN LAL S/O SH. RAM LAL

Balbir Singh

APPLICANT NO 5
BALBIR SINGH S/O SH. KARNEL SINGH

Satbir

APPLICANT NO 6
SATBIR S/O SH. RATI RAM

Gurdas Singh Baihar

APPLICANT NO 7
GURDAS SINGH BAIHAR S/O SH. HIMMAT SINGH BAIHAR
(EX. SARPANCH)

Salim Khan

APPLICANT NO 8
SALIM KHAN KUMAR S/O SH. NIAZ MOHOMMAD
(MUNICIPAL COUNCILOR)

Gurpreet Singh

APPLICANT NO 9
GURPREET SINGH S/O SH. HARJIT SINGH

(A.R. Takkar, Shriya Takkar, Asmita Duggal, Avantika Thakur)

(A.R. TAKKAR, SHRIYA TAKKAR, ASMITA DUGGAL, AVANTIKA THAKUR,

Manan Takkar

Aastha Tyagi

MANAN TAKKAR, AASTHA TYAGI, PRINCE SHARMA & UDIT SAINI)
ADVOCATES FOR APPLICANTS

M/S ARTLO

P-6/2-E, DLF PHASE -2, GURGAON – 122002

OFFICE: 0124-4210005

9910100005

ARTAKKAR@ARTLO.IN

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



Handwritten signature
NO 8 HIRA/03
13/07/25

ORIGINAL APPLICATION NO. OF 2025

IN THE MATTER OF:

SOHAN LAL S/O JAGIRA & OTHERS ...APPLICANTS

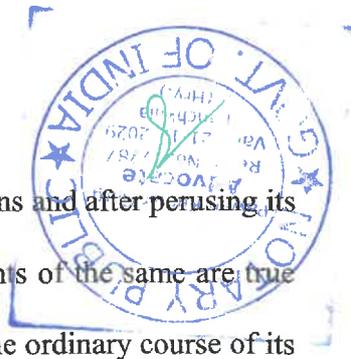
VERSUS

STATE OF HARYANA & ORS ...RESPONDENTS

Affidavit of Sohan Lal S/o Sh. Jagira Aged about
47 years, R/o Village Alipur Town, Post Office –
Jaloli, District & Tehsil – Panchkula – 134118-
Haryana.

I, the above named deponent do hereby solemnly affirm and state as under:

1. That I am the Applicant/Petitioner No 1 in the Original Application and as such well acquainted with the facts of the present case as per records available and competent to affirm the present affidavit.
2. That the Rejoinder has been drafted under my instructions and after perusing its contents, the same has been duly signed and the contents of the same are true and correct based on the records maintained by me in the ordinary course of its day. No part of it is false and nothing material has been kept concealed therefrom.



Sohan Lal

- 3 JUL 2025

3. That the Annexures attached with the Rejoinder are true copy of their original ones.

Place:

Sohan Lal

Date:

DEPONENT

VERIFICATION:

Verified that the contents of para 1 and 3 of my affidavit are true and correct to my knowledge. No part of it is false and nothing material has been kept concealed therefrom.

Place:

Sohan Lal

Date:

DEPONENT



h n. 2261 of 3/7/25

ATTESTED
NOTARY PUBLIC
PANCHKULA, HARYANA

- 3 JUL 2025

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



ORIGINAL APPLICATION NO. OF 2025

IN THE MATTER OF:

SOHAN LAL S/O JAGIRA & OTHERS ...APPLICANTS

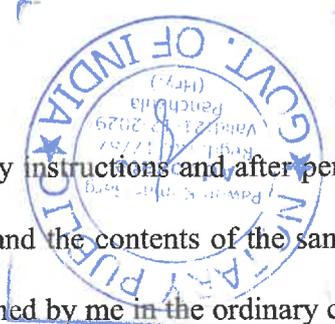
VERSUS

STATE OF HARYANA & ORS ...RESPONDENTS

Affidavit of Malkeet Singh S/O Dayal Singh Aged about 48 years, R/o Village Alipur Town, Post Office – Jaloli, District & Tehsil – Panchkula – 134118-Haryana.

I, the above named deponent do hereby solemnly affirm and state as under:

1. That I am the Applicant/Petitioner No 2 in the Original Application and as such well acquainted with the facts of the present case as per records available and competent to affirm the present affidavit.
2. That the Rejoinder has been drafted under my instructions and after perusing its contents, the same has been duly signed and the contents of the same are true and correct based on the records maintained by me in the ordinary course of its day. No part of it is false and nothing material has been kept concealed therefrom.



Malkeet Singh

F-3 JUL 2025

3. That the Annexures attached with the Rejoinder are true copy of their original ones.

Place:

Malkot Suru

Date:

DEPONENT

VERIFICATION:

Verified that the contents of para 1 and 3 of my affidavit are true and correct to my knowledge. No part of it is false and nothing material has been kept concealed therefrom.

Place:

Malkot Suru

Date:

DEPONENT



*Form. 2262
Dt 3/7/2025*



- 3 JUL 2025

3. That the Annexures attached with the Rejoinder are true copy of their original ones.

Place:

Date:

[Handwritten Signature]
DEPONENT

VERIFICATION:

Verified that the contents of para 1 and 3 of my affidavit are true and correct to my knowledge. No part of it is false and nothing material has been kept concealed therefrom.

Place:

Date:

[Handwritten Signature]
DEPONENT

Sn. No. 2263 of 05/7/2025



ATTESTED
NOTARY PUBLIC
PANCHKULA, HARYANA

F- 3 JUL 2025

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

ORIGINAL APPLICATION NO. OF 2025



IN THE MATTER OF:

SOHAN LAL S/O JAGIRA & OTHERS ...APPLICANTS

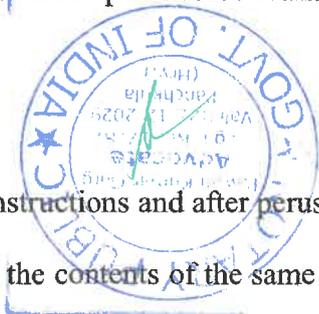
VERSUS

STATE OF HARYANA & ORS ...RESPONDENTS

Affidavit of Krishan Lal S/o Sh. Ram Lal Aged about 46 years, R/o Village Alipur Town, Post Office – Jaloli, District & Tehsil – Panchkula – 134118-Haryana.

I, the above named deponent do hereby solemnly affirm and state as under:

1. That I am the Applicant/Petitioner No 4 in the Original Application and as such well acquainted with the facts of the present case as per records available and competent to affirm the present affidavit.
2. That the Rejoinder has been drafted under my instructions and after perusing its contents, the same has been duly signed and the contents of the same are true and correct based on the records maintained by me in the ordinary course of its day. No part of it is false and nothing material has been kept concealed therefrom.



Handwritten signature in blue ink.

- 3 JUL 2025

3. That the Annexures attached with the Rejoinder are true copy of their original ones.

Place:

[Handwritten signature]

Date:

DEPONENT

VERIFICATION:

Verified that the contents of para 1 and 3 of my affidavit are true and correct to my knowledge. No part of it is false and nothing material has been kept concealed therefrom.

Place:

[Handwritten signature]

Date:

DEPONENT

[Handwritten text: G.N. 2264 of 3/7/2025]



- 3 JUL 2025

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03/07/25

Balbir Singh Kandel
of Delhi

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BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL, PRINCIPAL



Ashok Kumar
State Vendor
Rajind & ISHRA/OS
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BENCH, NEW DELHI

ORIGINAL APPLICATION NO. OF 2025

IN THE MATTER OF:

SOHAN LAL S/O JAGIRA & OTHERS

...APPLICANTS

VERSUS

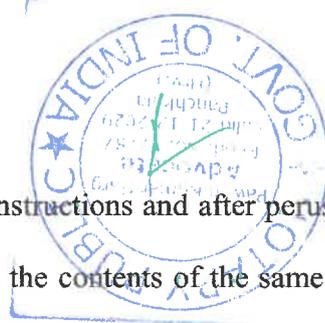
STATE OF HARYANA & ORS

...RESPONDENTS

Affidavit of Balbir Singh S/o Sh. Karmel Singh
Aged about 42 years, R/o Village Alipur Town, Post
Office – Jaloli, District & Tehsil – Panchkula –
134118-Haryana.

I, the above named deponent do hereby solemnly affirm and state as under:

1. That I am the Applicant/Petitioner No 5 in the Original Application and as such well acquainted with the facts of the present case as per records available and competent to affirm the present affidavit.
2. That the Rejoinder has been drafted under my instructions and after perusing its contents, the same has been duly signed and the contents of the same are true and correct based on the records maintained by me in the ordinary course of its day. No part of it is false and nothing material has been kept concealed therefrom.



बलबीर सिंह

3 JUL 2025

3. That the Annexures attached with the Rejoinder are true copy of their original ones.

वलवीर सिंह

Place:

Date:

DEPONENT

VERIFICATION:

Verified that the contents of para 1 and 3 of my affidavit are true and correct to my knowledge. No part of it is false and nothing material has been kept concealed therefrom.

वलवीर सिंह

Place:

Date:

DEPONENT



ATTESTED
 NOTARY PUBLIC
 PANCHKULA, HARYANA

- 3 JUL 2025

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02/07/25

Satbir S/o Sh. Rati Ram
J. G. H. Wala

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



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ORIGINAL APPLICATION NO. OF 2025

IN THE MATTER OF:

SOHAN LAL S/O JAGIRA & OTHERS

...APPLICANTS

VERSUS

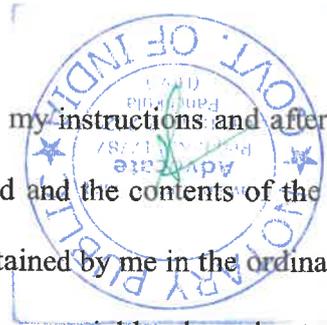
STATE OF HARYANA & ORS

...RESPONDENTS

Affidavit of Satbir S/o Sh. Rati Ram Aged about
41 years, R/o Village Matta Wala , Panchkula, G.K.
Panchkula – 134118-Haryana.

I, the above named deponent do hereby solemnly affirm and state as under:

1. That I am the Applicant/Petitioner No 6 in the Original Application and as such well acquainted with the facts of the present case as per records available and competent to affirm the present affidavit.
2. That the Rejoinder has been drafted under my instructions and after perusing its contents, the same has been duly signed and the contents of the same are true and correct based on the records maintained by me in the ordinary course of its day. No part of it is false and nothing material has been kept concealed therefrom.



- 3 JUL 2025

Satbir

3. That the Annexures attached with the Rejoinder are true copy of their original ones.

Sathu

Place:

Date:

DEPONENT

VERIFICATION:

Verified that the contents of para 1 and 3 of my affidavit are true and correct to my knowledge. No part of it is false and nothing material has been kept concealed therefrom.

Sathu

Place:

Date:

DEPONENT

Doc no 2266 dt 3/7/2025



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PANCHKULA, HARYANA

F- 3 JUL 2025

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02/07/25
Gurudas Baihar
H S Baihar
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BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL, PRINCIPAL

BENCH, NEW DELHI

ORIGINAL APPLICATION NO. OF 2025



IN THE MATTER OF:

SOHAN LAL S/O JAGIRA & OTHERS

...APPLICANTS

VERSUS

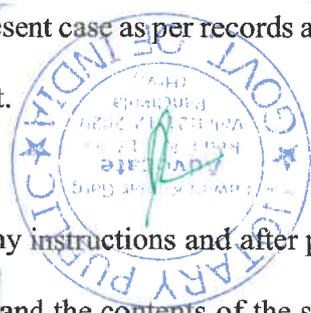
STATE OF HARYANA & ORS

...RESPONDENTS

Affidavit of Gurdas Singh Baihar(Ex Sarpanch) S/o
Sh. Himmat Singh Baihar, Aged about 52 years,
R/o Village Alipur Town, Post Office – Jaloli,
District & Tehsil – Panchkula – 134118-Haryana.

I, the above named deponent do hereby solemnly affirm and state as under:

1. That I am the Applicant/Petitioner No 7 in the Original Application and as such well acquainted with the facts of the present case as per records available and competent to affirm the present affidavit.
2. That the Rejoinder has been drafted under my instructions and after perusing its contents, the same has been duly signed and the contents of the same are true and correct based on the records maintained by me in the ordinary course of its day. No part of it is false and nothing material has been kept concealed therefrom.



Gurudas Baihar
- 3 JUL 2025

3. That the Annexures attached with the Rejoinder are true copy of their original ones.

Place:

JS Baitu

Date:

DEPONENT

VERIFICATION:

Verified that the contents of para 1 and 3 of my affidavit are true and correct to my knowledge. No part of it is false and nothing material has been kept concealed therefrom.

Place:

JS Baitu

Date:

DEPONENT

FIN. 2267 of 3/7/2025



ATTESTED
NOTARY PUBLIC
PANCHKULA, HARYANA

- 3 JUL 2025

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Salim Khan Kumar (Municipal Councillor) Mohommad
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HON'BLE NATIONAL GREEN TRIBUNAL, PRINCIPAL
BENCH, NEW DELHI

ORIGINAL APPLICATION NO. OF 2025

IN THE MATTER OF:

SOHAN LAL S/O JAGIRA & OTHERS

...APPLICANTS

VERSUS

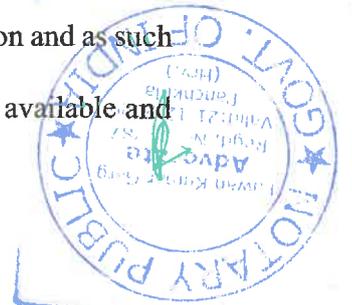
STATE OF HARYANA & ORS

...RESPONDENTS

Affidavit of Salim Khan Kumar (Municipal Councillor) S/o Sh. Niaz Mohommad, Aged about 49 years, R/o H No 19, Ward No 20, Near Kheda Panchkula – 134118-Haryana

I, the above named deponent do hereby solemnly affirm and state as under:

1. That I am the Applicant/Petitioner No 8 in the Original Application and as such well acquainted with the facts of the present case as per records available and competent to affirm the present affidavit.
2. That the Rejoinder has been drafted under my instructions and after perusing its contents, the same has been duly signed and the contents of the same are true and correct based on the records maintained by me in the ordinary course of its day. No part of it is false and nothing material has been kept concealed therefrom.



Salim Khan Kumar - 3 JUL 2025

3. That the Annexures attached with the Rejoinder are true copy of their original ones.

Place:

Date:

Soo / 12
DEPONENT

VERIFICATION:

Verified that the contents of para 1 and 3 of my affidavit are true and correct to my knowledge. No part of it is false and nothing material has been kept concealed therefrom.

Place:

Date:

Soo / 12
DEPONENT



ATTESTED
NOTARY PUBLIC
PANCHKULA, HARYANA

3 JUL 2025

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Amrinder Singh
Sh

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BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL, PRINCIPAL



BENCH, NEW DELHI

ORIGINAL APPLICATION NO. OF 2025

IN THE MATTER OF:

SOHAN LAL S/O JAGIRA & OTHERS

...APPLICANTS

VERSUS

STATE OF HARYANA & ORS

...RESPONDENTS

Affidavit of Gurpreet Singh S/o Sh. Harjit Singh
Aged about 43 years, R/o H No 99 Alipur (237),
Jaloli, Panchkula – 134118-Haryana.

I, the above named deponent do hereby solemnly affirm and state as under:

1. That I am the Applicant/Petitioner No 9 in the Original Application and as such well acquainted with the facts of the present case as per records available and competent to affirm the present affidavit.
2. That the Rejoinder has been drafted under my instructions and after perusing its contents, the same has been duly signed and the contents of the same are true and correct based on the records maintained by me in the ordinary course of its day. No part of it is false and nothing material has been kept concealed therefrom.



3 JUL 2025

Gurpreet Singh

3. That the Annexures attached with the Rejoinder are true copy of their original ones.

Place:

Burpreet Singh

Date:

DEPONENT

VERIFICATION:

Verified that the contents of para 1 and 3 of my affidavit are true and correct to my knowledge. No part of it is false and nothing material has been kept concealed therefrom.

Place:

Burpreet Singh

Date:

DEPONENT

*8968/MS
2/1/2025*



ATTESTED
NOTARY PUBLIC
PANCHKULA, HARYANA

3 JUL 2025

Panchkula MC to set up garbage sorting unit at Alipur village

ANNEXURE A/1

Rs 2.47 crore project likely to be completed by March next year



TRIBUNE NEWS SERVICE
Panchkula, Updated At : 07:02 AM Nov 17, 2024 IST

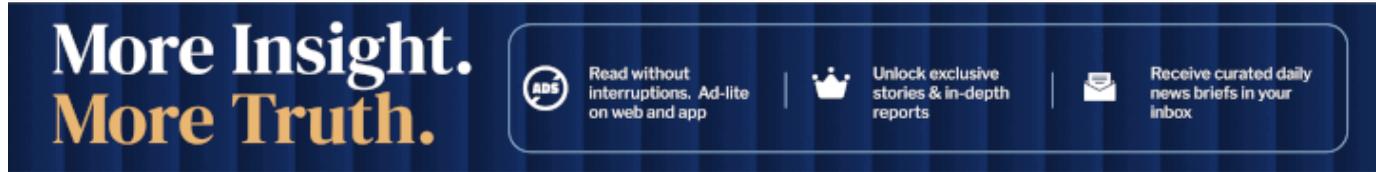


The Jhuriwala dumping site in Panchkula.

Advertisement

After years of protests and demonstrations, residents of the areas adjoining the Jhuriwala dumping ground will be able to breathe clean air as the Municipal Corporation is planning to set up a material recovery facility (MRF) on 3.5 acres at Alipur village, 18 km from the city.

Advertisement



**More Insight.
More Truth.**

- Read without interruptions. Ad-lite on web and app
- Unlock exclusive stories & in-depth reports
- Receive curated daily news briefs in your inbox

The garbage generated in Panchkula city will be segregated at the centre and later transported to different plants for processing. With the implementation of the project, the MC aims to clear the Jhuriwala dumping ground.

The Rs 2.47 crore project will include 800 compost pits, a drainage system, segregation points, leachete treatment unit, sheds and a boundary wall among other facilities.

Advertisement

MC officials said they aimed to complete the project by March next year.

Officials said the MC had already approved the rate of a tender for the project. They said they would not have any landfills at the site. “We will ensure that the waste brought to the MRF centre is segregated and lifted within 28 days. While the wet waste currently goes to Patvi for processing, the dry waste is sent to cement plants, co-processing plants and paper mills,” said an official privy to the matter. The matter was discussed in a meeting of the Finance and Contracts Committee of the civic body held on November 11. It was one of the major election issue during the recent Assembly polls. MC Joint Commissioner Simranjeet Kaur could not be reached for a comment despite repeated attempts.

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CHANDIGARH

PU student moves HC, challenges affidavit restricting right to protest as unconstitutional'

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Relief for residents of Sectors 23-25

The MC had told the NGT that the Jhuriwala dump had 90,837 MT of legacy waste and the Sector 23 dumping ground 3,04,645 MT when it started bioremediation plants at the two sites.

With tonnes of waste dumped at the sites, the residents of Sectors 23, 24, 25 and others have to bear with extremely foul smell.

Pkl to have five material recovery facilities soon

May 27, 2025, 03:05 AM IST



Panchkula: The municipal corporation of Panchkula has planned to shut down all existing waste collection centres in the city and replace them with five new material recovery facilities (MRFs) for municipal solid waste.

This initiative aims to improve solid waste management and sanitation standards in the city. To implement this plan, the MC has approached Haryana Shehri Vikas Pradhikaran (HSVP), requesting land for the construction of the proposed MRFs. Following this, the MC aims to start the construction work at these sites and gradually shut down all collection centres.

"We have no land with us, so we have written to the HSVP to provide land to us for these five centres. The MC is even ready to buy land if they agree to give the same. Once built, we will shut all existing 40-42 collection centres," mayor Kulbushan Goyal told TOI.

Some residents are doubtful of these plans. "Building five MRFs is a big thing. Will they be constructed as per the advisory of the ministry of housing and urban affairs? The MRF should not be for namesake; it should have all the required machines and equipment," commented Mohit Gupta, founder of Solution Box, a city-based help group.

Equipment required in MRF

As per the ministry's advisory for MRF, equipment such as weighbridge, single window printer scale, conveyor system, ferrous metal separation, air blower, shredders, compactors, agglomeration, and extrusion balers are to be put in at the MRFs.

At present, the first dedicated material recovery facility has been built and is expected to soon open for operation. The MRF, built on 3.5 acres at Alipur village, is 18 km away from the city. The garbage generated in Panchkula city will be segregated into dry and wet garbage at the centre and later transported to the Patvi processing plant in Ambala. A number of compost pits, a drainage system, segregation points, leachate treatment unit, sheds, and a boundary wall are part of this facility.

An MRF is a specialised facility that processes mixed waste to recover and prepare recyclable materials for the market. They play a crucial role in waste management by reducing landfill waste and enabling resource recovery.

ANNEXURE A/2



केन्द्रीय प्रदूषण नियंत्रण बोर्ड
CENTRAL POLLUTION CONTROL BOARD
(पर्यावरण एवं वन मंत्रालय, भारत सरकार)
(MINISTRY OF ENVIRONMENT & FORESTS, GOVT. OF INDIA)

No.B-29012/ESS(CPA)/2015-16/

March 07, 2016

To

The Chairman
All the State Pollution Control Boards / Pollution Control Committees
(List Attached)

SUB: MODIFIED DIRECTIONS UNDER SECTION 18(1)(b) OF THE WATER (PREVENTION & CONTROL OF POLLUTION) ACT, 1974 and THE AIR (PREVENTION & CONTROL OF POLLUTION) ACT, 1981 REGARDING HARMONIZATION OF CLASSIFICATION OF INDUSTRIAL SECTORS UNDER RED / ORANGE / GREEN / WHITE CATEGORIES.

WHEREAS, under section 16 (2)(b) of the Water (Prevention and Control of Pollution) Act, 1974 and under Section 16 (2)(c) of the Air (Prevention & Control of Pollution) Act, 1981, one of the functions of the Central Pollution Control Board (CPCB), constituted under the Water (Prevention and Control of Pollution) Act, 1974, is to coordinate activities of the State Pollution Control Boards (SPCBs) and Pollution Control Committees (PCCs); and

WHEREAS, under section 16 (2)(c) of the Water (Prevention and Control of Pollution) Act, 1974 and under Section 16 (2)(d) of the Air (Prevention & Control of Pollution) Act, 1981, one of the functions of the CPCB is to provide technical assistance and guidance to SPCBs and PCCs; and

WHEREAS, it was brought to the notice of CPCB, that different SPCBs /PCCs were following different criteria for classification of industrial sectors under Red/Orange/ Green category and that classification was being used by the SPCBs/PCCs for grant of consents to industries and for Inventorization / surveillance of industries.

WHEREAS, the issue regarding classification of industries was deliberated upon in the 56th Conference of Chairmen & Member Secretaries of CPCB & SPCBs/PCCs held on August 31, 2010 and a working group comprising of representatives from SPCBs & CPCB was constituted to prepare a consolidated list of industrial sectors falling under Red/Orange/Green category to bring uniformity in classification of industrial sectors across the country;

'परिवेश भवन' पूर्वी अर्जुन नगर, दिल्ली-110032

'Parivesh Bhawan', East Arjun Nagar, Delhi - 110032

दूरभाष/Tel. : 43102030, फॅक्स/Fax : 22305793, 22307078, 22307079, 22301932, 22304948

ई-मेल/e-mail : cpcb@nic.in वेबसाइट/Website : www.cpcb.nic.in

WHEREAS, the report prepared by the Working Group was discussed in the 57th Conference of Chairmen & Member Secretaries of CPCB & SPCBs/PCCs held in Delhi on September 15, 2011, wherein some modifications were proposed;

WHEREAS, the final report of the working group was prepared, incorporating the suggestions/observations made in the 57th Conference of Chairmen and Member Secretaries of CPCB & SPCBs/PCCs and in exercise of the powers delegated to the Chairman, CPCB under Section 18(1)(b) of the Water Act, 1974, following directions were issued for compliance to all SPCBs/PCCs to maintain uniformity in categorization of industries as red, orange and green as per list finalized by CPCB, which identified 85 types of industrial sectors as 'Red', 73 industrial sectors as 'Orange' and 86 sectors as 'Green':

a). To maintain uniformity in categorization of industries under Red/ Orange/Green category, the SPCBs /PCCs shall adopt the list as finalized by CPCB based on the recommendations of that Working Group for grant of Consent, inventorization of industries under Red, Orange and Green categories and other related activities.

(b). The SPCBs/PCCs shall revise the list of Red, Orange and Green categories of industries operating in their jurisdiction based on the criteria specified in the final report of that Working Group and submit the same to CPCB within 90 days in hard copy as well as soft copy;

WHEREAS, later-on, it was observed that the process of categorization thus far was primarily based on the size of the industries and consumption of resources and pollution due to discharge of emissions and effluents and its likely impact on health was not considered as primary criteria;

WHEREAS, there have been proposals from the SPCBs / PCCs and industrial associations for categorization of the industrial sectors in a more pragmatic manner. The issue was discussed during the national level conference of the Environment Ministers of the States, held in New Delhi during April 06-07, 2015 and also during the Conference of the Chairmen and Member Secretaries of CPCB and SPCBs/PCCs held in New Delhi on April 08, 2015. Accordingly, a 'Working Group' comprising of the Members from Central Pollution Control Board and State Pollution Control Boards representing the States of Andhra Pradesh, Punjab, Tamilnadu, West Bengal, Madhya Pradesh and Maharashtra, was constituted to revisit the criteria of categorization of industries and suggest rationale based on pollution potential for categorization of industrial sectors and adopting it for implementation of pollution control plan;

WHEREAS, the Working Group has developed the criteria of categorization of industrial sectors based on the concept of Pollution Index which is a function of the emissions (air pollutants), effluents (water pollutants), hazardous wastes generated and consumption of resources. For this purpose the references are taken from the the Water (Prevention and Control

of Pollution) Cess (Amendment) Act, 2003, Standards so far prescribed for various pollutants under Environment (Protection) Act , 1986 and Doon Valley Notification, 1989 issued by MoEFCC. The Pollution Index (PI) of any industrial sector is a number from 0 to 100 and the increasing value of PI denotes the increasing degree of pollution load from the industrial sector;

WHEREAS , based on the series of consultations with SPCBs, different Government / Non-government Institutions including industries and MoEFCC , the following criteria on 'Range of Pollution Index 'for the purpose of categorization of industrial sectors has been finalized:

- o Industrial Sectors having Pollution Index score of 60 and above - Red category
- o Industrial Sectors having Pollution Index score of 41 to 59 -Orange category
- o Industrial Sectors having Pollution Index score of 21 to 40 -Green category
- o Industrial Sectors having Pollution Index score incl. & upto 20 -White category

WHEREAS, based on the revised criteria, the 'Final Report on Revised Categorization of Industrial Sectors under Red/Orange/Green/White' has been evolved. The 'Categorization' is based on the relative pollution potential of the industrial sectors and grouping of the industrial sectors based on the use of raw materials, manufacturing process adopted and pollutants likely to be generated;

WHEREAS, based on relative Pollution Index, the number of industries in various categories are as under :

- i. The Red category of industrial sectors: 60
- ii. The Orange category of industrial sectors: 83
- iii. The Green category of industrial sectors: 63 and
- iv. The Newly introduced White category: 36

WHEREAS, there shall be no necessity of obtaining the Consent to Operate" for White category of industries and an intimation to concerned SPCB / PCC shall suffice;

WHEREAS, the purpose of categorization is to ensure that the industry is established in a manner consistent with the environmental objectives and to prompt industrial sectors to adopt cleaner technologies, ultimately resulting in generation of no or minimum pollutants.

WHEREAS the new categorization system shall also facilitate in self-assessment by industries;

Now, therefore, in exercise of the powers delegated to the Chairman, CPCB under Section 18(1)(b) of the Water (Prevention & Control of Pollution) Act, 1974 and Section 18(1)(b) of the Air (Prevention & Control of Pollution), Act , 1981 the earlier Directions issued in June 2012 in the context of categorisation of industries as Red, Orange & Green are withdrawn with immediate effect and following '**Directions**' are hereby issued for compliance by all SPCBs and PCCs :

1. That the SPCBs and PCCs shall adopt the Revised Criteria of categorization of industrial sectors as detailed in table nos. F1, F2, F3 and F4 and Revised Lists of Red, Orange, Green and White categories of industrial sectors, presented at table no. G2, G3, G4 and G5 respectively, in the 'Final Report' as attached herewith immediately.
2. That all pending applications for consideration of 'Consent to Establish' and 'Consent to Operate' and future such applications shall be processed as per revised criteria.
3. That the SPCBs and PCCs will provide the list of industries identified in each category existing in the State which have been considered for grant of consents. SPCBs/PCCs will forward the list of such industries before 31.05.2016 and the same will be uploaded on the websites of respective SPCB/PCC.
4. That the 'Revised Lists of Red, Orange, Green and White category of industrial sectors' shall be used by the SPCBs and PCCs for Consent Management and inventorization of industries under Red, Orange, Green and White categories. Siting of industries shall be only in conforming areas. SPCBs / PCCs shall evolve sector specific plans for control of pollution and industrial surveillance for verifying compliance.
5. That the SPCBs and PCCs shall revise /prepare the inventory of Red, Orange, Green and White categories of industries operating in their jurisdiction based on the revised criteria specified in the Final Report and submit the same to CPCB within 90 days i.e., before 30.05.2016 in hard copy as well as soft copy.
6. That the listed category of industries or those identified later-on under different categories shall not be linked to sanction of loan / finance or bank proceedings.
7. That any further addition of any new or left-over industrial sector and their categorization which is not listed in the revised list of Red, Orange, Green and White industrial sectors, shall be done at the level of concerned SPCB /PCC following revised criteria & guidelines as detailed in the attached document and no concurrence of CPCB shall normally be required. It is further clarified that while categorizing the industries, fractional numbers shall be rounded off to nearest integer.

The SPCBs/PCCs shall acknowledge the receipt of directions and submit the 'Action Taken Report' in compliance with these directions to CPCB before 15.04.2016.

(Arun Kumar Mehta)
Chairman
7/3/16

Copy to:

1. The Chief Secretary of all the States and UTs
2. The Secretary ,
Ministry of Micro, Small and Medium Entrepreneurs
Udyog Bhawan, Rafi Marg, New Delhi - 110 011
3. The Secretary ,
Ministry of Heavy Industries
Udyog Bhawan, Rafi Marg, New Delhi - 110 011
4. The Secretary,
Ministry of New and Renewable Energy
Block-14, CGO Complex,
Lodhi Road, New Delhi-110 003,
5. The Advisor(CP Division)
Ministry of Environment ,Forests and Climate Change
Indira Paryavaran Bhawan
Jor Bagh Road, New Delhi - 110 003
6. All Zonal Offices of CPCB

(A. B. Akolkar) 7.3.16
Member Secretary

Final Document
on
Revised
Classification
of
Industrial Sectors
Under

Red, Orange, Green and White Categories
(February 29, 2016)



Central Pollution Control Board
Delhi

Executive Summary

Categorization of Industrial Sectors under Red, Orange, Green and White Category

The Ministry of Environment, Forest and Climate Change (MoEFCC) had brought out notifications in 1989, with the purpose of prohibition/ restriction of operations of certain industries to protect ecologically sensitive Doon Valley. The notification introduced the concept of categorization of industries as " Red", "Orange "and "Green" with the purpose of facilitating decisions related to location of these industries. Subsequently, the application of this concept was extended in other parts of the country not only for the purpose of location of industries, but also for the purpose of Consent management and formulation of norms related to surveillance / inspection of industries.

The concept of categorization of industries continued to evolve and as different State Pollution Control Boards interpreted it differently, a need arose to bring about necessary uniformity in its application across the country. In order to harmonize the 'Criteria of categorization', Directions were issued by CPCB under Section 18(1)(b) of the Water (Prevention & Control of Pollution) , Act, 1974 to all SPCBs/PCCs to maintain uniformity in categorization of industries as red, green and orange as per list finalized by CPCB, which identified 85 types of industrial sectors as 'Red', 73 industrial sectors as 'Orange' and 86 sectors as 'Green'.

The process of categorization thus far was primarily based on the size of the industries and consumption of resources. The pollution due to discharge of emissions & effluents and its likely impact on health was not considered as primary criteria. There was demand from the SPCBs / PCCs and industrial associations for categorization of the industrial sectors in a more transparent manner. Accordingly, the issue was discussed thoroughly during the national level conference of the Environment Ministers of the States, held in New Delhi during April 06-07, 2015 and a 'Working Group' comprising of the members from CPCB, APPCB, TNPCB, WBPCB, PPCB, MPPCB and Maharashtra PCB is constituted to revisit the criteria of categorization of industries and recommend measures for making the system transparent and rational.

The Working Group has developed the criteria of categorization of industrial sectors based on the Pollution Index which is a function of the emissions (air pollutants), effluents (water pollutants), hazardous wastes generated and consumption of resources. For this purpose the references are taken from the the Water (Prevention and Control of Pollution) Cess (Amendment) Act, 2003, Standards so far prescribed for various pollutants under Environment (Protection) Act , 1986 and Doon Valley Notification, 1989 issued by MoEFCC. The Pollution Index PI of any industrial sector is a number from 0 to 100 and the increasing value of PI denotes the increasing degree of pollution load from the industrial sector. Based on the series of brain storming sessions among CPCB, SPCBs and MoEFCC , the following criteria on 'Range of Pollution Index 'for the purpose of categorization of industrial sectors is finalized.

- | | |
|-------------------------------------------------------------------|------------------|
| ○ Industrial Sectors having Pollution Index score of 60 and above | - Red category |
| ○ Industrial Sectors having Pollution Index score of 41 to 59 | -Orange category |
| ○ Industrial Sectors having Pollution Index score of 21 to 40 | -Green category |
| ○ Industrial Sectors having Pollution Index score incl.&upto 20 | -White category |

The newly introduced White category of industries pertains to those industrial sectors which are practically non-polluting such as Biscuit trays etc. from rolled PVC sheet (using automatic vacuum forming machines), Cotton and woolen hosiers making (Dry process only without any dyeing/washing operation), Electric lamp (bulb) and CFL manufacturing by assembling only, Scientific and mathematical instrument manufacturing, Solar power generation through photovoltaic cell, wind power and mini hydel power (less than 25 MW).

The salient features of the 'Re-categorization' Exercise are as follows :

- Due importance has been given to relative pollution potential of the industrial sectors based on scientific criteria . Further, wherever possible, splitting of the industrial sectors is also considered based on the use of raw materials, manufacturing process adopted and in-turn pollutants expected to be generated.
- The Red category of industrial sectors would be 60.
- The Orange category of industrial sectors would be 83.
- The Green category of industrial sectors would be 63.
- Newly introduced White category contains 36 industrial sectors which are practically non-polluting.
- There shall be no necessity of obtaining the Consent to Operate'' for White category of industries. An intimation to concerned SPCB / PCC shall suffice.
- No Red category of industries shall normally be permitted in the ecologically fragile area / protected area.

The purpose of categorization is to ensure that the industry is established in a manner which is consistent with the environmental objectives. The new criteria will prompt industrial sectors willing to adopt cleaner technologies, ultimately resulting in generation of fewer pollutants. Another feature of the new categorization system lies in facilitating self-assessment by industries as the subjectivity of earlier assessment has been eliminated. This 'Re-categorization' is a part of the efforts, policies and objective of present government to create a clean & transparent working environment in the country and promote the Ease of Doing Business.

Other similar efforts include installation of Continuous Online Emissions/ Effluent Monitoring Systems in the polluting industries, Revisiting of the CEPI (Comprehensive Environment Pollution Index) concept for assessment of polluted industrial clusters, Revision of existing industrial Emission/Effluent discharge standards, initiation of special drive on pollution control activities in Ganga River basin and many more in coming future.

Revised Criteria of Categorization of Industries

“Securing industrial pollution control in accordance with the Water (Prevention & Control of Pollution) Act, 1974 and Air (Prevention & Control of Pollution) Act, 1981 by linking with categorization of industries, consent management and vigilance – ‘In context of Red, Orange, Green and White categories of industries’”

A: Genesis of Categorization:

- The Ministry of Environment, Forest and Climate Change (MoEFCC) had brought out notifications, which inter-alia refers to Prohibition/ Restriction on operation of industries to protect ecologically sensitive areas or areas of specific importance. This has for the first time brought the concept of categorization of industries to “Red”, “Orange” and “Green” and restrict their operation in certain areas of importance. Therefore, it is at-once interpreted that Red, Orange and Green categorization is linked with location specific needs.
- The notification of MoEF was first brought on 2nd February, 1989 in case of “Restriction on location of industries, mining operations and other developmental activities in Doon Valley in “Uttarakhand” and thereafter another notification on 24th February 1999 regarding restriction on the setting up of industries in Dahanu Taluka in Maharashtra. The categorization had been made mainly on the basis of size of the industries, man power and consumption of resources.
- However, in other parts of the country, there have been variations in context to the classification of industries under Red, Orange and Green categories. SPCBs / PCCs were following their own criteria in different States thereby creating confusion.
- In order to harmonize the ‘Criteria of categorization’, a ‘Working Group’ was formed as per resolution passed during the 57th Conference of the Chairmen & Member Secretaries of CPCB and SPCBs. Based on the recommendations of the Working Group, Directions dated 4/6/2012 under Section 18(1)(b) of the Water

(Prevention & Control of Pollution), Act, 1974 were issued to all SPCBs/PCCs with the effects to maintain uniformity in categorization of industries as red, green and orange as per list finalized by the Working Group. This indicative list included 85 types of industrial sectors as 'Red', 73 industrial sectors as 'Orange' and 86 sectors as 'Green'. However, these identified categories have not been assigned with scores as per existing criteria/ or any new criteria

B: Categorization criteria used by SPCBs/PCCs:

SPCBs and PCCs use the criteria of Red, Orange and Green categories for consent management and vigilance purposes for carrying out inspections to verify compliance to the stipulated standards. However the above categorization do not emphasize on sector-specific plan for control of pollution in accordance with priority based on pollution index.

C: Gap in the process:

1. The categorization has been made mainly on the basis of size of the industries and consumption of resources. The pollution due to discharge of emissions & effluents and its impact on health was not considered as primary criteria.
2. Categorization was on random basis, no scoring system was adopted.

D: Resolutions made during National Level Conferences

The issue was discussed thoroughly during the following national level conferences held in New Delhi:

- Conference of the Environment Ministers of Central Government and State Governments during April 06-07, 2015
- 59th Conference of Chairmen & Member Secretaries of Pollution Control Boards / Pollution Control Committees held on April 08, 2015

Accordingly following resolutions were made during the Conferences:

1. A 'Working Group' comprising of the members from CPCB, APPCB, TNPCB, WBPCB, PPCB, MPPCB and Maharashtra PCB is constituted.
2. This WG shall revisit the categorization of industries that is based on pollution index criteria & environmental issues such as generation of emission, effluent and hazardous wastes.
3. The categorization will be done on the basis of composite score (0-100 marks) of Pollution Index given in accordance with the following weightage.

Air Pollution Score based on parameters namely PM, CO, NO _x , SO _x , HMs, Benzene, Ammonia and other toxic parameters relevant to the industry.	40 Marks
Water Pollution Score based on parameters namely pH, TSS, NH ₃ -N, BOD, Phenol and other toxic pollutants relevant to the industry.	40 Marks
Hazardous wastes (land fillable, incinerable, recyclable) as generated by the industry.	20 Marks
<p>Note :</p> <ul style="list-style-type: none"> • Parameters to be decided on the basis of the nature of the wastes generating from the industrial sector. • Industries having only either water pollution or air pollution, the score will be normalized wrt 100. 	

4. Based on the score of the Pollution Index, following categorization be made :
 - Type of industries, if scores 60 and above be categorized as Red
 - Type of industries, if scores from 30 to 59 be categorized as Orange
 - Type of industries, if scores from 15 to 29 be categorized as Green
 - Type of industries, if less than 15 be categorized as White or non-polluting industry.
5. SPCBs/PCCs may issue consent to the industries
 - Red category of industries for 5 years.
 - Orange category of industries for 10 years.
 - Green category of industries for 15 years.
 - No necessity of consent for non-polluting industries.
6. No red categories of industries will be permitted to establish in eco-sensitive areas and protected areas.

E: Follow-up Actions made on the Resolutions :-

- Accordingly, a Committee comprising the Chairmen of CPCB, APPCB, TNPCB, MPPCB, MPCB, PPCB, WBPCB and MS, CPCB was constituted vide CPCB OM dated

23.04.2015 to review & classify industrial sectors into different categories based on criteria of respective pollution potential.

- The categorization is made on the basis of following:
 - Quality of emissions (air pollutants) generated
 - Quality of effluents (water pollutants) generated
 - Types of hazardous wastes generated
 - Consumption of resources

- Reference is taken from the following :
 - The Water (Prevention and Control of Pollution) Cess Act, 1977
 - Standards so far prescribed for various pollutants under the Environment (Protection) Act , 1986
 - Doon Valley Notification, 1989 issued by MoEF.

F : Scoring Methodology :

The details on the scoring methodology in respect of the aforesaid 3 components is presented in the following tables F-1 to F-4 .

Table F-1 : Water Pollution Scoring Methodology

Sl. No.	Activity / Types of Discharges	Score
Part A : Score W1 : Score based on types of expected criteria water-pollutants present in industrial processes waste waters. Maximum of the following seven categories is to be taken.		
W11	Waste-water which is polluted and the pollutants are - <ul style="list-style-type: none"> • not easily biodegradable (very high strength waste waters having BOD > 5000 mg/l); or • toxic; or • both toxic and not easily biodegradable. (Presence of criteria water pollutants having prescribed standard limits up-to 10 mg/l or having BOD > 5000 mg/l). For details appendix 1 may be referred)	30
W12	Non-toxic high strength polluted waste-water having BOD in the range of 1000-5000 mg/l and the pollutants are biodegradable. <p>(Presence of criteria water pollutants having prescribed standard limits from 11 mg/l to 250 mg/l and having BOD strength in the range of 1000-5000 mg/l) . For details appendix 1 may be referred)</p>	25
W13	Non toxic- polluted waste-water having BOD below 1000 mg/l and the pollutants are easily biodegradable. <p>(Presence of criteria water pollutants having prescribed standard limits from 11mg/l to 250 mg/l and having BOD strength below 1000 mg/l) . For details appendix 1 may be referred)</p>	20
W14	Waste-water generated from the chemical processes and which is polluted due to presence of high TDS (total dissolved solids) of inorganic nature. <p>(Presence of criteria water pollutants having prescribed standard limits more than 250 mg/l. For details appendix 1 may be referred)</p>	15
W15	Waste-water generated from the physical unit operations / processes and which is polluted due to presence of TDS (total dissolved solids) of inorganic nature and of natural origin like fresh-water RO rejects, boiler blow-downs, brine solution rejects etc. <p>(Presence of criteria water pollutants having prescribed standard limits more than 250 mg/l. For details appendix 1 may be referred)</p>	12
W16	Non-toxic polluted waste-water from those units which are: <ul style="list-style-type: none"> • Having the overall waste-water generation less than 10 KLD and • The pollutants are easily bio-degradable having BOD below 200 mg/l which can be easily treated in a single stage ASP (activated 	12

	sludge process) based Effluent Treatment Plant. Note : This is a special category and is applicable to only those units having over-all liquid waste generation less than 10 KLD with low strength organic load.	
W17	Waste-water from cooling towers and cooling-re-circulation processes	10
Part B : Score W2 : Score based on huge discharges of any kind (Penalty Clause)		
W2	Industry having overall liquid waste generation of 100 KLD or more including industrial & domestic waste-water.	10
Overall Water Pollution Score $W = W1+W2$		

Appendix 1

- **Water Pollutants covered under Group W11:**
 - ✓ Free available Chlorine , Total residual chlorine, Fluoride (as F), Sulphide (as S), Free Ammonical Nitrogen, Dissolved phosphates (as P), Free ammonia (as NH₃), Nitrate Nitrogen, Mercury (As Hg), Selenium (as Se), Hexa-valent chromium (as Cr + 6), Lead (as Pb), Tin , Vanadium (as V), Cadmium (as Cd), Manganese (as Mn), Total chromium (as Cr), Copper (as Cu), Iron (as Fe), Nickel (as Ni), Zinc (as Zn), Benzene, Arsenic (as As), Benzo-a-pyrene, Cyanide (as CN), Phenolic compounds (as C₆H₅OH) , Adsorbable Organic Halogens (AOX), Boron and /or
 - ✓ BOD strength of waste water > 5000 mg/l
- **Water Pollutants covered under Group W12:**
 - ✓ Sodium Absorption Ratio (SAR) , Biochemical oxygen demand (3 days at 27°C), Total Kjeldahl nitrogen (TKN), Ammonical nitrogen (as N), Suspended solids, Total nitrogen (as N), Chemical oxygen demand, Oils & grease and
 - ✓ BOD strength of waste water is in the range of 1000-5000 mg/l
- **Water Pollutants covered under Group W13:**
 - ✓ Sodium Absorption Ratio (SAR), Biochemical oxygen demand (3 days at 27°C), Total Kjeldahl nitrogen (TKN), Ammonical nitrogen (as N), Suspended solids, Total nitrogen (as N), Chemical oxygen demand and
 - ✓ BOD strength of waste water is below 1000 mg/l
- **Water Pollutants covered under Group W14 and W15:**

Chlorides as Cl, Colour , Total dissolved solids (TDS - Inorganic)
- **Water Pollutants covered under Group W16**
 - ✓ BOD strength of waste water is below 200 mg/l and overall discharge is less than 10 KLD.

Table F-2 : Air Pollution Score

Sl. No.	Air Pollutants Group	'Range of Prescribed Standard' of criteria pollutants	Marks
Part 1 : Score A1 = Score based on types of expected criteria Air Pollutants present in the emissions . Maximum of the following seven categories is to be taken. For details appendix 2 may be referred.			
1	Group A1A	Presence of criteria air pollutants having prescribed standard limits up to 2 mg/Nm ³	30
2	Group A1B	Presence of criteria air pollutants having prescribed standard from 3 to 10 mg/Nm ³	25
3	Group A1C	Presence of criteria air pollutants having prescribed standard from 11 to 50 mg/Nm ³	20
4	Group A1D	Presence of criteria air pollutants having prescribed standard from 51 to 250 mg/Nm ³	15
5	Group A1E	Presence of criteria air pollutants having prescribed standard from 251 mg/Nm ³ & above.	10
6	Group A1F	<ul style="list-style-type: none"> • Generation of fugitive emissions of Particulate Matters which are: <ul style="list-style-type: none"> ○ Not generated as a result of combustion of any kind of fossil-fuel. ○ Generated due to handling / processing of materials without involving the use of any kind of chemicals. ○ Which can be easily contained / controlled with simple conventional methods 	10
7	Group A1G	<ul style="list-style-type: none"> • Generation of Odours which are : <ul style="list-style-type: none"> ○ Generated due to application of binding gums / cements / adhesives / enamels ○ Which can be easily contained / controlled with simple conventional methods 	10
Part 2 : Score A2 = Score based on consumption of fuels and technologies required for air pollution control :			
6	Group A2F1	<ul style="list-style-type: none"> • All such industries in which the daily consumption of coal/fuel is more than 24 MT/day and the particular (Particulate/gaseous/process) emissions from which can be controlled only with high level equipments / technology like ESPs, Bag House Filters, High Efficiency chemical wet scrubbers etc. 	10
7	Group A2F2	<ul style="list-style-type: none"> • All such industries in which the daily consumption of coal/fuel is from 12 MT/day to 24 MT/day and the particular (Particulate/gaseous/process) emissions from which can be controlled with suitable proven technology. 	5
Overall Air Pollution Score - A = A1 + A2			

Appendix 2

- Air pollutants covered under Group A1A:
Cd+Th, Dioxins & Furans, Mercury, Asbestos
- Air Pollutants covered under Group A1B:
HF, Nickel+ Vanadium, HBr, Manganese, Lead, H₂S, P₂O₅ as H₃PO₄
- Air Pollutants covered under Group A1C:
Chlorine, Pesticide compounds, CH₃Cl, TOC, Total Fluoride, Hydrocarbons, NH₃, HCL vapour & Mist, H₂SO₄ Mist, SO₂
- Air Pollutants covered under Group A1D:
CO, PM, CO, NO_x
- Air Pollutants covered under Group A1E:
NO_x with liquid-fuel, SO₂ with liquid-fuel

Table F-3: Hazardous Waste Generation Score

Sl.No.	Types of Hazardous Waste Generated as per Schedule 1 / Schedule 2 of Hazardous Waste (Management, Handling & Trans-boundary Movement) Rules , 2008 . Maximum of the following four categories is to be taken	Score
HW1	<ul style="list-style-type: none"> • Land disposable HW which require special care & treatment for stabilization before disposal. 	20
HW2	<ul style="list-style-type: none"> • Incinerable HW 	15
HW3	<ul style="list-style-type: none"> • Land disposable HW which doesn't require treatment & stabilization before disposal. • High volume low effect wastes such as fly-ash, phspho-gypsum, red-mud, slags from pyro-metallurgical operations, mine tailings and ore beneficiation rejects) 	10
HW4	<ul style="list-style-type: none"> • Recyclable HW, which are easily recyclable with proven technologies. 	10

Table F-4 : Calculation Sheet
Industrial Sector -

1. Water Pollution Score (W)			
Scores	Waste Water Category	Value	
Score on W1			
Score on W2			
Water Pollution Score = W1+W2			
2. Air Pollution Score (A)			
Scores	Air Pollutant Category	Value	
Score on A1			
Score on A2	-	-	
Air Pollution Score = A1+A2			
3. Hazardous Waste Score (HW)			
Score	HW Category	Value	
HW			
Grand Total = W + A + HW			

Note :

- Any of the industrial sector having only either air pollution (A) or water pollution (W) , the score will be normalized to 100 as per the following formula -

$$\text{Normalized Score} = \{100 \times W \text{ (or A)}\} / 40$$

- Any of the industrial sector having air pollution (A) and water pollution (W) both but no hazardous waste generation (H) , the joint score of air & water pollution will be normalized to 100 as per the following formula -

$$\text{Normalized Score} = \{100 \times (W+A)\} / 80$$

- Any of the industrial sector having air pollution (A) & hazardous waste generation (H) but no water pollution (W), the joint score of air pollution & hazardous waste generation will be normalized to 100 as per the following formula -

$$\text{Normalized Score} = \{100 \times (A+H)\} / 60$$

- Any of the industrial sector having water pollution (W) and hazardous waste generation (H) but no air pollution (A), the joint score of water pollution & hazardous waste generation will be normalized to 100 as per the following formula -

$$\text{Normalized Score} = \{100 \times (W+H)\} / 60$$

G : Developments :

- i. The existing Red (85 sectors) , Orange (73 sectors) and Green (86 sectors) i.e a total of 244 industrial sectors have been assessed as per the proposed formula by the Working Group. For this purpose, concerned Engineers / Scientists from the Member SPCBs were also involved & consulted during May 28-29, 2015.
- ii. After careful examination and consideration of the suggestions of concerned stake-holders the “Draft Document on Revised Concept of Categorization of Industrial Sectors “ was prepared by the Committee and circulated to all the SPCBs, PCCs and concerned Ministries for their information & comments. The ‘ Draft Document ’ was uploaded on the website of CPCB also for information & comments of one & all.
- iii. The matter was discussed during the 170th Board Meeting also and issues raised by the Board Members pertaining to some of the industrial sectors were clarified.
- iv. Responses were received from various concerned Ministries, SPCBs, Industrial Associations including individuals.
- v. Based on the above, final meeting was convened by the Secretary , MoEFCC with CPCB and senior officers of MoEFCC on January 06, 2016 to resolve the issues appropriately and finalize the ‘Re-categorization’. Accordingly , following modifications in the ‘Range of Pollution Index ‘for the purpose of categorization of industrial sectors were suggested :
 - Industrial Sectors having Pollution Index score of 60 and above – Red category
 - Industrial Sectors having Pollution Index score of 41 to 59 –Orange category
 - Industrial Sectors having Pollution Index score of 21 to 40 –Green category
 - Industrial Sectors having Pollution Index score incl.& upto 20 –White category
- vi. Based on the final criteria as described in v above , the final categorization is as follows :

Category of Industrial Sector	Existing Categorization	Proposed (New) categorization
Red	85	60
Orange	73	83
Green	86	63
White	---	36
Total	244	242

- vii. In the proposed categorization, some of the industrial sectors have been either deleted due to duplication or merged with similar type of sectors on account of same

characteristics of pollution generation. In a similar way, some of the industrial sectors are split into more sectors on account of variation in the raw materials / manufacturing process. As a result final totals of the existing and proposed categorization are different.

- viii. The industrial sector which doesn't fall under any of the above four categories (Red, Orange, Green and White) , decision with regard to its categorization will be taken at the level of concerned SPCB/PCC by a committee headed by the Member Secretary , SPCB/PCC and comprising of two senior cadre Engineers / Scientists of the SPCB / PCC in accordance with the scoring-criteria specified in this document.
- ix. The summary is presented in the following Table G-1 and final lists of Red, Orange, Green and White categories of industries are presented in Tables G-2, G-3, G-4 and G-5 respectively, which are self explanatory.

Table G-1: Final Summary Table Red , Orange, Green and White Categories of Industries (16-01-16)

Sl No.	Original Categorization	Initial Nos.	Addition by Splitting into further classes	Deletion/ Shifting to foot-note due to vague term / Merger / other reasons	Re-categorization to Red	Re-categorization to Orange	Re-categorization to Green	Re-categorization to White	Check
					1	2	3	4	
									(1+2) = (3 to 7)
1	Red	85	11	7	60	26	3	Nil	96=96
2	Orange	73	2	3	Nil	51	19	2	75=75
3	Green	86	Nil	3+2=5	Nil	6	41	34	86=86
Final Categorization		244	13	15	60 (Red)	83 (Orange)	63 (Green)	36 (White)	257 =257 (Total categories including in foot-note)

Table G-2 : Final List of Red Category of Industrial Sectors

Sl No.	Orgnl Sl.No	Industry Sector	W1	W2	W	A1	A2	A	H	W+A+H	Revised Category	REMARKS
1.	38	Isolated storage of hazardous chemicals (as per schedule of manufacturing, storage of hazardous chemicals rules ,1989 as amended)									R-R	As per provisions of Rules, to be kept under Red category especially for safety purposes.
2.	4	Automobile Manufacturing (integrated facilities)	30	-	30	20	-	20	10	60	R-R	i. Such types of plants are having either one or combinations of polluting activities viz. washing, metal surface finishing operations, pickling, plating, electro-plating , phosphating, painting , heat treatment etc. ii. Some of such plants may outsource some /all of the polluting activities. In such cases, after thorough inspection of such units by concerned SPCB, re-categorization of the industry shall be made accordingly.
3.	34	Industries engaged in recycling / reprocessing/ recovery/reuse of Hazardous Waste under schedule iv of HW(M, H& TBM) rules, 2008 - Items namely - Spent cleared metal catalyst containing copper,, Spent cleared metal catalyst containing zinc,,	30	-	30	20	-	20	10	60	R-R	All the three types of pollutants are expected.
4.	44	Manufacturing of lubricating oils ,grease and petroleum based products	20	-	20	20	-	20	20	60	R-R	Generates all sorts of pollution.
5.	66 E	DG Set of capacity > 5 MVA	-	-	-	20	5	25	-	62.5	R-R	i. Mainly air polluting. ii. DG sets consume the diesel @ 0.21 litres/hr/KVA at full load. iii. Average running is taken @ 12 hrs / day although many of the DG sets run for more than this period.
6.	31	Industrial carbon including electrodes and graphite blocks, activated carbon, carbon black	10	-	-	20	5	25	10	62.5	R-R	Mainly air polluting. Air pollution score is normalized to 100.

7.	39	Lead acid battery manufacturing(excluding assembling and charging of lead-acid battery in micro scale)	10	-	10	25	-	25	10	62.5	R-R	<p>i. Mainly air polluting. Air pollution scores are normalized to 100.</p> <p>ii. Lead Acid Battery manufacturing consists of various stages which broadly involve (after producing or receiving lead oxide): Paste Mixing , Grid Casting , Grid Pasting & Curing , Hydro-setting, parting & enveloping , Stacking, grouping & inter-cell welding ,Formation.</p> <p>iii. Exposure of workmen to lead during all or any of the processes outlined above exceeds the prescribed standards if appropriate equipment in this respect is not installed at any Battery Manufacturing Unit.</p> <p>iv. All of the above processes, some more than others, involve release of lead particles or fumes into the environment. Pollution from the above processes can be grouped into two possible types, viz: (a) Lead Oxide becomes airborne and there is Particulate Pollution (b) Fumes are generated and there is Gaseous Pollution</p>
8.	62	Phosphate rock processing plant	30	-	30	20	-	20	-	62.5	R-R	<p>i. The separation of phosphate rock from impurities and non-phosphate materials for use in fertilizer manufacture consists of beneficiation, drying or calcining at some operations, and grinding. Phosphate rock from the mines is first sent to beneficiation units to separate sand and clay and to remove impurities. Steps used in beneficiation depend on the type of rock.</p> <p>ii. The water & air pollution scores are normalized to 100.</p>

9.	66	Power generation plant [except Wind and Solar renewable power plants of all capacities and Mini Hydel power plant of capacity <25MW]	10	-	10	15	10	25		62.5	R-R	1. Mainly air polluting. It uses a mixture of biomass (agro based) and coal (< 10 %) as a fuel. Almost, round the year operation. 2 .In case of DG sets of 5 MVA & more and emissions of SO2 will take place due to use of liquid fuel. Air pollution score will be =20 + 10 = 30, Normalized score will be 75. 3. In case of 'Waste to Energy Plants' , water will be used for cooling and air score will be - 30+10 = 40.
10.	34	Industries engaged in recycling / reprocessing/ recovery/reuse of Hazardous Waste under schedule iv of HW(M, H& TBM) rules, 2008 - Items namely - Spent catalyst containing nickel, cadmium, Zinc, copper, arsenic, vanadium and cobalt,	30	-	30	25	-	25	10	65	R-R	All the three types of pollutants are expected.
11.	67	Processes involving chlorinated hydrocarbons	30	-	30	20	-	20	15	65	R-R	Chlorinated hydrocarbons are used in the manufacture of insecticides, pesticides and organo chloro pesticides. Effluents & emissions are toxic in nature.
12.	74	Sugar (excluding Khandsari)	20	10	30	15	10	25	10	65	R-R	i. This industrial sector is the one among the '17 categories of Highly Polluting Industries'. ii. Sugar mills generate all sorts of pollution problems.
13.	22	Fibre glass production and processing (excluding moulding)	-	-	-	20	-	20	20	67	R-R	i. The use of styrene in most methods of fiberglass production causes hazardous air pollution that is harmful to breathe at excessive levels. ii. It is mainly air polluting & HW generating industry. The air pollution & HW scores are normalized to 100. iii. In case of lead containing glass, the score of A1 will be 25 and final normalized score will be 75 and shall be categorized as Red.
14.	23	Fire crackers manufacturing and bulk storage facilities	-	-	-	20	-	20	20	67	R-R	i. This is the normalized score based on air pollution & HW generation. ii. Various hazardous chemicals are used in the manufacturing process. iii. These chemicals are namely Potassium Nitrate , Potassium per-chlorate, Barium Nitrate, Aluminium compounds, Copper Chloride etc.

												iv. These chemicals are highly hazardous and cause serious diseases among the workers. especially ability of blood to carry oxygen leading to headaches, methemoglobinemia and kidney problems , skin problems, thyroid metal fume etc.
15.	34	Industries engaged in recycling / reprocessing/ recovery/reuse of Hazardous Waste under schedule iv of HW(M, H& TBM) rules, 2008 - Items namely - Dismantlers Recycling Plants -- Components of waste electrical and electronic assembles comprising accumulators and other batteries included on list A, mercury-switches, activated glass cullets from cathode-ray tubes and other activated glass and PCB-capacitors, or any other component contaminated with Schedule 2 constituents (e.g. cadmium, mercury, lead, polychlorinated biphenyl) to an extent that they exhibit hazard characteristics indicated in part C of this Schedule.	-	-	-	30	0	30	10	67	R-R	Mainly air polluting and hazardous waste generating. Air & HW pollution scores are jointly normalized to 100.
16.	47	Milk processes and dairy products(integrated project)	20	10	30	20	5	25	-	68.75	R-R	i. Water as well as air polluting due to use of boilers. ii. Water & air pollution scores are normalized to 100.
17.	63	Phosphorous and its compounds	30	-	30	25	-	25	-	68.75	R-R	Water pollution & air pollution containing compounds of phosphorous are expected
18.	61	Pulp & Paper (waste paper based without bleaching process to manufacture Kraft paper)	20	10	30	15	10	25	0	68.75	R-R	Mainly water & air polluting . Water & air pollution scores are normalized to 100.
19.	13	Coke making , liquefaction, coal tar distillation or fuel gas making	30	-	30	20	-	20	20	70	R-R	It is a kind of petrochemical industry.

20.	41	Manufacturing of explosives, detonators, fuses including management and handling activities	30	-	30	20	-	20	20	70	R-R	<ul style="list-style-type: none"> i. Explosives manufacture and use contribute some measure of hazardous waste to the environment. ii. Nitroglycerin produces several toxic byproducts such as acids, caustics, and oils contaminated with heavy metals. These must be disposed of properly by neutralization or stabilization and transported to a hazardous waste landfill. iii. The use of explosives creates large amounts of dust and particulate from the explosion, and, in some cases, releases asbestos, lead, and other hazardous materials into the atmosphere.
21.	45	Manufacturing of paints varnishes, pigments and intermediate (excluding blending/mixing)	30	-	30	25	-	25	15	70	R-R	<ul style="list-style-type: none"> i. The process may cause considerable emissions of volatile organic compounds (VOC). VOC contribute to the creation of ozone in the lower layers of the atmosphere (photochemical air pollution) and can present danger to health. ii. Dust and odour may also be a problem. iii. Washing of vessels will contribute waste-waters. iv. Large quantity of HWs are also produced.
22.	56	Organic Chemicals manufacturing	30	-	30	20	-	50	20	70	R-R	Such types of industrial sectors generate all sorts of pollution.
23.	1	Airports and Commercial Air Strips	20	10	30	-	-	-	10	75	R-R	<ul style="list-style-type: none"> i. The Airports are generating mainly the waste-waters. ii. This is the water pollution normalized score for airports having discharge more than 100 KLD. iii. The airports / strips having discharge less than 100 KLD will have score of 50 and hence orange category. iv. If the score is normalized wrt water + HW both, then all the airports will come under Orange category (score - 58.33).
24.	3	Asbestos and asbestos based industries	-	-	-	30	-	30	10	75	R-R	<ul style="list-style-type: none"> i. This is mainly air polluting industry. ii. Final score is based on air pollution score only. iii. Asbestos is carcinogenic and banned in many countries.
25.	5	Basic chemicals and electro chemicals and its derivatives including manufacturing of acid	30	-	30	-	-	-	10	75	R-R	<ul style="list-style-type: none"> i. Standards prescribed for Inorganic Chemicals are adopted. ii. It is mainly water polluting industry having effluents which are toxic and not easily biodegradable.

												<ul style="list-style-type: none"> iii. Water pollution score normalized to 100 is undertaken. iv. The earlier Red category industrial sector namely "Hydrocyanic acid and its derivatives" is also merged under this industrial sector.
26.	7	Cement	-	-	-	20	10	30	-	75	R-R	This is mainly air polluting industry & hence normalized air pollution score.
27.	9	Chlorates, per-chlorates & peroxides	30	-	30	-	-	-	-	75	R-R	<ul style="list-style-type: none"> i. It is mainly water polluting industry having effluents which are toxic and not easily biodegradable. ii. Water pollution score normalized to 100 is undertaken.
28.	10	Chlorine, fluorine, bromine, iodine and their compounds	30	-	30	-	-	-	-	75	R-R	<ul style="list-style-type: none"> i. It is mainly water polluting industry having effluents which are toxic and not easily biodegradable. ii. Water pollution score normalized to 100 is undertaken.
29.	16	Dyes and Dye- Intermediates	30	-	30	20	5	25	20	75	R-R	<ul style="list-style-type: none"> i. This industrial sector is the one among the '17 categories of Highly Polluting Industries'. ii. Such types of industrial sectors generate all sorts of pollution.
30.	26	Health-care Establishment (as defined in BMW Rules)	20	10	30	-	-	-	-	75	R-R	<ul style="list-style-type: none"> i. Mainly water polluting. ii. The water pollution score is normalized to 100 & valid for Hospitals having total waste-water generation > 100 KLD. iii. The hospitals with incinerator will be categorized as Red irrespective of the quantity of the waste-water generation. iv. The hospitals having total waste-water generation less than 100 KLD and without incinerator, the normalized water pollution score will be 50 and will be categorized as Orange category.
31.	29	Hotels having overall waste-water generation @ 100 KLD and more.	20	10	30	15	-	15	-	75	R-R	<ul style="list-style-type: none"> i. Mainly water polluting. Small boiler may be installed. ii. The water pollution score is normalized to 100 & valid for Hotels having waste-water generation > 100 KLD. iii. The hotels having more than 20 rooms and waste-water generation less than 100 KLD and having a coal / oil fired boiler , the pollution score will be 35/40 & are categorized as Orange. iv. The hotels having more than 20 rooms and waste-water generation less than 10 KLD and

												having no-boiler & no hazardous waste generation, the pollution score will be 20 & are categorized as Green.
32.	34	Industries engaged in recycling / reprocessing/ recovery/reuse of Hazardous Waste under schedule iv of HW(M, H& TBM) rules, 2008 - Items namely - Lead acid battery plates and other lead scrap/ashes/residues not covered under Batteries (Management and Handling) Rules, 2001. [* Battery scrap, namely: Lead battery plates covered by ISRI, Code word "Rails" Battery lugs covered by ISRI, Code word "Rakes". Scrap drained/dry while intact, lead batteries covered by ISRI, Code word "rains".	30	-	30	25	--	25	20	75	R-R	All the three types of pollutants are generated.
33.	34	Industries engaged in recycling / reprocessing/ recovery/reuse of Hazardous Waste under schedule iv of HW(M, H& TBM) rules, 2008 - Items namely - Integrated Recycling Plants -- Components of waste electrical and electronic assembles comprising accumulators and other batteries included on list A, mercury-switches, activated glass cullets from cathode-ray tubes and other activated glass and PCB-capacitors, or any other component contaminated with Schedule 2 constituents (e.g. cadmium, mercury, lead, polychlorinated biphenyl) to an extent that they exhibit hazard characteristics indicated in part C of this Schedule.	30	-	30	25	-	25	20	75	R-R	All the three types of pollutants are expected.
34.	43	Manufacturing of glue and gelatin	30	10	40	20	-	20	-	75	R-R	Highly water polluting & obnoxious air polluting.
35.	49	Mining and ore beneficiation	30	10	40	15	5	20	-	75	R-R	Both air and water polluting. Score is normalized with air & water pollution.

36.	52	Nuclear power plant	10	-	10	30	-	30	15	75	R-R	<ul style="list-style-type: none"> i. Mainly air polluting due to incinerator. Others - cooling water. ii. Air pollution score is normalized to 100.
37.	58	Pesticides (technical) (excluding formulation)	30	-	30	25	-	25	20	75	R-R	<ul style="list-style-type: none"> i. This industrial sector is the one among the '17 categories of Highly Polluting Industries'. ii. Such types of industrial sectors generate all sorts of pollution.
38.	64	Photographic film and its chemicals	30	-	30	-	-	-	-	75	R-R	<ul style="list-style-type: none"> i. Silver salts and other chemicals are used in preparation. Slight quantity of effluents is generated. ii. Water pollution scores are normalized to 100.
39.	68	Railway locomotive workshop/Integrated road transport workshop/Authorized service centers	20	10	30	-	-	-	10	75	R-R	<ul style="list-style-type: none"> i. Mainly water polluting industry. Water is used in the washing of locomotives, road transport vehicles during servicing. ii. This score is valid for those Centers having discharge more than 100 KLD. iii. Service Centers having waste-water generation < 100 KLD, the normalized score will be = (100*20)/40= 50.
40.	84	Yarn / Textile processing involving any effluent/emission generating processes including bleaching, dyeing, printing and colouring	30	10	40	15	-	15	20	75	R-R	In this sector all sorts of pollution are generated.
41.	8	Chlor Alkali	30	10	40	20	10	30	10	80	R-R	<ul style="list-style-type: none"> i. This industrial sector is the one among the '17 categories of Highly Polluting Industries'. ii. Chlor-alkali units are having different section like NaOH, Cl₂, SBP etc which are having toxic effluents. Additionally, fuel consumption is also on higher-side.
42.	70	Ship Breaking Industries	30	-	30	30	-	30	20	80	R-R	<ul style="list-style-type: none"> i. The ship-breaking industry creates numerous hazards for the coastal and marine environment. ii. Ship-breaking releases a large number of dangerous pollutants, including toxic waste, oil, poly-chlorinated biphenyls, and heavy metals, into the waters and sea bed. iii. While most of the oil is removed before a ship is scrapped, sand used to mop up the remaining oil is thrown into the sea. High concentrations of oil and grease are then found in the coastal waters, choking marine life.

												iv. Solid waste strewn on the shore, 45 tonnes on any given day according to a study by the Central Pollution Control Board, also finds its way into the sea. v. Adding to the stress on coastal waters, the organic load from the thousands of workers living in cramped conditions with little or no sanitary facilities results in unacceptably high levels of BOD.
43.	53	Oil and gas extraction including CBM (offshore & on-shore extraction through drilling wells)	30	-	30	-	-	-	20	83	R-R	i. Mainly water polluting & hazardous waste generating. ii. The water pollution & HW generation scores are normalized to 100.
44.	36	Industry or process involving metal surface treatment or process such as pickling/ electroplating/paint stripping/ heat treatment using cyanide bath/ phosphating or finishing and anodizing / enamellings/ galvanizing	30	-	30	-	-	-	20	83	R-R	Mainly water polluting & toxic hazardous waste generating industry. Scores are normalized to 100.
45.	80	Tanneries	30	-	30	-	-	-	20	83	R-R	Mainly water polluting & hazardous waste generating industry. Scores are normalized to 100.
46.	65	Ports and harbour, jetties and dredging operations	30	10	40	15	10	25	20	85	R-R	This category contain all sorts of pollution.
47.	77	Synthetic fibers including rayon ,tyre cord, polyester filament yarn	30	10	40	25	10	35	10	85	R-R	This sector generates all sorts of pollution problems.
48.	81	Thermal Power Plants	30	10	40	20	10	30	15	85	R-R	i. This industrial sector is the one among the '17 categories of Highly Polluting Industries'. ii. TPP generate all sorts of pollution problems.
49.	71	Slaughter house (as per notification S.O.270(E)dated 26.03.2001)and meat processing industries, bone mill, processing of animal horn, hoofs and other body parts	25	10	35	-	-	-	-	87.5	R-R	Mainly water polluting and obnoxious odour generating industry. The water pollution score is normalized to 100
50.	2	Aluminium Smelter	30	10	40	20	10	30	20	90	R-R	i. This industrial sector is the one among the '17 categories of Highly Polluting Industries'. ii. This sector is generating all sorts of pollution i.e. air, water and HW.
51.	12	Copper Smelter	30	10	40	20	10	30	20	90	R-R	i. This industrial sector is the one among the '17 categories of Highly Polluting Industries'. ii. Integrated Copper Smelters contain all sorts of

												pollution.
52.	20	Fertilizer (basic) (excluding formulation)	30	10	40	20	10	30	20	90	R-R	i. This industrial sector is the one among the '17 categories of Highly Polluting Industries'. ii. Generates all sorts of pollution.
53.	37	Iron & Steel (involving processing from ore/ integrated steel plants) and or Sponge Iron units	30	10	40	20	10	30	20	90	R-R	i. This industrial sector is the one among the '17 categories of Highly Polluting Industries'. ii. Such types of industrial sectors generate all sorts of pollution.
54.	61	Pulp & Paper (waste paper based units with bleaching process to manufacture writing & printing paper)	25	10	35	25	10	35	20	90	R-R	Waste paper based Pulp & Paper mills with bleaching process generate all sorts of pollution.
55.	85	Zinc Smelter	30	10	40	20	10	30	20	90	R-R	i. This industrial sector is the one among the '17 categories of Highly Polluting Industries'. ii. Integrated Zinc smelter generates all sorts of pollution problems.
56.	55	Oil Refinery (mineral Oil or Petro Refineries)	30	10	40	25	10	35	20	95	R-R	i. This industrial sector is the one among the '17 categories of Highly Polluting Industries'. ii. Such types of industrial sectors generate all sorts of pollution.
57.	59	Petrochemicals Manufacturing (including processing of Emulsions of oil and water)	30	10	40	25	10	35	20	95	R-R	i. This industrial sector is the one among the '17 categories of Highly Polluting Industries'. ii. Such types of industrial sectors generate all sorts of pollution. iii. The earlier red category industrial sector namely "Processing of Emulsions of Oil & Water " is merged with this industrial sector.
58.	60	Pharmaceuticals	30	10	40	30	5	35	20	95	R-R	i. This industrial sector is the one among the '17 categories of Highly Polluting Industries'. ii. Such types of industrial sectors generate all sorts of pollution.
59.	61	Pulp & Paper (Large-Agro + wood) , Small Pulp & Paper (agro based-wheat straw/rice husk)	30	10	40	25	10	35	20	95	R-R	i. This industrial sector is the one among the '17 categories of Highly Polluting Industries'. ii. Large /Small Agro based Pulp & Paper mills contribute all sorts of pollution problems.
60.	15	Distillery (molasses / grain / yeast based)	30	10	40	-	-	-	-	100	R-R	Mainly water polluting industry. Final score is the normalized water pollution score.

Note :

i. Under the column Revised Category, the full forms of the abbreviations are as follows :

- a. R-R means original category was Red and revised category is also Red
- b. R-O means original category was Red and revised category is Orange
- c. O-O means original category was Orange and revised category is also Orange
- d. O-G means original category was Orange and revised category is Green
- e. O-W means original category was Orange and revised category is White
- f. G-O means original category was Green and revised category is Orange
- g. G-G means original category was Green and revised category is also Green
- h. G-W means original category was Green and revised category is White

ii. There are specific remarks in respect of some of the industrial sectors. These sectors are either merged with other relevant sectors or deleted due to duplication. The overall details are as follows :

Sl No.	Original Sl No.	Industry Sector	Original Category	Remarks
1	14	Common treatment and disposal facilities (CETP, TSDF, E-waste recycling, CBMWTF, effluent conveyance project, incinerator, solvent/acid recovery plant, MSW sanitary land fill site)	R	i. All such facilities are classified as Red but special category projects as these are parts of pollution control facilities. ii. In case of CETP, the categorization will depend upon the category of member industries being served.
2	18	Processing of Emulsions of Oil & Water		It is a part of Petrochemical industries. Transferred and merged with the industrial sector namely 'Petrochemicals' at Sl. No. 54.
3	27	Heavy engineering including ship building (with investment on Plant & Machineries more than Rs 10 crores)	R	Most of the pollution generating processes / operations under this category are similar to the industry category namely "Automobile Manufacturing (integrated facilities)" at Sl. No. 1 and may be referred accordingly.
4	30	Hydrocyanic acid and its derivatives	R	Have been merged with the red category industrial sector namely "Basic chemicals and electro chemicals and its derivatives including manufacturing of acid" at Sl. No. 24
5	32	Industrial estates/ parks / complexes/ areas/ export processing zones/ SEZs/ Biotech parks/ leather complex	R	The classification will depend upon the category(ies) of the industries operating / proposed to be permitted in the area. In this context, guidelines prescribed in EIA Notification, 2006 shall be followed.
6	33	Industrial inorganic gases namely- a) Chemical gas- Acetylene, hydrogen, chlorine, fluorine, ammonia, sulphur dioxide, ethylene, hydrogen-sulphide, phosphine b) Hydrocarbon gases- Methane, ethane, propane	R	These gases are generally secondary products and produced alongwith other main products. To be classified as per the main parent plant.
7	69	Reprocessing of used oils & waste oils	R	i. The industry generates mainly the air pollution and oil bearing hazardous wastes. The normalized (air pollution & HW generation score is 58.33. ii. To be deleted as already covered under HW Recyclers / Re-processors (Used oils / Waste Oils) under Orange Category

Table G-3 : Final List of Orange Category of Industrial Sectors

Final Sl. No.	Orgnl S.No	Industry Sector	W1	W2	W	A1	A2	A	H	W+A+H	Revised category	Remarks
1.	20	Dismantling of rolling stocks (wagons/ coaches)	--	--	--	15	--	15	10	41.67	O-O	Emissions of dust and generation of waste oils take place during dismantling. Air pollution & HW generation scores (15+10=25) are normalized to 100.
2.	5	Bakery and confectionery units with production capacity > 1 TPD. (With ovens / furnaces)	20	--	20	15	--	15	--	43.75	O-O	
3.	10	Chanachur and laddoo from puffed and beaten rice(muri and shira) using husk fired oven	20	--	20	15	--	15	--	43.75	O-O	Normal water and air polluting.
4.	23	Coated electrode manufacturing	15	0	15	20	0	20	0	43.75	G-O	Preparation of core wire / rod, preparation of dry mix, preparation of wet mix, application of coating by extrusion, baking of coated electrodes
5.	24	Compact disc computer floppy and cassette manufacturing / Reel manufacturing	15	0	15	20	0	20	0	43.75	G-O	Generates waste-water and process emissions.
6.	24	Flakes from rejected PET bottle	20	-	20	15	-	15	-	43.75	R-O	Normal water & air pollutions are generated.
7.	30	Food and food processing including fruits and vegetable processing	20	--	20	15	--	15	--	43.75	O-O	Normal water and air polluting.
8.	40	Jute processing without dyeing	20	--	20	15	--	15	--	43.75	O-O	CPCB has notified standards for this category. Both air and water pollutions are generated.
9.	56	Manufacturing of silica gel	15	0	15	20	0	20	0	43.75	G-O	Waste-waters containing TDS and emissions of H ₂ SO ₄ are generated.

10.	45	Manufacturing of tooth powder, toothpaste, talcum powder and other cosmetic items	20	--	20	15	--	15	--	43.75	O-O	Both air and water pollution are generated.
11.	55	Printing or etching of glass sheet using hydrofluoric acid	15	--	15	20	--	20	--	43.75	O-O	Both air and water pollution are generated.
12.	65	Silk screen printing, sari printing by wooden blocks	20	--	20	15	--	15	--	43.75	O-O	Wash-water and PM emissions from boilers .
13.	76	Synthetic detergents and soaps(excluding formulation)	20	-	20	15	-	15	-	43.75	R-O	i. This is the score for units having generation of waste-waters less than 100 KLD. ii. The units having waste-water generation more than 100 KLD will become mainly water polluting and accordingly normalized water pollution score will be 75 and be categorized as Red.
14.	71	Thermometer manufacturing	15	--	15	20	--	20	--	43.75	O-O	Process - making glass bulb, forming reservoir in the glass tube for fluid, inserting fluid, scale marking. Use of fuel to heat the glass tubes and hydrofluoric acid to seal the scaling. Small quantities of spent acids are generated.
15.	14	Cotton spinning and weaving (medium and large scale)	--	--	--	15	--	37.5	10	47.5	O-O	Mainly air polluting industry. Sources of air pollution (PM) are the fine particles of cotton from spinning process. Air pollution score is normalized to 100.
16.	1	Almirah, Grill Manufacturing (Dry Mechanical Process)	--	--	--	20	--	20	--	50	O-O	Air pollution due to spray painting (emissions of VOCs). Units without painting operations shall be categorized as White.

17.	2	Aluminium & copper extraction from scrap using oil fired furnace (dry process only)	--	--	--	20	--	20	10	50	O-O	i. Normalized Air pollution score. ii. Significant air pollution due to melting (emissions of SO ₂ , PM).
18.	3	Automobile servicing, repairing and painting (excluding only fuel dispensing)	20	--	20	20	--	20	10	50	O-O	Normal water & air polluting and recyclable waste oil generating. If the waste water generation is more than 100 KLD, it will become mainly water polluting and Red category unit.
19.	4	Ayurvedic and homeopathic medicine	20	--	20	15	--	15	15	50	O-O	
20.	7	Brickfields (excluding fly ash brick manufacturing using lime process)	--	--	--	20	--	20	--	50	O-O	Significantly air polluting.
21.	8	Building and construction project more than 20,000 sq. m built up area	20	--	20	20	--	20	--	50	O-O	1. In the pre-construction stage , it is mainly air polluting due to generation of dust (PM) emissions. 2. After construction, it is mainly water polluting. If the discharge is more than 100 KLD, it will be having the normalized score of 75 and be categorized as Red.
22.	6	Ceramics and Refractories	-	-	-	20	-	20	-	50	R-O	i. Mainly air polluting industry. ii. This score is for the units having coal consumption < than 12 MT/day. iii. For the units having coal consumption > 12 MT /day, the normalized air pollution score will be 62.5 and shall be categorized as Red.

23.	11	Coal washeries	15	10	25	15	-	15	-	50	R-O	<p>i. Wet washeries are mainly water polluting industry generating effluents which are having inorganic SS & TDS. Additionally, air pollution due to PM emissions is also generated.</p> <p>ii. Water & air pollution scores are jointly normalized to 100.</p>
24.	16	Dairy and dairy products (small scale)	20	--	20	20	--	20	--	50	O-O	Water and air polluting both.
25.	18	DG set of capacity >1MVA but < 5MVA	--	--	--	20	--	20	--	50	O-O	Mainly air polluting . air pollution score is normalized to 100.
26.	17	Dry coal processing, mineral processing, industries involving ore sintering, pelletising, grinding & pulverization	-	-	-	20	-	20	-	50	R-O	Mainly air polluting industry. Final score is the normalized air pollution score.
27.	19	Fermentation industry including manufacture of yeast, beer, distillation of alcohol (Extra Neutral Alcohol)	20	-	20	-	-	-	-	50	R-O	<p>i. Mainly water polluting industry. This is the normalized water pollution score for units having discharge < 100 KLD.</p> <p>ii. For the units having discharge > 100 KLD, the normalized water pollution score will be 75 and shall be accordingly categorized as Red.</p>
28.	21	Ferrous and Non-ferrous metal extraction involving different furnaces through melting, refining, re-processing, casting and alloy-making	-	-	-	15	5	20	10	50	R-O	<p>i. Mainly air polluting.</p> <p>ii. This score is applicable to secondary production of ferrous & non-ferrous metals (excluding lead) up-to 1 MT/hour production.</p>

												<p>iii. For lead, the normalized air pollution score will be = $(100 \times 25) / 40 = 62.5$ and is categorized as Red.</p> <p>iv. For Induction Furnace clubbed with AOD furnace - separate calculation shall be made based on the capacity of the furnaces. In such industries, the molten metal from induction furnace is transferred to AOD furnace where other metals like manganese and nickel are added to get the metal of desired constituents. The lime and silicon are also added for reduction of the metal oxides to the base metal. the normalized air pollution score will be = $(100 \times 25) / 40 = 62.5$ and is categorized as Red.</p>
29.	26	Fertilizer (granulation / formulation / blending only)	--	--	--	20	--	20	--	50	O-O	Air polluting.
30.	27	Fish feed, poultry feed and cattle feed	--	--	--	20	--	20	--	50	O-O	Obnoxious odour , H ₂ S etc. AP score is normalized to 100
31.	28	Fish processing and packing (excluding chilling of fishes)	20	--	20	--	--	--	--	50	O-O	Mainly water polluting. WP score is normalized to 100.

32.	31	Forging of ferrous and non- ferrous metals (using oil and gas fired furnaces)	--	--	--	20	--	20	--	50	O-O	Heating furnace. Mainly air polluting.
33.	32	Formulation/pelletization of camphor tablets, naphthalene balls from camphor/ naphthalene powders.	--	--	--	20	--	20	--	50	O-O	Mainly air polluting. Emissions of Benzene, HC are expected.
34.	33	Glass ceramics, earthen potteries and tile manufacturing using oil and gas fired kilns, coating on glasses using cerium fluorides and magnesium fluoride etc.	--	--	--	20	--	20	--	50	O-O	Mainly air polluting. Emissions of SO2 are expected.
35.	35	Gravure printing, digital printing on flex, vinyl	20	--	20	20	--	20	10	50	O-O	Waste waters , emissions of VOCs
36.	36	Heat treatment using oil fired furnace (without cyaniding)	--	--	--	20	--	20	--	50	O-O	Mainly air polluting and noise generating. AP Score is normalized to 100.
37.	28	Hot mix plants	-	-	-	20	-	20	-	50	R-O	Mainly air polluting. Air pollution scores are normalized to 100.
38.	37	Hotels (< 3 star) or hotels having > 20 rooms and less than 100 rooms.	20	--	20	20	--	20	--	50	O-O	Mainly water polluting. WP score is normalized to 100.
39.	38	Ice cream	20	--	20	20	--	20	--	50	O-O	Wash-water and boilers / oven for pasteurization.
40.	34	Industries engaged in recycling / reprocessing/ recovery/reuse of Hazardous Waste under schedule iv of HW(M, H& TBM) rules, 2008 - Items namely - Paint and ink Sludge/residues	-	-	-	20	0	20	0	50	R-O	Mainly air polluting. Air pollution score is normalized to 100
41.	34	Industries engaged in recycling / reprocessing/ recovery/reuse of Hazardous Waste under schedule iv of HW(M, H& TBM) rules, 2008 - Items namely - Brass Dross ,, Copper Dross,, Copper Oxide Mill Scale,, Copper Reverts, Cake & Residues,, Waste Copper and copper alloys in	10	-	10	20	-	20	10	50	R-O	Mainly air polluting.

		dispersible form,, Slags from copper processing for further processing or refining ,, Insulated Copper Wire,, Scrap/copper with PVC sheathing including ISRI-code material namely "Druid" ,, Jelly filled Copper cables ,, Zinc Dross-Hot dip Galvanizers SLAB,, Zinc Dross-Bottom Dross,, Zinc ash/Skimming arising from galvanizing and die casting operations,, Zinc ash/Skimming/other zinc bearing wastes arising from smelting and refining,, Zinc ash and residues including zinc alloy residues in dispersible from,,										
42.	35	Industry or processes involving foundry operations	-	-	-	20	-	20	-	50	R-O	<ul style="list-style-type: none"> i. This score is valid for the foundries having capacity < 5 MT/hr as such units require the coal/coke @ < 500 kg/hr. ii. The units having capacity of 5 MT/hr and more, the coal/coke consumption will be more than 500 kg/hr and the normalized score will be 62.5 and classified accordingly as Red.
43.	40	Lime manufacturing (using lime kiln)	-	-	-	20	-	20	-	50	R-O	Mainly air polluting
44.	41	Liquid floor cleaner, black phenyl, liquid soap, glycerol mono-stearate manufacturing	20	--	20	20	--	20	--	50	O-O	Both air and water pollution are generated.

45.	42	Manufacturing of glass	10	-	-	20	-	20	-	50	R-O	<p>i. Mainly air polluting (melting at 1500°C and refining .</p> <p>ii. In case of lead glass , the score of A1 will be 25 and accordingly the normalized scores will be 62.5 i.e. Red .</p>
46.	43	Manufacturing of iodized salt from crude/ raw salt	12	--	12	20	--	20	--	50	O-O	Boiling in Evaporators (multiple effect evaporators), centrifuging, iodization with KIO ₃ mixing . Mainly air polluting. Air pollution score is normalized to 100.
47.	42	Manufacturing of mirror from sheet glass	--	--	--	20	--	20	--	50	O-O	Evaporator & furnace for heating the metal to be applied as reflector on mirror. Mainly air polluting.
48.	44	Manufacturing of mosquito repellent coil	--	--	--	20	--	20	--	50	O-O	Mainly air polluting. Toxic fumes are expected.
49.	46	Manufacturing of Starch/Sago	25	-	25	15	-	15	-	50	R-O	<p>i. Water and air polluting industry. Boiler is used for steam generation.</p> <p>ii. Water & air pollution scores are normalized to 100</p>
50.	46	Mechanized laundry using oil fired boiler	20	--	20	20	--	20	--	50	O-O	Both air and water pollution are generated.
51.	47	Modular wooden furniture from particle board, MDF< swan timber etc, Ceiling tiles/ partition board from saw dust, wood chips etc., and other agricultural waste using synthetic adhesive resin, wooden box making (With boiler)	--	--	--	20	--	20	--	50	O-O	1. Mainly air polluting. Boiler as well as VOCs from use of adhesives. 2. Without boiler, it will be a Green category industry.
52.	50	New highway construction project	-	-	-	20	-	20	-	50	R-O	Mainly air polluting project.

53.	51	Non-alcoholic beverages(soft drink) & bottling of alcohol/non alcoholic products	20	-	20	15	5	20	-	50	R-O	i. Both air and water polluting. Score is normalized with air & water pollution. This score is valid for industries having waste-water generation < 100 KLD. ii. For the units having waste-water generation > 100 KLD the , normalized score would be 62.5 and categorized as Red.
54.	49	Paint blending and mixing (Ball mill)	20	--	20	20	--	20	10	50	O-O	Both air and water pollution are generated.
55.	62	Paints and varnishes (mixing and blending)	20	0	0	20	0	20	0	50	G-O	Waste-waters as well as fumes of VOCs due to solvents, pigments, varnishes.
56.	51	Ply-board manufacturing(including Veneer and laminate) with oil fired boiler/ thermic fluid heater(without resin plant)	0	--	0	20	--	20	--	50	O-O	Mainly air polluting because of use of boiler. AP score is normalized to 100
57.	52	Potable alcohol (IMFL) by blending, bottling of alcohol products	20	--	20	--	--	--	--	50	O-O	Mainly water polluting. WP score is normalized to 100.
58.	54	Printing ink manufacturing	20	--	20	20	--	20	--	50	O-O	1. Pigments, binders and solvents are used. 2. Boiler is also used. 3. Emissions of VOCs take place.
59.	70	Printing press	20	0	20	20	0	20	0	50	G-O	Colored waste-waters containing dyes and VOC emissions are generated.
60.	59	Reprocessing of waste plastic including PVC	20	--	20	20	--	20	--	50	O-O	Large quantities of wash-water and fugitive emissions are generated.
61.	61	Rolling mill (oil or coal fired) and cold rolling mill	10	--	10	20	--	20	--	50	O-O	Mainly air polluting. Air pollution score is normalized to 100. Others - cooling water and recyclable waste oils etc. are generated.
62.	67	Spray painting, paint baking, paint shipping	--	--	--	20	--	20	10	50	O-O	Mainly air polluting. Emissions of VOCs and HC are generated.

63.	72	Steel and steel products using various furnaces like blast furnace /open hearth furnace/induction furnace/arc furnace/submerged arc furnace /basic oxygen furnace /hot rolling reheated furnace	10	-	10	20	-	20	10	50	R-O	i. Mainly air polluting. In the emissions, oxides of manganese, nickel etc. are also present. ii. Air pollution score is normalized to 100.
64.	73	Stone crushers	-	-	-	20	-	20	-	50	R-O	Mainly air polluting. Air pollution score is normalized to 100.
65.	75	Surgical and medical products including prophylactics and latex	20	-	20	20	-	20	-	50	R-O	Both air as well as water polluting. Air and water pollution scores are normalized to 100.
66.	85	Tephlon based products	0	0	0	20	0	20	0	50	G-O	Due to spraying applications, emissions (HC) are generated
67.	70	Thermocol manufacturing (with boiler)	--	--	--	20	--	20	--	50	O-O	Polystyrene is heated. Mainly air polluting with boiler.
68.	82	Tobacco products including cigarettes and tobacco/opium processes	20	-	20	20	-	20	-	50	R-O	Such industries generate both air as well as water pollution. These scores are normalized to 100.
69.	72	Transformer repairing/ manufacturing (dry process only)	--	--	--	20	--	20	10	50	O-O	Mainly air polluting because of ovens, shot-blasting etc.
70.	73	Tyres and tubes vulcanization/ hot retreating	10	--	10	20	--	20	--	50	O-O	Mainly air polluting . Emissions of PM, VOCs and obnoxious odour are generated.
71.	83	Vegetable oil manufacturing including solvent extraction and refinery /hydrogenated oils	20	-	20	15	5	20	10	50	R-O	i. All sorts of pollution are generated. ii. This score is valid for plants having waste-water generation < 100 KLD. iii. If the waste-water generation is more than 100 KLD, the unit shall be classified as Red.
72.	74	Wire drawing and wire netting	20	--	20	--	--	--	--	50	O-O	Mainly water polluting. WP score is normalized to 100.

73.	21	Dry cell battery (excluding manufacturing of electrodes) and assembling & charging of a lead battery on micro scale	30	--	30	15	--	15	10	55	O-O	Water and air polluting both.
74.	50	Pharmaceutical formulation and for R & D purpose (For sustained release/ extended release of drugs only and not for commercial purpose)	20	--	20	20	--	20	15	55	O-O	i. All sorts of pollution are generated. ii. R&D activities are to be shifted to Red category.
75.	78	Synthetic resins	20	-	20	20	-	20	15	55	R-O	All sorts of pollution are generated.
76.	79	Synthetic rubber excluding molding	20	-	20	20	-	20	15	55	R-O	i. Most synthetic rubber is created from two materials, styrene and butadiene. Both are currently obtained from petroleum. ii. Process is similar to a part of Petrochemical plants.
77.	9	Cashew nut processing	25	--	25	20	--	20	--	56	O-O	Normal water and air polluting.
78.	12	Coffee seed processing	25	--	25	20	--	20	--	56	O-O	Normal water & air polluting industry.
79.	57	Parboiled Rice Mills	25	-	25	20	-	20	-	56	R-O	i. Rice Mills are generating both air and water pollution. Waste-waters are having high strength in respect of BOD. ii. This is the normalized air & water pollution score for units having waste-water generation < 100 KLD and fuel consumption less than 12 MTD. iii. For units having waste-water generation > 100 KLD or fuel consumption > 12 MTD or both , the unit shall be classified as Red.

80.	29	Foam manufacturing	--	--	--	20	--	20	15	58	O-O	<p>i. Raw material is polyurethane, latex etc.</p> <p>ii. Emissions of VOCs and HAPs. CH₃Cl₂ and similar compounds as blowing agents.</p> <p>iii. Outdated raw materials and spoiled slots are discarded as HW.</p>
81.	34	Industries engaged in recycling / reprocessing/ recovery/reuse of Hazardous Waste under schedule iv of HW(M, H& TBM) rules, 2008 - Items namely - Used Oil – As per specifications prescribed from time to time.	10	0	10	20	0	20	15	58.33	R-O	Mainly air polluting and hazardous waste generating industry. Air pollution & HW scores are normalized to 100
82.	34	Industries engaged in recycling / reprocessing/ recovery/reuse of Hazardous Waste under schedule iv of HW(M, H& TBM) rules, 2008 - Items namely - Waste Oil ---As per specifications prescribed from time to time.	-	-	-	20	0	20	15	58.33	R-O	Mainly air polluting and hazardous waste generating industry. Air pollution & HW scores are normalized to 100.
83.	56	Producer gas plant using conventional up drift coal gasification (linked to rolling mills glass and ceramic industry refractories for dedicated fuel supply)	--	--	--	20	--	20	15	58.33	O-O	Mainly air polluting & tar (HW) generating. SO ₂ , CO, NO _x are generated. Tar is the by-product and utilized by other industries in co-processing.

Note :

- i. Under the column Revised Category, the full forms of the abbreviations are as follows :
- R-R means original category was Red and revised category is also Red
 - R-O means original category was Red and revised category is Orange
 - O-O means original category was Orange and revised category is also Orange
 - O-G means original category was Orange and revised category is Green
 - O-W means original category was Orange and revised category is White
 - G-O means original category was Green and revised category is Orange
 - G-G means original category was Green and revised category is also Green
 - G-W means original category was Green and revised category is White

ii. There are specific remarks in respect of some of the industrial sectors. These sectors are either merged with other relevant sectors or deleted due to duplication / vague category. The overall details are as follows:

<i>Sl No .</i>	<i>Original Sl No.</i>	<i>Industry Sector</i>	<i>Original Category</i>	<i>Remarks</i>
1	24	<i>Excavation of sand from the river bed (excluding manual excavation)</i>	O	<i>Since such types of activities cause ecological disturbances, the instructions issued by the government from time to time be followed. To be categorized by MoEF&CC.</i>
2	39	<i>Infrastructure Development Project</i>	O	<i>Vast variety of such projects come under such category. This is to be decided by the concerned SPCB in line of EIA Notification , 2006.</i>
3	53	<i>Power press</i>	O	<i>Very vague term hence deleted. Such types of general engineering units have already been covered.</i>

Table G-4 : Final List of Green Category of Industrial Sectors

Sl. No.	Orgnl Sl. No.	Industry Sector	W1	W2	W	A1	A2	A	H	W+A+H	Revised Category	Remarks
1.	2	Aluminium utensils from aluminium circles by pressing only (dry mechanical operation)	--	--	--	10	--	10	--	25	G-G	Minor air pollution due to some fugitive PM emissions from buffing operations.
2.	6	Ayurvedic and homeopathic medicines (without boiler)	10	--	10	--	--	--	--	25	G-G	Small quantities of waste-waters are generated from washing operations.
3.	8	Bakery /confectionery /sweets products (with production capacity <1tpd (with gas or electrical oven)	10	--	10	--	--	--	--	25	G-G	Small quantities of waste-waters are generated from washing operations.
4.	6	Bi-axially oriented PP film along with metalizing operations	10	--	10	--	--	--	--	25	O-G	Mainly extrusion process involving Cooling water recirculation
5.	10	Biomass briquettes (sun drying) without using toxic hazardous wastes	--	--	--	10	--	10	--	25	G-G	Minor air pollution due to some fugitive PM emissions from pulverization / mixing operations.
6.	13	Blending of melamine resins & different powder, additives by physical mixing	--	--	--	10	--	10	--	25	G-G	Minor air pollution due to some fugitive PM emissions from pulverization / mixing operations.
7.	15	Brass and bell metal utensils manufacturing from circles(dry mechanical operation without re-rolling facility)	--	--	--	10	--	10	--	25	G-G	Minor air pollution due to some fugitive PM emissions from buffing operations.
8.	16	Candy	10	--	10	10	--	10	--	25	G-G	Small quantities of waste-water and minor

												PM emissions are generated.
9.	17	Cardboard or corrugated box and paper products (excluding paper or pulp manufacturing and without using boilers)	--	--	--	10	--	10	--	25	G-G	This score is valid with Small gas / electricity operated oven / furnace for making glue.
10.	18	Carpentry & wooden furniture manufacturing (excluding saw mill) with the help of electrical (motorized) machines such as electrical wood planner, steel saw cutting circular blade, etc.	--	--	--	10	--	10	--	25	G-G	Minor air pollution due to some fugitive PM emissions from cutting operations.
11.	19	Cement products (without using asbestos / boiler / steam curing) like pipe ,pillar, jafri, well ring, block/tiles etc.(should be done in closed covered shed to control fugitive emissions)	--	--	--	10	--	10	--	25	G-G	Minor air pollution due to some fugitive PM emissions from mixing operations.
12.	20	Ceramic colour manufacturing by mixing & blending only (not using boiler and wastewater recycling process)	--	--	--	10	--	10	--	25	G-G	Minor air pollution due to some fugitive PM emissions.
13.	11	Chilling plant, cold storage and ice making	10	--	10	--	--	--	--	25	O-G	Cooling water recirculation only.
14.	13	Coke briquetting (sun drying)	--	--	--	10	--	10	--	25	O-G	Mainly air polluting industry. Sources of air pollution (PM) are pulverizes and mixers. Air pollution score is normalized to 100.
15.	28	Cotton spinning and weaving (small scale)	--	--	--	10	--	10	--	25	G-G	Minor PM emissions from spinning process.
16.	17	Dal Mills	--	--	--	10	--	10	--	25	O-G	Some fugitive emissions of PM.

17.	29	Decoration of ceramic cups and plates by electric furnace	--	--	--	10	--	10	--	25	G-G	Fumes of enamels. Minor air pollution.
18.	19	Digital printing on PVC clothes	--	--	--	10	--	10	--	25	O-G	Minor emissions / odour generations are expected.
19.	25	Facility of handling, storage and transportation of food grains in bulk	--	--	--	10	--	10	--	25	O-G	Some fugitive emissions of PM during handling of grains.
20.	36	Flour mills (dry process)	--	--	--	10	--	10	--	25	G-G	Fugitive dust emissions.
21.	41	Glass , ceramic, earthen potteries, tile and tile manufacturing using electrical kiln or not involving fossil fuel kiln	--	--	--	10	--	10	--	25	G-G	Minor fugitive emissions only.
22.	34	Glue from starch (physical mixing) with gas / electrically operated oven /boiler.	--	--	--	10	--	10	--	25	O-G	Some fugitive emissions of PM during mixing of raw materials.
23.	42	Gold and silver smithy (purification with acid smelting operation and sulphuric acid polishing operation) (using less or equal to 1 litre of sulphuric acid/ nitric acid per month)	--	--	--	10	--	10	--	25	G-G	Minor fumes from cleaning process.
24.	36	Heat treatment with any of the new technology like ultrasound probe , induction hardening , ionization beam, gas carburizing etc.	10	--	10	10	--	10	--	25	O-G	<ul style="list-style-type: none"> Cooling waters and minor heat fumes. Finalization of categorization subject to field verification.
25.	46	Insulation and other coated papers (excluding paper or pipe manufacturing)	--	--	--	10	--	10	--	25	G-G	Minor fumes due to application of poly-urethane
26.	49	Leather foot wear and leather products (excluding tanning and hide processing except cottage scale)	--	--	--	10	--	10	--	25	G-G	Minor fumes due to use of adhesives / gums.

27.	50	Lubricating oil, greases or petroleum based products (only blending at normal temperature)	--	--	--	10	--	10	--	25	G-G	Minor fumes at the time of transfers from one container to other.
28.	54	Manufacturing of pasted veneers using gas fired boiler or thermic fluid heater and by sun drying	--	--	--	10	--	10	--	25	G-G	1. Minor fumes due to application of gums / adhesives / pastes etc. 2. This score is valid only for gas fired boiler. 3. The units having coal fired boilers shall be categorized as Orange.
29.	59	Oil mill Ghani and extraction (no hydrogenation / refining)	10	--	10	--	--	--	--	25	G-G	Small quantities of floor washings & equipments washings are generated.
30.	48	Packing materials manufacturing from non asbestos fibre, vegetable fibre yarn	--	--	--	10	--	10	--	25	O-G	Some fugitive emissions of PM are expected.
31.	65	Phenyl/toilet cleaner formulation and bottling	--	--	--	10	--	10	--	25	G-G	Minor fumes of VOCs in the work zone
32.	67	Polythene and plastic processed products manufacturing (virgin plastic)	10	--	10	10	--	10	--	25	G-G	Cooling water & emissions due to mixing of raw materials.
33.	68	Poultry, Hatchery and Piggery	--	--	--	10	--	10	--	25	G-G	Obnoxious odour containing H ₂ S, CH ₄ etc. and fugitive PM emissions
34.	69	Power looms (without dye and bleaching)	--	--	--	10	--	10	--	25	G-G	Minor emissions of PM.
35.	71	Puffed rice (muri) (using gas or electrical heating system)	--	--	--	10	--	10	--	25	G-G	Minor emissions of PM.
36.	57	Pulverization of bamboo and scrap wood	--	--	--	10	--	10	--	25	O-G	Some fugitive emissions of PM are expected.
37.	72	Ready mix cement concrete	--	--	--	10	--	10	--	25	G-G	PM emissions.
38.	73	Reprocessing of waste cotton	--	--	--	10	--	10	--	25	G-G	PM emissions.
39.	60	Rice mill (Rice hullers only)	--	--	--	10	--	10	--	25	O-G	PM emissions are generated. Mainly air

													polluting. AP score is normalized to 100
40.	62	Rolling mill (gas fired) and cold rolling mill	10	--	10	10	--	10	--	25	O-G		Mainly air polluting. AP score is normalized to 100
41.	75	Rubber goods industry (with gas operated baby boiler)	--	--	--	10	--	10	--	25	G-G		Some PM emissions and obnoxious odour.
42.	63	Saw mills	--	--	--	10	--	10	--	25	O-G		Mainly air polluting. PM and noise are generated.
43.	77	Soap manufacturing (hand made without steam boiling / boiler)	10	--	10	--	--	--	--	25	G-G		Small quantities of waste-water are generated.
44.	80	Spice grinding (upto-20 HP motor)	--	--	--	10	--	10	--	25	G-G		Small quantities of fugitive emissions of raw materials.
45.	66	Spice grinding (>20 hp motor)	--	--	--	10	--	10	--	25	O-G		Mainly air polluting. Fugitive emissions of PM.
46.	81	Steel furniture without spray painting	--	--	--	10	--	10	--	25	G-G		Obnoxious gases from welding as well as noise pollution.
47.	82	Steeping and processing of grains	10	--	10	--	--	--	--	25	G-G		Washing waters are generated.
48.	86	Tyres and tube retreating (without boilers)	--	--	--	10	--	10	--	25	G-G		Due to applications of binding gum / adhesives / cement, some obnoxious fumes may generate.
49.	22	Chilling plant and ice making without using ammonia	12	--	12	--	--	--	--	30	G-G		Cooling water and brine water circuits. Spillages / blow down may take place
50.	26	CO2 recovery	12	--	12	--	--	--	--	30	G-G		Normal water pollution from scrubbing action
51.	32	Distilled water (without boiler) with electricity as source of heat	12	--	12	--	--	--	--	30	G-G		TDS as distillation residues

52.	45	Hotels (up to 20 rooms and without boilers)	12	--	12	--	--	--	--	30	G-G	This score is valid for hotels having overall waste-water generation less than 10 KLD.
53.	53	Manufacturing of optical lenses (using electrical furnace)	12	--	12	--	--	--	--	30	G-G	Small quantities of waste-waters containing TDS, SS are generated.
54.	58	Mineralized water	12	--	12	--	--	--	--	30	G-G	RO Rejects.
55.	68	Tamarind powder manufacturing	12	--	12	15	--	15	--	33.75	O-G	<ul style="list-style-type: none"> Dried tamarind fruits - cleaned and after soaking them in water they are boiled in steam jacketed kettle for about 40-45 minutes. Then pulp is extracted in pulper and dried in drum type drier and on cooling, the final product is packed. Generates small quantities of waste waters and air emissions. Joint score is normalized to 100.
56.	15	Cutting, sizing and polishing of marble stone	15	--	15	--	--	--	--	37.5	O-G	Mainly water polluting . Water pollution score is normalized to 100.
57.	22	Emery powder (fine dust of sand) manufacturing	--	--	--	15	--	15	--	37.5	O-G	Air polluting. PM emissions take place during various stages of grindings of naturally occurring minerals.
58.	25	Flyash export, transport & disposal facilities	-	-	-	15	-	15	-	37.5	R-G	<ul style="list-style-type: none"> This is mainly air polluting activity. This is the normalized score based on air pollution.
59.	48	Mineral stack yard / Railway sidings	15	-	15	15	-	15	-	37.5	R-G	<ul style="list-style-type: none"> Mainly air pollution due to loading, unloading, storage and transportation of the minerals.

													<ul style="list-style-type: none"> Waste-water generation mainly during rains only.
60.	54	Oil and gas transportation pipeline	-	-	-	10	5	15	-	37.5	R-G	<ul style="list-style-type: none"> Contains small gas based power plants up-to 5 MWs. Air pollution score is normalized to 100. In case , if these power plants are bigger / liquid fuel / oil based, scores will be calculated accordingly. 	
61.	64	Seasoning of wood in steam heated chamber	--	--	--	15	--	15	--	37.5	O-G	<p>Air pollution due to use boiler for supply of steam. Air pollution score is normalized to 100.</p>	
62.	84	Synthetic detergent formulation	--	--	--	15	--	15	--	37.5	G-G	<ul style="list-style-type: none"> This score is valid for the industries which are not manufacturing LABSA. It is procured from outside. Small quantities of emissions are generated from mini boiler. Air pollution score is normalized to 100. 	
63.	69	Tea processing (with boiler)	--	--	--	15	--	15	--	37.5	O-G	<p>With boiler, it is an orange category industry. Without boiler, it will be green category industry.</p>	

Note :

- i. Under the column Revised Category, the full forms of the abbreviations are as follows :
- R-R means original category was Red and revised category is also Red
 - R-O means original category was Red and revised category is Orange
 - O-O means original category was Orange and revised category is also Orange
 - O-G means original category was Orange and revised category is Green
 - O-W means original category was Orange and revised category is White
 - G-O means original category was Green and revised category is Orange
 - G-G means original category was Green and revised category is also Green
 - G-W means original category was Green and revised category is White
- ii. There are specific remarks in respect of some of the industrial sectors. These sectors are either merged with other relevant sectors or deleted due to duplication. The overall details are as follows :

Sl No .	Origin al Sl No.	Industry Sector	Original Categor y	Remarks
1	47	Jobbing and Machining	G	Vague category to be deleted, as such activities have already been covered in other categories.
2	66	Reel manufacturing	G	Already covered in other categories. Hence, deleted
3	1	Assembling of acid lead batteries (up to 10 batteries per day excluding lead plate casting)	G	Already covered in Orange category. Hence, deleted
4	5	Automobile fuel outlets (only dispensing)	G	Minor air pollution due to some fugitive emissions during fuel filling operations. May be exempted from the purview of Consent management.
5	30	Diesel generator sets (15 KVA to 1 MVA)	G	<ul style="list-style-type: none"> Normal operation – 12 hrs a day. Consumption of diesel = 1680 litres for 1 MVA DG set at full load @ 0.21 litres / KVA / hr. Stand-alone DG Sets having total capacity 1 MVA or less and equipped with acoustic enclosures alongwith adequate stack height may be exempted from the purview of Consent management. Higher capacity DG sets have already been covered under Red / Orange categories .

Table G-5: Final List of White Category of Industries

Sl. No.	Orgnl Sl. No.	Industry Sector	W1	W2	W	A1	A2	A	H	W+A+H	Revised Category
1.	3	Assembly of air coolers /conditioners ,repairing and servicing	--	--	--	--	--	--	--	--	G-W
2.	4	Assembly of bicycles ,baby carriages and other small non motorizing vehicles	--	--	--	--	--	--	--	--	G-W
3.	7	Bailing (hydraulic press)of waste papers	--	--	--	--	--	--	--	--	G-W
4.	9	Bio fertilizer and bio-pesticides without using inorganic chemicals	--	--	--	--	--	--	--	--	G-W
5.	11	Biscuits trays etc from rolled PVC sheet (using automatic vacuum forming machines)	--	--	--	--	--	--	--	--	G-W
6.	12	Blending and packing of tea	--	--	--	--	--	--	--	--	G-W
7.	14	Block making of printing without foundry (excluding wooden block making)	--	--	--	--	--	--	--	--	G-W
8.	21	Chalk making from plaster of Paris (only casting without boilers etc. (sun drying / electrical oven)	--	--	--	--	--	--	--	--	G-W
9.	25	Compressed oxygen gas from crude liquid oxygen (without use of any solvents and by maintaining pressure & temperature only for separation of other gases)	--	--	--	--	--	--	--	--	G-W
10.	27	Cotton and woolen hosiers making (Dry process only without any dyeing / washing operation)	--	--	--	--	--	--	--	--	G-W
11.	31	Diesel pump repairing and servicing (complete mechanical dry process)	--	--	--	--	--	--	--	--	G-W
12.	33	Electric lamp (bulb) and CFL manufacturing by assembling only	--	--	--	--	--	--	--	--	G-W

13.	34	Electrical and electronic item assembling (completely dry process)	--	--	--	--	--	--	--	--	G-W
14.	23	Engineering and fabrication units (dry process without any heat treatment / metal surface finishing operations / painting)	--	--	--	--	--	--	--	--	O-W
15.	35	Flavoured betel nuts production/ grinding (completely dry mechanical operations)	--	--	--	--	--	--	--	--	G-W
16.	37	Fly ash bricks/ block manufacturing	--	--	--	--	--	--	--	--	G-W
17.	38	Fountain pen manufacturing by assembling only	--	--	--	--	--	--	--	--	G-W
18.	39	Glass ampules and vials making from glass tubes	--	--	--	--	--	--	--	--	G-W
19.	40	Glass putty and sealant (by mixing with machine only)	--	--	--	--	--	--	--	--	G-W
20.	43	Ground nut decorticating	--	--	--	--	--	--	--	--	G-W
21.	44	Handloom/ carpet weaving (without dying and bleaching operation)	--	--	--	--	--	--	--	--	G-W
22.	48	Leather cutting and stitching (more than 10 machine and using motor)	--	--	--	--	--	--	--	--	G-W
23.	51	Manufacturing of coir items from coconut husks	--	--	--	--	--	--	--	--	G-W
24.	52	Manufacturing of metal caps containers etc	--	--	--	--	--	--	--	--	G-W
25.	55	Manufacturing of shoe brush and wire brush	--	--	--	--	--	--	--	--	G-W
26.	57	Medical oxygen	--	--	--	--	--	--	--	--	G-W
27.	60	Organic and inorganic nutrients (by physical mixing)	--	--	--	--	--	--	--	--	G-W
28.	61	Organic manure (manual mixing)	--	--	--	--	--	--	--	--	G-W
29.	63	Packing of powdered milk	--	--	--	--	--	--	--	--	G-W
30.	64	Paper pins and u clips	--	--	--	--	--	--	--	--	G-W
31.	58	Repairing of electric motors and generators (dry mechanical process)	--	--	--	--	--	--	--	--	O-W
32.	74	Rope (plastic and cotton)	--	--	--	--	--	--	--	--	G-W

33.	76	Scientific and mathematical instrument manufacturing	--	--	--	--	--	--	--	--	G-W
34.	78	Solar module non conventional energy apparatus manufacturing unit	--	--	--	--	--	--	--	--	G-W
35.	79	Solar power generation through solar photovoltaic cell, wind power and mini hydel power (less than 25 MW)	--	--	--	--	--	--	--	--	G-W
36.	83	Surgical and medical products assembling only (not involving effluent / emission generating processes)	--	--	--	--	--	--	--	--	G-W

Note : Under the column Revised Category, the full forms of the abbreviations are as follows :

- a. R-R means original category was Red and revised category is also Red
- b. R-O means original category was Red and revised category is Orange
- c. O-O means original category was Orange and revised category is also Orange
- d. O-G means original category was Orange and revised category is Green
- e. O-W means original category was Orange and revised category is White
- f. G-O means original category was Green and revised category is Orange
- g. G-G means original category was Green and revised category is also Green
- h. G-W means original category was Green and revised category is White





केन्द्रीय प्रदूषण नियंत्रण बोर्ड
CENTRAL POLLUTION CONTROL BOARD
(पर्यावरण एवं वन मंत्रालय, भारत सरकार)
(MINISTRY OF ENVIRONMENT & FORESTS, GOVT. OF INDIA)

No. B-29012/ESS/CPA/2015-16

19.08.2015

Sub: "Harmonization of Classification of industries under Red / Orange / Green / White Categories".

During the Conference of the Environment Ministers of States held in New Delhi during April 06-07, 2015, it was resolved to adopt pollution potential criteria for categorization of Red, Orange & Green categories of industries and that a Committee be constituted with State representatives. Further, in the 59th Conference of Chairmen & Member Secretaries of Pollution Control Boards/PCCs held in New Delhi on April 08, 2015, it was agreed to constitute a Committee to look into categorization system of industries based on their respective pollution potential index.

2. Accordingly, a Committee comprising the Chairmen of CPCB, APPCB, TNPCB, MPPCB, MPCB, PPCB, WBPCB and MS, CPCB was constituted vide CPCB OM dated 23.04.2015 to review & classify industrial sectors into different categories based on criteria of respective pollution potential indices.
3. The existing Red (85 sectors) , Orange (73 sectors) and Green (86 sectors) industrial sectors have been assessed as per the proposed formula by a group of Scientists from CPCB . For this purpose , concerned Engineers / Scientists from the Member SPCBs of the Committee were also involved & consulted during May28-29, 2015.
4. After careful examination and consideration of the suggestions of concerned stake-holders the "Draft Document on Revised Concept of Categorization of Industrial Sectors " is prepared by the Committee .

In this context, the Undersigned is directed to forward a copy of the " Draft Document on Revised Concept of Categorization of Industrial Sectors to all the SPCBs, PCCs and concerned Ministries for their comments. Accordingly, the same is enclosed herewith and all the SPCBs, PCCs and concerned Ministries are, hereby requested to provide their comments by 04.09.2015. The comments may kindly be sent through hard copy as well as soft copy at e-mail: nkgupta.cpcb@nic.in , nkgpcb@hotmail.com .

Encl : As above

[N.K. Gupta]
Incharge - ESS

To:

1. All the State Pollution Control Boards / Pollution Control Committees
2. The Secretary, Ministry of Micro Small and Medium Enterprises, New Delhi
3. The Secretary, Ministry of Heavy Industries & Public Enterprises, New Delhi
4. The Advisor & Incharge , CP Division, MoEFCC, New Delhi
5. CPCB Website

'परिवेश भवन' पूर्वी अर्जुन नगर, दिल्ली-110032

'Parivesh Bhawan', East Arjun Nagar, Delhi - 110032

दूरभाष / Tel. : 43102030, फैक्स / Fax : 22305793, 22307078, 22307079, 22301932, 22304948

ई-मेल / e-mail : cpcb@nic.in वेबसाइट / Website : www.cpcb.nic.in

ANNEXURE A/3**HARYANA STATE POLLUTION CONTROL BOARD**

C-11, SECTOR-6, PANCHKULA

Ph-2577870-73 E-mail: hspcbho@gmail.comOffice Order

Whereas the industrial sectors/ projects categorized by the Board under Red, Orange and Green Categories on the basis of directions of Central Pollution Control Board (CPCB) issued in June, 2012, for the purpose of consent management under Water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981 were notified vide policy order Endst. No. 10195-10218 dated 07.03.2014 and published in the gazette on 15.04.2014;

Whereas the CPCB has withdrawn the earlier directions issued in June, 2012 in the context of categorization of industries as Red, Orange and Green and revised the categorization of industrial sectors/projects under Red, Orange, Green and white based upon the range of pollution index through modified directions issued under section 18 (1) (b) of the Water (Prevention & Control of Pollution) Act, 1974 and the Air (Prevention & Control of Pollution) Act, 1981 vide letter no. B-29012/ESS(CPA)/2015-16/8571 dated 07.03.2016;

Whereas CPCB vide above said modified directions, has directed all the State Pollution Control Boards (SPCBs) to adopt the revised criteria of categorization of industrial sectors and revised lists of Red, Orange, Green and White categories of industrial sectors as mentioned in the final report attached with the above said directions and shall be used by the SPCBs for consent management and inventorization of industries under Red, Orange, Green and White categories and siting of industries shall be only in confirming areas;

Whereas it has been provided in the final document on revised classification of industrial sectors appended with the above modified directions of CPCB that there shall be no necessity of obtaining the consent to operate for white category of industries and an intimation to concerned SPCB shall suffice and no Red category of industries shall normally be permitted in the ecologically fragile area/ protected area;

Whereas it has also be prescribed in the above said CPCB modified directions that any further addition of any new or left over industrial sector and their categorization which is not listed in the revised list of Red, Orange, Green and White industrial sectors, shall be done at the level of concerned SPCB/PCC by a committee headed by the Member Secretary and comprising of two Senior cadre Engineers/Scientists of the SPCB following revised criteria & guidelines as detailed in the attached document and no concurrence of CPCB shall normally be required;

Whereas for compliance of the above provisions a committee comprising of 2 senior officers headed by Member Secretary of the Board, was constituted vide order Endst. No. 6862 dated 03.05.2016 to identify and inventorize the state specific left over industrial sectors and their categorization which are not listed in the revised list of Red, Orange, Green and White categories industrial sectors finalized by the CPCB; and,

Whereas based on the revised criteria of categorization of industrial sectors and revised lists of Red, Orange, Green and White categories of industrial sectors as mentioned in the final report attached with the above said modified directions of the

(P.T.O)

- 2 -

CPCB and report and recommendations submitted by the committee on 01.07.2016, consolidated list of industrial sectors/projects covered under Red, Orange, Green and White Categories, have been finalized which is at **Annexure-I to IV** respectively and has been approved by the Competent Authority to adopt for the purpose of consent management under Water Act, 1974 and Air Act, 1981;

It is hereby ordered that in supersession of the earlier categorization of industrial sectors/ projects under Red, Orange and Green Categories done by the Board vide policy order Endst. No. 10195-10218 dated 07.03.2014 published in the gazette on 15.04.2014, the revised list of industrial sectors/projects finalized and categorized under Red, Orange, Green and White categories at **Annexure-I to IV** respectively shall be applicable in the Board for the purpose of consent management and inventorization of industries under Red, Orange, Green and White categories under Water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981 and siting of industries shall be only in confirming areas and there shall be no necessity of obtaining the consent to operate for white category of industries and an intimation to concerned SPCB shall suffice and no Red category of industries shall normally be permitted in the ecologically fragile area/ protected area.

These orders shall come into force with immediate effect.

**Dated Panchkula, the
6th July, 2016**

**S.N. Roy, IAS
Chairman**

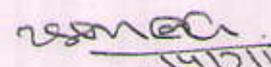
Endst. No. HSPCB/PLG-135/2016/ 546-572

Dated: 14/07/16

A copy of the above is forwarded to the following for information and necessary action:

1. The Chairman, Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, Delhi in reference to his letter no. B-29012/ESS(CPA)/2015-16/8571 dated 07.03.2016. The list of industries identified in each category as per the revised categorization, operating in the State, shall be submitted separately.
2. The Director General, Industries & Commerce Department, Haryana.
3. All Branch Incharges in Head Office.
4. All Regional Officers in the field.
5. EE-IT. He is requested to make necessary amendments in the categorization of the industrial sectors in the OCMMS as per the revised list of categorization of industrial sectors as mentioned above.
6. PS to Chairman/ PA to Member Secretary for information of the officers.
7. Nodal Officer (IT) for uploading the orders on the website of the Board.

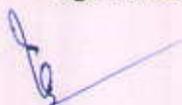
DA/As above.


14/7/16
Sr. Environmental Engineer-I HQ
For Chairman

Annexure-IFinal List of Red Category of Industrial Sectors

Sr. No.	Industry Sector
1.	Isolated storage of hazardous chemicals (as per schedule of manufacturing, storage of hazardous chemicals rules ,1989 as amended)
2.	Automobile Manufacturing (integrated facilities)
3.	Industries engaged in recycling / reprocessing/ recovery/reuse of Hazardous Waste under schedule iv of HW(M, H& TBM) rules, 2008 - Items namely - Spent cleared metal catalyst containing copper,, Spent cleared metal catalyst containing zinc,,
4.	Manufacturing of lubricating oils ,grease and petroleum based products
5.	DG Set of capacity > 5 MVA
6.	Industrial carbon including electrodes and graphite blocks, activated carbon, carbon black
7.	Lead acid battery manufacturing(excluding assembling and charging of lead-acid battery in micro scale)
8.	Phosphate rock processing plant
9.	Power generation plant [except Wind and Solar renewable power plants of all capacities and Mini Hydel power plant of capacity <25MW]
10.	Industries engaged in recycling / reprocessing/ recovery/reuse of Hazardous Waste under schedule iv of HW(M, H& TBM) rules, 2008 - Items namely - Spent catalyst containing nickel, cadmium, Zinc, copper, arsenic, vanadium and cobalt,
11.	Processes involving chlorinated hydrocarbons
12.	Sugar (excluding Khandsari)
13.	Fibre glass production and processing (excluding moulding)
14.	Fire crackers manufacturing and bulk storage facilities
15.	Industries engaged in recycling / reprocessing/ recovery/reuse of Hazardous Waste under schedule iv of HW(M, H& TBM) rules, 2008 - Items namely - Dismantlers Recycling Plants --Components of waste electrical and electronic assembles comprising accumulators and other batteries included on list A, mercury-switches, activated glass cullets from cathode-ray tubes and other activated glass and PCB-capacitors, or any other component contaminated with Schedule 2 constituents (e.g. cadmium, mercury, lead, polychlorinated biphenyl) to an extent that they exhibit hazard characteristics indicated in part C of this Schedule.
16.	Milk processes and dairy products(integrated project)
17.	Phosphorous and its compounds
18.	Pulp & Paper (waste paper based without bleaching process to manufacture Kraft paper)
19.	Coke making , liquefaction, coal tar distillation or fuel gas making
20.	Manufacturing of explosives, detonators, fuses including management and handling activities

21.	Manufacturing of paints varnishes, pigments and intermediate (excluding blending/mixing)
22.	Organic Chemicals manufacturing
23.	Airports and Commercial Air Strips
24.	Asbestos and asbestos based industries
25.	Basic chemicals and electro chemicals and its derivatives including manufacturing of acid
26.	Cement
27.	Chlorates, per-chlorates & peroxides
28.	Chlorine, fluorine, bromine, iodine and their compounds
29.	Dyes and Dye- Intermediates
30.	Health-care Establishment (as defined in BMW Rules)
31.	Hotels having overall waste-water generation @ 100 KLD and more.
32.	Industries engaged in recycling / reprocessing/ recovery/reuse of Hazardous Waste under schedule iv of HW(M, H& TBM) rules, 2008 - Items namely - Lead acid battery plates and other lead scrap/ashes/residues not covered under Batteries (Management and Handling) Rules, 2001. [* Battery scrap, namely: Lead battery plates covered by ISRI, Code word "Rails" Battery lugs covered by ISRI, Code word "Rakes". Scrap drained/dry while intact, lead batteries covered by ISRI, Code word "rains".
33.	Industries engaged in recycling / reprocessing/ recovery/reuse of Hazardous Waste under schedule iv of HW(M, H& TBM) rules, 2008 - Items namely - Integrated Recycling Plants --Components of waste electrical and electronic assembles comprising accumulators and other batteries included on list A, mercury-switches, activated glass cullets from cathode-ray tubes and other activated glass and PCB-capacitors, or any other component contaminated with Schedule 2 constituents (e.g. cadmium, mercury, lead, polychlorinated biphenyl) to an extent that they exhibit hazard characteristics indicated in part C of this Schedule.
34.	Manufacturing of glue and gelatin
35.	Mining and ore beneficiation
36.	Nuclear power plant
37.	Pesticides (technical) (excluding formulation)
38.	Photographic film and its chemicals
39.	Railway locomotive work shop/Integrated road transport workshop/Authorized service centers
40.	Yarn / Textile processing involving any effluent/emission generating processes including bleaching, dyeing, printing and colouring
41.	Chlor Alkali
42.	Ship Breaking Industries
43.	Oil and gas extraction including CBM (offshore & on-shore extraction through drilling wells)
44.	Industry or process involving metal surface treatment or process such as pickling/ electroplating/paint stripping/ heat treatment using cyanide bath/ phosphating or finishing and anodizing / enamellings/ galvanizing



45.	Tanneries
46.	Ports and harbour, jetties and dredging operations
47.	Synthetic fibers including rayon ,tyre cord, polyester filament yarn
48.	Thermal Power Plants
49.	Slaughter house (as per notification S.O.270(E)dated 26.03.2001)and meat processing industries, bone mill, processing of animal horn, hoofs and other body parts
50.	Aluminium Smelter
51.	Copper Smelter
52.	Fertilizer (basic) (excluding formulation)
53.	Iron & Steel (involving processing from ore/ integrated steel plants) and or Sponge Iron units
54.	Pulp & Paper (waste paper based units with bleaching process to manufacture writing & printing paper)
55.	Zinc Smelter
56.	Oil Refinery (mineral Oil or Petro Refineries)
57.	Petrochemicals Manufacturing (including processing of Emulsions of oil and water)
58.	Pharmaceuticals
59.	Pulp & Paper (Large-Agro + wood) , Small Pulp & Paper (agro based-wheat straw/rice husk)
60.	Distillery (molasses / grain / yeast based)
61.	Induction Furnace clubbed with AOD Furnace
62.	Synthetic detergents and soaps having waste water generation more than 100 KLD (excluding formulation)
63.	Automobile servicing, repairing and painting having waste water generation more than 100 KLD (excluding only fuel dispensing)
64.	Building and construction project more than 20,000 sq. m built up area having waste water generation more than 100 KLD
65.	Ceramics and Refractories having coal consumption more than 12 MT per day
66.	Fermentation industry including manufacture of yeast, beer, distillation of alcohol (Extra Neutral Alcohol) having discharge > 100 KLD
67.	Lead metal extraction involving different furnaces through melting, refining, re-processing, casting and alloy-making
68.	Industry or processes involving foundry operations having capacity of 5 MT/hr. and more.
69.	Manufacturing of lead glass
70.	Non-alcoholic beverages (soft drink) & bottling of alcohol/non alcoholic products having waste-water generation > 100 KLD.
71.	Vegetable oil manufacturing including solvent extraction and refinery /hydrogenated oils having waste-water generation more than 100 KLD
72.	Parboiled Rice Mills having waste-water generation > 100 KLD or fuel consumption > 12 MTD or both.
73.	Common treatment and disposal facilities (CETP, TSDF, E-waste recycling, CBMWTF, effluent conveyance project, incinerator, solvent/acid recovery plant, MSW sanitary land fill site
74.	Sewage treatment plants having capacity 100 KLD or more

75.	Industrial estates/ parks / complexes/ areas/ export processing zones/ SEZs/ Biotech parks/ leather complex
76.	Units engaged in the activities of handling and management of Hazardous Waste as defined in Hazardous and other Wastes (M & TM) Rules, 2016, other than those covered under any of the category of industrial sectors, such as use, treatment, processing, recovery, pre-processing, co-processing, utilization etc. of the hazardous and other wastes
77.	Recycling of used lead acid batteries



Annexure-II**Final List of Orange Category of Industrial Sectors**

Sr. No.	Industry Sector
1.	Dismantling of rolling stocks (wagons/ coaches)
2.	Bakery and confectionery units with production capacity > 1 TPD. (With ovens / furnaces)
3.	Chanachur and ladoo from puffed and beaten rice(muri and shira) using husk fired oven
4.	Coated electrode manufacturing
5.	Compact disc computer floppy and cassette manufacturing / Reel manufacturing
6.	Flakes from rejected PET bottle
7.	Food and food processing including fruits and vegetable processing
8.	Jute processing without dyeing
9.	Manufacturing of silica gel
10.	Manufacturing of tooth powder, toothpaste, talcum powder and other cosmetic items
11.	Printing or etching of glass sheet using hydrofluoric acid
12.	Silk screen printing, sari printing by wooden blocks
13.	Synthetic detergents and soaps(excluding formulation)
14.	Thermometer manufacturing
15.	Cotton spinning and weaving (medium and large scale)
16.	Almirah, Grill Manufacturing (Dry Mechanical Process)
17.	Aluminium & copper extraction from scrap using oil fired furnace (dry process only)
18.	Automobile servicing, repairing and painting (excluding only fuel dispensing)
19.	Ayurvedic and homeopathic medicine
20.	Brickfields (excluding fly ash brick manufacturing using lime process)
21.	Building and construction project more than 20,000 sq. m built up area
22.	Ceramics and Refractories
23.	Coal washeries
24.	Dairy and dairy products (small scale)
25.	DG set of capacity >1MVA but < 5MVA
26.	Dry coal processing, mineral processing, industries involving ore sintering, pelletisating, grinding & pulverization
27.	Fermentation industry including manufacture of yeast, beer, distillation of alcohol (Extra Neutral Alcohol)
28.	Ferrous and Non- ferrous metal extraction involving different furnaces through melting, refining, re-processing, casting and alloy-making
29.	Fertilizer (granulation / formulation / blending only)
30.	Fish feed, poultry feed and cattle feed
31.	Fish processing and packing (excluding chilling of fishes)
32.	Forging of ferrous and non- ferrous metals (using oil and gas fired furnaces)

33.	Formulation/pelletization of camphor tablets, naphthalene balls from camphor/ naphthalene powders.
34.	Glass ceramics, earthen potteries and tile manufacturing using oil and gas fired kilns, coating on glasses using cerium fluorides and magnesium fluoride etc.
35.	Gravure printing, digital printing on flex, vinyl
36.	Heat treatment using oil fired furnace (without cyaniding)
37.	Hot mix plants
38.	Hotels (< 3 star) or hotels having > 20 rooms and less than 100 rooms.
39.	Ice cream
40.	Industries engaged in recycling / reprocessing/ recovery/reuse of Hazardous Waste under schedule iv of HW(M, H& TBM) rules, 2008 - Items namely - Paint and ink Sludge/residues
41.	Industries engaged in recycling / reprocessing/ recovery/reuse of Hazardous Waste under schedule iv of HW(M, H& TBM) rules, 2008 - Items namely - Brass Dross ,, Copper Dross,, Copper Oxide Mill Scale,, Copper Reverts, Cake & Residues,, Waste Copper and copper alloys in dispersible form,, Slags from copper processing for further processing or refining ,, Insulated Copper Wire,, Scrap/copper with PVC sheathing including ISRI-code material namely "Druid" ,, Jelly filled Copper cables ,, Zinc Dross-Hot dip Galvanizers SLAB,, Zinc Dross-Bottom Dross,, Zinc ash/Skimming arising from galvanizing and die casting operations,, Zinc ash/Skimming/other zinc bearing wastes arising from smelting and refining,, Zinc ash and residues including zinc alloy residues in dispersible from ,,
42.	Industry or processes involving foundry operations
43.	Lime manufacturing (using lime kiln)
44.	Liquid floor cleaner, black phenyl, liquid soap, glycerol mono-stearate manufacturing
45.	Manufacturing of glass
46.	Manufacturing of iodized salt from crude/ raw salt
47.	Manufacturing of mirror from sheet glass
48.	Manufacturing of mosquito repellent coil
49.	Manufacturing of Starch/Sago
50.	Mechanized laundry using oil fired boiler
51.	Modular wooden furniture from particle board, MDF< swan timber etc, Ceiling tiles/ partition board from saw dust, wood chips etc., and other agricultural waste using synthetic adhesive resin, wooden box making (With boiler)
52.	New highway construction project
53.	Non-alcoholic beverages(soft drink) & bottling of alcohol/non alcoholic products
54.	Paint blending and mixing (Ball mill)
55.	Paints and varnishes (mixing and blending)
56.	Ply-board manufacturing(including Veneer and laminate) with oil fired boiler/ thermic fluid heater(without resin plant)
57.	Potable alcohol (IMFL) by blending, bottling of alcohol products
58.	Printing ink manufacturing

59.	Printing press
60.	Reprocessing of waste plastic including PVC
61.	Rolling mill (oil or coal fired) and cold rolling mill
62.	Spray painting, paint baking, paint shipping
63.	Steel and steel products using various furnaces like blast furnace /open hearth furnace/induction furnace/arc furnace/submerged arc furnace /basic oxygen furnace /hot rolling reheated furnace
64.	Stone crushers
65.	Surgical and medical products including prophylactics and latex
66.	Tephlon based products
67.	Thermocol manufacturing (with boiler)
68.	Tobacco products including cigarettes and tobacco/opium processes
69.	Transformer repairing/ manufacturing (dry process only)
70.	Tyres and tubes vulcanization/ hot retreating
71.	Vegetable oil manufacturing including solvent extraction and refinery /hydrogenated oils
72.	Wire drawing and wire netting
73.	Dry cell battery (excluding manufacturing of electrodes) and assembling & charging of acid lead battery on micro scale
74.	Pharmaceutical formulation and for R & D purpose (For sustained release/ extended release of drugs only and not for commercial purpose)
75.	Synthetic resins
76.	Synthetic rubber excluding molding
77.	Cashew nut processing
78.	Coffee seed processing
79.	Parboiled Rice Mills
80.	Foam manufacturing
81.	Industries engaged in recycling / reprocessing/ recovery/reuse of Hazardous Waste under schedule iv of HW(M, H& TBM) rules, 2008 - Items namely - Used Oil - As per specifications prescribed from time to time.
82.	Industries engaged in recycling / reprocessing/ recovery/reuse of Hazardous Waste under schedule iv of HW(M, H& TBM) rules, 2008 - Items namely - Waste Oil ---As per specifications prescribed from time to time.
83.	Producer gas plant using conventional up drift coal gasification (linked to rolling mills glass and ceramic industry refectories for dedicated fuel supply)
84.	Health care establishments (As defined in BMW Rules) having waste water generation less than 100 KLD without incinerator
85.	Airport and commercial air strips having discharge less than 100 KLD
86.	Railway locomotive workshop/Integrated road transport workshop/Authorized service centers (having waste-water generation < 100 KLD)
87.	Manufacturing of pasted veneers using coal/wood scrap boiler or thermic fluid heater and by sun drying
88.	Cardboards and Millboards
89.	Strawboards



90.	Formulation of pesticides/ insecticides
91.	Recycling / Pyrolysis plants of waste pneumatic tyres/tyre scrap
92.	Screening plants
93.	Surgical cotton industries
94.	Inorganic Chemical Compounds such as Chlorides/Sulphates/Sulphites/Niterates/Oxides/Flourides/ Stearates of metals/Cations
95.	Sodium and other silicates manufacturing
96.	Cotton coated fabrics including printing and lamination (Rexene)
97.	Friction dust
98.	Brake lining/ Disc brake pad
99.	Chlorinated paraffin wax/plasticizers
100.	Sewage treatment plants having capacity 10 KLD or more but less than 100 KLD
101.	Infrastructure development projects having overall liquid Waste generation 100 KLD or more
102.	Dismantling of E-Waste



Annexure-III**Final List of Green Category of Industrial Sectors**

Sr. No.	Industry Sector
1.	Aluminium utensils from aluminium circles by pressing only (dry mechanical operation)
2.	Ayurvedic and homeopathic medicines (without boiler)
3.	Bakery /confectionery /sweets products (with production capacity <1tpd (with gas or electrical oven)
4.	Bi-axially oriented PP film along with metalizing operations
5.	Biomass briquettes (sun drying) without using toxic hazardous wastes
6.	Blending of melamine resins & different powder, additives by physical mixing
7.	Brass and bell metal utensils manufacturing from circles(dry mechanical operation without re-rolling facility)
8.	Candy
9.	Cardboard or corrugated box and paper products (excluding paper or pulp manufacturing and without using boilers)
10.	Carpentry & wooden furniture manufacturing (excluding saw mill) with the help of electrical (motorized) machines such as electrical wood planner, steel saw cutting circular blade, etc.
11.	Cement products (without using asbestos / boiler / steam curing) like pipe ,pillar, jafri, well ring, block/tiles etc.(should be done in closed covered shed to control fugitive emissions)
12.	Ceramic colour manufacturing by mixing & blending only (not using boiler and wastewater recycling process)
13.	Chilling plant, cold storage and ice making
14.	Coke briquetting (sun drying)
15.	Cotton spinning and weaving (small scale)
16.	Dal Mills
17.	Decoration of ceramic cups and plates by electric furnace
18.	Digital printing on PVC clothes
19.	Facility of handling, storage and transportation of food grains in bulk
20.	Flour mills (dry process)
21.	Glass , ceramic, earthen potteries, tile and tile manufacturing using electrical kiln or not involving fossil fuel kiln
22.	Glue from starch (physical mixing) with gas / electrically operated oven /boiler.
23.	Gold and silver smithy (purification with acid smelting operation and sulphuric acid polishing operation) (using less or equal to 1 litre of sulphuric acid/ nitric acid per month)
24.	Heat treatment with any of the new technology like ultrasound probe , induction hardening , ionization beam, gas carburizing etc.
25.	Insulation and other coated papers (excluding paper or pipe manufacturing)
26.	Leather foot wear and leather products (excluding tanning and hide



	processing except cottage scale)
27.	Lubricating oil, greases or petroleum based products (only blending at normal temperature)
28.	Manufacturing of pasted veneers using gas fired boiler or thermic fluid heater and by sun drying
29.	Oil mill Ghani and extraction (no hydrogenation / refining)
30.	Packing materials manufacturing from non asbestos fibre, vegetable fibre yarn
31.	Phenyl/toilet cleaner formulation and bottling
32.	Polythene and plastic processed products manufacturing (virgin plastic)
33.	Poultry, Hatchery and Piggery
34.	Power looms (without dye and bleaching)
35.	Puffed rice (muri) (using gas or electrical heating system)
36.	Pulverization of bamboo and scrap wood
37.	Ready mix cement concrete
38.	Reprocessing of waste cotton
39.	Rice mill (Rice hullers only)
40.	Rolling mill (gas fired) and cold rolling mill
41.	Rubber goods industry (with gas operated baby boiler)
42.	Saw mills
43.	Soap manufacturing (hand made without steam boiling / boiler)
44.	Spice grinding (20 HP motor)
45.	Spice grinding (20 hp motor)
46.	Steel furniture without spray painting
47.	Steeping and processing of grains
48.	Tyres and tube retreating (without boilers)
49.	Chilling plant and ice making without using ammonia
50.	CO2 recovery
51.	Distilled water (without boiler) with electricity as source of heat
52.	Hotels (up to 20 rooms and without boilers)
53.	Manufacturing of optical lenses (using electrical furnace)
54.	Mineralized water
55.	Tamarind powder manufacturing
56.	Cutting, sizing and polishing of marble stone
57.	Emery powder (fine dust of sand) manufacturing
58.	Flyash export, transport & disposal facilities
59.	Mineral stack yard / Railway sidings
60.	Oil and gas transportation pipeline
61.	Seasoning of wood in steam heated chamber
62.	Synthetic detergent formulation
63.	Tea processing (with boiler)
64.	Modular wooden furniture from particle board, MDF< swan timber etc, Ceiling tiles/ partition board from saw dust, wood chips etc., and other agricultural waste using synthetic adhesive resin, wooden box making (Without boiler)
65.	LPG bottling plants
66.	Sewage treatment plants having capacity less than 10 KLD
67.	Infrastructure development projects having overall liquid Waste

	generation less than 100 KLD
68.	Industrial inorganic gases namely- a) Chemical gas- Acetylene, hydrogen, chlorine, fluorine, ammonia, sulphur dioxide, ethylene, hydrogen-sulphide, phosphine b) Hydrocarbon gases- Methane, ethane, propane
69.	Automobiles manufacturing outsourcing all of the polluting activities.
70.	Refurbishing of used electrical and electronic equipments



Annexure-IV**Final List of White Category of Industrial Sectors**

Sr. No.	Industry Sector
1.	Assembly of air coolers / conditioners ,repairing and servicing
2.	Assembly of bicycles ,baby carriages and other small non motorizing vehicles
3.	Bailing (hydraulic press)of waste papers
4.	Bio fertilizer and bio-pesticides without using inorganic chemicals
5.	Biscuits trays etc from rolled PVC sheet (using automatic vacuum forming machines)
6.	Blending and packing of tea
7.	Block making of printing without foundry (excluding wooden block making)
8.	Chalk making from plaster of Paris (only casting without boilers etc. (sun drying / electrical oven)
9.	Compressed oxygen gas from crude liquid oxygen (without use of any solvents and by maintaining pressure & temperature only for separation of other gases)
10.	Cotton and woolen hosiers making (Dry process only without any dyeing / washing operation)
11.	Diesel pump repairing and servicing (complete mechanical dry process)
12.	Electric lamp (bulb) and CFL manufacturing by assembling only
13.	Electrical and electronic item assembling (completely dry process)
14.	Engineering and fabrication units (dry process without any heat treatment / metal surface finishing operations / painting)
15.	Flavoured betel nuts production/ grinding (completely dry mechanical operations)
16.	Fly ash bricks/ block manufacturing
17.	Fountain pen manufacturing by assembling only
18.	Glass Sydes and vilas making from glass tubes
19.	Glass putty and sealant (by mixing with machine only)
20.	Ground nut decorticating
21.	Handloom/ carpet weaving (without dyeing and bleaching operation)
22.	Leather cutting and stitching (more than 10 machine and using motor)
23.	Manufacturing of coir items from coconut husks
24.	Manufacturing of metal caps containers etc
25.	Manufacturing of shoe brush and wire brush
26.	Medical oxygen
27.	Organic and inorganic nutrients (by physical mixing)
28.	Organic manure (manual mixing)
29.	Packing of powdered milk
30.	Paper pins and u clips
31.	Repairing of electric motors and generators (dry mechanical process)
32.	Rope (plastic and cotton)
33.	Scientific and mathematical instrument manufacturing



34.	Solar module non conventional energy apparatus manufacturing unit
35.	Solar power generation through solar photovoltaic cell, wind power and mini hydel power (less than 25 MW)
36.	Surgical and medical products assembling only (not involving effluent / emission generating processes)
37.	Automobile fuel outlets (only dispensing)
38.	Diesel generator sets having total capacity 1 MVA or less and equipped with acoustic enclosures alongwith adequate stack height
39.	Almirah, Grill Manufacturing without painting operation (Dry Mechanical Process)





HARYANA STATE POLLUTION CONTROL BOARD

C-11 Sector-6, Panchkula
Ph - 0172- 577870-73, Fax No. 2581201
E-mail- hspcbho@gmail.com

ANNEXURE A/4

Office Order

Whereas, the Board vide Head Office order Endst. No. HSPCB/2018/517-546 dated 26.02.2018 has issued consent procedure for grant of consent to establish and consent to operate under Water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981 based upon the directions issued by CPCB vide its letter no. B-29012/ESS (CPA)/2015-16/8526 dated 07.03.2016 to all the State Pollution Control Boards u/s 18(1)(b) of Water Act, 1974 and Air Act, 1981; and

Whereas, Central Pollution Control Board (CPCB) has issued directions under section 18 (1)(b) of the Water (Prevention and Control of Pollution) Act 1974 vide letter no. B-29016/ROGW/IPC-VI/2020-21/ dated 30.04.2020 regarding categorization of some new industrial sectors and listing of Non-Industrial Operations (Activities/ Facilities/ Infrastructure/ Services) and subsequent letter no. B-29016/ROGW/IPC-VI/2020-21/ dated 10.07.2020 regarding categorization of Dairy Farm and Gaushala; and

Whereas, in compliance of above directions of CPCB and recommendations by the committee constituted vide office order endst. no. 6862-6865 dated 03.05.2016 for categorization of new or left over industrial sectors/projects, the Board has reviewed all the earlier office orders regarding the categorization of the Industrial/ Non-Industrial Sector/Project/Unit for the purpose of consent mechanism.

In view of above and in supersession of consent procedure alongwith consolidated list of Industrial Sector/Project covered under Red, Orange, Green and White categories was issued vide No. HSPCB/2018/517-546 dated 26.02.2018 (as amended thereof), the amended procedure for obtaining consent to establish and consent to operate under Water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981 alongwith amended categorization of Red, Orange, Green and White category of Industrial/ Non-Industrial Sector/Project/Unit/unit under the consent management of the Board is given as **Annexure-P**.

These orders shall come in to force with immediate effect.

Dated Panchkula, the
3rd December, 2020

Ashok Kheterpal,
Chairman

Endst. No. HSPCB/PLG/2020/ 1767-93

Dated: 04-12-2020

A copy of the above is forwarded to the following for information and further necessary action:-

1. All Branch Incharges dealing with consent management in Head Office of the Board.
2. All Regional Officers of the Board in the field.
3. Nodal Officer of the HSPCB, Haryana Enterprises Promotion Centre (HEPC), Bay No. 63-64-65-66, Sector 2, Panchkula.
4. Branch Incharge -IT Cell.

Endst. No. HSPCB/PLG/2020/ 1794-95

Sr. EE (PLG)
For Chairman
Dated: 04-12-2020

A copy of the above is forwarded to the following for information of the officers:-

1. PS to Chairman
2. PA to Member Secretary

Sr. EE (PLG)
For Chairman

Haryana State Pollution Control Board

Procedure for obtaining consent to establish and consent to operate under Water Act, 1974 & Air Act, 1981.

In pursuance of the provisions of section 25, 26 and 27 of Water (Prevention and Control of Pollution) Act, 1974 read with Rule 22 of the Haryana Water (Prevention and Control of Pollution) Rules, 1978 and section 21 of the Air (Prevention and Control of Pollution) Act, 1981 read with Rule 15 of the Haryana Air (Prevention and Control of Pollution) Rules, 1983 as amended from time to time and approval of the Board in its 178th meeting held on 30.01.2018, vide agenda item no. 178.22, the following revised comprehensive procedure for grant and refusal of the consent to establish and consent to operate under Water Act, 1974 and Air Act, 1981 after incorporating all the policy orders and instructions and new categorization of Industrial/ Non-Industrial Sector/Project/Unit issued by the Board from time to time, is laid down in supersession of earlier procedure for grant of consent to establish and consent to operate under Water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981 issued vide Head Office order Endst. No. HSPCB/2018/517-544 dated 26.02.2018 and all other orders issued in this regard before issue of this procedure:-

1. General Provisions.

- 1.1 All the Industrial/ Non-Industrial Sector/Project/Unit have been categorized under Red, Orange, Green and White categories based upon their pollution potential and range of pollution index for the purpose of consent management under Water (Prevention & Control of Pollution) Act, 1974, Air (Prevention & Control of pollution) Act, 1981 on the direction of CPCB issued under section 18 (1) (b) of Water Act, 1974 and Air Act, 1981 vide letter no. B-29012/ESS(CPA)/2015-16 /8571 dated 07.03.2016 in supersession of earlier categorization of Industrial Sector/Project/Unit issued vide notification dated 15.04.2014 and amended from time to time. The revised list of Industrial/ Non-Industrial Sector/Project/Unit categorized under Red, Orange, Green and White categories for the purpose of consent management and inventrization of industries under these categories under Water Act, 1974 and Air Act, 1981, has already been adopted by this Board and implemented vide Head Office order Endst. No. HSPCB/PLG-135/2016/546-572 dated 14.07.2016 and subsequently vide order Endst. No. HSPCB/PLG-171/2017/4081-4106 dated 19.05.2017, Endst. No. HSPCB/PLG-171/2017/4295-4320 dated 08.06.2017 and consent procedure alongwith consolidated list of Industrial Sector/Project covered under Red, Orange, Green and White categories was issued vide No. HSPCB/2018/517-544 dated 26.02.2018 and subsequent order no. HSPCB/2018/1312-1336 dated 29.06.2018, HSPCB/PLG/20195095 dated 15.02.2019 and HSPCB/PLG/2019/507-531 dated 15.10.2019 and consolidated lists of Industrial/Non Industrial Sector/Project covered under Red, Orange, Green and White categories, are given at **Annexure-I to IV** respectively.

- 1.2 The Industrial/ Non-Industrial Sector/Project/Unit categorized as Red, Orange and Green, have been covered under consent management for obtaining prior consent to establish (CTE) and consent to operate (CTO) under section 25/26 of the Water Act, 1974 and under section 21 of the Air Act, 1981.
- 1.3 The Industrial/ Non-Industrial Sector/Project/Unit falling under white Category as per **Annexure-IV**, are exempted from Consent Management for the purpose of obtaining CTE and CTO under Water Act, 1974 and Air Act, 1981 and there is no necessity for obtaining the CTE and CTO by the industries covered under white category and other units not covered under Red, Orange and Green categories and intimation to the Board in this regard shall suffice.

However, this type of units will have to provide required pollution control devices to meet the prescribed standards for discharge of environmental pollutants, where ever required, depending upon their process and activities and these Industrial/ Non-Industrial Sector/Project/Unit shall be governed by self regulatory regime and are not permitted to pollute the environment.

No inspection of White category of industries will be carried out by the Board officials except in the cases where any complaint is received against such type of industries for causing pollution.

- 1.4 The Industrial/ Non-Industrial Sector/Project/Unit already existing and not covered previously under consent management as per notification dated 15.04.2014 or earlier but have been covered under consent management now as per new categorization of industrial sectors appended with this procedure, shall obtain only CTO and will not require to obtain the CTE.
- 1.5 Siting of the industries / projects shall be only in confirming areas and no industry/project shall be permitted to establish or operate in the ecologically fragile area / protected area or in any non confirming areas or in the residential areas of MCs / HUDA / villages and in any other approved residential colonies / areas.
- 1.6 The units covered under Environment Impact Assessment (EIA) Notification dated 14.09.2006, as amended from time to time, shall apply for Consent to Establish to the Board only after obtaining prior Environmental Clearance from the Competent Authority.
- 1.7 The Industrial/ Non-Industrial Sector/Project/Unit falling in the area prescribed in the Aravali Notification dated 7th May, 1992 issued by MoEF & CC, shall require prior clearance from competent authority prescribed under the Aravali Notification, before applying to the Board for CTE or 1st CTO in case of new units covered under consent management as per new categorization of projects listed in this procedure.
- 1.8 The report regarding siting of the projects outside the Aravali area in the Districts of Gurgaon & Mewat, shall also be taken for the purpose of Consent to Establish (CTE) or first CTO in case of new units covered under consent management as per new categorization of projects listed in this procedure, from Tehsildar and District Forest Officer through the concerned

Deputy Commissioner, to ensure the compliance of the provisions of Aravali Notification dated 7th May, 1992 in addition to other prescribed documents. However, in case of Industrial/ Non-Industrial Sector/Project/Unit located in approved industrial estates/approved HUDA sectors of District Gurgaon and Mewat, verification report in this regard would be required from Regional Officer concerned.

- 1.9 The projects falling in the revenue estates, covered in ambit of the Notification no. 191(E) dated 27.08.2010 issued by Ministry of Environment, and Forest, Government of India regarding protected area of Sultanpur National Park in District Gurgaon, shall comply with the provisions of said Notification and will obtain the prior permission/clearance of the Monitoring Committee and the Prescribed Authority constituted under the said Notification before submitting the application for CTE to the Board.
Prior permission/clearance from competent authority shall also be required in case of other similar protected areas declared by the MoEF & CC, Government of India or any prescribed authority from time to time.
- 1.10 For obtaining CTE in case of the Hot Mix Plants, Screening Plants, Grinding/pulverizing units, poultry farms and Stone crushers, the project proponents will also submit the distance regarding the siting parameters prescribed by the Government of Haryana, Environment Department for these projects, provided by the concerned authorities prescribed in the respective notifications, in addition to other prescribed documents for obtaining CTE, to ensure the compliance of the prescribed siting parameters before grant of the CTE.
- 1.11 The units proposed to be setup outside approved industrial areas/estates, will necessarily provide the information in the application form regarding detail of land i.e. Khasra/Kila nos. of the land where the unit has to be established. In case of approved industrial area/estates, the plot no. allotted by the concerned authority will have to be mentioned in the application. The detail of land or plot no. of the unit will be mentioned in the CTE to be granted by the Board.
- 1.12 CTE will be granted only for the operation/ process for product (s) or activities for which the plot has been allotted or CLU permission has been given by the concerned authorities. In case, later on concerned authorities allowed change in product (s) or activity at such specified location in that eventuality, the concerned unit is entitled for CTE for the such changed product (s) or activities at such specified place.
- 1.13 All the units shall provide all necessary facilities for sampling of air or emission from any of their chimney, flue or duct, plant or Vessel of any other sources and outlets, stationery or mobile including necessary facilities for access to the sampling places, as specified by the Board before applying for first CTO as per provisions of Rule 18 of Haryana Air (Prevention and Control of Pollution) Rules, 1983 as amended from time to time.
- 1.14 The performance security deposited along with the application for CTE, shall be refunded / returned on the recommendation of concerned Regional Officer automatically without taking any request from the units in this

regard, after installation of the required and adequate pollution control devices, compliance of all the conditions of CTE & first CTO and submission of satisfactory analysis reports of effluent/ air emissions/ noise levels, as applicable, from all sources within the stipulated time period prescribed in first CTO, showing all the results complying with the standards prescribed for discharge of pollutants under EP Rules, 1986 and/or laid down by the HSPCB if any.

The performance security so deposited will be forfeited in case the unit fails to comply with any of the conditions of CTE or first CTO or the standards prescribed by the Board / under EP Rules, 1986 as amended from time to time, for discharge of Environmental Pollutants or if 1st CTO is refused.

- 1.15 The consent to operate can be granted even to those units which have past violation of their establishment without obtaining CTE provided these type of units are complying with all the relevant provisions of Environmental Acts/Rules and standards for discharge of environmental pollutants prescribed under EP Rules, 1986 as applicable, subject to the legal action is taken against such units by filing the prosecution case in Special Environment Court for such past violations under relevant Acts before granting of CTO and subject to imposing a specific condition that CTO so granted is without prejudice to the action taken for prosecution in respect of past violation committed by the unit and CTO so granted will have no effect on the persecution case filed by the Board against such units for past violation in the Court under the relevant provisions of the Water Act, 1974 and/or Air Act, 1981.

No ex-post facto CTE will be given in such cases of past violation as no such provisions is available in Water Act, 1974 and/or Air Act, 1981.

- 1.16 In case the unit is covered under Hazardous and Other Wastes (Management & Transboundary Movement) Rules, 2016, E-Waste (Management) Rules, 2016, Plastic Waste Management Rules, 2016 and Bio-Medical Waste Management Rules, 2016, it shall simultaneously apply for the grant of authorization/registration under the relevant provisions of these Rules.

- 1.17 The units which intend to increase quantity of effluent or no. of outlets or no. of stacks/ source of emissions, as compared with the quantity for which consent to establish and consent to operate was previously granted or intend to make any expansion in the existing project or change in manufacturing process, such units will obtain the fresh prior consent to establish, for such change.

In case of change of machinery of latest technology in existing units without increase in production or without any change in the manufacturing process, there will be no need to obtain fresh CTE.

- 1.18 All the applications for CTE and CTO shall be processed within time period prescribed by the Board for all the concerned officers dealing with the consent management at Regional as well as at Head Office level and it will

be ensured by all the concerned officers that the applications are decided within the time limit prescribed by the Board.

1.19 Thrust will be given that all units obtain CTO for 5 years in case of Red category, 10 year in case of Orange category and 15 years in case of Green Category of industries.

1.20 In case any unit changes its nomenclature (name) only, then such unit will apply on the prescribed performa given at **Annexure-A**, through the concerned Regional Office of the Board for grant of permission for change of its name in CTE/CTO and in other records of the Board, alongwith the documents as given in the Checklist of the documents given at serial no. 1 of **Annexure-1**.

Regional Officer will submit the details and his recommendation to Head Office for approval on the prescribed performa given at **Annexure-B**.

In case there is only change in the ownership of the unit without change in its nomenclature (name), the copy of fresh memorandum of article & association or partnership deed or proof of proprietorship, as the case may be, shall be submitted through the concerned Regional Office who in turn will forward a copy of the same to Head Office alongwith his comments.

1.21 Where a unit, to whom consent has been granted by the Board, transfers his interest in the industry to any other person/unit, by its sale or otherwise, such consent shall be deemed to have been granted to such other person/unit after grant of permission by the Board for the same and such other person/unit shall be bound to comply with all the conditions subject to which it was granted as if the consent was granted to such other person/unit originally.

In such cases the unit transferring his interest in the industry to any other person/unit, will intimate the Board for the same through concerned Regional Office and request to allow transfer of his interest in the industry on the prescribed format given at **Annexure-C** alongwith the documents as given in the Checklist of the documents given at serial no. 2 of **Annexure-F**.

Regional Officer will submit the details and his recommendation to Head Office for approval on prescribed performa given at **Annexure-D**.

1.22 Where an existing unit is purchased or taken on lease by another unit and the new unit apply to the Board for grant or renewal of CTE/CTO in his name such units will first obtain the permission for change of name and other details of the existing unit, purchased or taken on lease by such units, in the record of the Board including transfer of interest of such industry in their name for which an application for the same on the prescribed performa given at **Annexure-C**, alongwith the documents as given in the Checklist of the documents given at serial no. 2 of **Annexure-F**, through concerned Regional Office.

Regional Officer will submit the details and his recommendation to Head Office for approval on the prescribed performa given at **Annexure-D**.

1.23 Applications for change of name of the unit or transfer of interest in the industry to any other person/unit, will be decided at the level of Head Office on the recommendation of concerned Regional Officer.

The concerned Branch in Head Office dealing with consent management, will submit the proposal to the authorities on the format on the prescribed performa given at **Annexure-E** for approval.

1.24 First CTO for expansion of projects, shall be valid for a period up to which the CTO for their existing project already stand granted and in case Ist CTO for expansion project is applied alongwith the application for renewal of CTO for existing project then validity of such CTO shall be the same for both expended and existing projects.

1.25 The provisions of inspection policy issued by the Board shall be strictly complied.

1.26 No unit shall be established and operated by any person without obtaining prior CTE and CTO respectively under Water Act, 1974/ Act, 1981 from the Board. If the unit after grant of CTE/CTO, intends to shift to another site/location then it will take the fresh CTE for the establishment at the new site/location.

2. Procedure for grant of consent to establish (CTE) for new units

2.1 Consent to Establish for new units

2.1.1 The new Industrial/ Non-Industrial Sector/Project/Unit falling under Red, Orange and Green Categories listed as **Annexure-I, II & III** respectively, shall apply for Consent to Establish of the Board through the on-line portal of Haryana Enterprises Promotion Centre (HEPC), in the prescribed form alongwith requisite NOC/CTE fee as prescribed by the Board from time to time and will be deposited through online payment gateway as per fees schedule available on the website of the Board i.e. hspcb.gov.in

2.1.2 Application shall be submitted by the authorized official of the industry/project, duly authorized by the owner/Board of directors / partners of the unit.

2.1.3 All documents applicable for respective Industrial/ Non-Industrial Sector/Project/Unit mentioned in the checklist given at **Annexure-V**, will be submitted by the units while applying for CTE, by uploading the same on the online portal.

2.1.4 The units while submitting the application for obtaining CTE, shall also submit a performance security through online payment gateway as per the slab given at **Annexure-VI** or revised from time to time, alongwith undertaking by the applicant as per specimen given at **Annexure-VII**, signifying adherence to the prescribed standards, all the conditions of CTE and indicating awareness about the provisions of the Water Act, 1974/Air Act, 1981 and applicable Rules and self

certification regarding not starting of any construction or installation work at site.

- 2.1.5 No inspection is required for the purpose of dealing the cases of CTE unless any violation come to the notice of the Board and undertaking/self certification submitted by the unit, will be considered sufficient to decide the CTE applications, subject to submission of complete application alongwith prescribed documents, consent fee and performance security.
- 2.1.6 If at any stage it is found that the work at the site of the unit was/has been started for construction of plant and installation of machinery before obtaining the consent to establish under Water Act, 1974 and Air Act, 1981 from the Board, legal action will be taken in that case against such units by filing the prosecution case in Special Environment Court for such violations under relevant provisions of the said Acts before or even after grant of CTE, as the case may be.
- 2.1.7 The validity period of CTE so granted by the Board will be as under:-
- (i). The CTE for the projects requiring Environmental Clearance, shall be granted for a period upto 07 years subject to the validity of Environmental Clearance or the date of commissioning of the project, whichever is earlier.
 - (ii). The CTE, for the projects not requiring Environmental Clearance, shall be granted for a period upto 05 years including stone crushers, hot mix plants, screening plants, brick kilns etc. or the date of commissioning of the project, whichever is earlier.

2.2 Renewal/Extension of Consent to Establish

- 2.2.1 The units intending for auto renewal of their CTE from the Board, shall apply through online portal of HEPC at least 90 days prior to the date of expiry of the period of previous CTE, in prescribed Performa with declaration and undertaking as per **Annexure-VIII** alongwith the prescribed CTE/NOC fees and documents prescribed for extension of CTE as per checklist given in **Annexure-V**.
- 2.2.3 This application shall be submitted by the authorized official of the industry/project, duly authorized by the owner/board of directors / partners of the unit.
- 2.2.4 The consent to establish will be renewed on the basis of self certification only in those cases where there is no change in the raw material, process, product, increase in overall capital investment cost on land, building, plant and machinery, production capacity and also in pollution load of the unit and will remain the same as declared by the unit in its original application submitted earlier to the Board for obtaining first CTE.

- 2.2.5 The CTE will be renewed only once and for a period of maximum 02 years from the date of expiry of the period of first CTE granted subject to validity of EC if applicable.
- 2.2.6 The units where the CTE has earlier been granted as per provisions of policy notification dated 15.04.2014 and/ or extended upto the eligible period as prescribed in the said notification or less, those units will apply for renewal of CTE for remaining period as applicable as per provisions prescribed in this procedure in Para no. 2.1.5 plus another 02 years (Subject to validity of EC if applicable).
- 2.2.7 The facility for renewal of CTE can be availed for one term only subject to payment of requisite NOC/CTE fees. Such units will deposit requisite NOC/CTE fees for renewal of consent to establish only applicable for one time alongwith the application for auto renewal.
- 2.2.8 In case the unit fails to apply for renewal of CTE before 90 days of expiry of CTE and apply there after upto the date of expiry of CTE then 50% performance security deposited by the unit at the time of obtaining the first CTE, will be forfeited and such units will be required to deposit the forfeited amount of performance security along with application for renewal of CTE. In case of the units which fail to apply for renewal of CTE within the validity period of previous CTE, 100% performance security will be forfeited and direction will be issued to such units by the Board to stop the further construction and installation work of their project.

The units which fail to apply for renewal of CTE within validity period of previous CTE, shall apply afresh along with all relevant documents, NOC/CTE fees and fresh performance security required for grant of fresh CTE with documentary proof that they have not done any work for construction or installation of machinery after expiry of validity period of CTE.

Where ever it come to the notice of the Board at any stage that any unit, applied for extension of CTE or has been extended the CTE, has done any construction or machinery installation work after expiry of validity of CTE, legal action under the relevant provisions of Water Act, 1974 and/or Air Act, 1981 will be taken against such units in that case for such violation.

- 2.2.9 Inspection will not be carried out by the Board's officers for processing the applications for extension/renewal of CTE, except in the cases where any complaint or report has been received in the Board regarding any violation made by the unit.
- 2.2.10 Those units which have been granted CTE but do not want to continue the work for construction and installation of their project beyond the validity period of their CTE, shall submit an undertaking in this regard to the Board, at least 30 days prior to the date of expiry of previous CTE, on prescribed format given at **Annexure IX**, giving the detail about the status of their project constructed and established till the date of submission of such undertaking.

Such units will not start the work for further construction/ installation of their project, without obtaining prior CTE for remaining work of establishment of their project and shall apply for extension as per policy, as and when it is intended to resume the remaining construction/installation work of this project, alongwith the required documents prescribed for extension of CTE, CTE/NOC fees as applicable and self declaration to the effect that they have not done any work at site or construction or installation of machinery after expiry of validity of previous CTE granted by the Board. In case any violation in this regard come to the notice of the Board at any stage then CTE will be refused/cancelled beside taking legal action.

No fresh performance security will be required for such type of cases.

- 2.2.11 In case of building & construction projects or township and area development projects, where the validity period of license issued by Town & Country Planning Department expired after grant of CTE and applied for renewal/extension of CTE without renewal of such license, the CTE for such projects will be extended till the validity of Environmental Clearances of such projects, subject to submission of all required documents prescribed for renewal of CTE and subject to submission of proof regarding submission of their application to Town and Country Planning Department for renewal of their license, with one of the specific condition that the unit will not do any construction work of their project till the renewal of license from Town & Country Planning Department and the extension of CTE so granted will become null & void if such units fail to renew their license for their project from Town & Country Planning Department. The copy of extension of CTE so granted will also be forwarded to Director, Town & Country Planning Department for their information and necessary action.

2.3 Consent to Establish for Expansion of the industries/projects

- 2.3.1 No expansion in the existing Industrial/ Non-Industrial Sector/Project/Unit covered under consent management will be done without prior CTE of the Board.
- 2.3.2 For expansion of the existing Industrial/ Non-Industrial Sector/Project/Unit falling under Red, Orange and Green Categories, the application shall be submitted for Consent to Establish of the Board under Water Act, 1974 and Air Act, 1981 through the on-line portal of the HEPC in the prescribed form alongwith documents related to CTE for expansion projects as per checklist given in **Annexure-V**, applicable performance security as per the slab given at **Annexure-VI** and requisite NOC/CTE fee prescribed by the Board as per fees schedule available on the website of the Board. The

performance security and CTE fees should be deposited through online payment gateway.

- 2.3.3 The performance security and CTE fees for expansion projects shall be charged based on the cost of the expansion project.
- In case the project proponent proposes to increase the production capacity within the existing plant without adding any investment cost, then the performance security and CTE fees shall be charged on the basis of capital investment cost of the existing plant.
- 2.3.4 Application shall be submitted by the authorized official of the industry/project, duly authorized by the owner/Board of directors / partners of the unit.
- 2.3.5 Inspection will not be carried out for processing the cases of CTE for Expansion of the Industrial/ Non-Industrial Sector/Project/Unit and cases of CTE for expansion will be decided on the basis of status of compliance of standards for discharge of Environmental Pollutants prescribed under EP Rules, 1986, for the existing plant of the unit supported with the latest analysis reports and valid consent to operate.
- 2.3.6 Period of CTE for expansion projects, shall be same as applicable for establishment of new units at the time of Ist CTE as well as renewal of CTE as prescribed in para no. 2.1 and 2.2 respectively.
- 2.3.7 For extension/renewal of CTE granted for expansion projects, the procedure prescribed in para no. 2.2, shall be applicable.

3. Procedure for Grant of Consent to Operate

3.1 First Consent to operate

- 3.1.1 The Industrial/ Non-Industrial Sector/Project/Unit falling under Red, Orange and Green Categories listed in **Annexure-I, II & III** respectively, after completing the construction and installation of their project with valid CTE, shall apply for 1st consent to operate of the Board before commissioning their proposed production/activities and even before starting the trial run of such activities/trial production, through the online portal of the HEPC in the prescribed form alongwith all documents, applicable for respective industrial sectors/projects, mentioned in the checklist given at **Annexure-X** and report on compliance of conditions of CTE and Environmental Clearance (if applicable) by uploading the same on the online portal. No documents are allowed to be submitted manually.
- 3.1.2 Application shall be submitted by the authorized official of the industry/project, duly authorized by the owner/Board of directors / partners of the unit.
- 3.1.3 Requisite consent fee, as prescribed by the Board from time to time, shall also be deposited by the units while applying for CTO, through

online payment gateway, as per schedule available on the website of the Board i.e. www.hspcb.gov.in.

- 3.1.4 The application shall be submitted for grant of CTO for a period, based upon the category of the project, as prescribed by the Board. However the units shall be at liberty to apply for consent to operate for lesser period also, by giving the justification for the same.
- 3.1.5 No separate trial consent will be granted and 1st consent to operate will include trial consent. The units can operate their projects only after obtaining prior CTO from Board.
- 3.1.6 At the time of obtaining 1st CTO, the industries will deposit the prescribed testing fees with the Board through online payment gateway for analyzing their samples of effluent/air emission/noise, as applicable, from the Board's laboratories. Analysis reports issued from the authorized laboratories will not be accepted for grant of first CTO.
- 3.1.7 Inspection of the industry will be carried out by the authorized officer/officers of the Board before commissioning of the production in the unit and before giving the 1st CTO, after approval from the Competent Authority, to ascertain the status regarding installation of pollution control measures/ devices undertaken at the time of obtaining the CTE, as well to assess their structural adequacy and to check the compliance of the other conditions of CTE and Environmental Clearance (if applicable), before deciding the cases of 1st CTO. The application for first CTO will be decided on the merits of the case and according to the compliance status ascertained by the Regional Officers after inspection of the unit.
- 3.1.8 In case the first CTO is refused then the performance security deposited by the unit at the time of obtaining the CTE will be forfeited and the unit will also not start its production or any of its activities at site.
- 3.1.9 The inspection of the unit will be carried out again, after grant of the 1st CTO, by the authorized officer (s) of the Board with prior approval of competent authority as per inspection policy within a period of 03 months after grant of 1st CTO for collection of samples of effluent/ air emissions/ noise, as applicable, to get the samples analyzed from the Board's Laboratories as per policy of the Board, in case sampling from the unit is required depending upon the process of the unit.
- 3.1.10 In case the analysis report of samples of Air/ effluent/ noise so collected, are found complying the standards prescribed by the Board or under EP Rules, 1986, the 1st CTO granted, will remain valid for the period for which it has been granted based upon the category of the project or as was demanded by the unit whichever is less but in case of failure of sample (s), the 1st CTO so granted will be revoked/ cancelled after following the due procedure, beside taking legal action against the unit and forfeiture of performance security

deposited by the unit at the time of obtaining the CTE, as per policy of the Board.

3.2 Period for consent to operate

3.2.1 Validity of period of consent to operate for different category of Industrial/ Non-Industrial Sector/Project/Unit under Water Act, 1974 and Air Act, 1981, will be as under:-

Industry/Project Category	Validity Period
Red Category	5 Years
Orange Category	10 Years
Green Category	15 Years

3.2.2 The units will be at liberty to deposit the full applicable consent fee for the whole prescribed period depending upon their category. However the units shall be at liberty to apply for consent to operate for lesser period also by giving justification for the same. The fees for consent to operate can also be deposited by the industries in installments as per time schedule given below :-

Sr. No.	Category	Validity period of consent	Time schedule
1	Red	05 years	For the First 03 years, at the time of filing of application and for the remaining 02 years before ending the 3 rd year.
2	Orange	10 Years	For the First 04 years, at the time of filing of application, for next 03 years before ending the 4 th year and for the remaining 03 years before ending the 7 th year.
3	Green	15 Years	For the first 05 years at the time of filing the application, for next 05 year before ending the 5 th year and for the remaining 05 year before ending the 10 th years.

3.2.3 In case of the units, who opted to pay consent fee in installments for obtaining CTO for longer period and fails to deposit the installment of consent fees within prescribed time limit, the CTO so granted will be revoked/cancelled for the remaining period for which consent fees will not be deposited, after following the due procedure.

3.2.4 In case the rates of consent fees are revised during the period of consent to operate and the unit has opted to deposit the consent fees in the installments then such units will have to deposit the consent fee at the revised / enhanced rates for the remaining period

from the date of revision of the consent fees. However, the units which have opted to deposit the full consent fees at the time of filing the application for consent to operate, will not be liable to pay the revised / enhanced consent fees in case the consent fee is enhanced during the period of consent to operate granted to those units.

- 3.2.5 The consent to operate granted shall have the validity ending as indicated in the table below:-

Sr. No.	Category	Validity month (up to)
1	Red	End of September
2	Orange	End of March
3	Green	End of December

3.3 Renewal of Consent to Operate

- 3.3.1 The Industrial/ Non-Industrial Sector/Project/Unit falling under Red, Orange and Green Categories listed in **Annexure-I, II & III** respectively, intending for renewal of the CTO from the Board, shall apply through the online portal of the HEPC, not earlier than 180 days and atleast 90 days before expiry of the validity period of previous CTO granted by the Board under Water Act, 1974 and Air Act, 1981, on prescribed Performa as per **Annexure-XI**, self certification and undertaking on compliance of conditions of previous consent to operate granted to the unit alongwith the requisite consent fees to be deposited through online payment gateway and the documents as mentioned in the checklist given at **Annexure-X**.
- 3.3.2 No documents are allowed to be submitted manually.
- 3.3.3 Application shall be submitted by the authorized official of the industry/project, duly authorized by the owner/Board of directors / partners of the unit.
- 3.3.4 The consent to operate will be renewed only in those cases where there is no change in the raw material, process, product, increase in overall capital investment cost on land, building, plant and machinery, production capacity and also in pollution load of the unit and will remain the same as declared in the original application for obtaining previous CTO.
- 3.3.5 The CTO will be renewed only for those units which are complying the standards prescribed for discharge of pollutants prescribed under EP Rules, 1986 and submitted all required documents and prescribed consent fees.
- 3.3.6 Renewal of CTO will not prevent the Board from taking appropriate action against the defaulting units including revoking the CTO, which will fail to comply with any of the conditions of the CTO or any relevant provisions of the Water Act, 1974 and Air Act, 1981.
- 3.3.7 If the Industrial/ Non-Industrial Sector/Project/Unit fails to apply before 90 days of the expiry of previous consent and applies 60 days before the expiry of previous consent, the unit shall have to pay

additional consent fee @ 50% of the consent fee notified under the Rules. Subsequently, if the unit fails to apply before 60 days of the expiry of previous consent and applies 30 days before the expiry of previous consent, then the unit will have to pay additional consent fee @ 100% of the consent fee applicable. If the unit fails to apply 30 days before the expiry of the previous consent, the unit will have to pay additional consent fee @ 200% of the consent fee applicable. Thereafter, the Board will take closure action under the provisions of Water Act, 1974/ Air Act, 1981 against such units for not having the valid consent to operate.

- 3.3.8 In, case the unit apply for renewal of CTO after the date of expiry of consent period or after taking the penal action as prescribed above then such applications will be entertained only if such units deposit consent fees for the longer period as per the policy of the Board depending upon the category of the unit alongwith the additional fees @ 300% of the consent fees prescribed for one year alongwith normal consent fees for subsequent years.
- 3.3.9 There will be no requirement of inspection of industries at the time of renewal of CTO. However such units will be required to submit the analysis reports of effluent, air emissions and noise levels, as applicable, from all sources issued from any of the recognized laboratories or from any of the Board's Laboratory, not more than 03 months old, showing the compliance of prescribed standards, with self certification and undertaking for compliance of the relevant provisions of Acts/Rules as applicable and adherence to the prescribed standards alongwith latest Mandatory Inspection report / analysis reports conducted by the team of officer of the Board and required documents.
- 3.3.10 The unit will be at liberty to get their samples of effluent/air emissions/noise, analyzed from Board's laboratories, for the purpose of renewal of consent to operate. In that case, the inspection will be carried out for the purpose of this sampling by the authorized officer (s) of the Board only after taking prior permission from the Competent Authority as per inspection policy of the Board.

3.4 Procedure for obtaining Consent to Operate (CTO) by the Industrial/ Non-Industrial Sector/Project/Unit already existing and operating before 14.07.2016 which were not covered previously under consent management as per notification dated 15.04.2014 amended from time to time or earlier but have been covered under consent management first time w.e.f. 14.07.2016 as per revised categorization of industrial sectors for consent management.

- 3.4.1 The Industrial/ Non-Industrial Sector/Project/Unit already existing and operating before 14.07.2016 which were not covered previously under consent management as per notification dated 15.04.2014 amended from time to time or earlier but have been covered under consent management first time w.e.f. 14.07.2016 in view of revised categorization of industrial sectors for consent management as per order issued vide Ends. No. HSPCB/PLG-135/2016/546-572 dated 14.07.2016, vide order Endst. No. HSPCB/PLG-171/2017/4081-4106 dated 19.05.2017 and Endst. No. HSPCB/PLG-171/2017/4295-4320 dated 08.06.2017, shall not require CTE and will obtain CTO directly and apply for the same to the Board through online portal of HEPC in the prescribed form alongwith documents as mentioned in the check list given at **Annexure-XII** and requisite consent fee prescribed by the Board to be deposited through online payment gateway as per fees schedule available on the website of the Board i.e. hspcb.gov.in.
- 3.4.2 The application shall be submitted for grant of CTO for a period based upon the category of the project as prescribed by the Board. However the units shall be at liberty to apply for consent to operate for lesser period also, by giving the justification for the same.
- 3.4.3 These units will also be at liberty to deposit the applicable fee for consent to operate as per provisions given in Para No. 3.2.2 of this procedure.
- 3.4.4 These units will deposit the prescribed testing fees with the Board for analyzing their samples of effluent/air emission/noise, as applicable, only from the Board's laboratories, for obtaining the first CTO.
- 3.4.5 Inspection of these units applying for CTO will be carried out by the authorized officers of the Board after obtaining prior permission from the competent authority to verify and process the applications for CTO and for collection of the samples of effluent/air emissions/noise, as required.
- 3.4.6 Consent to operate shall be granted only in those cases where all the applicable documents as mentioned in the checklist are submitted and have installed the required and adequate pollution control measures and the standards prescribed by the HSPCB or under EP Rules, 1986 for discharge of environmental pollutants has been complied with.

4. Competent Authority for deciding the applications for CTE & CTO.

- 4.1 The CTE and CTO shall be granted or refused on the merits of the case after examination, by the competent authority as per powers delegated by the Board from time to time and the approval certificates bearing digital signatures of the authorized officer, shall be issued through online system which can be downloaded by the applicants from the online portal.
- 4.2 Chairman of the Board has over all and full powers for deciding the application for CTE as well as CTO.
- 4.3 All Regional Officers of the Board have been delegated powers for grant/refusal of CTE and CTO under Water (Prevention & Control of Pollution) Act, 1974 and Air (Prevention & Control of Pollution) Act, 1981, in their respective area of jurisdiction, vide order Endst. No. HSPCB/PLG-139/2016/5814-5839 dated 02.03.2016 and vide order Endst. No. HSPCB/2017/2657-2681 dated 25.01.2017 for Red, Orange and Green category of Industrial/ Non-Industrial Sector/Project/Unit having investment cost upto Rs. 10 crore or CLU cases upto 1 acre in conforming area.
- 4.4 All the cases of the Industrial/ Non-Industrial Sector/Project/Unit of Red, Orange and Green category, having investment cost more than Rs. 10 crore or CLU cases more than 1 acre in conforming area, which are submitted through the online portal of HEPC for grant of consent to establish and consent to operate of the Board under Water (Prevention & Control of Pollution) Act, 1974 and Air (Prevention & Control of Pollution) Act, 1981, shall be decided by the officer of the Board on deputation with EEC/HEPC and delegated with such powers by the HSPCB for grant/refusal of CTE/CTO.

5. Requirement of Sampling and submission of analysis reports

- 5.1 The Industrial/ Non-Industrial Sector/Project/Unit covered under consent management, will submit analysis reports of effluent/air emissions/noise levels of DG sets, as applicable, only from the Board's laboratories at the time of obtaining 1st CTO and thereafter the industries will be at liberty to get their samples analyzed from other Govt./Semi Govt./Private laboratories recognized by Board for the purpose of renewal of CTO.
- 5.2 In the case of Mandatory Inspections, court matters, re-sampling and complaints, the samples will be analyzed from Board Laboratories.
- 5.3 The Ambient Air Quality reports will be required only in the cases of specific complaints or where there are specific directions from CPCB/MoEF&CC or from any other competent authority or where any court of law has issued direction in this regard.
- 5.4 In case water is used only for cooling purpose and being circulated completely, there would be no requirement of analysis reports of such cooling water.
- 5.5 The units which have installed Effluent Treatment Plants/ Sewage Treatment Plants and utilizing the treated effluent for agriculture/horticulture purpose within their premises or recycling/reusing in their process of manufacturing, shall also submit the analysis reports of the samples of effluent from inlet and outlet of their ETPs/STPs and from final outlet (s) of the units, if these are different.
- 5.6 The standards prescribed under environmental laws by MoEF&CC/ CPCB are followed by the Board. Further, it is clarified that the standards to be prescribed from time to time under environmental laws by MoEF&CC/CPCB shall also be deemed to be the standards of Board. Provided that in case any stringent parameters will be prescribed by the Board on any subject where upon parameters are also provided by MoEF&CC/CPCB, the standards prescribed by the Board will be followed.
The general standards prescribed under EP Rules, 1986 (as amended) shall be applicable on the industries for which specific standards are not prescribed.

6. Action against Violators

- 6.1 In case the industry is found creating such conditions that generate any type of pollution in excess of the prescribed standards or if there is any objection/ complaint received from the surrounding community & if on verification it is found that such objection/ complaint has some substance even after grant of CTE/CTO by the Board, the Board shall be at liberty to revoke/withdraw/cancel the CTE/CTO issued to such units & take legal action against such units under the provisions of the Water Act 1974, Air Act 1981 and the Environment (protection) Act, 1986, as considered appropriate.
- 6.2 Grant or renewal of CTE and CTO does not prevent the Board from revoking of those CTE and CTO including taking appropriate action against those defaulting units, where CTE or CTO has been obtained or got extended on

the basis of wrong declaration or false documents and also who fail to comply with any of the conditions of CTE granted to such units or any relevant provisions of Water Act, 1974 and Air Act, 1981 beside forfeiture of performance security deposited by the unit for obtaining CTE.

This consent procedure shall come in to force with immediate effect.

Dated: _____

Chairman

List of Red Category of Industrial/ Non-Industrial Sectors/Projects

Sr. No.	Industrial/ Non-Industrial Sector/Project/Unit
1.	Isolated storage of hazardous chemicals (as per schedule of manufacturing, storage of hazardous chemicals rules ,1989 as amended)
2.	Automobile Manufacturing (integrated facilities)
3.	Industries engaged in recycling / reprocessing/ recovery/reuse of Hazardous Waste under schedule iv of HW(M, H& TBM) rules, 2008 - Items namely - Spent cleared metal catalyst containing copper,, Spent cleared metal catalyst containing zinc,,
4.	Manufacturing of lubricating oils ,grease and petroleum based products
5.	DG Set of capacity \geq 5 MVA
6.	Industrial carbon including electrodes and graphite blocks, activated carbon, carbon black
7.	Lead acid battery manufacturing(excluding assembling and charging of lead-acid battery in micro scale)
8.	Phosphate rock processing plant
9.	Power generation plant [except Wind and Solar renewable power plants of all capacities and Mini Hydel power plant of capacity <25MW]
10.	Industries engaged in recycling / reprocessing/ recovery/reuse of Hazardous Waste under schedule iv of HW(M, H& TBM) rules, 2008 - Items namely - Spent catalyst containing nickel, cadmium, Zinc, copper, arsenic, vanadium and cobalt,
11.	Processes involving chlorinated hydrocarbons
12.	Sugar (excluding Khandsari)
13.	Fibre glass production and processing (excluding moulding)
14.	Fire crackers manufacturing and bulk storage facilities
15.	Industries engaged in recycling / reprocessing/ recovery/reuse of Hazardous Waste under schedule iv of HW(M, H& TBM) rules, 2008 - Items namely - Dismantlers Recycling Plants --Components of waste electrical and electronic assembles comprising accumulators and other batteries included on list A, mercury-switches, activated glass cullets from cathode-ray tubes and other activated glass and PCB-capacitors, or any other component contaminated with Schedule 2 constituents (e.g. cadmium, mercury, lead, polychlorinated biphenyl) to an extent that they exhibit hazard characteristics indicated in part C of this Schedule.
16.	Milk processes and dairy products (large, medium scale and integrated projects)
17.	Phosphorous and its compounds
18.	Pulp & Paper (waste paper based without bleaching process to manufacture Kraft paper)
19.	Coke making , liquefaction, coal tar distillation or fuel gas making
20.	Manufacturing of explosives, detonators, fuses including management and handling activities
21.	Manufacturing of paints varnishes, pigments and intermediate (excluding blending/mixing)
22.	Organic Chemicals manufacturing
23.	Airports and Commercial Air Strips having discharge of 100 KLD or more

Sr. No.	Industrial/ Non-Industrial Sector/Project/Unit
24.	Asbestos and asbestos based industries
25.	Basic chemicals and electro chemicals and its derivatives including manufacturing of acid
26.	Cement
27.	Chlorates, per-chlorates & peroxides
28.	Chlorine, fluorine, bromine, iodine and their compounds
29.	Dyes and Dye- Intermediates
30.	Health-care Establishment as defined in BMW Rules, having discharge of 100 KLD or more with or without incinerator
31.	Hotels having overall waste-water generation @ 100 KLD and more or having 3 star and above or having 100 rooms and above
32.	Industries engaged in recycling / reprocessing/ recovery/reuse of Hazardous Waste under schedule iv of HW(M, H& TBM) rules, 2008 - Items namely - Lead acid battery plates and other lead scrap/ashes/residues not covered under Batteries (Management and Handling) Rules, 2001. [* Battery scrap, namely: Lead battery plates covered by ISRI, Code word "Rails" Battery lugs covered by ISRI, Code word "Rakes". Scrap drained/dry while intact, lead batteries covered by ISRI, Code word "rains".
33.	Industries engaged in recycling / reprocessing/ recovery/reuse of Hazardous Waste under schedule iv of HW(M, H& TBM) rules, 2008 - Items namely - Integrated Recycling Plants --Components of waste electrical and electronic assembles comprising accumulators and other batteries included on list A, mercury-switches, activated glass cullets from cathode-ray tubes and other activated glass and PCB-capacitors, or any other component contaminated with Schedule 2 constituents (e.g. cadmium, mercury, lead, polychlorinated biphenyl) to an extent that they exhibit hazard characteristics indicated in part C of this Schedule.
34.	Manufacturing of glue and gelatin
35.	Mining and ore beneficiation
36.	Nuclear power plant
37.	Pesticides (technical) (excluding formulation)
38.	Photographic film and its chemicals
39.	Railway locomotive work shop/Integrated road transport workshop/Authorized service centers having discharge of 100 KLD or more
40.	Yarn / Textile processing involving any effluent/emission generating processes including bleaching, dyeing, printing and colouring
41.	Chlor Alkali
42.	Ship Breaking Industries
43.	Oil and gas extraction including CBM (offshore & on-shore extraction through drilling wells)
44.	Industry or process involving metal surface treatment or process such as pickling/ electroplating/paint stripping/ heat treatment using cyanide bath/ phosphating or finishing and anodizing / enamellings/ galvanizing
45.	Tanneries
46.	Ports and harbour, jetties and dredging operations
47.	Synthetic fibers including rayon ,tyre cord, polyester filament yarn
48.	Thermal Power Plants
49.	Slaughter house (as per notification S.O.270(E)dated 26.03.2001)and meat

Sr. No.	Industrial/ Non-Industrial Sector/Project/Unit
	processing industries, bone mill, processing of animal horn, hoofs and other body parts
50.	Aluminium Smelter
51.	Copper Smelter
52.	Fertilizer (basic) (excluding formulation)
53.	Iron & Steel (involving processing from ore/ integrated steel plants) and or Sponge Iron units
54.	Pulp & Paper (waste paper based units with bleaching process to manufacture writing & printing paper)
55.	Zinc Smelter
56.	Oil Refinery (mineral Oil or Petro Refineries)
57.	Petrochemicals Manufacturing (including processing of Emulsions of oil and water)
58.	Pharmaceuticals including basis drugs
59.	Pulp & Paper (Large-Agro + wood) , Small Pulp & Paper (agro based-wheat straw/rice husk)
60.	Distillery (molasses / grain / yeast based)
61.	Induction Furnace clubbed with AOD Furnace
62.	Synthetic detergents and soaps having waste water generation more than 100 KLD (excluding formulation)
63.	Automobile servicing, repairing and painting having waste water generation more than 100 KLD (excluding only fuel dispensing)
64.	Building and construction projects having waste water generation more than 100 KLD irrespective of their built-up area
65.	Ceramics and Refractories having coal consumption more than 12 MT per day
66.	Fermentation industry including manufacture of yeast, beer, distillation of alcohol (Extra Neutral Alcohol) having discharge > 100 KLD
67.	Lead metal extraction involving different furnaces through melting, refining, re-processing, casting and alloy-making
68.	Industry or processes involving foundry operations having capacity of 5 MT/hr. and more.
69.	Manufacturing of lead glass
70.	Non-alcoholic beverages (soft drink) & bottling of alcohol/non alcoholic products having waste-water generation > 100 KLD.
71.	Vegetable oil manufacturing including solvent extraction and refinery /hydrogenated oils having waste-water generation more than 100 KLD
72.	Parboiled Rice Mills having waste-water generation > 100 KLD or fuel consumption > 12 MTD or both.
73.	Common treatment and disposal facilities (CETP, TSDF, E-waste recycling, CBMWTF, effluent conveyance project, incinerator, solvent/acid recovery plant, MSW sanitary land fill site
74.	Sewage treatment plants having capacity 100 KLD or more
75.	Industrial estates/ parks / complexes/ areas/ export processing zones/ SEZs/ Biotech parks/ leather complex
76.	Units engaged in the activities of handling and management of Hazardous Waste as defined in Hazardous and other Wastes (M & TM) Rules, 2016, other than those covered under any of the category of industrial sectors, such as use, treatment, processing, recovery, pre-processing, co-processing,

Sr. No.	Industrial/ Non-Industrial Sector/Project/Unit
	utilization etc. of the hazardous and other wastes
77.	Recycling of used lead acid batteries
78.	Lithium Ion battery manufacturing units or assembling of Lithium Ion batteries with or without charging, having overall liquid waste generation of 100 KLD or more irrespective of quantity of fuel used or the projects having overall liquid waste generation less than 100 KLD but having daily fuel consumption above 12 MT/day
79.	Railway Stations (Waste Water Generation \geq 100 KLD)

List of Orange Category of Industrial/ Non-Industrial Sector Sectors/Projects

Sr. No.	Industrial/ Non-Industrial Sector Sector/Project
1.	Dismantling of rolling stocks (wagons/ coaches)
2.	Bakery and confectionery units with production capacity > 1 TPD. (With ovens / furnaces)
3.	Chanachur and laddoo from puffed and beaten rice(muri and shira) using husk fired oven
4.	Coated electrode manufacturing
5.	Compact disc computer floppy and cassette manufacturing / Reel manufacturing
6.	Flakes from rejected PET bottle
7.	Food and food processing including fruits and vegetable processing
8.	Jute processing without dyeing
9.	Manufacturing of silica gel
10.	Manufacturing of tooth powder, toothpaste, talcum powder and other cosmetic items
11.	Printing or etching of glass sheet using hydrofluoric acid
12.	Silk screen printing, sari printing by wooden blocks
13.	Synthetic detergents and soaps(excluding formulation)
14.	Thermometer manufacturing
15.	Cotton spinning and weaving (medium and large scale)
16.	Almirah, Grill Manufacturing (Dry Mechanical Process)
17.	Aluminium & copper extraction from scrap using oil fired furnace (dry process only)
18.	Automobile servicing, repairing and painting having quantity of waste water generation up to 100 KLD (excluding only fuel dispensing)
19.	Ayurvedic and homeopathic medicine
20.	Brickfields (excluding fly ash brick manufacturing using lime process)
21.	Building and construction projects having quantity of waste water generation 10 KLD to 100 KLD irrespective of their built-up area
22.	Ceramics and Refractories having coal consumption upto 12 MT per day
23.	Coal washeries
24.	Dairy and dairy products (small scale)
25.	DG set of capacity >1MVA but < 5MVA
26.	Dry coal processing, mineral processing, industries involving ore sintering, pelletisating, grinding & pulverization
27.	Fermentation industry including manufacture of yeast, beer, distillation of alcohol having quantity of waste water discharge upto 100 KLD (Extra Neutral Alcohol)
28.	Ferrous and Non- ferrous metal extraction involving different furnaces through melting, refining, re-processing, casting and alloy-making
29.	Fertilizer (granulation / formulation / blending only)
30.	Fish feed, poultry feed and cattle feed
31.	Fish processing and packing (excluding chilling of fishes)
32.	Forging of ferrous and non- ferrous metals (using oil and gas fired furnaces)

Sr. No.	Industrial/ Non-Industrial Sector Sector/Project
33.	Formulation/pelletization of camphor tablets, naphthalene balls from camphor/naphthalene powders.
34.	Glass ceramics, earthen potteries and tile manufacturing using oil and gas fired kilns, coating on glasses using cerium fluorides and magnesium fluoride etc.
35.	Gravure printing, digital printing on flex, vinyl
36.	Heat treatment using oil fired furnace (without cyaniding)
37.	Hot mix plants
38.	Hotels (< 3 star) or hotels having > 20 rooms and less than 100 rooms or having quantity of waste water discharge less than 100 KLD.
39.	Ice cream
40.	Industries engaged in recycling / reprocessing/ recovery/reuse of Hazardous Waste under schedule iv of HW(M, H& TBM) rules, 2008 - Items namely - Paint and ink Sludge/residues
41.	Industries engaged in recycling / reprocessing/ recovery/reuse of Hazardous Waste under schedule iv of HW(M, H& TBM) rules, 2008 - Items namely - Brass Dross ,, Copper Dross,, Copper Oxide Mill Scale,, Copper Reverts, Cake & Residues,, Waste Copper and copper alloys in dispersible form,, Slags from copper processing for further processing or refining ,, Insulated Copper Wire,, Scrap/copper with PVC sheathing including ISRI-code material namely "Druid" ,, Jelly filled Copper cables ,, Zinc Dross-Hot dip Galvanizers SLAB,, Zinc Dross-Bottom Dross,, Zinc ash/Skimming arising from galvanizing and die casting operations,, Zinc ash/Skimming/other zinc bearing wastes arising from smelting and refining,, Zinc ash and residues including zinc alloy residues in dispersible from ,,
42.	Industry or processes involving foundry operations having capacity of foundry operations less than 5 MT per hr.
43.	Lime manufacturing (using lime kiln)
44.	Liquid floor cleaner, black phenyl, liquid soap, glycerol mono-stearate manufacturing
45.	Manufacturing of glass
46.	Manufacturing of iodized salt from crude/ raw salt
47.	Manufacturing of mirror from sheet glass
48.	Manufacturing of mosquito repellent coil
49.	Manufacturing of Starch/Sago
50.	Mechanized laundry using oil fired boiler
51.	Modular wooden furniture from particle board, MDF< swan timber etc, Ceiling tiles/ partition board from saw dust, wood chips etc., and other agricultural waste using synthetic adhesive resin, wooden box making (With boiler)
52.	New highway construction project
53.	Non-alcoholic beverages(soft drink) & bottling of alcohol/non alcoholic products having quantity of waste water generation up to 100 KLD
54.	Paint blending and mixing (Ball mill)
55.	Paints and varnishes (mixing and blending)
56.	Ply wood manufacturing (including Veneer and laminate) using the fuel such as wood or coal or any other authorized fuel with or without resin plant
57.	Potable alcohol (IMFL) by blending, bottling of alcohol products
58.	Printing ink manufacturing
59.	Printing press

Sr. No.	Industrial/ Non-Industrial Sector Sector/Project
60.	Reprocessing of waste plastic including PVC
61.	Rolling mill (oil or coal fired) and cold rolling mill
62.	Spray painting, paint baking, paint shipping
63.	Steel and steel products using various furnaces like blast furnace /open hearth furnace/induction furnace/arc furnace/submerged arc furnace /basic oxygen furnace /hot rolling reheated furnace
64.	Stone crushers
65.	Surgical and medical products including prophylactics and latex
66.	Teflon based products
67.	Thermocol manufacturing (with boiler)
68.	Tobacco products including cigarettes and tobacco/opium processes
69.	Transformer repairing/ manufacturing (dry process only)
70.	Tyres and tubes vulcanization/ hot retreating
71.	Vegetable oil manufacturing including solvent extraction and refinery /hydrogenated oils without waste water generation or having quantity of waste water generation up to 100 KLD
72.	Wire drawing and wire netting
73.	Dry cell battery (excluding manufacturing of electrodes) and assembling & charging of acid lead battery on micro scale
74.	Pharmaceutical formulation and for R & D purpose (For sustained release/ extended release of drugs only and not for commercial purpose)
75.	Synthetic resins
76.	Synthetic rubber excluding molding
77.	Cashew nut processing
78.	Coffee seed processing
79.	Parboiled Rice Mills having quantity of waste water generation up to 100 KLD or fuel consumption up to 12 MTD or both
80.	Foam manufacturing
81.	Industries engaged in recycling / reprocessing/ recovery/reuse of Hazardous Waste under schedule iv of HW(M, H& TBM) rules, 2008 - Items namely - Used Oil - As per specifications prescribed from time to time.
82.	Industries engaged in recycling / reprocessing/ recovery/reuse of Hazardous Waste under schedule iv of HW(M, H& TBM) rules, 2008 - Items namely - Waste Oil ---As per specifications prescribed from time to time.
83.	Producer gas plant using conventional up drift coal gasification (linked to rolling mills glass and ceramic industry refectories for dedicated fuel supply)
84.	Health care establishments (As defined in BMW Rules) having waste water generation less than 100 KLD without incinerator
85.	Airport and commercial air strips having discharge less than 100 KLD
86.	Railway locomotive workshop/Integrated road transport workshop/Authorized service centers (having waste-water generation < 100 KLD)
87.	Manufacturing of pasted veneers using coal/wood scrap boiler or thermic fluid heater and by sun drying
88.	Cardboards and Millboards
89.	Strawboards
90.	Formulation of pesticides/ insecticides
91.	Recycling / Pyrolysis plants of waste pneumatic tyres/tyre scrap

Sr. No.	Industrial/ Non-Industrial Sector Sector/Project
92.	Screening plants
93.	Surgical cotton industries
94.	Inorganic Chemical Compounds such as Chlorides/Sulphates/Sulphites/Niterates/Oxides/Flourides/ Stearates of metals/Cations
95.	Sodium and other silicates manufacturing
96.	Cotton coated fabrics including printing and lamination (Rexene)
97.	Friction dust
98.	Brake lining/ Disc brake pad
99.	Chlorinated paraffin wax/plasticizers
100.	Sewage treatment plants having capacity 10 KLD or more but less than 100 KLD
101.	Infrastructure development projects having overall liquid Waste generation 100 KLD or more
102.	Dismantling of E-Waste
103.	Flour mills generating trade effluent
104.	Distilled water units using boiler or furnace as heating source
105.	Construction and Demolition (C&D) Waste processing and recycling units
106.	Garment/ Apparel manufacturing units having only garment washing, with or without boiler except bleaching, dyeing, printing, coloring
107.	Lithium Ion battery manufacturing units or assembling of Lithium Ion batteries with or without charging, having overall liquid waste generation of 100 KLD and daily consumption of coal/fuel less than 12 MT/day or without use of any fuel in the process
108.	Railway Stations (Waste Water Generation ≥ 10 KLD but < 100 KLD))
109.	Scrapping Centers (for end of life of vehicles and other scraps such as plant and machineries, structural material, railway coaches and wagons etc.) a. Collection, de-pollution, dismantling centres and shredding centres b. Collection, de-pollution and dismantling centres c. shredding centres (can include white goods/other scraps also)
110.	Compressed/refined bio-gas production for bio-degradable wastes
111.	Dairy Farm having 15 animals and above (Stand alone or isolated)
112.	Gaushalas (having waste water generation > 100 KLD)

List of Green Category of Industrial/ Non-Industrial Sector Sectors/Projects

Sr. No.	Industrial/ Non-Industrial Sector Sector/Project
1.	Aluminium utensils from aluminium circles by pressing only (dry mechanical operation)
2.	Ayurvedic and homeopathic medicines (without boiler)
3.	Bakery /confectionery /sweets products (with production capacity <1tpd (with gas or electrical oven)
4.	Bi-axially oriented PP film along with metalizing operations
5.	Biomass briquettes (sun drying) without using toxic hazardous wastes
6.	Blending of melamine resins & different powder, additives by physical mixing
7.	Brass and bell metal utensils manufacturing from circles(dry mechanical operation without re-rolling facility)
8.	Candy
9.	Cardboard or corrugated box and paper products (excluding paper or pulp manufacturing and without using boilers)
10.	Carpentry & wooden furniture manufacturing (excluding saw mill) with the help of electrical (motorized) machines such as electrical wood planner, steel saw cutting circular blade, etc.
11.	Cement products (without using asbestos / boiler / steam curing) like pipe ,pillar, jafri, well ring, block/tiles etc.(should be done in closed covered shed to control fugitive emissions)
12.	Ceramic colour manufacturing by mixing & blending only (not using boiler and wastewater recycling process)
13.	Chilling plant, cold storage and ice making
14.	Coke briquetting (sun drying)
15.	Cotton spinning and weaving (small scale)
16.	Dal Mills
17.	Decoration of ceramic cups and plates by electric furnace
18.	Digital printing on PVC clothes
19.	Facility of handling, storage and transportation of food grains in bulk
20.	Flour mills/Atta Chakki (dry process) running on commercial mode with packing facility of Atta for selling it into market (having wheat cleaning process and fugitive dust)
21.	Glass , ceramic, earthen potteries, tile and tile manufacturing using electrical kiln or not involving fossil fuel kiln
22.	Glue from starch (physical mixing) with gas / electrically operated oven /boiler.
23.	Gold and silver smithy (purification with acid smelting operation and sulphuric acid polishing operation) (using less or equal to 1 litre of sulphuric acid/ nitric acid per month)
24.	Heat treatment with any of the new technology like ultrasound probe , induction hardening , ionization beam, gas carburizing etc.
25.	Insulation and other coated papers (excluding paper or pipe manufacturing)
26.	Leather foot wear and leather products (excluding tanning and hide processing except cottage scale)

Sr. No.	Industrial/ Non-Industrial Sector Sector/Project
27.	Lubricating oil, greases or petroleum based products (only blending at normal temperature)
28.	Manufacturing of pasted veneers using gas fired boiler or thermic fluid heater and by sun drying
29.	Oil mill Ghani and extraction (no hydrogenation / refining)
30.	Packing materials manufacturing from non asbestos fibre, vegetable fibre yarn
31.	Phenyl/toilet cleaner formulation and bottling
32.	Polythene and plastic processed products manufacturing (virgin plastic)
33.	Poultry Farms handling one lac or more birds at a given time in single location and Hatchery & Piggery irrespective of no. of birds/animals
34.	Power looms (without dye and bleaching)
35.	Puffed rice (muri) (using gas or electrical heating system)
36.	Pulverization of bamboo and scrap wood
37.	Ready mix cement concrete irrespective of investment cost
38.	Reprocessing of waste cotton
39.	Rice mill (Rice hullers only)
40.	Rolling mill (gas fired) and cold rolling mill
41.	Rubber goods industry (with approved fuel operated baby boiler)
42.	Saw mills
43.	Soap manufacturing (hand made without steam boiling / boiler)
44.	Spice grinding (up to 20 HP motor)
45.	Spice grinding (>20 HP motor)
46.	Steel furniture without spray painting
47.	Steeping and processing of grains
48.	Tyres and tube retreating (without boilers)
49.	CO2 recovery
50.	Distilled water (without boiler) with electricity as source of heat
51.	Hotels (up to 20 rooms and without boilers)
52.	Manufacturing of optical lenses (using electrical furnace)
53.	Mineralized water
54.	Tamarind powder manufacturing
55.	Cutting, sizing and polishing of marble stone
56.	Emery powder (fine dust of sand) manufacturing
57.	Flyash export, transport & disposal facilities
58.	Mineral stack yard / Railway sidings
59.	Oil and gas transportation pipeline
60.	Seasoning of wood in steam heated chamber
61.	Synthetic detergent formulation
62.	Tea processing (with boiler)
63.	Modular wooden furniture from particle board, MDF< swan timber etc, Ceiling tiles/ partition board from saw dust, wood chips etc., and other agricultural waste using synthetic adhesive resin, wooden box making (Without boiler)
64.	LPG bottling plants
65.	Sewage treatment plants having capacity less than 10 KLD
66.	Infrastructure development projects having overall liquid Waste generation less than 100 KLD

Sr. No.	Industrial/ Non-Industrial Sector Sector/Project
67.	Industrial inorganic gases namely- a) Chemical gas- Acetylene, hydrogen, chlorine, fluorine, ammonia, sulphur dioxide, ethylene, hydrogen-sulphide, phosphine b) Hydrocarbon gases- Methane, ethane, propane
68.	Automobiles manufacturing outsourcing all of the polluting activities.
69.	Refurbishing of used electrical and electronic equipments
70.	Manufacturing of bakelite molded components
71.	Railway Stations (Waste Water Generation <10 KLD)
72.	Gaushalas (having waste water generation <100 KLD)
73.	Compressed/refined bio-gas production for bio-degradable wastes (No waste water discharge from digester and also feed slurry to digester having volatile organic fraction more than 75%)

List of White Category of Industrial/ Non-Industrial Sector Sectors/Projects

Sr. No.	Industrial/ Non-Industrial Sector Sector/Project
1.	Assembly of air coolers /conditioners ,repairing and servicing
2.	Assembly of bicycles ,baby carriages and other small non motorizing vehicles
3.	Bailing (hydraulic press)of waste papers
4.	Bio fertilizer and bio-pesticides without using inorganic chemicals
5.	Biscuits trays etc from rolled PVC sheet (using automatic vacuum forming machines)
6.	Blending and packing of tea
7.	Block making of printing without foundry (excluding wooden block making)
8.	Chalk making from plaster of Paris (only casting without boilers etc. (sun drying / electrical oven)
9.	Compressed oxygen gas from crude liquid oxygen (without use of any solvents and by maintaining pressure & temperature only for separation of other gases)
10.	Cotton and woolen hosiers making (Dry process only without any dyeing / washing operation)
11.	Diesel pump repairing and servicing (complete mechanical dry process)
12.	Electric lamp (bulb) and CFL manufacturing by assembling only
13.	Electrical and electronic item assembling (completely dry process)
14.	Engineering and fabrication units (dry process without any heat treatment / metal surface finishing operations / painting)
15.	Flavoured betel nuts production/ grinding (completely dry mechanical operations)
16.	Fly ash bricks/ block manufacturing
17.	Fountain pen manufacturing by assembling only
18.	Glass 51ydel51es and vilas making from glass tubes
19.	Glass putty and sealant (by mixing with machine only)
20.	Ground nut decorticating
21.	Handloom/ carpet weaving (without dyeing and bleaching operation)
22.	Leather cutting and stitching (more than 10 machine and using motor)
23.	Manufacturing of coir items from coconut husks
24.	Manufacturing of metal caps containers etc
25.	Manufacturing of shoe brush and wire brush
26.	Medical oxygen
27.	Organic and inorganic nutrients (by physical mixing)
28.	Organic manure (manual mixing)
29.	Packing of powdered milk
30.	Paper pins and u clips
31.	Repairing of electric motors and generators (dry mechanical process)
32.	Rope (plastic and cotton)
33.	Scientific and mathematical instrument manufacturing
34.	Solar module non conventional energy apparatus manufacturing unit
35.	Solar power generation through solar photovoltaic cell, wind power and mini

Sr. No.	Industrial/ Non-Industrial Sector Sector/Project
	hydel power (less than 25 MW)
36.	Surgical and medical products assembling only (not involving effluent / emission generating processes)
37.	Automobile fuel outlets (only dispensing)
38.	Diesel generator sets having total capacity 1 MVA or less and equipped with acoustic enclosures alongwith adequate stack height
39.	Almirah, Grill Manufacturing without painting operation (Dry Mechanical Process)
40.	Health care Establishments i.e hospitals/clinics without indoor facilities and having only OPD consultancy
41.	Printing presses without involving water polluting process
42.	Garment / Apparel units involving only stitching process, without discharge of effluent and Air emissions from process
43.	Poultry Farms handling less than one lac birds. (Environmental guidelines issued by Haryana Government/CPCB for poultry farms shall be applicable)
44.	Atta chakki for personal use with dry process without involving wheat cleaning process and fugitive dust emission
45.	Compressed/refined bio-gas production for bio-degradable wastes [Domestic bio-digesters based on cow dung or house hold biodegradable waste (such as gobar gas plant)]

**Check List of documents for obtaining consent to establish (CTE) under
Water Act, 1974 / Air Act, 1981**

I. 1st Consent to Establish

1. Online application
2. Proof of deposit of NOC/CTE fee and performance security.
3. C.A. Certificate regarding capital investment cost w.r.t. land, building, plant and machinery of the proposed project.
4. Fard Jamabandi and Intkal of land of the unit, in case unit is located outside approved industrial area/estate.
5. Power of attorney/authority letter to sign the application.
6. Allotment letter of the plot issued from the concerned authority in case of approved industrial area.
7. Manufacturing process and process Flow Chart.
8. Design Scheme of Effluent Treatment Plant/ Sewage treatment Plant, Air Pollution Control Devices / Hazardous Waste Management as applicable, with Hydraulic Design and design calculations based upon the Pollution load and prescribed standards.
In case of Brick kilns, design and drawing of high draft Zig Zag technology based Kiln and stack.
9. Report of Tehsildar and District Forest Officer regarding Kisam of land through Deputy Commissioner, for areas covered under Aravali Notification, if applicable. In case the land falls in the industrial estate / area and HUDA sectors, the report of Regional Officers will be taken regarding applicability of Aravali Notification (only for District Gurugram and Nuh).
10. Clearance/ permission in case of the projects falling in the revenue estates covered in the Notification no. 191(E) dt. 27.08.2010 issued by Ministry of Environment, and Forest, Government of India regarding protected area of Sultanpur National Park in District Gurgaon.
11. Proof of receipt of application submitted to the Forest Department for clearance / permission /NOC, of Forest Department.
12. Report of Revenue Department / Forest Department & other concerned departments regarding sitting parameters in respect of Stone Crushers, Hot Mix Plants, Screening Plants, Pulverizes, Poultry Farms and License of DFSC in Case of brick Kilns.
13. Change of land use permission/license/NOC certificate from the Town & Country Planning Department or respective Municipal or other Authority or village Panchayat, as the case may be.
14. Lease deed/ Rent Agreement in case land is taken on rent or lease, Collaboration deed in case of construction projects, if applicable (duly registered with revenue authorities).
15. Copy of Environmental Clearance in case of the projects covered under, EIA Notification dated 14.09.2006.
16. Copy of MOA / partnership Deed / Trust Deed, as applicable having the name and address of Directors/Partners.
17. Declaration by the unit regarding awareness about pollution control related standards and law and undertaking for their compliance, as

per Annexure-VII.

18. Site plan of the unit in case it is located outside approved industrial area.
19. Layout plan showing the details of all manufacturing processes, location of stacks/ chimneys, ETP/ STP, APCM, Hazardous Waste storage and treatment facilities, tube wells, Water supply lines, Effluent drains and final outlets for the disposal of the effluent.

II. Renewal/Extension of Consent to Establish

1. Online application for renewal of CTE with declaration on prescribed Performa (Annexure-VIII).
2. Proof of deposit of NOC/CTE fees (as per schedule available on the web-site of the Board i.e. www.hspcb.gov.in)
3. Copy of 1st CTE & previous renewed CTE (if any).
4. Power of Attorney/authority letter to sign the application.
5. Progress report regarding construction of project and installation of pollution control measures/devices, as per scheme submitted while obtaining 1st CTE.
6. Valid license or proof of submission of application for renewal of license to Town and Country Planning Department or any other concerned authority, in case of Building and construction projects and Township and Area Development projects.

III. Consent to Establish for expansion of the existing project

Apart from the documents required for obtaining 1st CTE and NOC/fee, following additional documents are required to be submitted along with application for CTE for expansion of projects:-

1. Copy of valid CTO under Water Act, 1974/ Air Act, 1981 and Authorization under Hazardous Waste Management Rules (if applicable) for the existing project.
2. Latest inspection report and analysis reports of effluent/ air emissions/ noise (as applicable), conducted by Board officers for the mandatory inspection, if conducted.
3. Copy of fresh analysis reports of effluent/air emissions/ noise, analyzed from Board's lab/recognized lab. (not more than 03 month old)
4. Declaration regarding compliance of prescribed standards for discharge of environmental pollutants in the existing operating project of the unit as per **Annexure -XIII**.

Performance Security prescribed for obtaining the Consent to Establish.**a) Performance Security as per investment cost of the projects (other than mentioned at Sr. No. b).**

Sr. No.	Capital Investment Cost of the project (Cost of land, building, Plant and Machinery)	Red Category (in Rs.)	Orange Category (in Rs.)	Green Category (in Rs.)
1.	Upto 0.5 crore	25,000/-	12,500/-	5,000/-
2.	Above 0.5 crore upto 1.00 crore	50,000/-	25,000/-	10,000/-
3.	Above 1.0 crore upto 5.00 crore	1,00,000/-	75,000/-	25,000/-
4.	Above 5.0 crore upto 10.00 crore	2,00,000/-	1,50,000/-	50,000/-
5.	Above 10.00 crore upto 50.00 crore	3,00,000/-	2,00,000/-	1,00,000/-
6.	Above 50.00 crore upto 100.00 crore	4,00,000/-	2,50,000/-	1,25,000/-
7.	Above 100.00 crore	5,00,000/-	3,00,000/-	1,50,000/-

b) Performance Security for specific projects irrespective of investment cost

1. Hot Mix Plants/ Stone Crushers/ Screening Plants : 50,000/-
2. Brick Kilns : 25,000/-
3. Mining Projects:-
 - a) More than ten Hectares : 5.0 lac
 - b) Five to ten Hectares : 2.5 lac
 - c) Less than five Hectares : 1.0 lac

Declaration by the applicant for obtaining Ist CTE

I, _____ S/o/D/o/W/o _____ resident of _____ declare and affirm as under:-

1. That I am the Partner/Director/Manager/Occupier/Proprietor of the unit M/s _____.
2. That I am aware of the provisions of Water Act, 1974, Air Act, 1981 and HOWM Rules, 2016, Rules and procedure framed there under and standards/norms prescribed for discharge of pollutants under EPA Rules, 1986 and shall comply with the same.
3. That we shall comply with all the provisions of Water Act, 1974, Air Act, 1981 and Rules framed there under HOWM Rules, 2016 and standards/norms prescribed for discharge of pollutants under EP Rules, 1986 after commissioning of our unit.
4. That we have not started the work at the site for construction of plant and installation of machinery of our project and will also not start the same before obtaining the consent to establish under Water Act, 1974 and Air Act, 1981 from the Haryana State Pollution Control Board.
5. That the work for construction and installation of pollution control measures will be done side by side while doing the construction and installation of the main plant of the unit and will not start the production without installing proper and adequate pollution control measure as per scheme enclosed and without obtaining prior consent to operate from the Board.
6. In case of the non compliance of the above undertaking or false declaration found at any stage, the Board will be at liberty to forfeit the performance security amounting to Rs. _____ deposited along with the CTE application through online payment gateway or in the form of Demand Draft no. _____ dated _____ issued by _____ (Bank) besides taking any other legal action under the provision of Water Act, 1974 & Air Act, 1981.
7. That we shall comply with all the terms & conditions of consent to establish to be issued by the Board.

Deponent/Applicant

Dated:

Format of the application for auto renewal of the consent to establish under Water Act, 1974 / Air Act, 1981.

To

The Chairman,
Haryana State Pollution Control Board,
C-11, Sector 6, Panchkula.

Sub: Application for auto-renewal of the consent to establish under Water Act, 1974 / Air Act, 1981- Self certification.

Ref: Consent to establish issued by the Board vide letter no. _____ dated _____ valid up to _____.

Sir,

We are submitting herewith application for auto renewal of our consent to establish under Water Act, 1974 / Air Act, 1981 granted by your Board vide letter under reference, along with the prescribed NOC fees for the same and the following declaration and undertaking as per policy of your Board :-

1. That we have a valid consent to establish under Water Act, 1974 / Air Act, 1981 issued by HSPCB vide above referred letter validity upto _____, copy of which is enclosed herewith.
2. That the present details of the manufacturing process and other informations /data of our unit are same as submitted / provided to the Board earlier with original application for obtaining original Consent to Establish referred above and therefore the same may be considered for present application for renewal of consent to establish for another period w.e.f. _____ to _____.
3. That the proposed capital investment cost of our industry/ project, as per documents submitted with earlier application for consent to establish granted by HSPCB vide above referred letter, was Rs. _____ lacs, which will remain the same and will not be increased in terms of land, building and plant and machinery, without prior information / permission of the HSPCB.
4. That there will be no change in the raw material, process, products, quantity of effluent, source of air emissions, scheme of pollution control measures and increase in production or pollution load and will remain same as submitted in original application for consent to establish.
5. That we shall deposit the balance NOC fees if found due at any later stage due to increase in capital investment cost on land, building, plant and machinery.
6. That we are complying with the conditions of consent to establish granted earlier vide letter under reference and further undertake to comply with further conditions if any imposed by HSPCB in future.
7. That we shall install all the required pollution control measures and devices as per scheme / proposal already submitted by us with our original application for consent to establish upto the satisfaction of the Board side by side in proportionate to the construction of the project and before the commissioning of the unit failing which Board will be at liberty to forfeit the

performance security deposited by us with the Board in this regard beside taking legal action under the provisions of relevant Acts/Rules applicable to our unit.

8. That we shall not start even trial production without obtaining prior consent to operate for trial production from the HSPCB.
9. That we shall provide all the arrangements for sampling of air emissions and effluent as prescribed by the Board and online monitoring systems as directed by the HSPCB/CPCB from time to time, in our unit before starting even trial production.
10. That in case our unit is not fully established within the validity period of extension of CTE, than we shall apply afresh for obtaining new CTE, 90 days before the expiry of the renewed CTE.
11. That we are complying and shall comply with all the conditions of Environmental Clearance (in case unit is covered under EIA notification dated 14.09.2006.)
12. That we shall comply with all the relevant provisions of water Act, 1974, Air Act, 1981, EPA, 1986 and Rules made their under including Hazardous Waste (MH&TM) Rules, 2008 applicable to our unit.
13. That we undertake that auto renewal of consent to establish will not prevent the HSPCB for taking coercive action against us if our unit fails to comply the prescribed standards or conditions of consent to establish granted and renewed to our unit or only applicable provision of Water Act, 1974, Air Act, 1981 and EPA, 1986 and Rule made their under.
14. That the declaration and undertaking given above has the approval of all the partners / Board of Directors / owners of the industry / project and copy of resolution of the Board / power of attorney in the regard is attached herewith.

It is therefore requested that the consent to establish may kindly be renewed/extended further for another period w.e.f. _____ to _____.

Dated: _____

Authorized Signatory

Name and Designation
with phone no., email address
and seal of the company

Undertaking by those units which have been granted CTE but do not want to continue the work for construction and installation of their project beyond the validity period of their CTE.

I, _____ S/o/D/o/W/o _____ in the capacity of _____ of M/s _____ undertake as under:-

1. That I am the Partner/Director/Manager/Occupier/Proprietor of the unit M/s _____.
2. That our unit have been granted consent to establish by the Board under Water Act, 1974 /Air Act, 1981 vide Letter no. _____ dated _____ valid up to _____.
3. That the detail about the status of our project constructed and established till date is attached herewith.
4. That we do not want to continue the work for construction and installation of our project beyond the validity period of consent to establish granted by the Board at this stage.
5. That we shall apply for extension of consent to establish as and when the remaining work for construction and installation of the project is proposed to be started well in advance and will not start the construction and installation work of the project without further extension of the consent to establish from the Board.

Dated: _____

Authorized Signatory

Name and Designation
with phone no., email address
and seal of the company

Check list of documents for obtaining Ist consent to operate (CTO)**I. 1st Consent to Operate**

1. Online consent application.
2. Power of attorney/authority letter to sign the application.
3. Proof or deposit of required and applicable consent fee, as per schedule available on the web-site www.hspcb.gov.in.
4. Collection and testing fee prescribed by the Board as per schedule available on the web-site of the Board, for analysing the samples of effluent/ Air emissions/ Noise level of DG sets, as applicable, for all sources. (Analysis report of air emissions from all sources including diesel engines of capacity more than 0.8MW (800kW) for power plants and generator sets will be required).
5. Copy of balance sheet duly attested by CA or CA certificate w.r.t. capital investment cost of the unit for the preceding year. (Capital investment cost should include the original cost of land, building, plant & machinery without depreciation but with upto date additions. The cost of land and building should be included in the capital investment cost even if it is on lease or rent or mortgage).
6. MOA / partnership Deed / Trust Deed (if changed).
7. Layout plan showing the details of all manufacturing processes, location of stacks/ chimneys, ETP/ STP, APCM, Hazardous Waste storage and treatment facilities, tube wells, Water supply lines, Effluent drains and final outlets for the disposal of the effluent.
8. Permission of the concerned authorities for disposal of the effluent in to sewer/drain etc.
9. Detail of land in case the effluent is discharged on land for percolation or for irrigation along with copy of registered agreement made with the land owners in case the land belong to the persons other then the land of the applicant unit.
10. Detail of ETP/STP, APCM, acoustic enclosure, Hazardous Waste Management Facilities installed in the unit along with their size, specification and capacity.
11. In case of industries/projects/establishments handling Hazardous Chemicals having threshold quantities mentioned in schedule II and III of MSIHC, Rules, 1989 and covered under rule 10 & 13 of these Rules, proof of submission of safety audit report duly audited with the help of an expert, atleast 90 days before commencing the activity and onsite emergency plan alongwith report of the mock drill of the same to Chief Inspector of Factories alongwith copy of the same. (Required as per instructions of MOEF & CC issued vide letter No. 14-7(382)/2010-HSMD dated 09.03.2016).
12. Occupation certificate issued by Town & Country Planning Department, in case of Building & construction projects/area development projects.

II. Renewal of consent to operate

1. Online application for renewal of CTO on prescribed Performa (Annexure-XI).
2. Proof of deposit of required and applicable consent fee (as per schedule available on the web-site www.hspcb.gov.in).
3. Copy of previous CTO.
4. Power of attorney/authority letter to sign the application.
5. Copy of balance sheet duly attested by CA or CA certificate w.r.t. capital investment cost of the unit for the preceding year. (Capital investment cost should include the original cost of land, building, plant & machinery without depreciation but with upto date additions. The cost of land and building should be included in the capital investment cost even if it is on lease or rent or mortgage).
6. Latest inspection report and analysis reports of effluent/ air emissions/ noise conducted by Board officer (s) for the mandatory inspection, if conducted.
7. Copy of fresh analysis reports of effluent/air emissions/ noise analyzed from Board's lab/recognized lab. (not more than 03 months old)
8. Environment Statement in Form V for the financial year ending on 31st March (required in compliance of Rule 14 of EP Rules, 1986).
9. In case of industries/projects/establishments handling Hazardous Chemicals having threshold quantities mentioned in schedule II and III of MSIHC, Rules, 1989 and covered under rule 10 & 13 of these Rules, proof of submission of updated safety audit report duly audited with the help of an expert, annually and up to date onsite emergency plan alongwith report of the mock drill of the same to Chief Inspector of Factories alongwith copy of the same, (Required as per instructions of MOEF & CC issued vide letter No. 14-7(382)/2010-HSMD dated 09.03.2016).
10. Permission of the concerned authorities for disposal of the effluent in to sewer/drains etc (in case not submitted earlier).
11. Detail of land in case the effluent is discharged on land for percolation or for irrigation along with copy of registered agreement made with the land owners in case the land belong to the persons other then the land of the applicant unit (in case not submitted earlier).
12. Copy of logbook for last 03 months maintained for operation of ETP/STP/APCM for the record of energy and chemical consumption, quantity of effluent at inlet and outlet of ETP/STP supported with readings of magnetic flow meters alongwith quantity of treated effluent recycled/reused in the process, utilized in the premises and discharged, mode of disposal.

Format of the application for auto renewal of the consent to operate under Water Act, 1974 / Air Act, 1981.

To

The Member Secretary,
Haryana State Pollution Control Board,
C-11, Sector 6, Panchkula.

Sub: Application for auto-renewal of the consent to operate for the period _____ under Water Act, 1974 / Air Act, 1981.

Sir,

It is submitted that we had been granted the consent to operate under Water Act, 1974 / Air Act, 1981 upto _____ by the Board vide letter No. _____ dt. _____ and No. _____ dt. _____ respectively. Now we are submitting our application for auto renewal of the consent to operate under Water Act, 1974 / Air Act, 1981 for the period _____ to _____, along with the prescribed consent fees for the same and with the following declaration and undertaking as per policy of your Board :-

1. That we have valid consent to operate under Water Act, 1974 / Air Act, 1981 upto _____ issued by HSPCB vide above referred letters, copies of which are enclosed herewith.
2. That the present details of the manufacturing process and other informations / data of our unit are same as submitted / provided by the Board earlier with original application for obtaining previous Consent to operate referred above and therefore the same may be considered for present application for renewal of consent to operate for further period w.e.f. _____ to _____.
3. That the capital investment cost on land, building, plant and machinery of our industry/ project without charging depreciation and with upto date additions as on _____ is Rs. _____ lacs and the consent fees has been deposited according to the said capital investment cost of our unit. We undertake to deposit the balance consent fees if any found due at any stage due to increase in the investment cost on Land, Building, Plant and Machinery of our unit at any later stage.
4. That we are complying with the conditions of previous consent to operate granted to our unit by the Board valid upto _____ and also complying with all the standards / norms prescribed under EP Rules, 1986 for discharge of environmental pollutants, by operating our pollution control devices regularly and effectively.
5. That there will be no change in the raw material, process, products, quantity of effluent, source of air emissions, technology of pollution control measures and increase in production or pollution load and will remain same as submitted in the previous application for consent to operate.

6. That we shall keep on operating and maintaining our pollution control measures / devices regularly and effectively and will maintain and keep all the parameters within standards / norms prescribed under EP Rules, 1986.
7. That we are submitting herewith the copy of the latest inspection report and analysis report of effluent/ air emissions/ noise conducted by the Board's officers on _____ alongwith copy of fresh analysis reports of effluent/ air emissions/ noise analyzed from Board's laboratory/ recognized laboratory, showing the compliance of prescribed standards.
8. We undertake to comply with all the conditions of renewal of consent to operate to be imposed by the Board if any.
9. That we shall comply with all the relevant provisions of water Act, 1974 and Air Act, 1981.
10. We undertake that auto renewal of consent to operate will not prevent the Board for taking coercive action against us if our unit fails to comply with the prescribed standards or conditions of consent granted during auto renewal of the same.
11. The undertaking has the approval of the Board of Directors/ Partner/Owner of the industry/project and copy of the resolution of the Board/ Power of Attorney is attached herewith.

It is therefore requested that the consent to operate under Water Act, 1974/ Air Act, 1981 may kindly be renewed further for another period w.e.f. _____ to _____.

Dated: _____

Authorized Signatory

Name and Designation
with phone no., email address
and seal of the company

Checklist of documents for obtaining Consent to Operate (CTO) by the Industrial/ Non-Industrial Sector/Project/Unit already existing and operating before 14.07.2016 which were not covered previously under consent management as per notification dated 15.04.2014 amended from time to time or earlier but have been covered under consent management first time w.e.f. 14.07.2016 as per revised categorization of industrial sectors for consent management.

1. Online consent application.
2. Power of attorney/authority letter to sign the application.
3. Proof or deposit of required and applicable consent fee, as per schedule available on the web-site www.hspcb.gov.in.
4. Collection and testing fee prescribed by the Board as per schedule available on the web-site of the Board, for analysing the samples of effluent/ Air emissions/ Noise level of DG sets, as applicable, for all sources. (Analysis report of air emissions from all sources including diesel engines of capacity more than 0.8MW (800kW) for power plants and generator sets will be required).
5. Copy of balance sheet duly attested by CA or CA certificate w.r.t. capital investment cost of the unit for the preceding year. (Capital investment cost should include the original cost of land, building, plant & machinery without depreciation but with upto date additions. The cost of land and building should be included in the capital investment cost even if it is on lease or rent or mortgage).
6. MOA / partnership Deed / Trust Deed (if changed).
7. Layout plan showing the details of all manufacturing processes, location of stacks/ chimneys, ETP/ STP, APCM, Hazardous Waste storage and treatment facilities, tube wells, Water supply lines, Effluent drains and final outlets for the disposal of the effluent.
8. Permission of the concerned authorities for disposal of the effluent in to sewer/drain etc.
9. Detail of land in case the effluent is discharged on land for percolation or for irrigation along with copy of registered agreement made with the land owners in case the land belong to the persons other then the land of the applicant unit.
10. Detail of ETP/STP, APCM, acoustic enclosure, Hazardous Waste Management Facilities installed in the unit along with their size, specification and capacity.
11. Fard Jamabandi and Intkal of land of the unit in case unit is located outside approved industrial area/estate.
12. Allotment letter of the plot issued from the concerned authority in case of approved industrial area/estate.
13. Manufacturing process and process Flow Chart.
14. Report of Tehsildar and District Forest Officers regarding Kisam of land through Deputy Commissioner for areas covered under Aravali Notification, if applicable. In case the land falls in the industrial estate / area and HUDA sectors, the report of Regional Officers will be taken regarding applicability of Aravali Notification (only for Gurugram and Nuh District).
15. Clearance/ permission in case of the projects falling in the revenue estates covered in the Notification no. 191(E) dt. 27.08.2010 issued by Ministry of Environment, and Forest, Government of India regarding protected area of

Sultanpur National Park in District Gurgaon.

16. Change of land use permission/license/NOC certificate from the Town & Country Planning Department or respective Municipal or other Authority or Panchayat as the case may be.
17. Lease deed/ Rent Agreement duly registered with revenue authorities, in case land is taken on lease/rent.
18. Site plan of the unit in case it is located outside approved industrial area.
19. Environment Statement in Form V for the financial year ending on 31st March. (required in compliance of Rule 14 of EP Rules, 1986).
20. Proof of submission of updated safety audit report duly audited with the help of an expert, annually and up to date onsite emergency plan alongwith report of the mock drill of the same to Chief Inspector of Factories alongwith copy of the same, in case of industries/projects/establishments handling Hazardous Chemicals having threshold quantities mentioned in schedule II and III of MSIHC, Rules, 1989 and covered under rule 10 & 13 of these Rules. (Required as per instructions of MOEF & CC issued vide letter No. 14-7(382)/2010-HSMD dated 09.03.2016).
21. Copy of logbook for last 03 months maintained for operation of ETP/STP/APCM for the record of energy and chemical consumption, quantity of effluent at inlet and outlet of ETP/STP supported with readings of magnetic flow meters alongwith quantity of treated effluent recycled/reused in the process, utilized in the premises and discharged, mode of disposal.

Declaration by the applicant for obtaining CTE for expansion of the project.

I, _____ S/o/D/o/W/o _____ resident of _____ declare and affirm as under:-

1. That I am the Partner/Director/Manager/Occupier/Proprietor of the unit M/s _____.
2. That we are operating pollution control devices in our industry regularly and effectively and meeting the standards prescribed under Environment (Protection) Rules, 1986 for discharge of pollutants into the atmosphere, which will be maintained in future also.
3. That we shall install the required and adequate pollution control devices for the expansion project in our industry before commissioning the production and will also obtain prior consent to operate before starting trial production in our expansion project.
4. In case of the non compliance of the above undertaking or false declaration found at any stage, the Board will be at liberty to forfeit the performance security amounting to Rs. _____ deposited along with the CTE application through online payment gateway or in the form of Demand Draft no. _____ dated _____ issued by _____ (Bank) besides taking any other legal action under the provision of Water Act, 1974 & Air Act, 1981.
5. That we shall comply with all the terms & conditions of consent to establish to be issued by the Board.

Deponent/Applicant

Dated:

Performa for submission of application by the units for change of their name in the record of HSPCB as per the change in the permission granted by the competent authority.

(In case of change of name of unit without change in ownership/process/raw material/products)

1.	Name & address of the unit registered with the Board	:	
2.	New name of the unit after change as per registration certificate issued from the registration authority i.e. Deptt. of Industries & Commerce/Registrar of companies/Societies etc.	:	
3.	Name and designation of authorized signatory of the applicant unit.	:	
4.	Reasons for the change in the name of the unit	:	
5.	Competent authority for change of name of the unit	:	
6.	Letter no. and date of authority granted the permission for change of name	:	
7.	Status of CTO/authorization of the old unit with validity if granted; (a) Under Water Act, 1974 (b) Under Air Act, 1981 (c) Under HOWM Rules, 2008/2016 (d) Any other applicable Rules	:	
8.	In case CTO/authorization applied and not decided then name of the unit (existing or new) applied CTO.	:	
9.	Capital investment cost of the unit on land, building, plant & machinery (without depreciation) based upon latest balance sheet of the unit.	:	
10.	Detail of CTE/NOC fees; (i) Amount required to be deposited as per fee structure (in Rs.) (ii) Deposited amount with detail of DD No., date and Bank/online transaction no./date. (iii) Balance amount, if any	:	
11.	Manufacturing process, raw materials and products of the unit.	:	
12.	Detail of change in name, ownership or transfer of interest of the unit, if any done in the past	:	
13.	Detail of supporting documents attached (as per checklist)	:	

14.	Declaration; (i). That I am the authorized signatory of my unit to submit this application. (ii). That there is/will be no change in the ownership/ manufacturing process /raw materials/ products of the industry and in case of any such change is proposed in future, prior consent to establish and/or other required permissions will be taken from the HSPCB. (iii). That we shall comply with all the terms and conditions what so ever imposed by the Board while giving permission for change of name of the unit in the record of HSPCB.	:	
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Date:

Place:

(Signature)
Authorized Signatory
(as per column no. 3

Checklist of supporting documents to be submitted by the unit

- a) Power of attorney/authorization letter
- b) Copy of latest CTO/Authorization
- c) Self declaration regarding no change in the ownership process/raw material/products of the unit.
- d) Copy of fresh registration certificate issued from Industries & Commerce Department or from Registrar of Companies/societies or from any other concerned authority, as the case may be, with changed name of the unit.
- e) Proof of NOC/CTE fees deposited.
- f) Proof of capital investment cost of the unit on land, building, plant & machinery (without depreciation) based upon latest balance sheet of the unit, attested by CA.

Performa for recommendation of Regional Officer regarding grant of permission for change of name of unit in record of HSPCB as per the change in the permission granted by the competent authority.

(In case of change of name of unit without change in ownership/process/raw material/products)

1.	Name & address of the unit registered with the Board	
2.	New name of the unit after change as per registration certificate submitted by the unit issued from the registration authority.	
3.	Competent authority for change of name of unit	
4.	Reasons for the change in the name of the unit.	
5.	Status of Consent to establish/operate and authorization (as applicable) with validity if granted.	
6.	Letter no. and date of authority granted the permission for change of name	
7.	In case CTO/authorization applied and not decided then name of the unit (existing or new) applied CTO.	
8.	Whether deposited the required and applicable CTE/NOC fees (Yes/No)	
9.	Amount of CTE/NOC fees deposited and mode of payment alongwith balance NOC fee if any.	
10.	Date of receipt of application and subsequent clarification submitted (if any) in Regional Office.	
11.	Date of submission of recommendation to Head Office.	
12.	Status of Registration of new name of unit with concerned authorities.	
13.	Detail of supporting documents submitted by the unit and attached with recommendation.	
14.	Whether submitted all the required documents by the unit as per checklist. If not then submit the detail of such documents not submitted.	
15.	Manufacturing process / raw materials /products of the unit.	
16.	Whether there is any change in the ownership, manufacturing process, raw material and products of the unit.	
17.	Recommendation of Regional Officer.	

Dated: _____

Regional Officer
_____ **Region**

Performa for submission of application for transfer of consent and interest from one industry to another industry due to sale or other reasons and replacement of their name and ownership in the record of HSPCB

(Without change in process/raw material/products)

1.	Name & address of the existing unit registered with the Board	:	
2.	Name of the new unit transferred interest of the existing unit as per registration certificate issued from the registration authority i.e. Deptt. of Industries & Commerce/Registrar of companies/Societies etc.	:	
3.	Name and designation of authorized signatory of the applicant unit.	:	
4.	Competent authority for registration of name of unit.	:	
5.	Letter no. and date and authority where the unit registered its name.	:	
6.	Status of CTO/authorization of the existing unit with validity if granted; (a) Under Water Act, 1974 (b) Under Air Act, 1981 (c) Under HOWM Rules, 2008/2016 (d) Any other applicable Rules	:	
7.	In case CTO/authorization applied and not decided then name of the unit (existing or new) applied CTO.	:	
8.	Capital investment cost of the unit on land, building, plant & machinery (without depreciation) based upon latest balance sheet of the unit, in case unit is taken on lease/ rent/mortgaged or based upon sale deed registered with revenue authorities, in case the existing unit has been sold.	:	
9.	Detail of CTE/NOC fees; (i) Amount required to be deposited as per fee structure (in Rs.) (ii) Deposited amount with detail of DD No., date and Bank/online transaction no./date. (iii) Balance amount, if any	:	
10.	Detail of change in ownership	:	
11.	Manufacturing process/raw materials/products of the unit.	:	
12.	Detail of change in name, ownership or transfer of interest of the unit, if any done in the past	:	
13.	Detail of supporting documents attached (as per checklist)	:	

14.	<p>Declaration;</p> <p>(i). That I am the authorized signatory of my unit to submit this application.</p> <p>(ii). That there is/will be no change in the manufacturing process / raw materials /products of the industry and in case of any such change is proposed in future, prior consent to establish and/or other required permissions will be taken from the HSPCB.</p> <p>(iii). That we shall comply with all the terms and conditions what so ever imposed by the Board while transferring the consent/other clearances and giving permission for replacement of name of the unit in the record of HSPCB.</p>	
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Date:

Place:

(Signature)
Authorized Signatory
(as per column no. 3)

**Name & address of
applicant unit:**

Checklist of supporting documents to be submitted by the unit

- a) Power of attorney/authorization letter
- b) Copy of latest CTO/Authorization
- c) Copy of fresh registration certificate issued from Industries & Commerce Department or from Registrar of Companies/societies or from any other concerned authority, as the case may be, in favour of the new unit.
- d) Proof of NOC/CTE fees deposited.
- e) Proof of capital investment cost of the unit on land, building, plant & machinery (without depreciation) based upon latest balance sheet of the unit, in case unit is taken on lease/rent/mortgaged or based upon sale deed registered with revenue authorities, in case the existing unit has been sold.
- f) Copy of sale deed/rent deed/mortgaged deed/lease deed etc. as applicable registered from revenue authorities.
- g) Copy of fresh memorandum of article & association or partnership deed or proof of proprietorship, as the case may be of the new unit, transferred the interest of the industry.

Performa for recommendation of Regional Officer regarding grant of permission for transfer of consent and interest from one industry to another industry due to sale or other reasons and replacement of their name and ownership in the record of HSPCB

(Without change in process/raw material/products)

1.	Name & address of the applicant unit	
2.	Name & address of the existing unit registered with the Board	
3.	Name of the new unit transferred interest of the existing unit as per registration certificate issued from the registration authority.	
4.	Competent authority for registration of name of unit.	
5.	Date and authority where the unit registered its name.	
6.	Status of Consent to establish/operate and authorization (as applicable) with validity if granted.	
7.	In case CTO/authorization applied and not decided then name of the unit (existing or new) applied CTO.	
8.	Whether deposited the required and applicable CTE/NOC fees (Yes/No)	
9.	Amount of CTE/NOC fees deposited and mode of payment alongwith balance NOC fee if any.	
10.	Date of receipt of application and subsequent clarification submitted (if any) in Regional Office.	
11.	Date of submission of recommendation to Head Office.	
12.	Status of Registration of name of new unit with concerned authorities.	
13.	Detail of supporting documents submitted by the unit and attached with recommendation.	
14.	Whether submitted all the required documents by the unit as per checklist. If not then submit the detail of such documents not submitted.	
15.	Manufacturing process /raw materials /products of the unit.	
16.	Whether there is any change in the manufacturing process / raw material /products of the unit.	
17.	Recommendation of Regional Officer.	

Dated: _____

Regional Officer
_____ **Region**

Performa for submission of proposal by the concerned Branch in Head Office dealing with consent management for the cases of permission for change of name of the units or for transfer of consent and interest from one industry to another industry due to sale or other reasons and replacement of their name and ownership in the record of HSPCB.

1.	Subject:- (Type of case; Whether for grant of permission for change of nomenclature (name) of the unit without other changes or for transfer of consent and interest from one industry to another industry due to sale or other reasons and replacement of their name and ownership in the record of HSPCB.)	
2.	Regional Officer submitting the recommendation alongwith recommendation.	
3.	No. and date of letter vide which recommendation submitted	
4.	Date of receipt of application in Regional Office	
5.	Date of receipt of the case in Head Office	
6.	Name & address of the applicant unit	
7.	Name of the existing unit already registered with HSPCB	
8.	New name of the unit after change as per registration certificate submitted by the unit issued from the registration authority. (in case of change of name without other changes) Or Name of the new unit transferred interest of the existing unit as per registration certificate issued from the registration authority.	
9.	Whether deposited required and applicable NOC fee as per report of RO.	
10.	Status of CTO under Water Act/Air Act and authorization with validity if granted.	
11.	In case CTO/authorization applied and not decided then name of the unit (existing or new) applied CTO.	
12.	Whether submitted all the required documents as per checklist.	
13.	In case of shortcomings in the documents, detail of such documents	
14.	Status of Registration of new name/ new unit's name with competent authority with date	
15.	Competent authority for registration of name of unit.	
16.	Detail of change in name, ownership or transfer of interest of the unit, if any done in the past	

17.	Manufacturing process/raw materials/products of the unit.	
18.	Observation of the Branch.	
19.	Proposal of the Branch.	

Checklist of documents**1. For only change of nomenclature (name) of the unit in the record of the Board:**

- (a) Power of attorney/authorization letter
- (b) Copy of latest CTO/Authorization
- (c) Self declaration regarding no change in the ownership process/raw material/products of the unit.
- (d) Copy of fresh registration certificate issued from Industries & Commerce Department or from Registrar of Companies/societies or from any other concerned authority, as the case may be, with changed name of the unit.
- (e) Proof of NOC/CTE fees deposited.
- (f) Proof of capital investment cost of the unit on land, building, plant & machinery (without depreciation) based upon latest balance sheet of the unit, attested by CA.

2. For transfer of interest of a person in his industry to any other person or Where an existing unit is purchased or taken on lease by another unit and the new unit apply to the Board for grant or renewal of CTE/CTO in his name:

- (a) Power of attorney/authorization letter
- (b) Copy of latest CTO/Authorization
- (c) Copy of fresh registration certificate issued from Industries & Commerce Department or from Registrar of Companies/societies or from any other concerned authority, as the case may be, in favour of the new unit.
- (d) Proof of NOC/CTE fees deposited.
- (e) Proof of capital investment cost of the unit on land, building, plant & machinery (without depreciation) based upon latest balance sheet of the unit, in case unit is taken on lease/rent/mortgaged or based upon sale deed registered with revenue authorities, in case the existing unit has been sold.
- (f) Copy of sale deed/rent deed/mortgaged deed/lease deed etc. as applicable registered from revenue authorities.
- (g) Copy of fresh memorandum of article & association or partnership deed or proof of proprietorship, as the case may be of the new unit, transferred the interest of the industry.



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केन्द्रीय प्रदूषण नियंत्रण बोर्ड
CENTRAL POLLUTION CONTROL BOARD
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार
MINISTRY OF ENVIRONMENT, FOREST & CLIMATE CHANGE, GOVT. OF INDIA

CP-18/1/2023-IPC-VI-HO-CPCB-HO

Date: 12.02.2025

To

ANNEXURE A/5

The Chairman
State Pollution Control Board/Pollution Control Committee
(As per the list)

Sub: Directions under section 18(1)(b) of the Water (Prevention & Control of Pollution) Act, 1974 and the Air (Prevention & Control of Pollution) Act, 1981 regarding harmonization of classification of industrial sectors under Red, Orange, Green, White and Blue categories.

WHEREAS, under section 16 (2)(b) of the Water (Prevention and Control of Pollution) Act, 1974 and under Section 16 (2)(c) of the Air (Prevention & Control of Pollution) Act, 1981, one of the functions of the Central Pollution Control Board (CPCB), constituted under the Water (Prevention and Control of Pollution) Act, 1974, is to coordinate activities of the State Pollution Control Boards (SPCBs) and Pollution Control Committees (PCCs); and

WHEREAS, under section 16 (2)(c) of the Water (Prevention and Control of Pollution) Act, 1974 and under Section 16 (2)(d) of the Air (Prevention & Control of Pollution) Act, 1981, one of the functions of the CPCB is to provide technical assistance and guidance to SPCBs and PCCs; and

WHEREAS, it was brought to the notice of CPCB, that different SPCBs/PCCs were following different criteria for the classification of industrial sectors under different categories. Therefore, in 2012, to have uniformity in classification throughout the country, CPCB vide letter no. B-29012/1/2012/ESS/1526-1563, dated 04.06.2012 issued directions under section 18(1)(b) of the Water Act, 1974 and the Air Act, 1981 to SPCBs/PCCs to adopt and implement standardized list of Red, Orange and Green categories of industries; and

WHEREAS, in 2016, the Central Pollution Control Board (CPCB) developed a scoring methodology based on the Pollution Index (PI) to harmonize the criteria for classification of industrial sectors. The PI is determined based on Precautionary Principle- by evaluating potential of water pollution, air pollution, and hazardous waste generation from particular sector. CPCB vide letter no. B-29012//ESS(CPA)/2015-16, dated 07.03.2016 issued directions under section 18(1)(b) of the Water Act, 1974 and the Air Act, 1981 to SPCBs/PCCs to adopt and implement revised classification. SPCBs/PCCs were also directed to categorize any new or left over sectors at their level by constituting a Committee and following the methodology prescribed by CPCB; and

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‘परिवेश भवन’ पूर्वी अर्जुन नगर, दिल्ली-110032

Parivesh Bhawan, East Arjun Nagar, New Delhi - 110032

दूरभाष/Tel: 43102030, 22305792, वेबसाइट/Website : www.cpbc.nic.in

WHEREAS, CPCB vide letter no. B-29016/ROGW/IPC-VI/2020-21, dated 30.04.2020, issued directions under section 18(1)(b) of the Water Act, 1974 and the Air Act, 1981 to SPCBs/PCCs regarding segregated list of non-industrial sectors (activities/ facilities/ infrastructure/ services) such as sewage treatment plants, healthcare facilities, hotels, building and construction projects, airports, highways etc. Further, CPCB also classified few additional sectors from time to time; and

WHEREAS, based on the experience gained over the years in Pollution Index calculation, use of cleaner fuels like PNG/CNG etc., adoption of cleaner technology resulting in reduced emission/wastewater generation, a need was felt to revisit the classification methodology of 2016; and

WHEREAS, during July 2023, CPCB prepared a “Draft Report on Classification of Industrial Sectors into Red, Orange, Green and White Categories: A Tool for Progressive Environmental Management” which was uploaded on CPCB website for seeking comments/suggestions of the stakeholders/public on the same. The draft report was also circulated to SPCBs/PCCs/MoEF&CC for comments; and

WHEREAS, CPCB vide office order dated 26.09.2023 constituted a committee to critically examine and analyse the comments/suggestions and to make recommendations for suitable incorporation in the finalizing the methodology and classification; and

WHEREAS, based on the stakeholders’ comments, a need was felt to promote/incentivize units for adopting measures resulting in better environmental performance. Additionally, a requirement was also felt for separate category – Blue Category- for essential environmental services for management of environmental pollution arising from domestic/household activities. Accordingly, CPCB prepared an “Addendum and substitution thereto in Draft Report on Classification of Sectors into Red, Orange, Green, White and Blue Categories”, which was shared with SPCBs/PCCs and also uploaded on CPCB website on 11.07.2024 for seeking inputs/comments; and

WHEREAS, the amendment in Section-21 of the Air (Prevention and Control of Pollution) Act, 1981 through the Jan Vishwas (Amendment of Provisions) Act, 2023 and amendment in Section-25 of the Water (Prevention and Control of Pollution) Act, 1974 through the Water (Prevention and Control of Pollution) Amendment Act, 2024, grant exemption to certain categories of industries, as notified by Central Government, for obtaining consent under these Acts; and

WHEREAS, the Ministry of Environment, Forest and Climate Change, Government of India vide notification no. G.S.R. 702(E), dated 12.11.2024 granted exemption of consent under the Water Act, 1974 and the Air Act, 1981 to exemption of Consent to Establish (CTE) and Consent to Operate (CTO) to all industrial plants having pollution index score upto 20 (at present total 39 industrial sectors under white categories as per 2016 methodology) subject to



condition that such plant shall inform in writing to the concerned State Pollution Control Board (SPCB) or Pollution Control Committee (PCC); and

WHEREAS, the MoEF&CC vide letter no. Q-15012/2/2022/-CPW-Part (1)/e-240741, dated 14.11.2024 has issued Standard Operating Procedure for implementation of the said Notification dated 12.11.2024. The SOP includes the following provisions for White categories of industries:

- i. Industry to intimate to concerned SPCB/PCC about operations and self-declare the compliance with prevalent rules & regulations,
- ii. Concerned SPCB/PCC to maintain separate list of such industries/activities, and
- iii. Concerned SPCB/PCC to ensure that no activities other than those intimated, are carried out by exempted units.

WHEREAS, the Committee constituted by CPCB evaluated the comments, incorporated the suitable changes and finalized the revised methodology as well as classification of sectors. Final report in this regard titled as "Classification of sectors in to Red, Orange, Green, White and Blue Categories (A tool for progressive environmental management)" was submitted to Ministry of Environment, Forest and Climate Change (MoEF&CC) for concurrence. The MoEF&CC vide letter no. Q-16017-57-2015-CPA, dated 15.01.2025 granted concurrence to the revised classification; and

WHEREAS, as per the revised methodology, the category of the sector is decided based on the following ranges of Pollution Index:

- i. Red: $PI \geq 80$,
- ii. Orange: $55 \leq PI < 80$,
- iii. Green: $25 \leq PI < 55$,
- iv. White: $PI < 25$; and

WHEREAS, based on the revised methodology, CPCB has classified a total of 419 sectors and sub-sectors as under:

- i. The Red Category: 125
- ii. The Orange Category: 137
- iii. The Green Category: 94
- iv. The White Category: 54
- v. The Blue Category: 9; and

WHEREAS, the purpose of classification is to ensure that the industry is established in a manner consistent with the environmental objectives and also to prompt industrial sectors to adopt cleaner technologies, ultimately resulting in the generation of no or minimum pollutants. The revised classification system also defines criteria for incentivizing such industry. The industry may self-assess the PI score as per defined criteria and can submit application to respective SPCBs/PCCs for consideration; and



NOW, THEREFORE, in the exercise of the powers delegated under Section 18(1)(b) of the Water (Prevention & Control of Pollution) Act, 1974 and Section 18(1)(b) of the Air (Prevention & Control of Pollution), Act, 1981 the earlier directions dated 07.03.2016 and subsequent directions/letter in the context of categorization of industries are withdrawn with immediate effect and following '**Directions**' are hereby issued for compliance by all SPCBs and PCCs:

1. That SPCBs and PCCs shall immediately adopt the revised methodology for classification of sectors and list of 419 sectors/sub-sectors classified under Red, Orange, Green, White, and Blue categories as detailed in the **attached** report- "Classification of Sectors into Red, Orange, Green, White and Blue Categories (A tool for progressive environmental management)".
2. That all pending application for consideration of consent (CTE/CTO) and future such application shall be processed as per the revised classification. In case CTE granted before the revised classification, applicability of CTO will be as per revised classification.
3. That the revised sectors/subsectors classified under Red, Orange, Green, White, and Blue category of sectors as given in the attached document shall be used by the SPCBs and PCCs for consent management, inventorization of units under different categories, siting criteria, deciding environmental surveillance frequency, calculation of environmental compensation, etc., as per the guidelines issued from time to time.
4. That SPCBs and PCCs shall prepare the inventory of Red, Orange, Green, White and Blue categories of units operating in their jurisdictions, based on the revised classification. SPCBs and PCCs shall upload the category and sector-wise list of such units on their website. SPCBs and PCCs shall also forward such list to CPCB, latest by 30.06.2025 and thereafter updated list by 30th June every year.
5. That the classification of sectors shall not be linked to sanction of loans/finance of bank proceedings.
6. That any further addition of any new or left-out sector and their classification which is not listed in the revised list of Red, Orange, Green, and White categories, shall be done at the level of concerned SPCB /PCC by constituting a Committee and following revised criteria & guidelines as detailed in the attached report and no concurrence of CPCB shall normally be required. Intimation of same from time to time will suffice. However, addition in Blue Category Sectors-Essential Environmental Services for domestic waste management, will be done at the level of CPCB only. SPCBs/PCCs may forward their proposal, if any, to CPCB in this regard.
7. That SPCBs and PCCs are required to prepare and submit list of additional sector classified under white category to CPCB on annual basis, by 30th of June every year, in the prescribed format (Annexure-V) as given in the attached report, for further notification for exemption from consent as per the provisions of the Jan Vishwas (Amendment of Provisions) Act, 2023, the Water Act, and the Air Act as amended from time to time by MoEF&CC.
8. That SPCBs and PCCs shall constitute a committee as prescribed in the report to evaluate the applications of the units for incentives due to adopting measures resulting in better environmental performance and reduction in PI score. The SPCB/PCC shall

place the separate list of such units on their website and also submit list of such units to CPCB on Annual Basis by 30th June every year.

The SPCBs/PCCs shall acknowledge the receipt of directions and submit the "Action Taken Report" in compliance with these directions to CPCB before 20.02.2025.

Encl. As above.



(Bharat Kumar Sharma)

Member Secretary



Copy to:

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(As per the list)
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5. The Joint Secretary (CP Division)
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6. All Regional Directorates, CPCB
(As per the list)



(Bharat Kumar Sharma)

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Classification of Sectors into Red, Orange, Green, White and Blue Categories

(A tool for progressive environmental management)



Central Pollution Control Board

“Parivesh Bhawan”, East Arjun Nagar

Delhi-110032

(January 2025)

तन्मय कुमार, भा.प्र.से.
अध्यक्ष

Tanmay Kumar, I. A. S.
Chairman

378



सत्यमेव जयते

FOREWORD

केन्द्रीय प्रदूषण नियंत्रण बोर्ड¹⁸⁵

पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार

CENTRAL POLLUTION CONTROL BOARD

MINISTRY OF ENVIRONMENT, FOREST & CLIMATE CHANGE, GOVT. OF INDIA

The concept of classifying industries into different pollution categories originated in 1989 with the Doon Valley (Uttarakhand) Notification issued by Ministry of Environment and Forests. Subsequently the concept of pollution index was developed by Central Pollution Control Board (CPCB) during 2016 to classify the sectors into different category. The 2016 classification helped State Pollution Control Boards (SPCBs)/Pollution Control Committees (PCCs) in streamlining consent management, prioritizing regulatory oversight & environmental monitoring, taking decision related to siting of units, etc. However, necessity felt for refining the concept of calculating Pollution Index to overcome certain limitation and to bifurcate sub-sectors based on pollution load, scale of operation etc.

Accordingly, draft methodology was prepared and widely circulated for inputs/comments/suggestions by placing the same on CPCB website (public domain) as well as by inviting comments from MoEF&CC/SPCBs/PCCs. As of 11.08.2024, i.e. the extended date for receipt of suggestions, CPCB received 170 representations, comprising over 700 comments from PSUs, NGOs, industries, industrial associations, including feedback from SPCBs of Kerala, Nagaland, Tamil Nadu, Mizoram, West Bengal, Punjab and Lakshadweep. The report has been finalised after examining all the comments by a working committee.

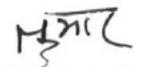
The 2025 classification methodology bifurcates sub-sectors based on pollution load, scale of operation, production technology, and type of fuel used into Red, Orange, Green, White and Blue categories. Red indicates the highest pollution potential, requiring stringent regulatory oversight, while White signifies minimal or no pollution, with much reduced compliance burden of merely intimation to the concerned SPCBs/PCCs. **A new Blue Category has also been introduced to distinguish the Essential Environmental Services** required for management of environmental concerns arising from anthropogenic pollution due to domestic/household activities which otherwise will have large littering potential. Additional 2 years validity for consent to operate (as per Pollution Index) is prescribed for the blue category.

This report also outlines the implementation pathway, which includes guidelines for State Pollution Control Boards/Pollution Control Committees to follow and implement the new classification system. Earlier classified 257 sectors have now been bifurcated and classified into 403 sectors (including sub sectors) and additionally, 16 new sectors have been introduced. Thus, the revised classification of 273 key sectors comprising of total 419 sectors/sub-sectors are further classified into Red Category (125 nos.), Orange Category (137 nos.), Green Category (94 nos.), White Category (54 nos.) and Blue Category (9 nos.). Progression between red, orange and green categories for the industrial sectors is also incorporated based on the use of less polluting available processes and technologies.

The report also comprises provisions for individual units to adopt cleaner technologies and practices resulting in reduction of pollution load in any sector. Incentives, such as extended validity for Consent to Operate (CTO) and reduced inspection frequencies, are outlined to encourage continual improvement of environmental performance. The incentive mechanism allowing progression between categories will thereby promote Ease of Doing Business by extended consent validity and enhance duration between inspections, thereby leading to reduced compliance burden.

To sum up, this report aims to create a more transparent, consistent, and incentivized regulatory mechanism for better environment management, promoting sustainable industrial development and better governance. I hope the report will be useful to all concerned in the field of industrial pollution control in the country and would incentivise the industries to switch over to cleaner process and technology leading to reduced air, water and soil pollution and also encourage setting up of blue category industries.

I would like to place on record my sincere appreciation for the hard work and valuable contributions by the CPCB team comprising of Shri Amit R. Thakkar, Add. Director, Shri Saubhagya Dixit, Scientist D, and Dr. Anantha N. S., SSA under the guidance of Shri Bharat Kumar Sharma, Member Secretary. I would also like to extend my thanks to Dr. Prashant Gargava, former Member Secretary, Shri P. K. Gupta, former Director and Shri Ajay Aggarwal, former Director, for their contribution. I would also express gratitude to the Working Committee, CPCB, MoEF&CC, SPCBs/PCCs and others for their contributions in the preparation of this report.


(Tanmay Kumar)



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EXECUTIVE SUMMARY

The concept of classification of industrial sectors into red, orange, and green categories based on the size of operations and consumption of resources was first introduced in 1989 for Doon Valley, Uttarakhand. This classification aimed to aid decisions regarding siting of industries. Over the period of time, this concept was extended nationwide to manage consents and establish norms for surveillance and inspection of industry. In 2012, to have uniformity in classification throughout the country, the Central Pollution Control Board (CPCB) issued a standardized list of 244 sectors, classified under red (85 sectors), orange (73 sectors) and green (86 sectors) categories.

In 2016, the Central Pollution Control Board (CPCB) developed a scoring methodology based on the Pollution Index (PI) to harmonize the criteria for categorizing industries. This PI was determined by evaluating water pollution, air pollution, and hazardous waste generation. Using this methodology, CPCB classified 257 industrial sectors into four categories: Red (63 sectors), Orange (91 sectors), Green (65 sectors), and White (38 sectors). The White category was introduced for sectors considered "practically non-polluting" during 2016. Additionally, State Pollution Control Boards (SPCBs) and Pollution Control Committees (PCCs) were authorized to categorize any new or left over sectors according to the CPCB's 2016 methodology.

Further, based on the experience gained over the years, the increased use of cleaner fuels like PNG and bio-CNG, adoption of cleaner technology resulting into reduced wastewater generation, normalisation approach & different formula for calculating PI etc. a need was felt to revisit the classification methodology of 2016 for several such identified areas for improvement. Separate scoring for trade effluent and sewage effluent was also required due to differing characteristics and treatment methods.

Considering the scope of revision, CPCB published a draft report revising the methodology for calculating PI and accordingly classification of sectors into Red, Orange, Green, and White categories based on pollution index range was placed in the public domain for inputs/comments. Around 160 representations comprising more than 700 comments were received. Based on feedback/suggestions and examination of same by the working committee constituted for the purpose, the methodology was finalised. As per the final methodology, the scoring criteria for the following three major pollutant groups are as follows:

- i. Water Pollutant Score (PI_W): Assesses the water pollution potential considering the oxygen demand of wastewater, other pollutants in the wastewater and quantity of wastewater generated.
- ii. Air Pollutant Score (PI_A): Evaluates the potential air pollution due to process emissions (point source), work zone emissions (fugitive and odour) and type & quantity of fuel used.
- iii. Waste Pollutant Score (PI_H): Considering the type and quantity of waste (which are hazardous/toxic/infectious/bulk in nature) generated.

Each pollutant group is scored out of 100, and the Cumulative Pollution Index is calculated. The category of the sector is decided based on the pollution index range, if $PI \geq 80$ the category

of sector is Red, if PI ranges between $55 \leq PI < 80$, the category of sector is orange, similarly for the range of PI between $25 \leq PI < 55$, the category is Green and for $PI < 25$, the category of the sector is white.

Further, based on the stakeholders' comments, a need was felt to introduce a separate "blue category" for Essential Environmental Services (ESS) required for management of waste generated from domestic/household activities and, an incentive mechanism to promote units in a particular sector, taking measures resulting into better environmental performance. An addendum was prepared, shared and presented to all SPCBs/PCCs. The addendum was also placed in the CPCB Website on 11.07.2024 for inputs/comments. 09 representations were received in the addendum. All representations were examined, and classification based on revised methodology is finalised. Based on the revised methodology, CPCB has classified total 419 sectors and sub-sectors under Red (125), Orange (137), Green (94), White (54) and Blue (9) categories.

The report introduced incentive mechanism for the units in any sector that adopt environment friendly practices such as treatment and recovery of 100% wastewater, use of 100% cleaner fuel/renewal energy etc. and ensuring continuous compliance. These incentives are designed to encourage continuous improvement in environmental performance and to reward units that demonstrate proven implementation of sustainable practices and compliances.

Following are the salient features of the revised classification methodology:

- Methodology focusses on "Potential to pollute the environment" by the sector.
- Simplified single formula for Cumulative Pollution Index for all cases.
- Equal weightage to all three pollutant groups- Air, Water, and Waste.
- Cumulative PI based on weighted proportionate scores of pollutant groups.
- Separate scoring criteria for sectors generating sewage (such as Building & construction projects, STPs, Airports, etc.) and bio-medical waste (Health Care Facilities).
- Introduced Blue Category for 9 sectors under Essential Environmental Services required for management of waste generated from domestic/household activities.
- Appropriate weightage to scale of operations by introducing more slabs to bifurcates sub-sectors based on pollution load, scale of operation, production technology and type of fuel used.
- Introduction of sub-categories for sectors based on cleaner technologies, fuel types, integrated/segregated operations etc.
- Motivation to industries for progressive environmental management.
- A tool to assess the Cumulative Pollution Index and category based on revised method.

This report, prepared by the Central Pollution Control Board (CPCB), presents a revised methodology for classifying sectors based on their pollution potential. The classification aims to enhance environmental management and regulatory oversight by classifying sectors into red, orange, green, white, and blue categories. The report covers in detail about the genesis of

classification, need for the revision of 2016 methodology, scoring methodology for calculation of cumulative PI, etc.

The report also outlines guidelines for implementing the classification system. The classification may be used for consent management, inspection frequency, siting criteria, cluster development, pollution control plans, levying environmental compensation, promoting progressive environmental management, etc.

LIST OF ABBREVIATION

CBG: Compressed Biogas

CNG: Compressed Natural Gas

CPI: Cumulative Pollution Index

CPCB: Central Pollution Control Board

CTE: Consent to Establishment

CTO: Consent to Operate

EC: Environment Compensation

ETP: Effluent Treatment Plant

EES: Essential Environmental Services

Gen-Set: Generator Set

HAPs: Hazardous Air Pollutants

HCFs: Health Care Facilities

HW: Hazardous Waste

MoEF&CC: Ministry of Environment, Forest & Climate Change

LNG: Liquefied Natural Gas

LPG: Liquefied Petroleum Gas

NGT: National Green Tribunal

NOC: No Objection Certificate

OCEMS: Online Continuous Effluent/Emission Monitoring System

PCC: Pollution Control Committee

PM: Particulate Matter

PI: Pollution Index

PI_A: Air pollutant score

PI_H: Waste pollutant score

PI_w: Water pollutant score

PNG: Piped Natural Gas

SPCB: State Pollution Control Board

TTZ: Taz Trapezium Zone

VOCs: Volatile Organic Compounds

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Genesis and Journey of Classification

1.1 Introduction

The notifications issued by the Ministry of Environment and Forest during 1989 for Doon Valley, Uttarakhand introduced the concept of classification of industries as red, orange, and green categories. The purpose of this classification was to facilitate decisions related to location of these industries. The criteria for classification of industries was primarily based on quantity of industrial effluent, quantity of fuel/coal, and the number of employees, and amount of waste generated. The notification included list of 129 sectors, classified under red (45), orange (35), and green (39) categories. The criteria used for Doon Valley Notification, 1989 is summarized in the **Figure I**.

Green	Orange	Red
Permitted <ul style="list-style-type: none"> No discharge of industrial effluent Non-Obnoxious & non-hazardous industries Employees up to 100 Process does not involve- tanning, dyeing, pickling, pulping, etc. E.g. Toys, ice cream, candles, carpet weaving, etc. 	Permitted after MoEF approval <ul style="list-style-type: none"> Liquid effluent up to 500 KLD which can be controlled with suitable proven technology Coal/fuel up to 24 TPD Employees up to 500 E.g. Ceramics, tyres, soft-drinks, wire drawing, instant tea/coffee, petroleum storage, etc. 	Not Permitted <ul style="list-style-type: none"> Liquid effluent > 500 KLD which can not be controlled with suitable technology Coal/fuel > 24 TPD Employees > 500 E.g. Cement, refinery, sugar, explosives, acid & their salts, power plants fertilizers, etc.

Figure I: Criteria for classification of industries in Doon Valley Notification, 1989

Subsequently, the application of this concept was extended to other parts of the country not only for the purpose of location of industries, but also for the purpose of consent management and formulation of norms related to surveillance/inspection of industries. As the State Pollution Control Boards (SPCBs) and Pollution Control Committees (PCCs) were following different

categorization of industries, to maintain the uniformity across the country, during 2012, CPCB issued a list of 244 sectors, classified under red (85), orange (73) and green (86) categories.

In order to harmonize the criteria for categorization, during the year 2016, CPCB developed the scoring methodology to classify the industries based on the Pollution Index (PI) which was a function of water pollution, air pollution and hazardous waste generation. Based on this methodology, CPCB has classified 257 sectors under red (63), orange (91), green (65) and white (38) categories and directed SPCBs/PCCs to adopt the same. During 2016, CPCB introduced white category as a new category for such sectors which are “practically non-polluting”. SPCBs/PCCs were also empowered to categorize any new/left-out sector at their own level, following the methodology prescribed by CPCB. Additionally, during 2020, CPCB also segregated the list of non-industrial operations/facilities. The overall journey of classification may be understood with the help of milestone chart shown in **Figure II**.

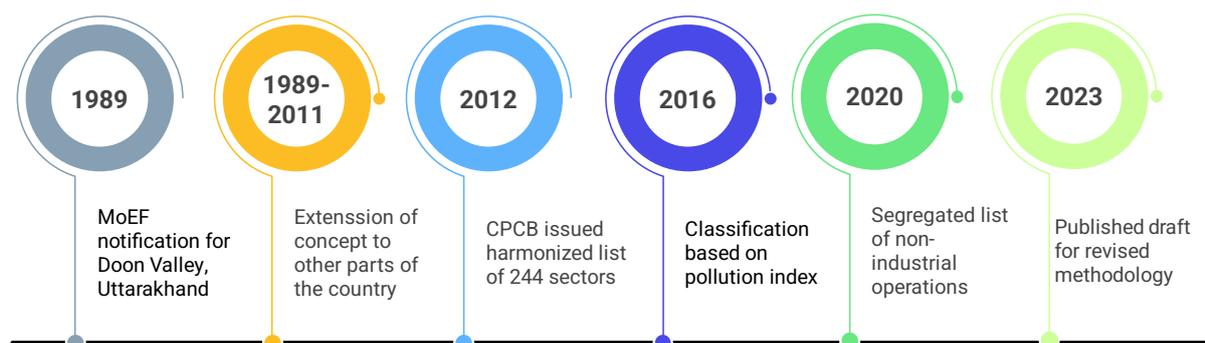


Figure II: Genesis and journey of classification of sectors

The concept of categorization is based on the “Precautionary Principle”, which focuses on potential of industries to pollute the environment. The purpose of categorization is to ensure that the industry is established in a manner consistent with the environmental objectives and to prompt industrial sectors to adopt cleaner technologies, ultimately resulting in generation of minimum pollutants.

2

Modified Methodology for Classification

2.1 Need and scope for revision of methodology

Based on the experience gained over the years, a need was felt to revisit the 2016 methodology for classification of sectors considering following scope of improvement:

i. Assessment of Pollution Index:

The category of any industrial sector depends on the Pollution Index (PI), which comprises of scores of three pollutant groups i.e., air pollution, water pollution and hazardous waste. The water and air pollutants were each assigned a weight of 40%. However, the hazardous waste generation was given 20% weightage in pollution index.

As per the classification methodology of 2016, in case of absence of any pollutant groups, pollution index was normalized to 100. As a result, different formulas were required to compute pollution index.

Further, the normalization method has certain limitations while comparing pollution potential among sectors having scores for all three pollutant groups verses score only for any one/two pollutant group(s). Moreover, it was also observed that in some sectors normalization involved subjectivity based on perception.

ii. Size of operations of industrial activities:

It was observed that, there was less variation in PI score of industry based on size of operation in same sector. Limited variables/slabs were considered for the quantity of wastewater discharge and fuel consumption. It was also observed that adequate weightage in the considered variables/slabs to account the variation in size of operations of industrial activities need to introduce.

iii. Consideration to segregated industrial activities:

Although there were differences in pollution potential of integrated and standalone units of a particular sector, the classification methodology (2016) classifies the integrated or standalone units in the same sector. For example, standalone cement grinding units will have less pollution potential than integrated cement plants, but both were classified under red category.

iv. Consideration of type of fuel used:

In industrial operations requiring fuels, the amount of emissions is governed by many factors such as the type of fuel and its calorific value, combustion efficiency, emission factors, etc. Use of biomass and cleaner gaseous fuels such as Piped Natural Gas (PNG), Liquefied Petroleum Gas (LPG), Compressed Natural Gas (CNG), bio-CNG etc. have increased significantly in recent years. It was observed that adequate weightage based on type of fuel used is required.

v. Separate scoring for sewage and trade effluent:

It is desirable to have separate wastewater scoring criteria for the sectors generating trade effluent and sewage effluent, as characteristics, treatment method and impact are different for trade effluent generated from industrial sectors and sewage effluent generated from infrastructure & development sectors.

vi. Motivation to industries for progressive environmental management:

In the previous classification regime, there was no effective provision for change in category of industries based on the variation in pollution potential of a sector, even if the industries adopt cleaner technologies or switch over to cleaner raw material/cleaner fuel etc., resulting into reduction in pollution index.

2.2 Modified methodology for classification of sectors

Considering the scope of revision, CPCB prepared a draft report on “Classification of Industrial Sectors into Red, Orange, Green and White Categories: A Tool for Progressive Environmental Management”. As per the draft report, a revised methodology for the classification is proposed which incorporates, water pollutant score, air pollutant score and waste generation score, based on the pollution potential of a sector on the environment. Scores out of 100 were given to each three pollutant groups and formula for calculating cumulative score based on the impact pollutant is devised. These scores are used for computation of pollution index for deciding the

category of industrial sector. The cut-offs for deciding the category were based on the quartiles of pollution indices, pollution potential of sectors, etc. The draft report was placed on CPCB website in July 2023, for comments/feedback from stakeholders.

CPCB received 161 representations, comprising more than 700 comments from various State Pollution Control Boards, research and technical institutions, industrial associations, NGOs, individual industries, and the public. The stakeholder-wise representations are shown with the help of pie-chart in **Figure III**.

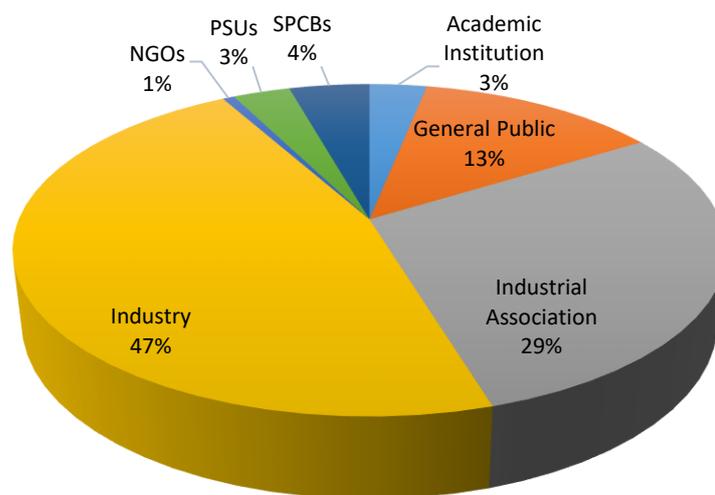


Figure III: Stakeholder-wise representations received

Subsequently, CPCB constituted a committee to critically examine and analyse the comments and to make recommendations for suitable incorporation in the final methodology and classification. After incorporating the feedback received from stakeholders, the Committee has finalized the basic methodology which can be used as a yardstick for classification of the sectors into Red, Orange, Green and White Categories.

Further, based on the stakeholders' comments, a need was felt to introduce a separate "blue category" for Essential Environmental Services (ESS) required for management of waste generated from domestic/household activities and, an incentive mechanism to promote units in a particular sector, taking measures resulting into better environmental performance. An addendum was prepared, shared and presented to all SPCBs/PCCs. The addendum was also placed in the CPCB Website on 11.07.2024 for inputs/comments. Till last date (i.e. 11.08.2024) 09 representations were received in the addendum. All representations were examined, and classification based on revised methodology is finalised.

It is worth to mention that to safeguard the environment, following the fundamental principle of classification i.e., “Precautionary Principle”, scope is always available for application of mind and collective wisdom. As per the precautionary principle, when human activities may lead to morally unacceptable harm that is scientifically plausible but uncertain, actions shall be taken to avoid or diminish that harm. Therefore, variation from methodology is possible in case of projects having high chances of damage to the environment/eco-system such as river mining, etc. or having associated accidental risk such as major accident hazards installations wherein risk is associated with industrial activities having potential in terms of operation or process, manufacturing, transportation, and storage of one or more hazardous chemicals as prescribed by the Manufacture, Storage, and Import of Hazardous Chemical Rules, 1989.

Considering the above issues, the classification methodology was modified based on the potential of three pollutant groups, namely, water pollutant, air pollutant and waste pollutant (which are hazardous/toxic/infectious/bulk in nature), which have been given scores out of 100, each. Slabs are assigned for selection of pollutant groups respectively for water, air, and waste. Score can be decided based on dominant pollutants in the pollutant groups and quantity as detailed in Table-I, Table-II and Table-III. These scores are used for computation of pollution index for deciding the category of sector. The scoring methodology is based on the pollution potential during generation and not at the end of pipe/ after treatment considering the fact that all pollutants need to be treated and disposed as per the provisions/rules notified under the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act, 1981 and the Environment (Protection) Act, 1986 and as amended.

The details of scoring criteria for PI_w for “water pollutant,” PI_A for “air pollutant” and PI_H for “waste generating sector” are as follows:

2.2.1 Scoring criteria for Water Pollutant “ PI_w ”

Water pollution score consider the potential water pollution load from any sector in terms of characteristics and quantity of untreated trade effluent (wastewater). The “trade effluent” includes any liquid, gaseous or solid substance which is discharged from any premises used for carrying on any [industry, operation or process, or treatment and disposal system], other than domestic sewage.

The water pollutant score (PI_w) is the addition of three sub-scores which are based on organic content in terms of oxygen demand of wastewater (W1), potential of other pollutants (W2) and

quantum of wastewater (W3). The weightages of W1, W2 and W3 in the water pollution score are 35%, 30% and 35%, respectively.

Proportionate higher scores are assigned to the sectors generating trade effluent of high BOD and/or high COD, heavy metals/toxic compounds, and large volume of wastewater. The scores are assigned considering the potential for causing damage to the environment. It may be noted that for sectors generating industrial effluent, dominant quantity of trade effluent is considered in score W3 (W3-1 to W3-5). Whereas, for sectors generating huge volume of sewage effluent such as railway stations, STPs, residential building projects, airports etc., the separate scores W3 (W3-6 to W3-10) are assigned. The term used, “Sewage effluent” means effluent from any sewerage system or sewage disposal works and includes sullage from open drains. The scoring criteria for water polluting sectors are given in **Table-I**.

Table I: Scoring Criteria for Water Polluting Sector

Water Pollutant Group	Description	Score
Score W1: Score based on the oxygen demand of wastewater (Maximum of the following scores to be considered)		
W1-1	BOD \geq 5,000 mg/l or COD \geq 10,000 mg/l	35
W1-2	1000 \leq BOD < 5,000 mg/l or 5000 \leq COD < 10,000 mg/l	30
W1-3	500 \leq BOD < 1,000 mg/l or 1000 \leq COD < 5,000 mg/l	25
W1-4	100 \leq BOD < 500 mg/l or 250 \leq COD < 1,000 mg/l	20
W1-5	10 \leq BOD < 100 mg/l or 50 \leq COD < 250 mg/l	10
Score W2: Score based on other pollutants in the wastewater (Maximum of the following scores to be considered)		
W2-1	Pollutants like pesticides, heavy metals, and toxic compounds: <i>(Aluminium, Anionic detergents, Barium, Chloramines, Copper, Fluoride, Total residual chlorine, Iron, Manganese, Mineral oil, Phenolic compounds, Selenium, Silver, Sulphide, Cadmium, Cyanide, Lead, Zinc, Mercury, Tin, Vanadium, Antimony, Benzene, Benzo-a-pyrene, Molybdenum, Nickel, Phosphates, Polychlorinated biphenyls, Polynuclear aromatic hydrocarbons, Arsenic, Total/Hexavalent Chromium, Trichloroethane, Trichloroethylene, Adsorbable Organic Halogens (AOx), Pesticides compounds, Residual antibiotic, Radioactive materials, etc.)</i>	30
W2-2	Pollutants like Nitrate Nitrogen, Nitrate, Ammonical Nitrogen, Total Kjeldahl Nitrogen (TKN), Oil & grease, pH < 5.5 or > 9	25
W2-3	Pollutants mainly in terms of inorganic dissolved solids and associated other impurities due to process e.g. wastewater generated from DM water rejects, boiler blowdowns, brine solution rejects, fresh-water RO rejects, etc.	20
W2-4	Pollutants mainly in terms of inorganic dissolved solids e.g. wastewater from cooling towers, cooling-re-circulation processes, etc.	15

Score W3: Score based on quantity of wastewater generated		
A. For sectors generating Industrial Trade effluent (Maximum score to be considered)		
W3-1	Wastewater \geq 500 KLD	35
W3-2	100 KLD \leq Wastewater $<$ 500 KLD	30
W3-3	50 KLD \leq Wastewater $<$ 100 KLD	25
W3-4	10 KLD \leq Wastewater $<$ 50 KLD	20
W3-5	Wastewater $<$ 10 KLD	15
B. For sectors such as STPs, building projects, etc. generating/handling only high-volume Sewage (Maximum score to be considered)		
W3-6	Sewage \geq 5,000 KLD	35
W3-7	2,000 KLD \leq Sewage $<$ 5,000 KLD	30
W3-8	500 KLD \leq Sewage $<$ 2,000 KLD	25
W3-9	100 KLD \leq Sewage $<$ 500 KLD	20
W3-10	Sewage $<$ 100 KLD	15
Water Pollutant Score (PI_w) = W1+W2+W3		

2.2.2 Scoring criteria for Air Pollutant “PI_A”:

Air pollution score consider the potential air pollution load from any sector in terms of characteristics of emissions and its quantum/scale in terms of quantity of fuel. The air pollutant score is based on generation of emission. The “air pollutant” means any solid, liquid, or gaseous substance (including noise) present in the atmosphere in such concentration as may be or tend to be injurious to human beings or other living creatures or plants or property or environment.

The air pollution score (PI_A) is the addition of three sub-scores which are based on the type of pollutants in emissions (A1), work zone emission/fugitive emissions & odour nuisance (A2), and fuel type & quantity (A3). The weightages of A1, A2 and A3 in air pollution score are 35%, 30% and 35%, respectively.

Proportionate higher scores are assigned to the sectors generating emissions with hazardous air pollutants, process-based fugitive emissions and using solid/liquid fuels, as such pollutants have higher potential to damage the environment.

The California Air Resources Board defines fugitive emissions as “Emissions not caught by a capture system which are often due to equipment leaks, evaporative processes and windblown disturbances.” The fugitive emissions from any process having acid mist, VOCs, etc. are given higher weightage (score A2=30) as compared to the fugitive emissions of inert material (score A2=25). Sectors having persistent foul odour issue, will get score A2=20. Sectors/units using solid/liquid fuel will get higher score-A3, compared to the sectors using cleaner gaseous fuel or electricity. The scoring criteria for air polluting sectors are given at **Table-II**.

Table II : Scoring criteria for air polluting sectors

Air Pollutant Group	Description	Score
Score A1: Score based on Process emissions (point source) (Maximum of the following scores to be considered)		
A1-1	Hazardous Air Pollutants (HAPs) and heavy metals: <i>HAPs (Phosgene, Benzene, Benzo(α)pyrene, Butadiene, Toluene Di-isocyanate, Methylene-di-phenyl Di-isocyanate, Ethylene Oxide, Ethylene Di Chloride, Acrylonitrile, Propylene Oxide), Dioxins & Furans, Asbestos, Polycyclic Aromatic Hydrocarbons (PAHs), HCN, Cd, Th, Hg, Sb, As, Pb, Co, Cr, Cu, Mn, Ni, V, etc.</i>	35
A1-2	Halogens, acids, and pesticides-based pollutants: <i>H₂S, HF, HBr, P₂O₅ as H₃PO₄, NH₃, TOC, Cl, HCl, SO₃, CH₃Cl, Total Fluoride, PM having pesticide compounds/other organic compounds, Acid mist, etc.</i>	30
A1-3	Pollutants due to combustion of fuel or due to process: <i>PM, CO₂, CO, NO_x, SO₂, etc.</i>	25
A1-4	Volatile Organic Compounds (VOCs): <i>Ethyl benzene, Styrene, Toluene, Xylene, Aromatics, Propylene Glycol, Ethylene Glycol, etc.</i>	20
Score A2: Score based on fugitive emissions and odour nuisance (Maximum of the following scores to be considered)		
A2-1	Fugitive emissions of Particulate Matter (PM), acid mist, VOCs, etc. from process	30
A2-2	Fugitive emissions of Particulate Matter (PM), acid mist, VOCs, etc. due to storage and handling, etc.	25
A2-3	Odour nuisance, including odour due to the use of binding gums, cements, adhesives, enamels etc.	20
Score A3: Score based on quantity of fuel (Maximum of the following scores to be considered)		
Coal or liquid fuels		
A3-1	Fuel consumption \geq 24 TPD	35
A3-2	12 TPD \leq Fuel consumption < 24 TPD	30
A3-3	Fuel consumption < 12 TPD	25
Biomass-based fuels		
A3-4	Fuel consumption \geq 48 TPD	25
A3-5	24 TPD \leq Fuel consumption < 48 TPD	20
A3-6	Fuel consumption < 24 TPD	15
Cleaner/gaseous fuels, such as, PNG, CNG, LPG, Compressed Biogas (CBG), propane, butane etc.		
A3-7	Fuel consumption \geq 120 TPD	20
A3-8	60 TPD \leq Fuel consumption < 120 TPD	15
A3-9	Fuel consumption < 60 TPD	10
A3-10	Electricity	0
Air Pollutant Score (PI_A) = A1+A2+A3		
Note: In case, any sector/unit is using more than one type of fuel, the most polluting fuel category, will be considered.		

2.2.3 Scoring criteria for Industrial Waste Generating Sector “PI_H”

Industrial waste generating sectors are considered based on the generation of hazardous waste/high volume low effect waste. As per the Hazardous and Other Wastes (Management & Trans-boundary Movement) Rules, 2016, the “hazardous waste” means any waste which by reason of characteristics such as physical, chemical, biological, reactive, toxic, flammable, explosive or corrosive, causes danger or is likely to cause danger to health or environment, whether alone or in contact with other wastes or substances and shall include waste as per the Schedule I, Schedule II and Schedule III of the rule. Further, scores are also assigned to the high-volume low effect wastes such as fly ash, phosphogypsum, red mud, jarosite, slags from pyro-metallurgical operations, mine tailings and ore beneficiation rejects.

The score for waste comprises of two sub-scores H1 and H2. The H1 score is based on the different type of hazardous waste which are generated during the process, and which required to be managed/disposed through common facility OR based on the generation of high-volume low effect waste/ HW like contaminated bags/ drums etc. The H2 score is based on the total quantum of waste generated.

The desirable disposal method such as incineration, landfill after treatment, landfill etc. signifies the potency of hazardous waste. In recent time, the utilization of hazardous waste as per the Rule-9 of Hazardous and Other Wastes (Management & Trans-boundary Movement) Rules, 2016, as alternate fuel and raw material in cement kilns, as recyclable hazardous waste etc. has increased. The classification is based on the pollution potential due to generation of such types of hazardous waste from any sector. The score for the quantum of hazardous waste is total potential of generation of such hazardous waste by any sector., Score H1: Based on potency of hazardous waste and score H2: Based on quantum of hazardous waste, are given weightage of 30% and 70%, respectively. Considering the higher risk due to amount of hazardous waste generated rather than its disposal method, more weightage is given to the quantity. Overall waste generation score in case of waste generating sector will be $PI_H = H1 + H2$. The scoring criteria for hazardous waste generating sectors are given at **Table-III**.

A separate scoring criterion has been included for sectors generating bio-medical waste. Bio-medical waste means any waste, which is generated during the diagnosis, treatment or immunisation of human beings or animals or research activities pertaining thereto or in the production or testing of biological or in health camps, including the categories mentioned in Schedule-I appended to the Bio-Medical Waste Management Rules, 2016. As any Health Care

Facilities (HCFs) generates all types of bio-medical waste (red, yellow, blue, and white) and quantities of such wastes may vary considerably based on the type of facility/location of facility (rural/urban), and other such factors. Therefore, scoring based on number of beds in a healthcare facility is considered as sole criteria for assigning waste score (H: B-1 to B-7) as tabulated in **Table-III**.

Least score of 25 is given to non-bedded healthcare facilities and maximum score of 100 is given to facilities having more than 1,000 beds. Overall waste generation score in case of bio-medical waste generating sector will be PI_H .

Table III: Scoring criteria for waste generating Sectors

Waste Pollutant Group	Description	Score
A. Score for sectors generating hazardous waste		
Score H1: Score based on the hazardous waste management/disposal method. (Maximum of the following scores to be considered)		
H1-1	Hazardous wastes which are flammable, ignitable, corrosive, oxidizing toxic, etc. and requiring disposal through incineration	30
H1-2	Hazardous wastes which are reactive, capable of yielding another material post disposal, etc. and requiring disposal in secured landfill after stabilization/treatment	25
H1-3	Hazardous wastes which are requiring direct disposal in secured landfill without stabilization	20
H1-4	High volume and low effect wastes, contaminated bags/ drums/ containers etc.	10
Score H2: Score based on quantity of hazardous waste generation. (Maximum of the following scores to be considered)		
H2-1	Hazardous Waste ≥ 5000 TPA	70
H2-2	$1000 \text{ TPA} \leq \text{Hazardous Waste} < 5000 \text{ TPA}$	50
H2-3	$200 \text{ TPA} \leq \text{Hazardous Waste} < 1000 \text{ TPA}$	30
H2-4	$10 \text{ TPA} \leq \text{Hazardous Waste} < 200 \text{ TPA}$	20
H2-5	Hazardous Waste < 10 TPA	10
B. Scores for the sectors generating bio-medical waste		
B-1	No. of beds $\geq 1,000$	100
B-2	$500 \leq \text{No. of beds} < 1,000$	80
B-3	$200 \leq \text{No. of beds} < 500$	60
B-4	$50 \leq \text{No. of beds} < 200$	50
B-5	$10 \leq \text{No. of beds} < 50$	40
B-6	No. of beds < 10	30
B-7	Non-bedded facility	25
For sectors generating hazardous waste $PI_H = H1+H2$ For sectors generating bio-medical waste $PI_H = B$		

2.3 Computation of Cumulative Pollution Index and criteria for deciding category of sector

In the revised methodology of classification (2025), all three pollutant scores due to water, air and industrial waste generation are taken into account while computing pollution index. The formula for computing cumulative pollution index (PI) is as follows:

$$PI = i_{max} + (100 - i_{max}) \left(\frac{i_2 + i_3}{200} \right)$$

Where, i_{max} , is the maximum score among Water (PI_W), Air (PI_A), and Waste (PI_H) pollutant scores and i_2 & i_3 are the remaining pollutant scores.

The category of the sector will be decided based on the pollution index ranges given at **Table-IV**.

Table IV: Ranges of Cumulative Pollution Index for different categories

Cumulative Pollution Index (PI)	Category of industrial sector
$PI \geq 80$	Red
$55 \leq PI < 80$	Orange
$25 \leq PI < 55$	Green
$PI < 25$	White

The purpose of classification is to have uniform consent mechanism, defined routine monitoring frequency by concerned SPCB/PCC, environmental protection plans etc. Modified methodology also considers the variation in pollution potential due to various type of activities and operations in a particular sector.

The scores/pollution index/category of any two sectors may be same, however, comparing two different sectors based on the category or pollution index is not desirable as the cumulative PI is a function of air pollutant, water pollutant, and waste pollutant and the cumulative score is arithmetically relates the maximum score of one pollutant with the remaining other two pollutants. Hence, PI/category of sectors may be same but may have different impact on environment.

2.4 Blue Category Projects- Essential Environmental Services for management of environmental pollution arising from domestic/household activities

Essential Environmental Services may be defined as those facilities which are essential to control, abate and mitigate pollution generated from Domestic and Industrial activities. Such Essential environment services for Industrial Activity includes CETP, CHWT/SDF, Effluent conveying system etc. and essential environment services for domestic activities includes STP, MSW etc. Both the type of EES plays a vital role in Environment Management. However, during the treatment of waste, some EES generates/handle hazardous waste/infectious waste. The EES which do not generate Hazardous Waste, and which otherwise have large littering potential can be categorised as Blue Category Projects. Further, there are past legal references wherein Hon'ble Apex court has also considered the importance and requirement of such Essential Environment Services.

Human settlements whether located in rural/urban/eco-sensitive area generate sewage, solid waste, and C&D waste, which are required to be managed to prevent adverse impact on environment and human health. Basic environment management facilities are required to be set-up to manage such waste which includes STP, C&D waste processing facility, MSW management facility like sanitary landfill, material recovery facility & waste processing units, bio-methanation, bio-composting, waste to energy, etc.

These facilities are basically essential environment services which play a vital role in protecting environment and human health. These facilities may also bring value addition by producing various by-products such as secondary raw material, compost, energy, etc. and promotes circular economy and sustainable development by converting waste into wealth. Moreover, these categories do not generate hazardous or infectious wastes.

As the role and importance of these facilities is different in nature as compared to other activities and industries in the sense that they are primarily set-up for prevention, control and abatement of soil, water and air pollution. It is more appropriate to have a separate colour category-Blue Category for essential environmental services facilities related to environmental pollution arising from domestic/household activities. These activities are required to meet all the prescribed environmental norms/rules notified from time to time and the pollution index for such Essential Environmental Services (EES) shall continue to be calculated as per the formula and consent to operate will be governed based on the pollution index. However, the

category of the EES will be termed “Blue Category sector” and as an incentive for the essential services, additional 2 years validity for consent to operate (as per PI) will be provided.

The list of EES facilities is given at [Annexure-II](#).

3

Classification of Sectors as per Revised Methodology

3.1 Types of sectors based on their activities

The revised methodology of classification will be applicable to all industries which may have potential for generation of environmental pollutants. As per the Section 2(j) of the Industrial Disputes Act, 1947, “Industry” means any business, trade, undertaking, manufacture, or calling of employers and includes any calling, service, employment, handicraft or industrial occupation or avocation of workman”, however, based on type of operational activities, the industries are divided into following four sectors:

- i. Industrial Sectors
- ii. Essential Environmental Services (EES)
 - a. EES for Industrial Waste
 - b. EES for Domestic Waste (Blue Category Sector)
- iii. Service/Infrastructure Development Sectors
- iv. Others/Special Category Sectors

The sectors which are involved in production of goods, products, etc. are considered under “Industrial Sectors”. The sectors covered under “Essential Environmental Services (EES)” are those facilities which are essential to control, abate and mitigate pollution generated from Domestic and Industrial activities. These services are essential facilities which are required to reduce pollution load on the environment, such as sewage treatment plants, common bio-medical waste treatment facilities, construction & demolition waste processing plants, etc. Essential Environmental Services Sectors are sub classified as “EES for industrial waste” and “EES for domestic waste (Blue category sectors which do not handle or generate infectious or hazardous waste)”. On the other hand, sectors which carry out service-related activities such as infrastructure projects, railways, airports, hospitals, etc. are covered under “Service/infrastructure development sectors”.

“Other/special category sectors” include those projects which cannot be classified based on the scoring methodology of pollution index but require classification based on precautionary principle and considering the potential of ecological damage/ health and environment related risk, etc. Few such sectors are sand mining, hydel power plants, etc.

The revised methodology of classification, sub-categorises the main sector based on the usage of cleaner technology/cleaner production/cleaner fuel which has proven reduction in trade effluent generation, emissions, waste, etc., for better environmental management, resulting into overall reduction of pollution index compared to main sector. For example, if coffee seeds processing industries use eco-pulping technology, which generates less water pollution, the pollution index of the said sector gets reduced and category changes from orange to green. Similarly, variation in type/scale of activities in a particular sector is also considered for classification of sub-sectors.

The methodology and scores have been screened through stakeholder feedback/consultation and public opinion. Available standard literature, various documents and guidelines, inspection reports, etc. were also referred, while assessing the scores for water pollution, air pollution, and waste generation for classification of sectors. Based on the modified methodology, the list of sectors and sector specific sub-classification is given at [Annexure-I](#) to [Annexure-IV](#). Summary of classified sectors is given in **Table-V**.

Table V: Number of sectors classified under different categories

Sl. No.	Type of sector	Total number of sectors/sub-sectors	Red	Orange	Green	White	Blue
1.	Industrial Sectors	359	107	120	81	51	-
2.	Essential Environmental Services (ESS)						
2.a.	ESS for domestic waste	9	-	-	-	-	9
2.b.	ESS for industrial waste	9	9	-	-	-	-
3.	Service/Infrastructure Development Sectors	37	7	15	13	2	-
4.	Others/Special Category Sectors	5	2	2	-	1	-
	Total	419	125	137	94	54	9

3.2. Usage of classification of sectors

The classification of sectors may be used for the following purposes:

- i. **Consent management:** SPCBs/PCCs may grant Consent to Operate (CTO) to red, orange, and green categories of industries for validity up to 5 years, 10 years, and 15 years, respectively as per existing provisions which would be later governed as per the provisions/guidelines under Jan Vishwas (Amendment of Provisions) Act, 2023/Water Act, as amended. The validity of blue category sectors will be 2 years more than the category based on PI.
- ii. **Inspection frequency:** SPCBs/PCCs may prioritize their environmental surveillance programs based on the categories of sectors. SPCBs/PCCs are required to ensure inspection of red, orange, and green category of industries at least once in six-months, one-year, and two-years, respectively. Common facilities and 17 categories of industries are to be inspected at least once in every three-months.
- iii. **Siting criteria:** The categorization may be used as a tool for deciding the location/siting of an industry in a particular location.
- iv. **Development of cluster:** The classification will help in planning of sector specific cluster, based on scoring of various pollutants and development of adequate environment management infrastructure facility, accordingly.
- v. **Sector specific plans for pollution control:** The plans for control of pollution may be prepared and implemented on priority for the sectors having higher pollution index and overall higher pollution load.
- vi. **Levying environmental compensation:** Pollution index may be used for determining and levying environmental compensation on industries violating the environmental norms.
- vii. **A tool for progressive environmental management:** Industrial units may adopt cleaner technologies, cleaner fuels, etc. which may result in reduction of pollution index, thus, moving to lower pollution potential category. It will provide incentives to industries in terms of less consent renewal fees, less environmental surveillance/compliance burden, more validity period for consents/authorizations, etc.

3.3 Classification of left-out/new sectors

The revised methodology of classification (2025) and list of sectors classified by CPCB is required to be adopted and implemented by all SPCBs/PCCs. In case of any new or left-out

sector, the SPCB/PCC may categorize the sector at its own level. For this purpose, a committee headed by the Member Secretary, SPCB/PCC and comprising of at least two senior cadre engineers/scientists of the SPCB/PCC (as nominated by the Member secretary of the concerned SPCB/PCC) may be constituted to examine the matter and classify the sector in accordance with the methodology prescribed by CPCB. The State Level Committee may also co-opt subject experts, industrial association representative, etc., as member, as per requirement. CPCB has also developed a tool to assess the Cumulative Pollution Index and category of any sector, which is available on CPCB website (<https://cpcb.nic.in/categorization-of-industrial-sectors/>).

In addition, all SPCBs/PCCs are required to submit list of all such sector classified under white category to CPCB in the prescribed format (**Annexure-V**), for notification as per provisions of Jan Vishwas (Amendment of Provisions) Act, 2023.

4

Incentives to unit in a sector for adopting measures resulting to better environmental performance

A methodology has been strategized to provide incentives to the unit in a sector which are dedicated to reduce environmental impacts from their operations/process. The objective can be achieved by 100% treatment and reuse of wastewater generated, having complete dependency on cleaner fuel alternatives (such as PNG, LPG, compressed biogas, propane, butane, electricity etc. for meeting energy requirement), implementation & achievements of targets of sector-specific charters of CPCB/SPCB for environmental management, EPR obligations and use of cleaner process/cleaner technology to eliminate generation of toxic/hazardous pollutants.

The units fulfilling the following eligibility criteria may submit their formal proposal to the concerned SPCB/PCC for consideration:

4.1 Eligibility Criteria

- The unit should have completed at least one year of completion of production/operations with demonstrated, verifiable steps and submitted audit report from institute of repute for considering the unit for the purpose by concerned SPCB/PCC. To facilitate verification, the unit must have properly maintained logbooks/bills for production, electricity consumption, fuel, water consumption, wastewater treatment and use of treated wastewater.
- The unit should be located in conforming area with applicable Environment Clearance, Consent to Establishment (CTE) and Consent to Operate (CTO) and hazardous/bio-medical waste authorization from SPCB/PCC.
- Unit should comply with all the norms/conditions stipulated under EC, CTO and Guidelines/Rules issued by CPCB.

- In case, unit using ground water resource, it should have valid permission/NOC and also required to install electronic flowmeter.
- No penalty or legal obligation is imposed/pending against unit for violation of environmental norms. Records for last 5 years may be verified. In case establishment period of the unit is less than 5 years, the past records since the start of production may be verified.
- Unit should not be involved in any sort of accident/incident resulting into emission /discharge into the environment. Records for last 5 years may be verified.

All such units, interested in availing incentives are required to demonstrate and prove their initiatives to the Committee (to be constituted at the level of concerned SPCB/PCC), comprising of members as mentioned in **Table VI**.

Table VI: Structure of Committee to evaluate the request of units adopting measures resulting in better environmental performance

Sl. No.	Members	Role
1	Member Secretary, SPCB/PCC	Chairman
2	Subject expert from Indian Institute of Technologies (IITs) or National Institute of Technologies (NITs) or any other institute/university of repute.	Member
3	Expert from CSIR institute/laboratories, having expertise in industrial process and pollution control technologies/ environmental management	Member
4	Two officials of concerned SPCB/PCC, as nominated by the Member Secretary, SPCB/PCC	Member

4.2. Evaluation Criteria

The committee shall scrutinize the proposals based on the eligibility criteria. The basis of evaluation will be- (i) Measures taken for treatment and reuse of wastewater to reduce freshwater consumption, (ii) Use of alternative cleaner fuel to reduce emissions, and (iii) Use of cleaner technology/ cleaner production which results in reduction in pollution/hazardous waste generation (iv) Recycling units identified for EPR obligations and has fulfilled all requirement including Environmentally Sound Management Facility for recycling.

The unit is required to demonstrate the successful implementation of measures by annual submission of third-party audit report (through institute of repute) regarding performance of environmental management measures. The Committee members may also inspect unit, collect samples, and get it analysed, check logbooks, electricity/water bills, examine system feasibility through mass-balances, ensure real-time submission of environment data to SPCB/PCC server, etc. The check and balances to examine the industry claims are summarized in **Table VII**.

Table VII: Checks and balances to assess the adequacy of environment management measures

Criteria	Checks and balances
I. Wastewater Management	
Installation of wastewater recovery system resulting into treatment and 100% reuse of treated wastewater in industrial process.	<ul style="list-style-type: none"> • Unit must have adequate operational Effluent Treatment Plant (ETP). The freshwater requirement of the unit has shown proportionate reduction. • There should not be any flow/ponding of wastewater inside the premises or discharge outside from the premises. Further, there should not be any by-pass. • Electronic flowmeters and Pan-tilt-zoom (PTZ) camera should have been installed with connectivity for continuous transmission of data to SPCB/PCC and CPCB servers (as applicable). • Recirculation system should be clearly mapped and visible for inspection and flow meter should be installed at required locations with records. • Mass/water balance based on actual production need to be checked. The claim regarding reduction in freshwater consumption should have concurrency with the readings of flow meters, water bill, log-books, etc. • Treated wastewater should not be used for horticulture or agriculture purposes. • Sludge generated from treatment of wastewater should be managed properly as per the authorization issued by the concerned SPCB/PCC and timely submission of Form-IV as per the requirement of Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016.
II. Air Pollution Management	
100% fuel dependency on cleaner fuels, such as- Piped Natural Gas (PNG), Compressed Natural Gas (CNG), Liquefied Natural Gas (LNG) Liquefied Petroleum Gas (LPG), Compressed	<ul style="list-style-type: none"> • No other fuel (coal, pet-coke, furnace oil, etc.) should be stored/used in the unit premises. Diesel for Gensets (as an auxiliary power source) may be allowed. Preference may be given to the units using gas based Gensets. • Adequate facility for stack monitoring (port holes, zig-zag ladder etc.) should be available with provision of OCEMS (as applicable).

Biogas (CBG), propane, butane, etc.	<ul style="list-style-type: none"> • Use of upgraded air pollution control devices with higher efficiency for the reduction of emissions. • Adoption of cleaner technology, advanced pollution control systems etc. to control fugitive/emissions • Use of alternate cleaner raw material for generation of less pollution. • Use of renewable energy as an alternate to conventional fuel/power should be considered.
III. Waste Management	
The unit has adopted cleaner technology/ cleaner production which results in reduction in pollution/hazardous waste generation	<ul style="list-style-type: none"> • Reduction in generation of pollution/waste due to adoption of cleaner technology/change in raw material etc. • Mass balance based on actual production need to be checked. There should be concurrency in generation of hazardous waste, utilization, disposal, etc. with respect to net reduction in generation.
IV. EPR Targets (for recycling facilities)	
Recycling units identified for EPR obligations and has fulfilled all requirement including Environmentally Sound Management Facility for recycling.	<ul style="list-style-type: none"> • Complying with the requirement of EPR obligation identified by CPCB from time to time.

4.3. Re-assessment of Pollution Index (PI)

The purpose of giving star category is to classify the unit in the sector as star performing units.

The category of the unit may be re-assessed as detailed below:

A. For Industries, Service/Infrastructure facilities and Essential Environmental Services Sectors for management of waste.

The pollution index of the units in any sector which have proven reduction in trade effluent generation and/or air pollution management and/or waste management measures, can be calculated based on submission of same with the supporting documents for considering the modified score based on the same methodology.

The revised cumulative pollution index (PI) will be calculated with modified air/water/waste scores as discussed in the methodology given in previous section. If revised, cumulative PI results to change in the category of unit in the sector, the nomenclature for revised category will be as per the **Table VIII**.

Table VIII: Nomenclature for revised category

Change in category	Nomenclature of revised category
Red to Orange	Red*
Orange to Green	Orange*
Green to White	Green*

B. Essential Environmental Service Sectors for Domestic/Household Waste- “Blue Category Sectors”:

Units under Blue Category are required to reduce their existing PI score by 25%, by meeting evaluation criteria/check and balances, as mentioned in **Table III** to qualify for change in category to Blue*.

4.4 Incentives to the units for better environmental management

Units which have demonstrated the successful implementation of environmental management measures and verified by the Committee, shall be eligible for the incentives, as listed in the **Table IX**.

Table IX: Incentives to units for better environmental performance

Category	Incentives
Red*	<ul style="list-style-type: none"> • CTO may be granted for the validity of max. 10 years. • Prescribed random environmental surveillance inspection frequency may be once a year, considering the change in category.
Orange*	<ul style="list-style-type: none"> • CTO may be granted for the validity of max. 15 years. • Prescribed random environmental surveillance inspection frequency may be once in two years, considering the change in category.
Green*	<ul style="list-style-type: none"> • CTO may be granted for the validity of max. 20 years. • Prescribed random environmental surveillance inspection frequency may be once in four years, considering the change in category and given incentives twice the original category.
Blue*	<ul style="list-style-type: none"> • CTO may be granted with additional 3 years validity period. • Prescribed random environmental surveillance inspection frequency may be once in 3 months.

In case of non-compliance(s) observed in future, the State Board can remove the star status and for calculation of EC, the PI of original category shall be considered.

5

Implementation pathway/guidelines

The revised methodology and classification of sectors will be implemented in prospective manner. For this purpose, following guidelines may be referred:

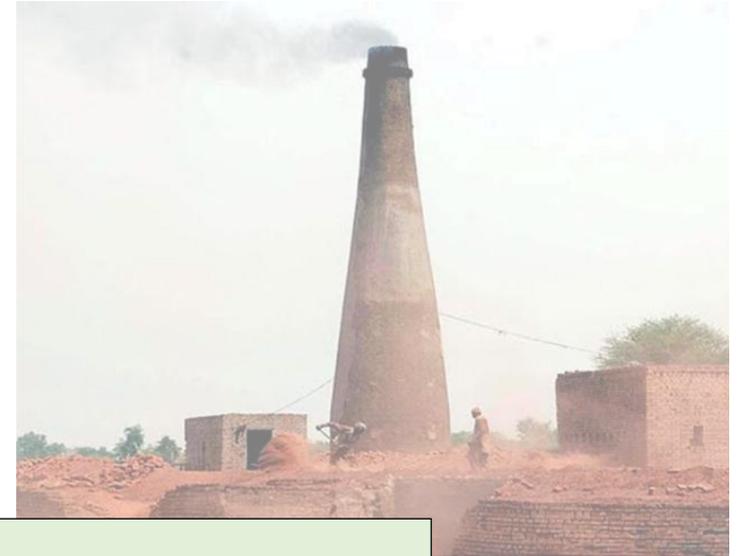
- i. All pending application for consideration of CTE/CTO and future such application shall be processed as per the revised methodology of classification. In case CTE granted before the revised classification, applicability of CTO will be as per new classification.
- ii. New classification will be applicable to existing units at the time of renewal of CTO or within one year from the date of directions issued by CPCB regarding implementation of revised classification, whichever is earlier. The annual fees or cumulative fees for the remaining period shall be as per the revised category.
- iii. SPCBs/PCCs may grant Consent to Operate (CTO) to units under red, orange, and green categories for maximum validity up to 5 years, 10 years, and 15 years, respectively as per existing provisions which would be later governed as per the provisions/guidelines under Jan Vishwas (Amendment of Provisions) Act, 2023/Water Act, as amended. SPCBs/PCCs may grant Consent to Operate (CTO) to units under Blue Category sectors with additional 2 years validity, considering their role as Essential Environmental Services for management of waste generated from domestic/household activities.
- iv. Requirement of intimation/consent for white category of industries, shall be governed as per the provisions/guidelines under Jan Vishwas (Amendment of Provisions) Act, 2023//Water Act, as amended.
- v. All sectors irrespective of category shall follow guidelines for pollution control, if any, issued by SPCB/PCC/CPCB time to time.

- vi. Siting of units shall be only in the conforming area as per the guidelines of CPCB/SPCB/PCC. Further, as per the Section 17(1)(n) of the Water Act, 1974 and the Section 17(1)(h) of the Air Act, 1981, SPCB/PCC may also frame policies/advisory with respect to the location of any industry/operations, the carrying on of which is likely to cause air/water pollution, considering the scale/type of industries and sensitivity of area. Siting of units in eco-sensitive area will be governed by their respective notifications.
- vii. The classification of sectors shall not be linked to sanction of loans/finance of bank proceedings.
- viii. In the matter of Taz Trapezium Zone (TTZ), for air pollution scores of 10 and 20 (as per 2016 methodology), equivalent scores of 30 and 60 (as per 2025 methodology), respectively, may be considered for sectoral guidelines/opinion from NEERI (Ref: Order dated 08.12.2021, in the matter of M.C. Mehta v/s Union of India, Writ Petition (Civil) No.13381/1984, before Hon'ble Supreme Court).
- ix. As per CPCB directions dated 12.12.2019, issued under Section 18(1)(b) of the Water Act, 1974 and the Air Act, 1981, SPCBs/PCCs are required to ensure inspection of red, orange, and green category of industries at least once in six-months, one-year, and two-years, respectively. Common waste treatment facilities and 17 categories of industries are to be inspected at least once in every three-months. (Ref: Order dated 05.11.2019, in the matter of Shailesh Singh v/s State of Haryana & Ors., OA No.639/2018, before Hon'ble National Green Tribunal, Principal Bench).
- x. The sectors which are classified under white or green category and if such sectors have installed Genset(s) of higher capacity which are classified under orange/green category, then such sector will be considered under higher category.
- xi. All Industrial units are encouraged to adopt measures such as cleaner technology/cleaner production, cleaner raw material, cleaner fuel etc., for better environmental management. If such measures result into overall reduction of pollution

index, request regarding change in category of such sectors/units may be made to concerned SPCB/PCC as detailed under Section 8 of this report.

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12. *The Air (Prevention and Control of Pollution) Act, 1981*. (c1). [Online]. Government of India. [Accessed 15 March 2024]. Available from:
https://www.indiacode.nic.in/bitstream/123456789/1389/1/Prevwater1981_41.pdf
13. *The Environment (Protection) Rules, 1986*. (c3). [Online]. Government of India. Ministry of Environment and Forests (Department of Environment, Forest, and Wildlife). [Accessed 02 April 2024]. Available from:
https://upload.indiacode.nic.in/showfile?actid=AC_MP_74_308_00003_00003_1543_231806694&type=rule&filename=ep_rules_1986.pdf
14. *The Industrial Disputes Act, 1947*. (C2b). [Online]. Government of India. [Accessed 15 April 2024]. Available from:
<https://www.indiacode.nic.in/bitstream/123456789/15191/1/A1947-14.pdf#search=dispute>
15. *The Occupational Safety, Health, and Working Conditions Code, 2020*. (c2). [Online]. Government of India. Ministry of Law and Justice (Legislative Department). [Accessed 15 April 2024]. Available from:
https://labour.gov.in/sites/default/files/osh_gazette.pdf
16. *The Public Liability Insurance Act, 1991*. (c7). [Online]. Government of India. [Accessed 12 March 2024]. Available from:
<https://www.indiacode.nic.in/bitstream/123456789/1960/1/A1991-06.pdf#search=9.The%20Public%20Liability%20Insurance%20Act,%201991>
17. *The Water (Prevention and Control of Pollution) Act, 1974*. (c1). [Online]. Government of India. [Accessed 15 March 2024]. Available from:
<https://www.indiacode.nic.in/bitstream/123456789/1612/3/A1974-06.pdf>



ANNEXURE-I
**(LIST OF INDUSTRIAL SECTORS CLASSIFIED UNDER RED, ORANGE,
GREEN, AND WHITE CATEGORIES)**



LIST OF INDUSTRIAL SECTORS

S. No.	Sector	W1	W2	W3	PI _w	A1	A2	A3	PI _A	H1	H2	PI _H	Pollution Index (PI)	Category	Remarks	Concerned Division
~A~																
1	Manufacturing of Automobiles (integrated facilities)	20	30	25	75	0	25	0	25	25	20	45	83.8	Red	<p>i. Such types of plants are having either one or combinations of polluting activities viz. washing, metal surface finishing operations, pickling, plating, electro-plating, phosphating, painting, heat treatment etc.</p> <p>ii. Some of such plants may outsource some /all of the polluting activities or may have stand-alone units. In such cases, after thorough inspection of such units by concerned SPCB, re-categorization of the industry shall be made accordingly.</p>	IPC-V
2	Asbestos and asbestos based industries	10	30	25	65	35	30	30	95	25	30	55	98	Red	Asbestos is carcinogenic and banned in many countries.	IPC-II
3	Almirah , Grill Manufacturing (Dry Mechanical Process)	0	0	0	0	0	30	0	30	0	0	0	30	Green		IPC-V
~B~																
4.0	BAKERY, CONFECTIONERY AND SWEETS PRODUCTS															
4.1	Bakery, confectionery, sweets with production capacity ≥ 1 TPD	25	0	20	45	25	0	25	50	0	0	0	61.3	Orange		IPC-III

S. No.	Sector	W1	W2	W3	PI _w	A1	A2	A3	PI _A	H1	H2	PI _H	Pollution Index (PI)	Category	Remarks	Concerned Division
4.2	Bakery, confectionery, sweets with production capacity \geq 1 TPD. (using cleaner/gaseous fuel)	25	0	20	45	25	0	10	35	0	0	0	54.6	Green		IPC-III
5.0	BRICK MANUFACTURING															
5.1	Brick kilns using coal as fuel	0	0	0	0	25	25	25	75	0	0	0	75	Orange		IPC-V
5.2	Brick kilns using biomass as fuel	0	0	0	0	25	25	15	65	0	0	0	65	Orange		IPC-V
5.3	Tunnel brick kilns (gas fired)	0	0	0	0	25	25	10	60	0	0	0	60	Orange		IPC-V
6.0	MANUFACTURING OF AUTOCLAVED AERATED CONCRETE (AAC) BRICKS/BLOCKS.															
6.1	AAC bricks/blocks manufacturing using coal as fuel (12 TPD and above)	0	0	0	0	25	25	30	80	0	0	0	80	Red		IPC-V
6.2	AAC bricks/blocks manufacturing using coal as fuel (less than 12 TPD)	0	0	0	0	25	25	25	75	0	0	0	75	Orange		IPC-V
6.3	AAC bricks/blocks manufacturing using biomass as fuel	0	0	0	0	25	25	20	70	0	0	0	70	Orange		IPC-V
6.4	AAC bricks/blocks manufacturing using gas as fuel	0	0	0	0	25	25	15	65	0	0	0	65	Orange		IPC-V
7.0	FLY ASH BRICKS / BLOCK MANUFACTURING															
7.1	Fly ash bricks/ block manufacturing (with boiler)	0	0	0	0	25	25	25	75	0	0	0	75	Orange		IPC-V
7.2	Fly ash bricks/ block manufacturing (without boiler)	0	0	0	0	0	25	0	25	0	0	0	25	Green		IPC-V
8.0	MANUFACTURING OF NON-ALCOHOLIC BEVERAGES															
8.1	Wastewater generation \geq 100 KLD	25	20	30	75	25	0	25	50	0	0	0	81.3	Red		IPC-III
8.2	Wastewater generation < 100 KLD	25	20	25	70	25	0	25	50	0	0	0	77.5	Orange		IPC-III

S. No.	Sector	W1	W2	W3	PI _w	A1	A2	A3	PI _A	H1	H2	PI _H	Pollution Index (PI)	Category	Remarks	Concerned Division	
9.0	BATTERY MANUFACTURING																
9.1	Lead-acid Battery manufacturing (excluding assembling and charging of lead acid Battery in micro-scale)	0	30	20	50	35	30	25	90	25	10	35	94.3	Red		IPC-V	
9.2	Dry cell Battery (excluding manufacturing of electrodes) and assembling & charging of acid lead battery on micro scale	0	30	15	45	25	25	10	60	25	10	35	76	Orange		IPC-V	
9.3	Battery manufacturing without boiler (excluding lead acid battery)	0	0	0	0	0	25	0	25	25	10	35	43.1	Green		IPC-V	
10	Briquette manufacturing (coal/biomass/coke)	0	0	0	0	0	30	0	30	0	0	0	30	Green	The process involves mixing, mechanized compression and drying.	IPC-II	
11	Assembly of Bicycles, Baby carriages and other small non motorizing vehicles	0	0	0	0	0	0	0	0	0	0	0	0	White		IPC-V	
12	Bailing (hydraulic press) of waste papers	0	0	0	0	0	0	0	0	0	0	0	0	White		IPC-V	
13	Bio fertilizer and bio-pesticides without using inorganic chemicals	0	0	0	0	0	20	0	20	0	0	0	20	White		IPC-V	
14	Block making of printing without foundry (excluding wooden block making)	0	0	0	0	0	0	0	0	0	0	0	0	White		IPC-V	

S. No.	Sector	W1	W2	W3	PI _w	A1	A2	A3	PI _A	H1	H2	PI _H	Pollution Index (PI)	Category	Remarks	Concerned Division
15	Flavoured Betel nuts production/ grinding (completely dry mechanical operations)	0	0	0	0	0	0	0	0	0	0	0	0	White		IPC-V
16	Manufacturing of shoe Brush and wire Brush	0	0	0	0	0	20	0	20	0	0	0	20	White		IPC-V
~C~																
17.0	MANUFACTURING OF INDUSTRIAL CARBON INCLUDING ELECTRODES AND GRAPHITE BLOCKS, ACTIVATED CARBON, CARBON BLACK															
17.1	Carbon black manufacturing	20	15	20	55	25	30	30	85	30	20	50	92.9	Red		IPC-I
17.2	Industrial carbon including electrodes & graphite blocks and calcined pet coke	20	15	20	55	25	25	25	75	30	10	40	86.9	Red		IPC-II
17.3	Activated carbon manufacturing (with steam activation)	20	15	20	55	25	25	15	65	0	0	0	74.6	Orange		IPC-V
18.0	INORGANIC CHEMICALS															
18.1	Basic inorganic chemicals and electro chemicals and its derivatives including manufacturing of acid	10	30	25	65	30	30	20	80	20	20	40	90.5	Red		IPC-I
18.2	Phosphorous and its compounds, including phosphorous rock processing	20	30	20	70	35	25	10	70	10	30	40	86.5	Red		IPC-I
18.3	Chlorates, per-chlorates & peroxides	20	30	20	70	30	20	25	75	20	20	40	88.8	Red		IPC-I
18.4	Chlorine, fluorine, bromine, iodine, and their compounds	10	30	25	65	35	20	10	65	20	20	40	83.4	Red		IPC-I
19	Coke oven plant, coal liquefaction, coal tar distillation and fuel gas-making	30	30	30	90	25	30	35	90	25	50	75	98.3	Red		IPC-II
20.0	CEMENT PLANTS															

S. No.	Sector	W1	W2	W3	PI _w	A1	A2	A3	PI _A	H1	H2	PI _H	Pollution Index (PI)	Category	Remarks	Concerned Division
20.1	With co-processing with CPP (Captive Power Plant)	20	25	35	80	35	30	35	100	10	50	60	100	Red		IPC-II
20.2	With co-processing without CPP	20	0	20	40	35	30	35	100	30	20	50	100	Red		IPC-II
20.3	Without co-processing with CPP	10	25	35	70	35	30	35	100	10	50	60	100	Red		IPC-II
20.4	Without co-processing without CPP	0	0	0	0	25	30	35	90	30	10	40	92	Red		IPC-II
20.5	Stand-alone grinding units with CPP	20	25	35	80	25	30	35	90	10	50	60	97	Red		IPC-II
20.6	Stand-alone grinding units without CPP	0	0	0	0	25	30	0	55	30	10	40	64	Orange		IPC-II
20.7	Bulk terminals for storage and packaging of cement	0	0	0	0	0	30	0	30	0	0	0	30	Green		IPC-II
21.0	CHLOR ALKALI															
21.1	Chlor alkali	10	20	25	55	30	25	25	80	20	20	40	89.5	Red		IPC-I
21.2	Chlor alkali using washed salt	10	20	15	45	30	25	25	80	20	10	30	87.5	Red		IPC-I
21.3	Chlor alkali using cleaner/gaseous fuel	10	20	25	55	30	25	10	65	20	20	40	81.6	Red		IPC-I
21.4	Chlor alkali using cleaner/gaseous fuel and washed salt	10	20	15	45	30	25	10	65	20	10	30	78.1	Orange		IPC-I
22	Manufacturing of Compact disc Computer (CD/DVD) / cassette manufacturing / reel manufacturing	0	15	15	30	30	0	0	30	20	10	30	51	Green		IPC-V
23.0	MANUFACTURING OF COIR/COIR PITH AND COIR PRODUCTS															
23.1	Coir bleaching and dyeing/printing units	25	0	25	50	25	25	20	70	0	0	0	77.5	Orange		IPC-V
23.2	Coir fibre/pith processing units generating effluent	25	0	20	45	0	25	0	25	0	0	0	51.9	Green		IPC-V

S. No.	Sector	W1	W2	W3	PI _w	A1	A2	A3	PI _A	H1	H2	PI _H	Pollution Index (PI)	Category	Remarks	Concerned Division
23.3	Coir fibre/pith processing and/or Manufacturing of coir products from coir (only dry process)	0	0	0	0	0	20	0	20	0	0	0	20	White		IPC-V
24.0	CERAMICS															
24.1	Ceramics/ Glass /Earthen potteries and tile manufacturing using coal/oil fired kilns (fuel consumption: 12 TPD and above)	0	0	0	0	25	25	30	80	0	0	0	80	Red		IPC-V
24.2	Ceramics/ Glass /Earthen potteries and tile manufacturing using coal/oil fired kilns (fuel consumption: less than 12 TPD)	0	0	0	0	25	25	25	75	0	0	0	75	Orange		IPC-V
24.3	Ceramics/ Glass /Earthen potteries and tile manufacturing (using gas fired kilns)/tunnel kiln	0	0	0	0	25	25	10	60	0	0	0	60	Orange		IPC-V
24.4	Ceramics/ Glass /Earthen potteries and tile manufacturing (using only electrical kiln)	0	0	0	0	0	25	0	25	0	0	0	25	Green		IPC-V
25	Coal Washeries	20	25	30	75	0	25	0	25	0	0	0	78.1	Orange		IPC-II
26	Liquid floor Cleaner , black phenyl, liquid soap, glycerol mono-stearate manufacturing	25	25	15	65	0	20	0	20	0	0	0	68.5	Orange		IPC-V
27	Phenyl/toilet Cleaner formulation and bottling	10	0	15	25	0	20	0	20	0	0	0	32.5	Green		IPC-V

S. No.	Sector	W1	W2	W3	PI _w	A1	A2	A3	PI _A	H1	H2	PI _H	Pollution Index (PI)	Category	Remarks	Concerned Division
28	Cashew nut processing	20	0	15	35	25	20	15	60	0	0	0	67	Orange		IPC-III
29.0	COFFEE SEEDS PROCESSING INDUSTRY															
29.1	Coffee seeds processing (wet process)	35	0	20	55	25	0	15	40	0	0	0	64	Orange		IPC-III
29.2	Coffee seeds processing with eco-pulper	20	0	15	35	25	0	15	40	0	0	0	50.5	Green		IPC-III
30	Manufacturing of Candy															
30	Manufacturing of Candy	10	0	15	25	0	0	0	0	0	0	0	25	Green		IPC-V
31	Cardboard or corrugated box and paper products (excluding paper or pulp manufacturing and without using boilers)															
31	Cardboard or corrugated box and paper products (excluding paper or pulp manufacturing and without using boilers)	0	0	0	0	0	20	0	20	0	0	0	20	White		IPC-V
32	Manufacturing of precast Cement products (without using asbestos/ boiler / steam curing) like pipe, pillar, jafri, well ring, block/tiles etc.(should be done in closed covered shed to control fugitive emissions)															
32	Manufacturing of precast Cement products (without using asbestos/ boiler / steam curing) like pipe, pillar, jafri, well ring, block/tiles etc.(should be done in closed covered shed to control fugitive emissions)	0	0	15	15	0	25	0	25	0	0	0	30.6	Green		IPC-V
33	Manufacturing of Ceramic Colour by mixing & blending only (not using boiler and wastewater recycling process)															
33	Manufacturing of Ceramic Colour by mixing & blending only (not using boiler and wastewater recycling process)	0	0	0	0	0	25	0	25	0	0	0	25	Green		IPC-V
34.0	CHILLING PLANT, COLD STORAGE AND ICE-MAKING															
34.1	Chilling plant	20	15	15	50	0	0	0	0	0	0	0	50	Green		IPC-IV
34.2	Cold storage	0	15	15	30	0	0	0	0	0	0	0	30	Green		IPC-V
34.3	Ice Making	0	20	15	35	0	0	0	0	0	0	0	35	Green		IPC-V

S. No.	Sector	W1	W2	W3	PI _w	A1	A2	A3	PI _A	H1	H2	PI _H	Pollution Index (PI)	Category	Remarks	Concerned Division
35	Decoration of Ceramic Cups and plates by electric furnace	0	0	0	0	0	25	0	25	0	0	0	25	Green		IPC-V
36	Ready mix Cement Concrete	0	0	0	0	0	30	0	30	0	0	0	30	Green		IPC-V
37	CO₂ recovery plant	0	0	0	0	0	0	0	0	20	10	30	30	Green	Exhausted molecular sieves are generated as hazardous waste.	IPC-V
38	Assembly of air Coolers/Conditioners , repairing and servicing	0	0	0	0	0	0	0	0	0	0	0	0	White		IPC-V
39	Chalk making from plaster of Paris (only casting without boilers etc. - sun drying / electrical oven)	0	0	0	0	0	0	0	0	0	0	0	0	White		IPC-V
40	Standalone manufacturing of Concrete admixtures up to 1000 MT per Month capacity by physical mixing (without boiler and reactor and no generation of wastewater)	0	0	0	0	0	0	0	0	10	10	20	20	White	The sector may become green category if it generates wastewater. The unit needs to be re-classified as per the methodology in case the capacity exceeds 1000 MT per Month.	IPC-V
41	Used Cooking oil (UCO) collection centers	0	0	0	0	0	0	0	0	0	0	0	0	White		IPC-V
~D~																
42.0	DYES, DYE INTERMEDIATES AND PIGMENT PRODUCTIONS															
42.1	Dyes, Dye Intermediates and Pigments produced by chemical synthesis	35	30	25	90	30	20	25	75	30	20	50	96.3	Red		IPC-I

S. No.	Sector	W1	W2	W3	PI _w	A1	A2	A3	PI _A	H1	H2	PI _H	Pollution Index (PI)	Category	Remarks	Concerned Division
42.2	Natural Dye and Pigments requiring acidic/ alkaline/ solvent extraction	30	30	20	80	25	20	25	70	20	10	30	90	Red		IPC-I
42.3	Natural Dye and Pigments not require acidic/ alkaline/ solvent extraction	30	20	20	70	25	0	25	50	0	0	0	77.5	Orange		IPC-I
43.0	SYNTHETIC DETERGENT AND SOAPS															
43.1	Synthetic detergents and soaps (wastewater generation ≥ 100 KLD)	20	20	30	70	25	0	25	50	25	10	35	82.8	Red		IPC-I
43.2	Synthetic detergents and soaps (wastewater generation < 100 KLD)	20	20	25	65	25	0	25	50	25	10	35	79.9	Orange		IPC-I
43.3	Synthetic detergents and soaps (only formulation)	0	0	0	0	25	0	25	50	0	0	0	50	Green		IPC-I
43.4	Soap manufacturing (handmade -without steam boiling / boiler)	0	0	0	0	0	0	0	0	0	0	0	0	White		IPC-V
DISTILLERIES AND FERMENTATION SECTORS																
44.0	DISTILLERIES AND FERMENTATION INDUSTRIES															
44.1	Distillery (Molasses based)	35	25	35	95	25	25	35	85	0	0	0	97.1	Red		IPC-III
44.2	Distillery (Grain based)	35	25	30	90	25	25	25	75	0	0	0	93.8	Red		IPC-III
44.3	Distillery (Grain based) with Distiller's Dried Grains with Soluble (DDGS) as by-product	25	25	20	70	25	25	25	75	0	0	0	83.8	Red		IPC-III
44.4	Standalone yeast manufacturing units	35	25	35	95	25	20	25	70	0	0	0	96.8	Red		IPC-III
44.5	Breweries and malteries industry (with fermentation)-Wastewater generation ≥ 100 KLD	30	15	30	75	25	0	25	50	0	0	0	81.3	Red		IPC-III
44.6	Breweries and malteries industry (with fermentation)-Wastewater generation < 100 KLD	30	15	25	70	25	0	25	50	0	0	0	77.5	Orange		IPC-III

S. No.	Sector	W1	W2	W3	PI _w	A1	A2	A3	PI _A	H1	H2	PI _H	Pollution Index (PI)	Category	Remarks	Concerned Division
44.7	Potable alcohol by blending, bottling of alcohol products	20	0	25	45	0	0	0	0	0	0	0	45	Green		IPC-III
45	Diesel pump repairing and servicing (complete mechanical dry process)	0	0	0	0	0	0	0	0	10	10	20	20	White		IPC-V
~E~																
46	Manufacturing of Explosives, detonators, fuses, etc.	25	30	15	70	0	30	0	30	30	10	40	80.5	Red	Explosives manufacture contribute to release of hazardous pollutants, including generation of other toxic chemicals. Accident/safety hazard is also associated with such sector during manufacturing and usages.	IPC-I
47	Manufacturing of coated Electrode	0	15	15	30	0	25	0	25	0	0	0	38.8	Green	Process involves preparation of core wire / rod, preparation of dry mix, preparation of wet mix, application of coating by extrusion, baking of coated electrodes.	IPC-V
48	Emery powder (fine dust of sand) manufacturing	0	0	0	0	0	30	0	30	0	0	0	30	Green	Fugitive emissions from grinding operations.	IPC-V
49	Electric lamp (bulb) and CFL manufacturing by assembling only	0	0	0	0	0	0	0	0	0	0	0	0	White		IPC-V
50	Electrical and electronic item assembling (completely dry process)	0	0	0	0	0	0	0	0	0	0	0	0	White		IPC-V

S. No.	Sector	W1	W2	W3	PI _w	A1	A2	A3	PI _A	H1	H2	PI _H	Pollution Index (PI)	Category	Remarks	Concerned Division
51	Engineering and fabrication units (dry process without any heat treatment / metal surface finishing operations / painting)	0	0	0	0	0	0	0	0	0	0	0	0	White		IPC-V
~F~																
52.0	FIBRE GLASS (FIBRE REINFORCED PLASTIC) PRODUCTION															
52.1	Fibre glass (containing lead) production and processing (excluding moulding)	0	0	0	0	35	0	25	60	25	20	45	69	Orange		IPC-V
52.2	Fibre glass (without lead) production and processing (excluding moulding)	0	0	0	0	30	0	25	55	25	20	45	65.1	Orange	The use of styrene in most methods of fibre glass production causes hazardous air pollution that is harmful to breathe at excessive levels.	IPC-V
53	Manufacturing of Firecrackers including improved crackers/green crackers, etc.	0	0	0	0	35	30	0	65	30	10	40	72	Orange	Various hazardous chemicals are used in the manufacturing process. Accident/safety hazard is also associated with such sector during manufacturing and usages.	IPC-V
54.0	SYNTHETIC FIBRES MANUFACTURING															
54.1	Synthetic fibres-PSF & PFY, generated from petrochemical	35	30	35	100	30	25	35	90	30	20	50	100	Red		IPC-I
54.2	Synthetic fibres including rayon, tyre cord, viscose filament yarn/staple fibre, acrylic fibres	25	20	25	70	30	20	25	75	20	10	30	87.5	Red		IPC-I
54.3	Synthetic fibres including rayon, tyre cord, viscose filament yarn/staple fibre, acrylic fibres using cleaner/gaseous fuel	25	20	25	70	30	20	10	60	20	10	30	83.5	Red		IPC-I

S. No.	Sector	W1	W2	W3	PI _w	A1	A2	A3	PI _A	H1	H2	PI _H	Pollution Index (PI)	Category	Remarks	Concerned Division	
55.0	FERTILIZERS PRODUCTION																
55.1	Fertilizers (Urea)	10	30	35	75	30	30	20	80	20	30	50	92.5	Red		IPC-I	
55.2	Fertilizers (Calcium Ammonium Nitrate/Ammonium Nitrate)	10	30	25	65	30	25	25	80	20	20	40	90.5	Red		IPC-I	
55.3	Fertilizers (NPK)	10	30	25	65	30	25	25	80	20	20	40	90.5	Red		IPC-I	
55.4	Fertilizers (Straight Phosphatic Fertilizers)	10	30	25	65	30	25	25	80	20	20	40	90.5	Red		IPC-I	
55.5	Fertilizer (granulation /formulation / blending) generating wastewater through floor washings, cooling towers etc.	10	30	15	55	30	30	0	60	10	10	20	75	Orange		IPC-I	
55.6	Fertilizer (granulation /formulation / blending) not generating wastewater	0	0	0	0	30	30	0	60	10	10	20	64	Orange		IPC-I	
56.0	FOOD AND FOOD PROCESSING INCLUDING FRUITS AND VEGETABLE PROCESSING																
56.1	Wastewater generation \geq 10 KLD	25	0	25	50	25	0	25	50	0	0	0	62.5	Orange		IPC-III	
56.2	Wastewater generation < 10 KLD (without boiler)	25	0	15	40	0	0	0	0	0	0	0	40	Green		IPC-III	
57.0	FISH FEED, POULTRY FEED AND CATTLE FEED																
57.1	Fish feed, poultry feed and cattle feed (with boiler)	0	20	15	35	25	25	25	75	0	0	0	79.4	Orange		IPC-V	
57.2	Fish feed, poultry feed and cattle feed (without boiler)	0	0	0	0	0	25	0	25	0	0	0	25	Green		IPC-V	
58	Fish processing and packing (excluding chilling of fishes)	25	25	20	70	0	20	0	20	0	0	0	73	Orange		IPC-IV	
59.0	MANUFACTURING OF MODULAR WOODEN FURNITURE																

S. No.	Sector	W1	W2	W3	PI _w	A1	A2	A3	PI _A	H1	H2	PI _H	Pollution Index (PI)	Category	Remarks	Concerned Division
59.1	Modular wooden furniture from particle board, MDF, swan timber etc, Ceiling tiles/ partition board from saw dust, wood chips etc., and other agricultural waste using synthetic adhesive resin, wooden box making (With boiler)	0	0	0	0	25	25	10	60	0	0	0	60	Orange		IPC-V
59.2	Modular wooden furniture from particle board, MDF, swan timber etc, Ceiling tiles/ partition board from saw dust, wood chips etc., and other agricultural waste using synthetic adhesive resin, wooden box making (Without boiler)	0	0	0	0	0	25	0	25	0	0	0	25	Green		IPC-V
60.0	CARPENTRY & WOODEN FURNITURE MANUFACTURING															
60.1	Carpentry & wooden furniture manufacturing with spray painting (excluding saw mill) with the help of electrical (motorized) machines such as electrical wood planner, steel saw cutting circular blade, etc.	0	0	0	0	0	25	0	25	0	0	0	25	Green		IPC-V
60.2	Carpentry & wooden furniture manufacturing without spray painting (excluding saw mill) with the help of electrical (motorized) machines such as electrical wood planner, steel saw cutting circular blade, etc.	0	0	0	0	0	0	0	0	0	0	0	0	White		IPC-V

S. No.	Sector	W1	W2	W3	PI _w	A1	A2	A3	PI _A	H1	H2	PI _H	Pollution Index (PI)	Category	Remarks	Concerned Division
61	Foam manufacturing	0	0	0	0	35	0	0	35	20	10	30	44.8	Green	Emissions of VOCs and HAPs. Raw materials are polyurethane, latex etc.	IPC-V
62	Flour mills (dry process)	0	0	0	0	0	25	0	25	0	0	0	25	Green	Separate classification for domestic flour mills may not require.	IPC-V
63.0	STEEL FURNITURE INDUSTRY															
63.1	Steel furniture with spray painting	0	0	0	0	0	25	0	25	0	0	0	25	Green	Obnoxious gases from welding.	IPC-V
63.2	Steel furniture without spray painting	0	0	0	0	0	0	0	0	0	0	0	0	White		IPC-V
~G~																
64.0	MANUFACTURING OF GLUE AND GELATIN															
64.1	Manufacturing of glue and gelatin using coal/liquid fuel	25	20	15	60	25	20	25	70	10	10	20	82	Red		IPC-I
64.2	Manufacturing of glue and gelatin by using biomass/cleaner fuel	25	20	15	60	25	20	15	60	10	10	20	76	Orange		IPC-I
65.0	MANUFACTURING OF GLASS (INCLUDING PRINTING OR ETCHING OF GLASS SHEET USING HYDROFLUORIC ACID)															
65.1	Manufacturing of glass (Oil/coal fired)	0	15	15	30	25	25	25	75	0	0	0	78.8	Orange		IPC-V
65.2	Manufacturing of glass (gas fired)	0	15	15	30	25	25	10	60	0	0	0	66	Orange		IPC-V
66	Producer Gas plant using conventional coal Gasification	20	25	15	60	25	0	25	50	30	10	40	78	Orange		IPC-V

S. No.	Sector	W1	W2	W3	PI _w	A1	A2	A3	PI _A	H1	H2	PI _H	Pollution Index (PI)	Category	Remarks	Concerned Division	
67.0	COMPRESSED BIOGAS (CBG)/BIO-CNG PLANTS																
67.1	CBG plants based on Municipal Solid Waste (MSW) as feed	30	25	25	80	0	20	0	20	0	0	0	82	Red		UPC-II	
67.2	CBG plants based on process waste (industrial/ process liquid effluent & solid waste like press mud, organic sludge, molasses, etc.) as feed	30	25	25	80	0	20	0	20	0	0	0	82	Red		IPC-III	
67.3	CBG plants based on crop residue (paddy straw /wheat straw /corn sweet sorghum/ Napier grass, etc.) as feed	30	25	20	75	0	20	0	20	0	0	0	77.5	Orange		IPC-III	
67.4	CBG plants based on animal waste (dairy farms, poultry farms, and other animal waste) as feed	30	25	20	75	0	20	0	20	0	0	0	77.5	Orange		IPC-III	
67.5	CBG plants producing Fermented Organic Manure (FOM) & Liquid Fermented Organic Manure (LFOM) as by-products	0	0	0	0	0	20	0	20	0	0	0	20	White	CBG plants producing FOM & LFOM as by-products in conformity with requirements of Gazette Notification No. 2051 dated 14.07.2020 & No. 1972 dated 01.06.2021, respectively, and utilizing entire FOM & LFOM as a fertilizer or manure on land and also not discharging any waste-water, to be considered under White category, subject to verification by SPCB on case-to-case basis.	IPC-III	
68.0	STANDALONE PRODUCTION OF HYDROGEN AND/OR AMMONIA (WITHOUT CAPTIVE POWER PLANT USING FOSSIL FUEL)																

S. No.	Sector	W1	W2	W3	PI _w	A1	A2	A3	PI _A	H1	H2	PI _H	Pollution Index (PI)	Category	Remarks	Concerned Division
68.1	Integrated unit for production of Ammonia through Hydrogen generated by pyrolysis/gasification	20	25	20	65	20	25	25	70	30	20	50	87.3	Red	<p>i. Pyrolysis of biomass will generate syn gas and other condensable gases having hydrocarbons and other impurities.</p> <p>ii. Purification of gas will generate wastewater having high organic content and tarry residue as hazardous waste.</p> <p>iii. The process will generate fugitive emissions and due to pyrolysis operation.</p>	IPC-I
68.2	Integrated unit for production of ammonia through Hydrogen generated by electrolysis using renewable energy (capacity ≥ 15 TPD)	10	25	35	70	0	20	0	20	30	20	50	80.5	Red	<p>i. Ammonia manufacturing process (Haber process) and associated safety hazards remain same as per the chemical properties of ammonia.</p> <p>ii. Wastewater generation due to the production of hydrogen through electrolysis and condensation of ammonia, other scrubbed liquid etc.</p> <p>iii. Generation of ETP sludge, exhausted membranes, molecular sieves, spent catalysts, etc. as hazardous waste.</p>	IPC-I

S. No.	Sector	W1	W2	W3	PI _w	A1	A2	A3	PI _A	H1	H2	PI _H	Pollution Index (PI)	Category	Remarks	Concerned Division
68.3	Integrated unit for production of Ammonia through hydrogen generated by electrolysis using renewable energy (Capacity < 15 TPD)	10	25	20	55	0	20	0	20	30	10	40	68.5	Orange	<p>i. Ammonia manufacturing process (Haber process) and associated safety hazards remains same as per the chemical properties of ammonia.</p> <p>ii. Wastewater generation due to production of hydrogen through electrolysis and condensation of ammonia, other scrubbed liquid etc.</p> <p>iii. Generation of ETP sludge, exhausted membranes, molecular sieves, spent catalysts, etc. as hazardous waste.</p>	IPC-I
68.4	Hydrogen production through pyrolysis/gasification	20	25	20	65	20	25	25	70	30	10	40	85.8	Red	<p>i. Pyrolysis of biomass will generate syn gas and other condensable gases having hydrocarbons and other impurities.</p> <p>ii. Purification of gas will generate wastewater having high organic content and tarry residue as hazardous waste.</p> <p>iii. The process will generate fugitive emissions and due to pyrolysis operation.</p>	IPC-I

S. No.	Sector	W1	W2	W3	PI _W	A1	A2	A3	PI _A	H1	H2	PI _H	Pollution Index (PI)	Category	Remarks	Concerned Division
68.5	Hydrogen production through electrolysis using raw/seawater and renewable energy (capacity \geq 2.5 TPD)	0	20	35	55	0	0	0	0	30	10	40	64.0	Orange	<p>i. Type of electrolyzers may include Alkaline Water Electrolyser (AWE), Proton Exchange Membrane (PEM), Solid Oxide Electrolyser Cell (SOEC) and Anion Exchange Membrane (AEM), etc.</p> <p>ii. Generation of DM reject, cooling tower blowdown, draining of alkaline/electrolyser water during maintenance, etc. as wastewater.</p> <p>iii. Generation of ETP sludge, exhausted membranes, molecular sieves, spent catalysts, etc. as hazardous waste.</p>	IPC-I
68.6	Hydrogen production through electrolysis using raw/sea water and renewable energy (capacity $<$ 2.5 TPD)	0	20	20	40	0	0	0	0	30	10	40	52.0	Green	<p>i. Type of electrolyzers may include Alkaline Water Electrolyser (AWE), Proton Exchange Membrane (PEM), Solid Oxide Electrolyser Cell (SOEC) and Anion Exchange Membrane (AEM), etc.</p> <p>ii. Generation of DM reject, cooling tower blowdown, draining of alkaline/electrolyser water during maintenance, etc. as wastewater.</p> <p>iii. Generation of ETP sludge, exhausted membranes, molecular sieves, spent catalysts, etc. as hazardous waste.</p>	IPC-I
68.7	Hydrogen production through electrolysis (using	0	0	0	0	0	0	0	0	0	10	10	10.0	White	<p>i. DM water as feed water for electrolyser and cooling/chilling</p>	IPC-I

S. No.	Sector	W1	W2	W3	PI _w	A1	A2	A3	PI _A	H1	H2	PI _H	Pollution Index (PI)	Category	Remarks	Concerned Division
	renewable energy) on BOO/BOOT/BOT, mode etc., located in the premises of end user industry and directly using de-mineralized water & other utilities (cooling tower, ETP, etc.) sourced from end user industry														water requirement to be met by the end user industry. ii. Wastewater and other waste generated during O&M shall also be managed by the end user industry.	
69	Glue from starch (physical mixing) with Gas/ electrically operated oven /boiler.	0	0	0	0	25	0	10	35	0	0	0	35	Green		IPC-V
70	Gold and silver smithy (purification with acid smelting operation and sulphuric acid polishing operation) (using less or equal to 1 litre of sulphuric acid/ nitric acid per month)	0	0	0	0	0	25	0	25	0	0	0	25	Green		IPC-V
71	Compressed oxygen Gas from crude liquid oxygen (without use of any solvents and by maintaining pressure & temperature only for separation of other Gases)	0	0	0	0	0	0	0	0	0	0	0	0	White		IPC-V
72	Glass and ampules and vials making from Glass tubes	0	0	0	0	0	0	0	0	0	0	0	0	White		IPC-V
73	Ground nut decorticating	0	0	0	0	0	0	0	0	0	0	0	0	White		IPC-V

S. No.	Sector	W1	W2	W3	PI _w	A1	A2	A3	PI _A	H1	H2	PI _H	Pollution Index (PI)	Category	Remarks	Concerned Division
74	Medical Oxygen	0	0	0	0	0	0	0	0	10	10	20	20	White	The sector may become green category if it generates wastewater	IPC-V
~H~																
75.0	HOT MIX PLANTS															
75.1	Hot mix plants using oil as fuel	0	0	0	0	25	25	25	75	0	0	0	75	Orange		IPC-V
75.2	Hot mix plants using gaseous as fuel	0	0	0	0	25	25	10	60	0	0	0	60	Orange		IPC-V
76	Hazardous waste pre-processing/processing facility including spent acid processing, spent solvent recovery, etc.	25	30	15	70	25	25	15	65	30	20	50	87.3	Red		WM-II
77	Handloom / carpet weaving (without dyeing and bleaching operation)	0	0	0	0	0	0	0	0	0	0	0	0	White		IPC-V
~I~																
78	Ice cream manufacturing units	25	25	20	70	25	0	25	50	0	0	0	77.5	Orange		IPC-IV
79	Printing Ink Manufacturing	20	30	15	65	0	20	10	30	30	10	40	77.3	Orange	In the process pigments, binders and solvents are used. VOCs are generated.	IPC-I

S. No.	Sector	W1	W2	W3	PI _w	A1	A2	A3	PI _A	H1	H2	PI _H	Pollution Index (PI)	Category	Remarks	Concerned Division
80	Manufacturing of scientific and mathematical Instrument (assembling only)	0	0	0	0	0	0	0	0	0	0	0	0	White		IPC-V
~J~																
81.0	JUTE PROCESSING															
81.1	Jute processing (with dyeing / with boiler)	25	20	25	70	25	0	25	50	0	0	0	77.5	Orange		IPC-III
81.2	Jute processing (without dyeing / without boiler)	20	0	20	40	0	0	0	0	0	0	0	40	Green		IPC-III
81.3	Manufacturing of products from jute (without dyeing/ without boiler)	0	0	0	0	0	0	0	0	0	0	0	0	White		IPC-III
~L~																
82	Lime manufacturing (using lime kiln)	0	0	0	0	25	0	30	55	0	0	0	55	Orange		IPC-V
83	Leather foot wear and Leather products (excluding tanning and hide processing)	0	0	0	0	0	20	0	20	0	0	0	20	White	Fumes due to use of adhesives / gums.	IPC-IV
84	Manufacturing of optical Lenses (using electrical furnace)	0	20	15	35	0	0	0	0	0	0	0	35	Green		IPC-V
85	Leather cutting and stitching (more than 10 machine and using motor)	0	0	0	0	0	0	0	0	0	0	0	0	White		IPC-V
~M~																

S. No.	Sector	W1	W2	W3	PI _w	A1	A2	A3	PI _A	H1	H2	PI _H	Pollution Index (PI)	Category	Remarks	Concerned Division
86	Mobile towers using genset(s)	0	0	0	0	25	0	25	50	0	0	0	50	Green	i. The used oil/waste oil generated during repair and maintenance need to be disposed through authorized hazardous waste recycler by service provider/OEM. ii. Order dated 24.08.2017 in the related matter with OA No. 83(THC) OF 2012 (Bharti Infratel Ltd.) may be referred for issuance of composite consent in case of mobile towers.	UPC-I
87.0	MILK PROCESSES AND DAIRY PRODUCTS															
87.1	Milk processes and dairy products (integrated project)	30	25	30	85	25	20	30	75	0	0	0	90.6	Red		IPC-IV
87.2	Dairy and dairy products (Small scale units), using coal/biomass as fuel (Wastewater generation ≥ 100 KLD)	25	25	30	80	25	0	25	50	0	0	0	85	Red		IPC-IV
87.3	Dairy and dairy products (Small scale units), using coal/biomass as fuel (Wastewater generation < 100 KLD)	25	25	20	70	25	0	25	50	0	0	0	77.5	Orange		IPC-IV
87.4	Dairy and dairy products, (Small scale units), using PNG as fuel	25	25	20	70	0	0	10	10	0	0	0	71.5	Orange		IPC-IV
88.0	MINING AND ORE BENEFICIATION															
88.1	Open-cast coal mining	10	25	35	70	25	30	35	90	10	70	80	97.5	Red		IPC-II
88.2	Underground coal mining	0	25	35	60	25	30	35	90	0	0	0	93	Red		IPC-II
88.3	Mining of major minerals and ore beneficiation	20	30	35	85	25	30	35	90	25	70	95	99.4	Red	Includes captive limestone mining.	IPC-II

S. No.	Sector	W1	W2	W3	PI _w	A1	A2	A3	PI _A	H1	H2	PI _H	Pollution Index (PI)	Category	Remarks	Concerned Division
88.4	Mining of minor minerals (except Sand/riverbed material mining)	10	0	20	30	25	25	25	75	0	0	0	78.8	Orange		IPC-II
88.5	Grinding, processing, and screening of minor minerals	0	0	0	0	25	30	0	55	0	0	0	55	Orange		IPC-II
89	Manufacturing of Mirror from sheet glass	0	0	0	0	30	20	0	50	25	10	35	58.8	Orange		IPC-V
90	Mineral processing, industries involving ore sintering, pelletising, grinding & pulverization	0	0	0	0	25	25	25	75	0	0	0	75	Orange		IPC-II
91	Malteries (without fermentation)	30	15	25	70	25	0	25	50	0	0	0	77.5	Orange		IPC-III
92	Manufacturing of Mosquito repellent & coil	0	0	0	0	30	0	25	55	0	0	0	55	Orange	Toxic fumes may be released.	IPC-V
93	Organic Manure (physical mixing)	0	0	0	0	0	20	0	20	0	0	0	20	White		IPC-V
94	Packing of powdered Milk	0	0	0	0	0	0	0	0	0	0	0	0	White		IPC-V
METALS AND METALLURGICAL SECTORS																
95.0	IRON & STEEL (PRIMARY PROCESSING FROM ORE, INTEGRATED STEEL PLANTS AND SPONGE IRON UNITS)															
95.1	Integrated iron and steel plants	25	30	35	90	25	30	35	90	25	50	75	98.3	Red		IPC-II
95.2	Stand-alone sintering/palletisation	0	0	0	0	25	30	35	90	0	0	0	90	Red		IPC-II
95.3	Sponge iron with CPP (Captive Power Plant)	20	25	35	80	25	30	35	90	10	50	60	97	Red		IPC-II
95.4	Sponge iron without CPP	20	15	30	65	25	30	35	90	10	50	60	96.3	Red		IPC-II

S. No.	Sector	W1	W2	W3	PI _w	A1	A2	A3	PI _A	H1	H2	PI _H	Pollution Index (PI)	Category	Remarks	Concerned Division
95.5	Stand-alone coke oven gas plants	25	30	30	85	25	30	35	90	25	50	75	98	Red		IPC-II
96.0	ALUMINIUM PROCESSING															
96.1	Aluminium Refinery	10	30	35	75	25	25	35	85	10	70	80	96.6	Red		IPC-II
96.2	Aluminium Smelter	10	30	35	75	30	25	35	90	25	70	95	99.1	Red		IPC-II
97	Copper Smelter	10	30	35	75	30	25	35	90	10	70	80	97.8	Red		IPC-II
98	Zinc smelter	10	30	35	75	30	25	35	90	10	70	80	97.8	Red		IPC-II
99.0	FERROUS AND NON-FERROUS METAL SECONDARY PROCESSING/REPROCESSING UNITS INVOLVING DIFFERENT FURNACES THROUGH MELTING, REFINING, CASTING, ALLOY-MAKING															
99.1	All Ferrous and Non-ferrous metal secondary processing/reprocessing units involving different furnaces through melting, refining, casting, alloy-making (using coal/liquid fuels)	0	15	15	30	25	25	25	75	25	10	35	83.1	Red		IPC-V
99.2	Ferrous and Non-ferrous metal (excluding lead, nickel, and manganese) secondary processing/reprocessing units involving different furnaces through melting, refining, casting, alloy-making (using cleaner fuels/electricity)	0	15	15	30	25	25	10	60	10	10	20	70	Orange		IPC-V
100	Aluminium & copper extraction from scrap using an oil-fired furnace (dry process only)	0	0	0	0	25	25	25	75	0	0	0	75	Orange		IPC-V
101.0	INDUSTRY OR PROCESS INVOLVING METAL SURFACE TREATMENT OR PROCESS/HEAT TREATMENT															

S. No.	Sector	W1	W2	W3	PI _w	A1	A2	A3	PI _A	H1	H2	PI _H	Pollution Index (PI)	Category	Remarks	Concerned Division
101.1	Industry or process involving metal surface treatment or process such as pickling/ electroplating/paint stripping/ heat treatment using cyanide bath/ phosphating or finishing and anodizing / enamellings/ galvanizing	25	30	20	75	30	25	0	55	25	30	55	88.8	Red		IPC-V
101.2	Plasma electrolytic polishing (electroplating)	25	30	15	70	30	25	0	55	0	0	0	78.3	Orange		IPC-V
101.3	Heat treatment using furnace (without cyaniding)	0	0	0	0	25	0	25	50	0	0	0	50	Green		IPC-V
101.4	Heat treatment with any of the new technology like ultrasound probe, induction hardening, ionization beam, gas carburizing etc.	0	15	15	30	0	25	0	25	0	0	0	38.8	Green		IPC-V
102.0	FORGING OF FERROUS AND NON- FERROUS METALS															
102.1	Forging of ferrous and non-ferrous metals using liquid fuel	0	0	0	0	25	25	20	70	30	10	40	76	Orange		IPC-V
102.2	Forging of ferrous and non-ferrous metals using gaseous fuel	0	0	0	0	25	25	10	60	30	10	40	68	Orange		IPC-V
102.3	Forging of ferrous and non-ferrous metals using electricity	0	0	0	0	25	25	0	50	30	10	40	60	Orange		IPC-V
102.4	Forging of ferrous and non-ferrous metals (cold forging, without any heat treatment)	0	0	0	0	0	0	0	0	30	10	40	40	Green		IPC-V
103.0	ROLLING MILLS															
103.1	Rolling and pickling	25	30	15	70	25	30	25	80	25	10	35	90.5	Red		IPC-V
103.2	Rolling mills (oil and coal fired)	0	15	15	30	25	0	25	50	0	0	0	57.5	Orange		IPC-V
103.3	Rolling mills (gas fired)	0	15	15	30	25	0	10	35	0	0	0	44.8	Green		IPC-V

S. No.	Sector	W1	W2	W3	PI _w	A1	A2	A3	PI _A	H1	H2	PI _H	Pollution Index (PI)	Category	Remarks	Concerned Division
103.4	Cold rolling mill (without heat treatment)	0	0	0	0	0	0	0	0	0	0	0	0	White		IPC-V
104.0	FOUNDRY OPERATIONS															
104.1	Cupola furnace	0	0	0	0	25	25	25	75	10	10	20	77.5	Orange		IPC-V
104.2	Induction furnace/arc furnace	0	0	0	0	25	30	0	55	10	10	20	59.5	Orange		IPC-V
105.0	WIRE DRAWING AND WIRE NETTING															
105.1	Wire drawing and wire netting (with pickling)	25	30	15	70	30	25	0	55	10	10	20	81.3	Red		IPC-V
105.2	Wire drawing and wire netting (without pickling and with heat treatment)	0	0	0	0	25	0	20	45	10	10	20	50.5	Green		IPC-V
105.3	Wire drawing and wire netting (without pickling and without heat treatment)	0	0	0	0	0	0	0	0	0	0	0	0	White		IPC-V
106	Die-casting /extrusion process only	0	0	0	0	25	0	25	50	0	0	0	50	Green		IPC-V
107	Manufacturing of aluminium utensils from aluminium circles pressing/ Brass and bell Metal utensils manufacturing from circles (dry mechanical operation only)	0	0	0	0	0	30	0	30	0	0	0	30	Green	Emissions during buffing	IPC-V
108	Manufacturing of Metal caps containers etc	0	0	0	0	0	0	0	0	0	0	0	0	White		IPC-V
~N~																

S. No.	Sector	W1	W2	W3	PI _w	A1	A2	A3	PI _A	H1	H2	PI _H	Pollution Index (PI)	Category	Remarks	Concerned Division
109	Formulation/palletisation of camphor tablets, Naphthalene balls from camphor/ naphthalene powders.	0	0	0	0	35	20	0	55	0	0	0	55	Orange	Emissions of benzene, hydrocarbons etc. are expected.	IPC-V
110	Organic and inorganic Nutrients by physical mixing (without boiler and without any reactor)	0	0	0	0	0	0	0	0	10	10	20	20	White	The sector may become green category if it generates wastewater	IPC-V
111.0	ORGANIC CHEMICALS INCLUDING HALOGENATED HYDROCARBONS															
111.1	Organic chemicals including halogenated hydrocarbons (using solid/liquid fuel)	30	30	25	85	35	0	30	65	30	20	50	93.6	Red		IPC-I
111.2	Organic chemicals including halogenated hydrocarbons (using cleaner fuel)	30	30	25	85	35	0	10	45	30	20	50	92.1	Red		IPC-I
112	Oil and gas extraction (offshore & onshore extraction through drilling wells), Coal Bed Methane (CBM) drilling and shale gas, including group gathering stations (GGS), etc.	25	30	15	70	20	25	0	45	30	10	40	82.8	Red		IPC-I
113.0	EDIBLE OIL MILLS															
113.1	Vegetable oil manufacturing including solvent extraction and refinery /hydrogenated oils	25	25	20	70	25	0	20	45	0	0	0	76.8	Orange		IPC-III
113.2	Oil mills Ghani and extraction without boiler (no refining/ hydrogenation)	10	25	15	50	0	0	0	0	0	0	0	50	Green		IPC-III

S. No.	Sector	W1	W2	W3	PI _w	A1	A2	A3	PI _A	H1	H2	PI _H	Pollution Index (PI)	Category	Remarks	Concerned Division
~P~																
114.0	POWER GENERATION PLANTS															
114.1	Power plants based on coal	0	15	35	50	35	25	35	95	10	70	80	98.3	Red		IPC-II
114.2	Power plants based on liquid fuels	0	15	35	50	25	25	35	85	30	20	50	92.5	Red		IPC-II
114.3	Biomass-based power plants	0	15	30	45	25	25	25	75	10	50	60	88.1	Red		IPC-II
114.4	Nuclear energy-based power plants (> 220 MW)	0	30	35	65	25	0	25	50	25	20	45	81.6	Red	Overall safety aspects related with radioactivity is regulated by Atomic Energy Regulatory Board (AERB).	IPC-II
114.5	Nuclear energy-based power plants (up to 220 MW)	0	30	35	65	25	0	25	50	25	10	35	79.9	Orange	Overall safety aspects related with radioactivity is regulated by Atomic Energy Regulatory Board (AERB).	IPC-II
114.6	Gas-based power plants	0	15	35	50	25	0	20	45	0	0	0	61.3	Orange		IPC-II
115.0	PULP & PAPER (AGRO & WOOD)															
115.1	Manufacturing of bleached chemical pulp, papers, and paperboards	30	30	35	95	30	0	35	65	30	30	60	98.1	Red		IPC-III
115.2	Unbleached or Totally Chlorine Free (TCF) bleaching for manufacturing of chemical pulp, papers, and paperboards	30	20	35	85	30	0	35	65	10	30	40	92.9	Red		IPC-III
115.3	Bleached grades of chemical pulp, paper, and paperboard having Totally Chlorine Free (TCF) bleaching	30	20	35	85	30	0	35	65	10	30	40	92.9	Red		IPC-III
116.0	PULP AND PAPER (RECYCLED FIBRE/WASTE PAPER BASED)															
116.1	Pulp & Paper (With bleaching)	30	15	35	80	25	0	25	50	10	30	40	89	Red		IPC-III
116.2	Pulp & Paper (Without bleaching, capacity ≥15 TPD)	25	15	35	75	25	0	25	50	10	30	40	86.3	Red		IPC-III

S. No.	Sector	W1	W2	W3	PI _w	A1	A2	A3	PI _A	H1	H2	PI _H	Pollution Index (PI)	Category	Remarks	Concerned Division
116.3	Pulp & Paper (Without bleaching; plant capacity <15 TPD)	25	15	20	60	25	0	25	50	10	10	20	74	Orange		IPC-III
117.0	MANUFACTURING OF PAINTS, VARNISHES															
117.1	Manufacturing of solvent-based paints/varnish	35	30	20	85	25	20	25	70	25	30	55	94.4	Red	The process may cause considerable emissions of volatile organic compounds (VOC)	IPC-I
117.2	Manufacturing of water-based paints	25	30	20	75	25	20	25	70	20	20	40	88.8	Red		IPC-I
117.3	Manufacturing of powder coatings	0	15	15	30	20	30	25	75	10	20	30	82.5	Red		IPC-I
117.4	Manufacturing of paint and varnishes (only blending and mixing)	20	30	15	65	0	20	0	20	30	20	50	77.3	Orange		IPC-I
118.0	PESTICIDE INDUSTRIES															
118.1	Pesticide technical (organic chemicals based)	30	30	20	80	30	25	25	80	30	30	60	94	Red		IPC-I
118.2	Pesticide technical (inorganic chemicals based like Zinc Phosphide and Aluminium Phosphide)	20	30	20	70	30	25	25	80	20	20	40	91	Red		IPC-I
118.3	Pesticide formulation industries (Liquid formulation only) having boiler/thermopack	20	30	20	70	25	20	25	70	20	20	40	86.5	Red		IPC-I
118.4	Pesticide formulation industries (Liquid formulation only) without having boiler/thermopack	20	30	20	70	0	20	0	20	20	20	40	79	Orange	Considering that dry formulation industries can also generate effluent because of equipment cleaning, the water pollution score is given	IPC-I
118.5	Pesticide formulation industries (having both liquid and dry formulation or dry formulation only) without having boiler / thermopack	20	30	20	70	30	20	0	50	20	20	40	83.5	Red	Considering that dry formulation industries can also generate effluent because of equipment cleaning, the water pollution score is given	IPC-I

S. No.	Sector	W1	W2	W3	PI _w	A1	A2	A3	PI _A	H1	H2	PI _H	Pollution Index (PI)	Category	Remarks	Concerned Division
118.6	Pesticide formulation industries (having both liquid and dry formulation or dry formulation only) having boiler / thermopack	20	30	20	70	30	20	25	75	20	20	40	88.8	Red	Considering that dry formulation industries can also generate effluent because of equipment cleaning, the water pollution score is given	IPC-I
119	Photographic film and its chemicals	20	20	15	55	30	0	25	55	20	10	30	74.1	Orange	Silver salts and other chemicals are used	IPC-I
120	Petroleum oil refineries	35	30	30	95	35	20	35	90	20	20	40	98.3	Red		IPC-I
121.0	PETROCHEMICALS															
121.1	Petrochemicals (Naphtha cracker.)	30	30	30	90	35	25	35	95	30	20	50	98.5	Red		IPC-I
121.2	Petrochemicals (Gas cracker)	30	30	30	90	35	25	25	85	30	20	50	96.8	Red		IPC-I
121.3	Petrochemicals (without cracker)	25	30	20	75	25	25	15	65	20	20	40	88.1	Red		IPC-I
121.4	Petrochemicals (without cracker and using cleaner/gaseous fuel)	25	30	20	75	25	25	10	60	20	20	40	87.5	Red		IPC-I
122.0	MANUFACTURING OF LUBRICATING OILS, GREASE AND PETROLEUM-BASED PRODUCTS															
122.1	Manufacturing of lubricating oils, grease, and petroleum-based products	20	15	15	50	25	20	10	55	30	10	40	75.3	Orange	Such unit uses distillation columns/ boilers etc	IPC-I
122.2	Manufacturing of lubricating oils, grease, and petroleum-based products (only blending)	0	0	0	0	0	25	0	25	10	10	20	32.5	Green		IPC-I
123.0	PHARMACEUTICAL INDUSTRY															
123.1	Pharmaceuticals manufacturing	35	30	30	95	35	25	35	95	30	20	50	98.6	Red		IPC-I
123.2	Pharmaceuticals manufacturing using cleaner/gaseous fuel	35	30	30	95	35	25	10	70	30	20	50	98	Red		IPC-I

S. No.	Sector	W1	W2	W3	PI _w	A1	A2	A3	PI _A	H1	H2	PI _H	Pollution Index (PI)	Category	Remarks	Concerned Division
123.3	Pharmaceuticals (Formulation)	20	15	15	50	25	0	25	50	30	10	40	72.5	Orange		IPC-I
123.4	Pharmaceuticals (Formulation) using cleaner/gaseous fuel	20	15	15	50	25	0	10	35	30	10	40	68.8	Orange		IPC-I
123.5	Vaccine manufacturing	20	15	15	50	25	0	35	60	30	10	40	78	Orange		IPC-I
123.6	Vaccine manufacturing using cleaner/gaseous fuel	20	15	15	50	25	0	10	35	30	10	40	68.8	Orange		IPC-I
123.7	Pharmaceutical R&D facilities	20	15	15	50	25	0	25	50	30	10	40	72.5	Orange		IPC-I
123.8	Ayurvedic or Unani medicines manufacturing	20	15	15	50	25	0	25	50	30	10	40	72.5	Orange		IPC-I
123.9	Ayurvedic or unani medicines manufacturing using cleaner fuel	20	15	15	50	25	0	10	35	0	0	0	58.8	Orange		IPC-I
123.10	Ayurvedic or unani medicines manufacturing (Without boiler)	20	15	15	50	0	0	0	0	0	0	0	50	Green		IPC-I
124	Digital Printing on flex /vinyl, PVC etc. (more than 5 machines)	0	0	0	0	20	0	0	20	30	10	40	46	Green		IPC-V
125	Spray Painting , Paint baking, Paint shipping	0	0	0	0	0	25	0	25	30	10	40	47.5	Green	Emissions in the form of VOCs and HC are generated.	IPC-V
126	Plywood /board manufacturing (including Veneer and laminate) with biomass fired boiler / thermic fluid heater (without resin plant)	20	20	15	55	25	20	25	70	0	0	0	78.3	Orange		IPC-V

S. No.	Sector	W1	W2	W3	PI _w	A1	A2	A3	PI _A	H1	H2	PI _H	Pollution Index (PI)	Category	Remarks	Concerned Division
127	Printing press (newspaper, books, magazines, etc./ Gravure printing)	20	0	15	35	20	0	0	20	30	10	40	56.5	Orange		IPC-V
128	Manufacturing of bi-axially oriented Polypropylene (PP) film along with metalizing operations	0	15	15	30	0	0	0	0	0	0	0	30	Green	Mainly extrusion process involving	IPC-V
129	Pulse/Dal Mills	0	0	0	0	0	30	0	30	0	0	0	30	Green		IPC-V
130	Insulation and other coated Papers (excluding paper or pipe manufacturing)	0	0	0	0	0	25	0	25	0	0	0	25	Green		IPC-V
131	Packaging materials manufacturing from non-asbestos fibre, vegetable fibre yarn	0	0	0	0	0	25	0	25	0	0	0	25	Green		IPC-V
132	Polythene and plastic processed products manufacturing (virgin/compostable plastic)	0	15	15	30	0	20	0	20	0	0	0	37	Green		IPC-V
133	Poultry , piggery, and hatchery	0	0	0	0	30	20	0	50	0	0	0	50	Green		IPC-V
134	Puffed rice (muri) (using gas)	0	0	0	0	25	0	10	35	0	0	0	35	Green		IPC-V

S. No.	Sector	W1	W2	W3	PI _w	A1	A2	A3	PI _A	H1	H2	PI _H	Pollution Index (PI)	Category	Remarks	Concerned Division
135	Biscuits trays etc from rolled PVC sheet (using automatic vacuum forming machines)	0	0	0	0	0	0	0	0	0	0	0	0	White		IPC-V
136	Fountain Pen manufacturing by assembling only	0	0	0	0	0	0	0	0	0	0	0	0	White		IPC-V
137	Glass Putty and sealant (by mixing with machine only)	0	0	0	0	0	0	0	0	0	0	0	0	White		IPC-V
138	Manufacturing of Paper Pins, U-clips, etc.	0	0	0	0	0	0	0	0	0	0	0	0	White		IPC-V
139	Solar Power generation through solar photovoltaic cell and wind power	0	0	0	0	0	0	0	0	0	0	0	0	White		IPC-V
~R~																
140	Synthetic Rubber excluding molding	20	15	15	50	20	0	25	45	20	10	30	68.8	Orange	Most synthetic rubber is created from two materials, styrene, and butadiene.	IPC-I
141.0	REFRACTORIES															
141.1	Refractories based on coal/liquid fuel (fuel consumption: 12 TPD and above)	0	0	0	0	25	25	30	80	0	0	0	80	Red		IPC-V
141.2	Refractories based on coal/liquid fuel (fuel consumption: less than 12 TPD)	0	0	0	0	25	25	25	75	0	0	0	75	Orange		IPC-V
141.3	Refractories based on cleaner fuels	0	0	0	0	25	25	10	60	0	0	0	60	Orange		IPC-V
142.0	RUBBER PRODUCTS MANUFACTURING															

S. No.	Sector	W1	W2	W3	PI _w	A1	A2	A3	PI _A	H1	H2	PI _H	Pollution Index (PI)	Category	Remarks	Concerned Division
142.1	Tyre and tube manufacturing	0	15	15	30	25	25	25	75	0	0	0	78.8	Orange		IPC-V
142.2	Tyres and tubes vulcanization/ hot retreading	0	15	15	30	25	20	10	55	0	0	0	61.8	Orange	Emissions of PM, VOCs and obnoxious odour are generated.	IPC-V
142.3	Rubber goods industry (with solid fuel/oil-based boiler)	0	15	15	30	25	0	25	50	0	0	0	57.5	Orange		IPC-V
142.4	Rubber goods industry (with gas-based boiler)	0	15	15	30	25	0	10	35	0	0	0	44.8	Green		IPC-V
143.0	SYNTHETIC RESINS															
143.1	Synthetic resins manufacturing	20	15	15	50	25	20	25	70	20	10	30	82	Red		IPC-I
143.2	Synthetic resins manufacturing (using only gaseous fuel)	20	15	15	50	25	20	10	55	20	10	30	73	Orange		IPC-I
144	Blending of melamine Resins & different powder, additives by physical mixing, including phenolic resin (without boiler)	0	15	15	30	0	30	0	30	20	10	30	51	Green		IPC-I
145.0	RICE MILLS															
145.1	Parboiled rice mill (with soaking and steam/drier)	25	0	20	45	25	0	25	50	0	0	0	61.3	Orange		IPC-V
145.2	Raw rice mill (Without soaking and steam/drier)/ hullers)	0	0	0	0	0	30	0	30	0	0	0	30	Green		IPC-V
146	Repairing of electric motors and generators (dry mechanical process)	0	0	0	0	0	0	0	0	0	0	0	0	White		IPC-V
147	Manufacturing of plastic or cotton Rope	0	0	0	0	0	0	0	0	0	0	0	0	White		IPC-V

S. No.	Sector	W1	W2	W3	PI _w	A1	A2	A3	PI _A	H1	H2	PI _H	Pollution Index (PI)	Category	Remarks	Concerned Division
148	Tyre Retraders	0	0	0	0	0	0	0	0	0	0	0	0	White		WM-III
RECYCLING AND REPROCESSING SECTOR																
149.0	INDUSTRIES ENGAGED IN RECYCLING/REPROCESSING/ RECOVERY/REUSE OF HAZARDOUS WASTE UNDER SCHEDULE IV OF H&OW(M & TBM) RULES, 2016 - ITEMS, NAMELY, SPENT CATALYSTS CONTAINING NICKEL, CADMIUM, ZINC, COPPER, ARSENIC, VANADIUM, AND COBALT, INCLUDING DRY BATTERY (EXCEPT LEAD), AND CLEARED METAL CATALYST.															
149.1	Hydro & pyro metallurgy	0	30	15	45	35	25	25	85	25	10	35	91	Red		WM-II
149.2	Hydro & pyro metallurgy (using cleaner/gaseous fuels & without crushing of materials)	0	30	15	45	35	25	10	70	25	10	35	82	Red		WM-II
149.3	Pyro metallurgy (using coal/liquid fuels)	0	0	0	0	35	25	25	85	20	10	30	87.3	Red		WM-II
149.4	Pyro metallurgy (using cleaner/gaseous fuels)	0	0	0	0	35	25	10	70	20	10	30	74.5	Orange		WM-II
149.5	Hydro metallurgy	0	30	15	45	30	25	0	55	25	10	35	73	Orange		WM-II
150.0	E-WASTE DISMANTLING / RECYCLING															
150.1	Industry engaged in recycling of e-waste generated from the electrical and electronic Equipment (EEE) listed in the E-Waste (Management) Rules 2022 using pyro/ hydro/ electro-metallurgical processing and recycling of plastic separated from Waste EEE	30	30	20	80	35	25	15	75	25	20	45	92	Red		WM-III

S. No.	Sector	W1	W2	W3	PI _w	A1	A2	A3	PI _A	H1	H2	PI _H	Pollution Index (PI)	Category	Remarks	Concerned Division
150.2	Industry engaged in recycling of e-waste generated from the electrical and electronic equipment (EEE) listed in the E-Waste (Management) Rules 2022 (PCB processing limited to only mechanical processing and separation without pyro/hydro/ electro-metallurgical processing), production of Al, Cu, and other metals from non-PCB sources and/or recycling of plastic separated from Waste EEE.	0	15	15	30	20	25	15	60	25	10	35	73	Orange		WM-III
150.3	Industry engaged in dismantling (only) of e-waste, generated from the electrical and electronic equipment (EEE) listed in the E-Waste (Management) Rules 2022	0	0	0	0	0	25	0	25	25	10	35	43.1	Green		WM-III
150.4	E-waste refurbishing centres	0	0	0	0	0	25	0	25	25	10	35	43.1	Green		WM-III
151.0	INDUSTRIES ENGAGED IN RECYCLING/REPROCESSING/ RECOVERY/REUSE OF HAZARDOUS WASTE (Items as per Schedule IV of H&OW(M & TBM) Rules, 2016.)															
151.1	Lead Recycling (Lead Acid Batteries with Acids; Lead Scrap Recycling) Rotary Furnace/ Pit Furnace (Mandir/Canopy Bhatti)	0	30	20	50	35	30	25	90	20	20	40	94.5	Red	This also includes battery scrap, namely: Lead battery plates covered by ISRI, Code word "Rails" Battery lugs covered by ISRI, Code word "Rakes." Scrap drained/dry while intact, lead batteries covered by ISRI, Code word "rains."	WM-II

S. No.	Sector	W1	W2	W3	PI _w	A1	A2	A3	PI _A	H1	H2	PI _H	Pollution Index (PI)	Category	Remarks	Concerned Division
151.2	Lead Recycling (Drained Lead Acid Batteries; Lead Scrap Recycling) Rotary Furnace/Mandir Bhatti on Cleaner Fuel	0	30	15	45	35	30	10	75	20	10	30	84.4	Red	This also includes, battery scrap, namely: Lead battery plates covered by ISRI, Code word "Rails" Battery lugs covered by ISRI, Code word "Rakes." Scrap drained/dry while intact, lead batteries covered by ISRI, Code word "rains."	WM-II
151.3	Isolated storages (as defined under Manufacture, Storage, and Import of Hazardous Chemicals Rules, 1989 as amended)	10	25	15	50	20	25	0	45	30	10	40	71.3	Orange		IPC-I
151.4	Paint and ink sludge / residues recycling	20	25	15	60	0	20	0	20	30	10	40	72	Orange		WM-II
151.5	Industries engaged in recycling / reprocessing/ recovery/reuse of Hazardous Waste, excluding lead, paint, and ink sludge	0	30	15	45	35	0	25	60	20	10	30	75	Orange	This includes items namely - Brass Dross, Copper Dross, Copper Oxide Mill Scale, Copper everts, Cake & Residues, Waste Copper and copper alloys in dispersible form, Slags from copper processing for further processing or refining, Insulated Copper Wire, Scrap/copper with PVC sheathing including ISRI-code material namely "Druid" Jelly filled Copper cables, Zinc Dross-Hot dip Galvanizers SLAB., Zinc Dross-Bottom Dross, Zinc ash/Skimming arising from galvanizing and die casting operations, Zinc ash/Skimming/other zinc bearing wastes arising from smelting and refining,, Zinc ash and residues including zinc alloy residues in dispersible form.	WM-II

S. No.	Sector	W1	W2	W3	PI _w	A1	A2	A3	PI _A	H1	H2	PI _H	Pollution Index (PI)	Category	Remarks	Concerned Division
151.6	Refining of used oil by hydro-treating/using solvent extraction	10	25	25	60	25	0	25	50	20	20	40	78	Orange		WM-II
151.7	Refining of used oil by using thin film evaporation/vacuum distillation with clay treatment	10	25	15	50	25	0	15	40	20	10	30	67.5	Orange		WM-II
151.8	Recycling / reprocessing of waste oil	20	25	15	60	25	0	15	40	20	10	30	74	Orange		WM-II
152.0	RECYCLING OF PLASTIC WASTE															
152.1	Manufacturing of flakes/staple fibre/strip from the recycling of PET bottles	20	15	25	60	0	20	0	20	0	0	0	64	Orange		IPC-I
152.2	Plastic waste processing (manufacturing of flakes/granules)	20	15	15	50	0	20	0	20	0	0	0	55	Orange	Process using In-built heaters.Washwater and fugitive emission.	UPC-II
153.0	SCRAPING FACILITIES FOR RECYCLING END-OF-LIFE VEHICLES, WAGONS, AND COACHES															
153.1	Collection, Depollution and Dismantling Centers (Without shredding)	0	30	15	45	0	30	0	30	25	10	35	62.9	Orange		WM-II
153.2	Collection, Depollution, Dismantling and shredding Centers	0	30	15	45	0	30	0	30	25	10	35	62.9	Orange		WM-II
153.3	Common Shredders (Standalone)	0	0	0	0	0	30	0	30	25	10	35	44.8	Green		WM-II
153.4	Collection Centers (Without depollution, dismantling and shredding)	0	0	0	0	0	0	0	0	0	0	0	0	White		WM-II
~S~																
154	Sugar (excluding khandsari/jaggery)	30	25	35	90	25	0	25	50	30	10	40	94.5	Red	Generates large volume of wastewater.	IPC-III

S. No.	Sector	W1	W2	W3	PI _w	A1	A2	A3	PI _A	H1	H2	PI _H	Pollution Index (PI)	Category	Remarks	Concerned Division
155	Ship breaking industries	0	0	0	0	0	30	0	30	30	20	50	57.5	Orange	Ship breaking releases a large number of pollutants, including toxic waste, used/waste oil, polychlorinated biphenyls, and heavy metals.	WM-III
156	Slaughterhouse / Slaughterhouse (with rendering plant)/ integrated slaughtering unit, meat processing units, bone mill, processing of animal horns, hoofs and other body parts	30	25	30	85	25	20	25	70	0	0	0	90.3	Red		IPC-IV
157	Manufacturing of Silica gel	10	25	20	55	30	0	20	50	25	10	35	74.1	Orange		IPC-I
158	Manufacturing of Iodized Salt from Crude / Raw Salt	10	20	15	45	25	0	25	50	0	0	0	61.3	Orange	Process may involve boiling in evaporators (multiple effect evaporators), centrifuging, iodization, mixing, etc.	IPC-V
159	Manufacturing of Starch / Sago / Sorbitol	20	25	25	70	25	0	25	50	0	0	0	77.5	Orange		IPC-III
160	Stone crushers	0	0	0	0	25	30	0	55	0	0	0	55	Orange		IPC-V
161	Stone crushing/grinding/washing & screening of riverbed material(s)	10	0	25	35	25	30	0	55	0	0	0	62.9	Orange		IPC-V

S. No.	Sector	W1	W2	W3	PI _w	A1	A2	A3	PI _A	H1	H2	PI _H	Pollution Index (PI)	Category	Remarks	Concerned Division	
162.0	MANUFACTURING OF SURGICAL AND MEDICAL PRODUCTS																
162.1	Manufacturing of Surgical and medical products	10	25	15	50	25	0	10	35	0	0	0	58.8	Orange		IPC-V	
162.2	Surgical and medical products assembled only (with effluent-generating processes)	10	25	15	50	0	0	0	0	0	0	0	50	Green		IPC-V	
162.3	Surgical and medical products assembled only (without effluent-generating processes)	0	0	0	0	0	0	0	0	0	0	0	0	White		IPC-V	
163.0	SEMICONDUCTOR MANUFACTURING INDUSTRIES																
163.1	Semiconductor fabs manufacturing	25	30	35	90	35	30	0	65	25	10	35	95	Red	i. Toxic wastewater is generated due to presence of Hydrofluoric acid (HF), Mixed Nitric HF (HF+HNO ₃), Phosphoric acid, Sulphuric acid (H ₂ SO ₄), Hydrogen Peroxide, Isopropyl alcohol (IPA) / Methanol (Methanol Only), Stripper EKC-265 /ACT N396 (ACT N396 Only), BHF – 63 U, Choline etchant, etc. ii. The air pollutants which are being emitted during the manufacturing process are SiH ₄ , PH ₃ , B ₂ H ₆ , HF, HBr, DCS, NF ₃ , SF ₆ , BCl ₃ , Cl ₂ , HCL, NH ₃ , C ₂ F ₆ , CHF ₃ , CF ₄ , C ₄ F ₈ , C ₂ F ₆ etc. iii. Process waste, used oil etc. are generated as hazardous waste.	WM-III	
163.2	Display fabs manufacturing	25	30	35	90	25	30	0	55	25	10	35	94.5	Red		WM-III	
163.3	Sensor fabs manufacturing/ Compound semiconductors/ silicon photonics	25	30	35	90	25	30	0	55	25	10	35	94.5	Red		WM-III	
163.4	Semiconductor Assembly, Testing, Marking and Packaging Facility (ATMP)	0	0	0	0	0	25	0	25	25	10	35	43.1	Green		WM-III	
164	Saw mills	0	0	0	0	0	30	0	30	0	0	0	30	Green		IPC-V	

S. No.	Sector	W1	W2	W3	PI _w	A1	A2	A3	PI _A	H1	H2	PI _H	Pollution Index (PI)	Category	Remarks	Concerned Division
165	Spice grinding	0	0	0	0	0	30	0	30	0	0	0	30	Green		IPC-V
166	Cutting, Sizing and polishing of marble, granite and other stones	10	0	20	30	0	30	0	30	0	0	0	40.5	Green		IPC-V
167	Manufacturing of Solar module/ non-conventional energy apparatus	0	0	0	0	0	0	0	0	0	0	0	0	White		IPC-V
~T~																
168.0	TANNERIES															
168.1	Tanneries (Raw to finish)	35	30	25	90	0	20	0	20	25	30	55	93.8	Red		IPC-IV
168.2	Tanneries (Raw to wet blue)	35	30	25	90	0	20	0	20	25	30	55	93.8	Red		IPC-IV
168.3	Tanneries (Wet blue to finish)	35	30	20	85	0	20	0	20	25	30	55	90.6	Red		IPC-IV
168.4	Vegetable tanning	20	25	25	70	0	20	0	20	20	10	30	77.5	Orange		IPC-IV
169.0	MANUFACTURING OF TOOTH POWDER, TOOTHPASTE, TALCUM POWDER AND OTHER COSMETIC ITEMS															
169.1	Manufacturing of toothpaste and other cosmetic items	20	25	20	65	25	0	25	50	0	0	0	73.8	Orange		IPC-V
169.2	Manufacturing of tooth powder, talcum powder	0	0	0	0	0	25	0	25	0	0	0	25	Green		IPC-V
170.0	THERMOMETER MANUFACTURING															
170.1	Glass (mercury based) thermometer manufacturing	10	30	15	55	25	0	10	35	25	10	35	70.8	Orange	Process involves making of glass bulb, forming reservoir in the glass tube for fluid, inserting fluid, scale marking. Use of fuel to heat the glass tubes and hydrofluoric acid to seal the scaling. Small quantities of spent acids are generated.	IPC-V
170.2	Digital thermometer manufacturing	0	0	0	0	0	0	0	0	0	0	0	0	White		IPC-V

S. No.	Sector	W1	W2	W3	PI _w	A1	A2	A3	PI _A	H1	H2	PI _H	Pollution Index (PI)	Category	Remarks	Concerned Division
171	Manufacturing of Teflon -based products	10	0	15	25	25	25	25	75	0	0	0	78.1	Orange	Due to spraying applications, emissions (HC) are generated	IPC-V
172	Thermocol manufacturing (with boiler)	0	20	15	35	25	0	25	50	0	0	0	58.8	Orange		IPC-V
173.0	MANUFACTURING OF TOBACCO PRODUCTS INCLUDING CIGARETTES AND TOBACCO PROCESSES															
173.1	Manufacturing of tobacco products including cigarettes and tobacco processes (with boiler)	20	0	15	35	25	20	25	70	0	0	0	75.3	Orange		IPC-III
173.2	Manufacturing of tobacco products including cigarettes and tobacco processes (without boiler)	20	0	15	35	0	20	0	20	0	0	0	41.5	Green		IPC-III
174	Transformer repairing/ manufacturing (dry process only)	0	0	0	0	0	25	0	25	30	10	40	47.5	Green		IPC-V
175	Tyre Pyrolysis Oil Industries-Applicable for advanced batch automated process / continuous TPO units	10	0	15	25	25	25	25	75	0	0	0	78.1	Orange		WM-III
176	Tamarind powder manufacturing	10	15	15	40	25	0	10	35	0	0	0	50.5	Green	Dried tamarind fruits are cleaned, soaked, and boiled in steam jacketed kettle. Then pulp is extracted in pulper and dried in drum type drier.	IPC-V

S. No.	Sector	W1	W2	W3	PI _w	A1	A2	A3	PI _A	H1	H2	PI _H	Pollution Index (PI)	Category	Remarks	Concerned Division	
177.0	TEA PROCESSING AND BLENDING																
177.1	Tea processing (with boiler)	10	0	15	25	25	0	25	50	0	0	0	56.3	Orange		IPC-III	
177.2	Tea processing (without boiler)	10	0	15	25	0	0	0	0	0	0	0	25	Green		IPC-III	
177.3	Blending and packing of tea	0	0	0	0	0	0	0	0	0	0	0	0	White		IPC-V	
TEXTILE SECTOR																	
178.0	TEXTILE INDUSTRY																
178.1	Yarn / Textile processing involving any effluent/emission generating processes including bleaching, dyeing, printing, and colouring, including the garment and apparel manufacturing industry	30	30	30	90	25	0	35	60	30	20	50	95.5	Red		IPC-III	
178.2	Yarn to grey fabric manufacturing with water jet machines	20	25	25	70	0	0	0	0	0	0	0	70	Orange		IPC-III	
178.3	Garment and apparel manufacturing industry including Doubling / Reeling / TFO-Two for one unit (dry process)-with boiler	0	0	0	0	25	0	25	50	0	0	0	50	Green		IPC-III	
178.4	Garment and apparel manufacturing industry including Doubling / Reeling / TFO-Two for one unit (dry process)-without boiler	0	0	0	0	0	0	0	0	0	0	0	0	White		IPC-III	
179.0	SAREE/FABRIC PRINTING BY SCREEN / WOODEN BLOCK /HAND BLOCK																
179.1	Saree/fabric printing by screen / wooden block/hand block	25	0	25	50	25	0	20	45	30	10	40	71.3	Orange		IPC-III	
179.2	Hand block printing without effluent generation	0	0	0	0	25	0	20	45	0	0	0	45	Green		IPC-III	

S. No.	Sector	W1	W2	W3	PI _w	A1	A2	A3	PI _A	H1	H2	PI _H	Pollution Index (PI)	Category	Remarks	Concerned Division	
180.0	TEXTILE SPINNING, SIZING AND WEAVING MILLS																
180.1	Textile spinning, sizing and weaving mills (wastewater generation \geq 10 KLD)	10	20	20	50	25	0	15	40	0	0	0	60	Orange		IPC-III	
180.2	Textile spinning, sizing and weaving mills (wastewater generation <10 KLD)	10	20	15	45	25	0	10	35	0	0	0	54.6	Green		IPC-III	
181	Power looms (without dye and bleaching)	0	0	0	0	0	25	0	25	0	0	0	25	Green		IPC-III	
182.0	REPROCESSING OF WASTE TEXTILE FABRIC																
182.1	Integrated facility for reprocessing of waste textile fabric (including washing, bleaching, dyeing etc.)	30	30	20	80	25	25	15	65	0	0	0	86.5	Red		IPC-III	
182.2	Reprocessing of waste textile fabric (dry process)	0	0	0	0	0	25	0	25	0	0	0	25	Green		IPC-III	
183	Cotton and woollen Hosiers making (Dry process only without any dyeing / washing operation)	0	0	0	0	0	0	0	0	0	0	0	0	White		IPC-V	
~W~																	
184	Seasoning of Wood in steam heated chamber	0	0	0	0	25	0	25	50	0	0	0	50	Green		IPC-V	
185	Pulverization of bamboo and scrap Wood	0	0	0	0	0	25	0	25	0	0	0	25	Green		IPC-V	
186	Distilled Water (without boiler) with electricity as source of heat	0	20	20	40	0	0	0	0	0	0	0	40	Green		IPC-V	

S. No.	Sector	W1	W2	W3	PI _W	A1	A2	A3	PI _A	H1	H2	PI _H	Pollution Index (PI)	Category	Remarks	Concerned Division
187	Purification of Water and packaging (mineralized/non-mineralized water)	0	20	25	45	0	0	0	0	0	0	0	45	Green	RO Rejects.	IPC-V



ANNEXURE-II

(LIST OF ESSENTIAL ENVIRONMENTAL SERVICES)



LIST OF ESSENTIAL ENVIRONMENTAL SERVICES**i. Essential Environmental Services for Industrial Waste Management**

S. No.	Sector	W1	W2	W3	PI _w	A1	A2	A3	PI _A	H1	H2	PI _H	Pollution Index (PI)	Category	Remarks	Concerned Division	
1.0	COMMON EFFLUENT TREATMENT PLANT (CETP)																
1.1	CETP having MEE/spray drier	30	30	35	95	25	0	25	50	25	50	75	98.1	Red		IPC-VII	
1.2	CETP (without having MEE/spray drier), Common MEE/common spray driers	25	30	30	85	0	0	0	0	25	30	55	89.1	Red		IPC-VII	
1.3	Common Sewage-Effluent Treatment Plant (CSETP)	25	30	30	85	0	0	0	0	25	20	45	88.4	Red		WQM-I & IPC-VII	
2.0	Effluent conveyance projects	20	30	35	85	0	0	0	0	25	10	35	87.6	Red	Such projects during O&M operation will generate deposited sludge, spillage etc. in addition regular operation of handling of effluent and its disposal.	IPC-VII	
3.0	COMMON HAZARDOUS WASTE TREATMENT, STORAGE AND DISPOSAL FACILITY																
3.1	Integrated facility (Secured landfill and incinerator)	35	30	15	80	25	25	15	65	30	70	100	100.0	Red		WM-II	
3.2	Only secured landfill	35	30	15	80	0	25	0	25	25	70	95	97.6	Red		WM-II	
3.3	Only incinerator	35	30	15	80	25	25	15	65	30	70	100	100.0	Red		WM-II	
4.0	COMMON BIO-MEDICAL WASTE TREATMENT FACILITY (CBWTF)																
4.1	CBWTF	20	25	20	65	35	20	25	80	20	20	40	90.5	Red		WM-I	
4.2	CBWTF using cleaner/gaseous fuel	20	25	20	65	35	20	10	65	20	20	40	83.4	Red		WM-I	

ii. LIST OF BLUE CATEGORY SECTORS- Essential Environmental Services for Domestic/Household Activities:

S. No.	Sector	W1	W2	W3	PI _w	A1	A2	A3	PI _A	H1	H2	PI _H	Pollution Index (PI)	Category	Remarks	Concerned Division
1.0 MUNICIPAL SOLID WASTE MANAGEMENT FACILITY																
1.1	Municipal Solid Waste Management Facility (Sanitary landfill/ Integrated Sanitary landfill with material recycling facility/ refused derived fuel, etc.)	35	30	15	80	35	25	0	60	0	0	0	86.0	Blue		UPC-II
1.2	Waste to energy power plants	0	15	30	45	35	25	35	95	10	50	60	97.6	Blue		UPC-II
1.3	Bio-mining of legacy waste projects	35	30	25	90	35	25	0	60	0	0	0	93.0	Blue		UPC-II
1.4	Municipal Solid Waste Bio-methanation plant (Quantity of MSW \geq 5 TPD)	30	25	25	80	0	20	0	20	0	0	0	82.0	Blue		UPC-II
1.5	Municipal Solid Waste Composting Facility (Quantity of MSW \geq 5 TPD)	30	25	15	70	0	30	0	30	0	0	0	74.5	Blue		UPC-II
1.6	Municipal Solid Waste Material Recovery Facility (Quantity of MSW \geq 5 TPD)	20	25	15	60	0	30	0	30	0	0	0	66.0	Blue		UPC-II
2.0 Construction and Demolition (C&D) Waste Processing Plants																
2.0	Construction and Demolition (C&D) Waste Processing Plants	10	0	15	25	25	25	0	50	0	0	0	56.3	Blue	Wastewater of high TDS of inorganic nature is generated.	UPC-I
3.0 SEWAGE TREATMENT PLANT																
3.1	Sewage Treatment Plant (5 MLD and above)	20	0	35	55	0	20	0	20	0	0	0	59.5	Blue		WQM-I
3.2	Sewage Treatment Plant (less than 5 MLD)	20	0	25	45	0	20	0	20	0	0	0	50.5	Blue		WQM-I



ANNEXURE-III
(LIST OF SERVICE/INFRASTRUCTURE DEVELOPMENT SECTORS
CLASSIFIED UNDER RED, ORANGE, GREEN, AND WHITE
CATEGORIES)



SERVICE/INFRASTRUCTURE DEVELOPMENT SECTORS

S. No.	Sector	W1	W2	W3	PI _w	A1	A2	A3	PI _A	H1	H2	PI _H	Pollution Index (PI)	Category	Remarks	Concerned Division	
1.0	STANDALONE GENERATOR SET (Genset)																
1.1	Genset(s) of total capacity \geq 1 MVA, using liquid fuel	0	0	0	0	25	0	25	50	30	10	40	60.0	Orange	i. Standalone genset(s) of total capacity less than 1000 KVA may not require additional classification. The used oil/waste oil generated during repair and maintenance need to be disposed through authorized hazardous waste recycler by service provider/OEM. ii. Projects such data centers etc. having pollution potential due to gensets only, may be classified based on the capacity and fuel used.	UPC-I	
1.2	Genset(s) of total capacity \geq 1 MVA, using cleaner/gaseous fuel	0	0	0	0	25	0	10	35	30	10	40	50.5	Green		UPC-I	
2.0	Airports	20	0	35	55	25	0	25	50	30	10	40	75.3	Orange	Airports generates mainly domestic sewage as wastewater. Emissions and generation of hazardous waste due to overall operations in airport are considered.	UPC-I	
3.0	HEALTH CARE FACILITIES (HCFs, AS DEFINED UNDER BIO-MEDICAL WASTE MANAGEMENT RULES, 2016)																
3.1	HCFs with captive incinerator, irrespective of number of beds	20	0	15	35	35	20	25	80			50	88.5	Red	Sector generates bio-medical waste. As per methodology scores assigned to H.	WM-I	
3.2	more than 1000 bedded HCFs	20	0	35	55	0	0	0	0			100	100.0	Red		WM-I	
3.3	501 to 1,000 bedded HCFs	20	0	30	50	0	0	0	0			80	85.0	Red		WM-I	
3.4	201 to 500 bedded HCFs	20	0	30	50	0	0	0	0			60	70.0	Orange		WM-I	
3.5	51 to 200 bedded HCFs	20	0	20	40	0	0	0	0			50	60.0	Orange		WM-I	
3.6	11 to 50 bedded HCFs	20	0	20	40	0	0	0	0			40	52.0	Green		WM-I	
3.7	Up to 10 bedded HCFs	20	0	15	35	0	0	0	0			30	44.8	Green		WM-I	
3.8	Non-bedded HCFs	0	0	0	0	0	0	0	0			25	25.0	Green		WM-I	

S. No.	Sector	W1	W2	W3	PI _W	A1	A2	A3	PI _A	H1	H2	PI _H	Pollution Index (PI)	Category	Remarks	Concerned Division	
4.0	HOTELS/BANQUET HALLS HAVING ROOM FACILITY																
4.1	Hotels (above 3 star) or having 100 & above rooms	20	25	30	75	25	0	25	50	0	0	0	81.3	Red		UPC-I	
4.2	Hotels (above 3 star) or having 100 & above rooms (based on cleaner /gaseous fuel)	20	25	30	75	25	0	10	35	0	0	0	79.4	Orange		UPC-I	
4.3	Hotels (up to 3 star) or having more than 20 rooms but less than 100 rooms.	20	25	20	65	25	0	25	50	0	0	0	73.8	Orange		UPC-I	
4.4	Up to 20 rooms	10	25	15	50	0	0	10	10	0	0	0	52.5	Green		UPC-I	
5.0	RAILWAY LOCOMOTIVE WORK SHOP/ INTEGRATED ROAD TRANSPORT WORKSHOP/ AUTHORIZED SERVICE CENTERS																
5.1	Railway locomotive work shop/ Integrated road transport workshop/ Authorized service centers (wastewater generation ≥ 10 KLD)	20	25	25	70	30	25	0	55	30	10	40	84.3	Red		IPC-V	
5.2	Railway locomotive work shop/ Integrated road transport workshop/ Authorized service centers (wastewater generation <10 KLD)	20	25	15	60	30	25	0	55	30	10	40	79.0	Orange		IPC-V	
6.0	RAILWAY STATIONS																
6.1	Railway Stations (Wastewater Generation ≥ 5 MLD)	20	0	35	55	25	0	25	50	30	10	40	75.3	Orange	Wastewater generating from public toilets, public taps, platform, and apron washing, coach cleaning, laundry, restaurants etc. Emissions and generation of hazardous waste due to overall operations are considered.	UPC-I	
6.2	Railway Stations (Wastewater Generation ≥ 100 KLD, but < 5 MLD)	20	0	15	35	0	0	0	0	0	0	0	35.0	Green	Wastewater generating from various domestic uses as public toilets, public taps, platforms, and apron washing, restaurants etc.	UPC-I	

S. No.	Sector	W1	W2	W3	PI _w	A1	A2	A3	PI _A	H1	H2	PI _H	Pollution Index (PI)	Category	Remarks	Concerned Division	
7.0	RAILWAY SIDINGS																
7.1	Railway sidings / Mineral stock yard	0	0	0	0	0	25	0	25	0	0	0	25.0	Green	Fugitive emissions due to loading, unloading, storage and transportation of the minerals.	UPC-I	
7.2	Railway sidings only for defence purpose	0	0	0	0	0	0	0	0	0	0	0	0.0	White		UPC-I	
8.0	PORTS AND HARBOURS																
8.1	Ports and harbours, jetties and dredging operations	20	30	25	75	0	25	0	25	30	20	50	84.4	Red		WM-I	
8.2	Ports and harbours (only containers handling)/ Captive jetties	20	25	20	65	0	25	0	25	30	10	40	76.4	Orange		WM-I	
9.0	Automobile service stations/ workshops	20	25	20	65	20	0	0	20	30	10	40	75.5	Orange		IPC-V	
10.0	BUILDING CONSTRUCTION PROJECTS																
10.1	Building construction project ≥ 20,000 sq. m. built-up area	20	0	25	45	25	0	25	50	0	0	0	61.3	Orange	i. During the construction phase, the sector is mainly air polluting. However, in post construction phase it is mainly water polluting due to generation of sewage. Consent to Establish/Operate to be taken as per EC conditions, as applicable. ii. Building construction project ≥ 5,000 sq. m., but < 20,000 sq. m. built-up area (with connectivity to terminal STP) may not require separate classification. iii. For projects < 5000 the wastewater shall be managed according to on-site sanitation methods as mentioned in the Manual on Sewerage and Sewage Treatment System (2013), published by the	UPC-I	
10.2	Building construction project ≥ 5,000 sq. m., but < 20,000 sq. m. built-up area (without connectivity to terminal STP)	20	0	20	40	0	0	0	0	0	0	0	40.0	Green		UPC-I	

S. No.	Sector	W1	W2	W3	PI _W	A1	A2	A3	PI _A	H1	H2	PI _H	Pollution Index (PI)	Category	Remarks	Concerned Division
															Central Public Health and Environmental Engineering Organisation (CPHEEO), and as amended from time to time.	
11.0	Standalone mechanized laundry (using boiler)	20	0	20	40	25	0	25	50	0	0	0	60.0	Orange		IPC-V
12.0	New highway construction project	0	0	0	0	25	25	25	75	0	0	0	75.0	Orange	Such projects involve use of hot mix plants, ready-mix concrete plants, construction activities generating fugitive emissions, etc.	UPC-I
13.0	DAIRY FARM															
13.1	Dairy Farm (having more than 500 animals)	30	25	25	80	0	20	0	20	0	0	0	82.0	Red	Dairy farms having less than 15 animals do not require separate classification.	IPC-IV
13.2	Dairy Farm (having 101 to 500 animals)	30	25	20	75	0	20	0	20	0	0	0	77.5	Orange		IPC-IV
13.3	Dairy Farm (having 15 to 100 animals)	30	25	15	70	0	20	0	20	0	0	0	73.0	Orange		IPC-IV
14.0	Gold Assaying & Hallmarking Centres	0	0	0	0	35	0	0	35	25	10	35	46.4	Green	Lead oxide, nitrous fumes are generated during cupellation and parting acid treatment, respectively contributing to the air emissions. The hazardous waste is generated during fire assay in the form of spent cupels bearing lead, spent acid, scrubbed water etc.	IPC-V
15.0	Facility of handling, storage, and transportation of food grains in bulk	0	0	0	0	0	25	0	25	0	0	0	25.0	Green		IPC-V
16.0	Flyash export or disposal operations	0	0	0	0	0	25	0	25	0	0	0	25.0	Green		IPC-V

S. No.	Sector	W1	W2	W3	PI _w	A1	A2	A3	PI _A	H1	H2	PI _H	Pollution Index (PI)	Category	Remarks	Concerned Division
17.0	Oil and gas transportation pipeline (excluding pipeline covered under definition of isolated storage of hazardous chemicals, as per Manufacture, Storage, and Import of Hazardous Chemicals Rules, 1989)	0	0	0	0	25	0	10	35	0	0	0	35.0	Green		IPC-I
18.0	Gaushalas	20	0	15	35	0	20	0	20	0	0	0	41.5	Green		IPC-IV
19.0	Household bio-digesters/gobar-gas (cow-dung) plants based on biodegradable wastes, etc.	0	0	0	0	0	20	0	20	0	0	0	20.0	White		IPC-V



ANNEXURE-IV
**(LIST OF OTHERS/SPECIAL CATEGORY SECTORS CLASSIFIED UNDER RED,
ORANGE, GREEN, AND WHITE CATEGORIES)**



OTHERS/SPECIAL CATEGORY SECTORS

S. No.	Sector	W1	W2	W3	PI _w	A1	A2	A3	PI _A	H1	H2	PI _H	Pollution Index (PI)	Category	Remarks	Concerned Division	
1.0	HYDEL POWER PLANTS INCLUDING PUMPED STORAGE PROJECTS																
1.1	Hydel power plants (Capacity > 50 MW)													Red	PI may be considered as 90.	IPC-II	
1.2	Mini Hydel power plants (Capacity from more than 25 MVA and up to 50 MW)													Orange	PI may be considered as 67.5.	IPC-II	
1.3	Mini Hydel power plants (Capacity ≤ 25 MW)													White	PI may be considered as 12.5.	IPC-II	
2.0	SAND / RIVERBED MATERIAL MINING FROM RIVERBED AND ITS FLOODPLAINS (excluding manual excavation)																
2.1	Mining lease area more than 5 hectares or Mining lease area up to 5 hectares which is part of cluster mining													Red	i. Sand / riverbed material mining from riverbed and its floodplains may cause ecological disturbances, erosion of riverbed, change in hydro-geological conditions & river ecosystem, etc.	IPC-II	
2.2	Standalone mining lease area up to five hectares in areas (not a part of any cluster mining)													Orange	ii. Cluster mining means that the distance of mining lease area is less than 500 m from periphery of another lease area. iii. This categorization is made considering the ecological damages and not based on pollution potential/index. iv. Cluster mining as defined in 'Enforcement & Monitoring Guidelines for Sand Mining, 2020', issued by MoEF&CC. v. PI may be considered as 90 and 67.5 for red and orange category, respectively.	IPC-II	

ANNEXURE-V**FORMAT FOR SUBMISSION OF INFORMATION BY SPCBS/PCCS REGARDING SECTORS****CLASSIFIED UNDER WHITE CATEGORY**

S. No.	Sector	Water Pollutant Score (PI _w)				Air Pollutant Score (PI _A)				Waste Pollutant Score (PI _H)			Pollution Index (PI)	Remarks (including brief description of process and pollution potential)
		W1	W2	W3	W	A1	A2	A3	A	H1	H2	H		



A tool for progressive environmental Management



Central Pollution Control Board

"Parivesh Bhawan", East Arjun Nagar, Delhi - 110032

ANNEXURE A/6**F. No. 22-34/2018-IA.III**

Government of India

Ministry of Environment, Forest and Climate Change

(Impact Assessment Division)

Indira Paryavaran Bhawan
Jor Bagh Road, Aliganj,
New Delhi – 110003E-mail: sharath.kr@gov.in
Tel: 011-24695319Dated: 4th January, 2019**OFFICE MEMORANDUM****Sub.: Standardization of Environment Clearance conditions – reg.**

The Ministry of Environment, Forest and Climate Change has notified the Environmental Impact Assessment (EIA) Notification, 2006 under the provisions of the Environment (Protection) Act, 1986, which regulates development and their expansion/modernization of 39 sectors/activities listed in the Schedule to the EIA Notification, 2006. There are two Category of projects viz. Category 'A' projects that are handled at the level of MoEF&CC and Category 'B' projects that are handled by the respective State Environment Impact Assessment Authority (SEIAA) following the procedure prescribed under the EIA Notification, 2006.

2. All projects or activities included as Category 'A' in the Schedule, including expansion and modernization of existing projects or activities and change in product mix, shall require prior environmental clearance from the Central Government in the Ministry of Environment and Forest and Climate Change (MoEF&CC) on the recommendations of an Expert Appraisal Committee (EAC) constituted by the Central Government for the purposes of this notification.
3. The Standard Environmental Clearance conditions have been prepared for expediting the process of Environmental Clearance without compromising environmental norms and the rigor of environment impact assessment.
4. The standard Environment Clearance conditions shall be considered by the concerned EAC with due diligence while recommending the Environmental Clearance. The expert appraisal committee can modify, prescribe additional conditions based on the project specific requirements.
5. The recommended conditions by the EAC shall be brought in the minutes of the meeting of the EAC.

6. The standard Environment Clearance conditions are herewith issued for the following sectors:

S.No.	Sector	Project / Activity
I.	Infrastructure	7(a) Airports 7(d) Common hazardous waste treatment, storage and disposal facilities (TSDFs) 7(da) Bio-medical waste treatment facility 7(e) Port, Harbour, Break water and Dredging 7(g) Aerial Ropeways 7(h) Common Effluent Treatment Plants 7(i) Common Municipal Solid Waste Management Facility
II.	Building/construction Projects, Area Development Projects	8 (a) Building and construction projects 8(b) Township and Area Development Projects.

7. This issues with the approval of competent authority.


 (Sharath Kumar Pallerla)
 Director (IA-III-Policy)

To

1. Chairman, Central Pollution Control Board (CPCB).
2. Chairman of all the Expert Appraisal Committees
3. Chairperson/Member Secretaries of all the SEIAAs/SEACs
4. All the Officers of I.A. Division
5. Chairpersons/Member Secretaries of all SPCBs/UTPCCs

Copy for information to:

1. PS to Hon'ble Minister for Environment, Forest and Climate Change
2. PS to Hon'ble MoS (EF&CC)
3. PPS to Secretary(EF&CC)
4. PPS to AS(AKJ) / AS (AKM)
5. PS to JS (RSP)/ JS(JT)/JS(GM)
6. Website, MoEF&CC
7. Guard file.

Standard EC Conditions for Project/Activity 7(a): Airport

I. Statutory compliance:

- i. The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1986, in case of the diversion of forest land for non-forest purpose involved in the project.
- ii. The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.
- iii. The project proponent shall prepare a Site-Specific Conservation Plan & Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report. (incase of the presence of schedule-I species in the study area)
- iv. The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State Pollution Control Board/ Committee.
- v. The project proponent shall obtain the necessary permission from the Central Ground Water Authority, in case of drawl of ground water / from the competent authority concerned in case of drawl of surface water required for the project.
- vi. Clearance from Directorate General of Civil Aviation (DGCA) and Airports Authority of India (AAI) for safety and project facilities shall be obtained.
- vii. A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project should be obtained.
- viii. All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department shall be obtained, as applicable by project proponents from the respective competent authorities.

II. Air quality monitoring and preservation

- i. The project proponent shall install system to carryout Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM₁₀ and PM_{2.5} in reference to PM emission, and SO₂ and NO_x in reference to SO₂ and NO_x emissions) within and outside the airport area at least at four locations

(one within and three outside the plant area at an angle of 120° each), covering upwind and downwind directions.

- ii. Diesel power generating sets proposed as source of backup power should be of enclosed type and conform to rules made under the Environment (Protection) Act, 1986. The height of stack of DG sets should be equal to the height needed for the combined capacity of all proposed DG sets. Use of low sulphur diesel. The location of the DG sets may be decided with in consultation with State Pollution Control Board.
- iii. A detailed traffic management and traffic decongestion plan shall be drawn up to ensure that the current level of service of the roads within a 05 kms radius of the project is maintained and improved upon after the implementation of the project. This plan should be based on cumulative impact of all development and increased habitation being carried out or proposed to be carried out by the project or other agencies in this 05 Kms radius of the site in different scenarios of space and time and the traffic management plan shall be duly validated and certified by the State Urban Development department and the P.W.D./ competent authority for road augmentation and shall also have their consent to the implementation of components of the plan which involve the participation of these departments.
- iv. Soil and other construction materials should be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty material wet
- v. The excavation working area should be sprayed with water after operation so as to maintain the entire surface wet.
- vi. Excavated materials shall be handled and transported in a manner that they do not cause any problems of air pollution.
- vii. The soil/construction materials carried by the vehicle should be covered by impervious sheeting to ensure that the dusty materials do not leak from the vehicle.

III. Water quality monitoring and preservation

- i. Run off from chemicals and other contaminants from aircraft maintenance and other areas within the airport shall be suitably contained and treated before disposal. A spillage and contaminant containment plan shall be drawn up and implemented to the satisfaction of the State Pollution Control Board.
- ii. Proper drainage systems, emergency containment in the event of a major spill during monsoon season etc. shall be provided.
- iii. The runoff from paved structures like Runways, Taxiways, can be routed through drains to oil separation tanks and sedimentation basins before being discharged into rainwater harvesting structures.

- iv. Storm water drains are to be built for discharging storm water from the air-field to avoid flooding/water logging in project area. Domestic and industrial waste water shall not be allowed to be discharged into storm water drains.
- v. Rain water harvesting for roof run-off and surface run-off, as plan submitted should be implemented. Rain water harvesting structures shall conform to CGWA designs. Before recharging the surface run off, pre-treatment must be done to remove suspended matter, oil and grease.
- vi. Total fresh water use shall not exceed the proposed requirement as provided in the project details. Prior permission from competent authority shall be obtained for use of fresh water.
- vii. Sewage Treatment Plant shall be provided to treat the wastewater generated from airport. Treated water shall be reused for horticulture, flushing, backwash, HVAC purposes and dust suppression
- viii. A certificate from the competent authority for discharging treated effluent/ untreated effluents into the Public sewer/ disposal/drainage systems along with the final disposal point should be obtained.
- ix. A detailed drainage plan for rain water shall be drawn up and implemented.

IV. Noise monitoring and prevention

- i. Noise level survey shall be carried as per the prescribed guidelines and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.
- ii. Noise from vehicles, power machinery and equipment on-site should not exceed the prescribed limit. Equipment should be regularly serviced. Attention should also be given to muffler maintenance and enclosure of noisy equipments.
- iii. Acoustic enclosures for DG sets, noise barriers for ground-run bays, ear plugs for operating personnel shall be implemented as mitigation measures for noise impact due to ground sources.
- iv. During airport operation period, noise should be controlled to ensure that it does not exceed the prescribed standards. During night time the noise levels measured at the boundary of the building shall be restricted to the permissible levels to comply with the prevalent regulations.
- v. Where construction activity is likely to cause noise nuisance to nearby residents, restrict operation hours between 7 am to 6 pm.

V. Energy Conservation measures

- i. Energy conservation measures like installation of LED/CFLs/TFLs for the lighting the areas outside the building should be integral part of the project design and should be in place before project commissioning.

VI. Waste management

- ii. Soil stockpile shall be managed in such a manner that dust emission and sediment runoff are minimized. Ensure that soil stockpiles are designed with no slope greater than 2:1 (horizontal/vertical).
- iii. The project activity shall conform to the Fly Ash notification issued under the E.P. Act of 1986.
- iv. Solid inert waste found on construction sites consists of building rubble, demolition material, concrete; bricks, timber, plastic, glass, metals, bitumen etc shall be reused/recycled or disposed off as per Solid Waste Management Rules, 2016 and Construction and Demolition Waste Rules, 2016.
- v. Any wastes from construction and demolition activities related thereto shall be managed so as to strictly conform to the Construction and Demolition Rules, 2016.
- vi. The project proponents shall implement a management plan duly approved by the State Pollution Control Board and obtain its permissions for the safe handling and disposal of:
 - a. Trash collected in flight and disposed at the airport including segregation, collection and disposed.
 - b. Toilet wastes and sewage collected from aircrafts and disposed at the Airport.
 - c. Wastes arising out of maintenance and workshops
 - d. Wastes arising out of eateries and shops situated inside the airport complex.
 - e. Hazardous and other wastes
- vii. The solid wastes shall be segregated as per the norms of the Solid Waste Management Rules, 2016. Recycling of wastes such as paper, glass (produced from terminals and aircraft caterers), metal (at aircraft maintenance site), plastics (from aircrafts, terminals and offices), wood, waste oil and solvents (from maintenance and engineering operations), kitchen wastes and vegetable oils (from caterers) shall be carried out. Solid wastes shall be disposed in accordance to the Solid Waste Management Rules, 2016 as amended.

- viii. A certificate from the competent authority handling municipal solid wastes should be obtained, indicating the existing civic capacities of handling and their adequacy to cater to the M.S.W. generated from project.
- ix. Used CFLs and TFLs should be properly collected and disposed off/sent for recycling as per the prevailing guidelines/ rules of the regulatory authority to avoid mercury contamination.

VII. Green Belt

- i. Green belt shall be developed in area as provided in project details, with native tree species in accordance with Forest Department. The greenbelt shall inter alia cover the entire periphery of the Air Port.
- ii. Top soil shall be separately stored and used in the development of green belt.

VIII. Public hearing and Human health issues

- i. Construction site should be adequately barricaded before the construction begins.
- ii. Traffic congestion near the entry and exit points from the roads adjoining the airport shall be avoided. Parking should be fully internalized and no public space should be utilized.
- iii. Provision of Electro-mechanical doors for toilets meant for disabled passengers. Children nursing/feeding room to be located conveniently near arrival and departure gates.
- iv. Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.
- v. Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
- vi. Occupational health surveillance of the workers shall be done on a regular basis.

IX. Corporate Environment Responsibility

- i. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 1st May 2018, as applicable, regarding Corporate Environment Responsibility.
- ii. The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any

infringements/deviation/violation of the environmental / forest /wildlife norms/ conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.

- iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.
- iv. Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.
- v. Self environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.

X. Miscellaneous

- i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.
- ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
- iii. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
- iv. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
- v. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.

- vi. The criteria pollutant levels namely; PM 10, PM2.5, SO₂, NO_x (ambient levels) shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.
- vii. The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.
- ix. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
- x. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
- viii. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).
- ix. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
- x. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
- xi. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
- xii. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
- xiii. The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts/NGT and any other Court of Law relating to the subject matter.
- xiv. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

Standard EC Conditions for Project/Activity 7(d): Common hazardous waste treatment, storage and disposal facilities (TSDFs)

I. Statutory compliance:

- i. The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1986, in case of the diversion of forest land for non-forest purpose involved in the project.
- ii. The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.
- iii. The project proponent shall prepare a Site-Specific Conservation Plan & Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report. (incase of the presence of schedule-I species in the study area)
- iv. The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State Pollution Control Board/ Committee.
- v. The Project proponent should ensure that the TSDF fulfils all the provisions of Hazardous and other Wastes (Management and Transboundary Movement) Rules, 2016.
- vi. The project proponents shall adhere to all conditions as prescribed in the Protocol for 'Performance Evaluation and Monitoring of the Common Hazardous waste treatment, storage and disposal facilities' published by the CPCB in May, 2010.
- vii. Incinerator shall be designed as per CPCB guidelines. Energy shall be recovered from incinerator.
- viii. The project proponent shall obtain the necessary permission from the Central Ground Water Authority, in case of drawl of ground water / from the competent authority concerned in case of drawl of surface water required for the project.
- ix. A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project should be obtained.
- x. All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department shall be

obtained, as applicable by project proponents from the respective competent authorities

II. Air quality monitoring and preservation

- i. The project proponent shall install 24x7 continuous emission monitoring system at process stacks to monitor stack emission with respect to standards prescribed in Environment (Protection) Rules 1986 and connected to SPCB and CPCB online servers and calibrate these systems from time to time according to equipment supplier specification through labs recognised under Environment (Protection) Act, 1986 or NABL accredited laboratories.
- ii. The project proponent shall monitor fugitive emissions in the plant premises at least once in every quarter through labs recognised under Environment (Protection) Act, 1986.
- iii. The project proponent shall install system to carryout Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM₁₀ and PM_{2.5} in reference to PM emission, and SO₂ and NO_x in reference to SO₂ and NO_x emissions) within and outside the plant area at least at four locations (one within and three outside the plant area at an angle of 120° each), covering upwind and downwind directions.
- iv. Sampling facility at process stacks and at quenching towers shall be provided as per CPCB guidelines for manual monitoring of emissions.
- v. The project proponent shall submit monthly summary report of continuous stack emission and air quality monitoring and results of manual stack monitoring and manual monitoring of air quality /fugitive emissions to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB along with six-monthly monitoring report.
- vi. Appropriate Air Pollution Control (As proposed, air pollution control device viz. gas quencher; treatment with mixture of hydrated lime and activated powder for adsorption of partial acidity and VOCs (if any); bagfilter/ESP for removal of particulate matter; venturi scrubber followed by packed bed scrubber with caustic circulation to neutralize the acidic vapours in flue gas; and demister column for arresting water carry over will be provided to the incinerator) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed stack emission and fugitive emission standards.
- vii. The periodical monitoring of Dioxins and Furans in the Stack emissions shall be carried out. Analysis of Dioxins and Furans shall be done through CSIR – National Institute for Interdisciplinary Science and Technology (NIIST), Thiruvananthapuram or equivalent NABL Accredited laboratory

- viii. Gas generated in the Land fill should be properly collected, monitored and flared
- ix. A detailed traffic management and traffic decongestion plan shall be drawn up to ensure that the current level of service of the roads within a 02 kms radius of the project is maintained and improved upon after the implementation of the project. This plan should be based on cumulative impact of all development and increased habitation being carried out or proposed to be carried out by the project or other agencies in this 02 Kms radius of the site in different scenarios of space and time and the traffic management plan shall be duly validated and certified by the State Urban Development department and the P.W.D./ competent authority for road augmentation and shall also have their consent to the implementation of components of the plan which involve the participation of these departments.

III. Water quality monitoring and preservation

- i. The project proponent shall install continuous effluent monitoring system with respect to standards prescribed in Environment (Protection) Rules 1986 and connected to SPCB and CPCB online servers and calibrate these systems from time to time according to equipment supplier specification through labs recognised under Environment (Protection) Act, 1986 or NABL accredited laboratories.
- ii. Sufficient number of Piezometer wells shall be installed in and around the project site to monitor the ground water quality in consultation with the State Pollution Control Board / CPCB. Trend analysis of ground water quality shall be carried out each season and information shall be submitted to the SPCB and the Regional Office of MoEF&CC.
- iii. The project proponent shall submit monthly summary report of continuous effluent monitoring and results of manual effluent testing and manual monitoring of ground water quality to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB along with six-monthly monitoring report.
- iv. No discharge in nearby river(s)/pond(s).
- v. The depth of the land fill site shall be decided based on the ground water table at the site.
- vi. The Company shall ensure proper handling of all spillages by introducing spill control procedures for various chemicals.
- vii. All leachates arising from premises should be collected and treated in the ETP followed by RO. RO rejects shall be evaporated in MEE. Toxicity Characteristic Leaching Procedure (TCLP) test to be performed on leachates.
- viii. The Company shall review the unit operations provided for the treatment of effluents, specially the sequencing of MEE after tertiary treatment, the source of permeate when

no R.O. is recommended and the treatment of MEE condensate. The scheme for treatment of effluents shall be as permitted by the Pollution Control Board/Committee under the provisions of consent to establish.

- ix. Scrubber water, leachate water or wheel wash effluent shall be treated in the effluent treatment plant followed by RO to achieve zero liquid discharge.
- x. Total fresh water use shall not exceed the proposed requirement as provided in the project details. Prior permission from competent authority shall be obtained for use of fresh water.
- xi. Sewage Treatment Plant shall be provided to treat the wastewater generated from the project. Treated water shall be reused within the project.
- xii. A certificate from the competent authority for discharging treated effluent/ untreated effluents into the Public sewer/ disposal/drainage systems along with the final disposal point should be obtained.
- xiii. Rain water runoff from hazardous waste storage area shall be collected and treated in the effluent treatment plant.

IV. Noise monitoring and prevention

- i. Noise level survey shall be carried as per the prescribed guidelines and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.
- ii. The ambient noise levels should conform to the standards prescribed under E(P)A Rules, 1986 viz. 75 dB(A) during day time and 70 dB(A) during night time.
- iii. Acoustic enclosures for DG sets, noise barriers for ground-run bays, ear plugs for operating personnel shall be implemented as mitigation measures for noise impact due to ground sources.

V. Energy Conservation measures

- i. Energy conservation measures like installation of LED/CFLs/TFLs for the lighting the areas outside the building should be integral part of the project design and should be in place before project commissioning.

VI. Waste management

- i. The TSDF should only handle the waste generated from the member units.
- ii. Periodical soil monitoring to check the contamination in and around the site shall be carried out.

- iii. No non-hazardous wastes, as defined under the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016, shall be handled in the premises.
- iv. The Project proponent shall not store the Hazardous Wastes more than the quantity that has been permitted by the CPCB/SPCB.
- v. The solid wastes shall be segregated, managed and disposed as per the norms of the Solid Waste Management Rules, 2016.
- vi. A certificate from the competent authority handling municipal solid wastes should be obtained, indicating the existing civic capacities of handling and their adequacy to cater to the M.S.W. generated from project.
- vii. Any wastes from construction and demolition activities related thereto shall be managed so as to strictly conform to the Construction and Demolition Rules, 2016.

VII. Green Belt

- i. Green belt shall be developed in an area as provided in project details, with native tree species in accordance with Forest Department. The greenbelt shall inter alia cover the entire periphery of the project site.
- ii. Top soil shall be separately stored and used in the development of green belt.

VIII. Public hearing and Human health issues

- i. Traffic congestion near the entry and exit points from the roads adjoining the project site shall be avoided. Parking should be fully internalized and no public space should be utilized.
- ii. Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.
- iii. Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
- iv. Occupational health surveillance of the workers shall be done on a regular basis.

IX. Corporate Environment Responsibility

- i. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 1st May 2018, as applicable, regarding Corporate Environment Responsibility.

- ii. The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest /wildlife norms/ conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.
- iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly report to the head of the organization.
- iv. Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.
- v. Self environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.

X. Miscellaneous

- i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.
- ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
- iii. The project proponent shall upload the status of compliance of the stipulated environmental clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
- iv. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
- v. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under

the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.

- vi. The criteria pollutant levels namely; SPM, RSPM, SO₂, NO_x (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.
- vii. The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.
- xi. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
- xii. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
- viii. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).
- ix. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
- x. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
- xi. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
- xii. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
- xiii. The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts/NGT and any other Court of Law relating to the subject matter.

- xiv. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

**Standard EC Conditions for Project/Activity 7(da): Bio-Medical Waste
Treatment Facilities**

I. Statutory compliance:

- i. The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1986, in case of the diversion of forest land for non-forest purpose involved in the project.
- ii. The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.
- iii. The project proponent shall prepare a Site-Specific Conservation Plan & Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report. (incase of the presence of schedule-I species in the study area)
- iv. The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State Pollution Control Board/ Committee.
- v. Transportation and handling of Bio-medical Wastes shall be as per the Biomedical Wastes (Management and Handling) Rules, 20016 including the section 129 to 137 of Central Motor Vehicle Rules 1989.
- vi. Project shall fulfill all the provisions of hazardous Wastes (Management, handling and Transboundary Movement) Rules, 2016 including collection and transportation design etc and also guidelines for Common Hazardous Waste Incineration – 2005, issued by CPCBGuidelines of CPCB/MPPCB for Bio-medical Waste Common Hazardous Wastes incinerators shall be followed.
- vii. The project proponent shall obtain the necessary permission from the Central Ground Water Authority, in case of drawl of ground water / from the competent authority concerned in case of drawl of surface water required for the project.
- viii. A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project should be obtained.
- ix. All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department shall be obtained, as applicable by project proponents from the respective competent authorities

II. Air quality monitoring and preservation

- i. The project proponent shall install emission monitoring system including Dioxin and furans to monitor stack emission with respect to standards prescribed in Environment (Protection) Rules 1986 and connected to SPCB and CPCB online servers and calibrate these systems from time to time according to equipment supplier specification through labs recognised under Environment (Protection) Act, 1986 or NABL accredited laboratories.
- ii. Periodical air quality monitoring in and around the site including VOC, HC shall be carried out.
- iii. Incineration plants shall be operated (combustion chambers) with such temperature, retention time and turbulence, so as to achieve Total Organic Carbon (TOC) content in the slag and bottom ashes less than 3%, or their loss on ignition is less than 5% of the dry weight of the material.
- iv. Venturiscrubber (alkaline) should be provided with the incinerator with stack of adequate height (Minimum 30 meters) to control particulate emission within 50mg/Nm³.
- v. Appropriate Air Pollution Control (APC) system shall be provided for fugitive dust from all vulnerable sources, so as to comply prescribed standards. All necessary air pollution control devices (quenching, Venturi scrubber, mist eliminator) should be provided for compliance of emission standards.
- vi. Masking agents should be used for odour control.

III. Water quality monitoring and preservation

- i. The project proponent shall install effluent monitoring system with respect to standards prescribed in Environment (Protection) Rules 1986 through labs recognised under Environment (Protection) Act, 1986 or NABL accredited laboratories.
- ii. Waste water generated from the facility shall be treated in the ETP and treated waste water shall be reused in the APCD connected to the incinerator. The water quality of treated effluent shall meet the norms prescribed by State Pollution Control Board. Zero discharge should be maintained.
- iii. Process effluent/any waste water should not be allowed to mix with storm water.
- iv. Total fresh water use shall not exceed the proposed requirement as provided in the project details. Prior permission from competent authority shall be obtained for use of fresh water.
- v. Sewage Treatment Plant shall be provided to treat the wastewater generated from the project. Treated water shall be reused within the project.

- vi. A certificate from the competent authority for discharging treated effluent/ untreated effluents into the Public sewer/ disposal/drainage systems along with the final disposal point should be obtained.
- vii. The leachate from the facility shall be collected and treated to meet the prescribed standards before disposal.
- viii. Magnetic flow meters shall be provided at the inlet and outlet of the ETP & all ground water abstraction points and records for the same shall be maintained regularly.
- ix. Rain water runoff from hazardous waste storage area shall be collected and treated in the effluent treatment plant.

IV. Noise monitoring and prevention

- i. The ambient noise levels should conform to the standards prescribed under E(P)A Rules, 1986 viz. 75 dB(A) during day time and 70 dB(A) during night time.

V. Energy Conservation measures

- i. Provide solar power generation on roof tops of buildings, for solar light system for all common areas, street lights, parking around project area and maintain the same regularly;
- i. Provide LED lights in their offices and residential areas

VI. Waste management

- i. Incinerated ash shall be disposed at approved TSDF and MoU made in this regard shall be submitted to the Ministry prior to the commencement.
- ii. The solid wastes shall be segregated as per the norms of the Solid Waste Management Rules, 2016.
- iii. A certificate from the competent authority handling municipal solid wastes should be obtained, indicating the existing civic capacities of handling and their adequacy to cater to the M.S.W. generated from project.
- iv. Any wastes from construction and demolition activities related thereto shall be managed so as to strictly conform to the Construction and Demolition Rules, 2016
- v. No landfill site is allowed within the CBWTF site
- vi. The Project proponent shall not store the Hazardous Wastes more than the quantity that has been permitted by the CPCB/SPCB

VII. Green Belt

- i. Green belt shall be developed in area as provided in project details, with native tree Green belt shall be developed in an area equal to 33% of the plant area with a native tree species in accordance with CPCB guidelines. The greenbelt shall inter alia cover the entire periphery of the plant.

VIII. Public hearing and Human health issues

- i. Feeding of materials/Bio-medical waste should be mechanized and automatic no manual feeding is permitted.
- ii. Proper parking facility should be provided for employees & transport used for collection & disposal of waste materials.
- iii. Necessary provision shall be made for fire-fighting facilities within the complex.
- iv. Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.
- v. Emergency plan shall be drawn in consultation with SPCB/CPCB and implemented in order to minimize the hazards to human health or environment from fires, explosion or any unplanned sudden or gradual release of hazardous waste or hazardous waste constituents to air, soil or surface water.
- vi. Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
- vii. Occupational health surveillance of the workers shall be done on a regular basis.

IX. Corporate Environment Responsibility

- i. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 1st May 2018, as applicable, regarding Corporate Environment Responsibility.
- ii. The company shall have a well laid down environmental policy duly approve by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest /wildlife norms/ conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.

- iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.
- iv. Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.
- v. Self environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.

X. Miscellaneous

- i. The project proponent shall prominently advertise it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days indicating that the project has been accorded environment clearance and the details of MoEFCC/SEIAA website where it is displayed
- ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
- iii. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
- iv. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
- v. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
- vi. The criteria pollutant levels namely; SPM, RSPM, SO₂, NO_x (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.
- vii. The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities,

commencing the land development work and start of production operation by the project.

- x. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
- xi. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
- viii. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).
- ix. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
- x. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
- xi. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
- xii. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
- xiii. The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts/NGT and any other Court of Law relating to the subject matter.
- xiv. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

Standard EC Conditions for Project/Activity 7(e): Port, Harbor, Break water, Dredging**I. Statutory compliance:**

- i. The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1986, in case of the diversion of forest land for non-forest purpose involved in the project.
- ii. The project proponent shall obtain clearance from the National Board for Wildlife, if applicable. No dredging is allowed in protected habitat areas without prior permission from NBWL.
- iii. The project proponent shall prepare a Site-Specific Conservation Plan & Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report. (incase of the presence of schedule-I species in the study area).
- iv. Construction activity shall be carried out strictly according to the provisions of CRZ Notification, 2011 and the State Coastal Zone Management Plan as drawn up by the State Government. No construction work other than those permitted in Coastal Regulation Zone Notification shall be carried out in Coastal Regulation Zone area.
- v. All the recommendations and conditions specified by State Coastal Zone Management Authority for the project shall be complied with.
- vi. The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State Pollution Control Board/ Committee.
- vii. The project proponent shall obtain the necessary permission from the Central Ground Water Authority, in case of drawl of ground water / from the competent authority concerned in case of drawl of surface water required for the project.
- viii. All excavation related dewatering shall be as duly authorized by the CGWA. A NOC from the CGWA shall be obtained for all dewatering and ground water abstraction
- ix. A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project should be obtained.
- x. All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Coast Guard, Civil Aviation Department shall be obtained, as applicable by project proponents from the respective competent authorities.

II. Air quality monitoring and preservation

- i. The project proponent shall install system to carryout Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM₁₀ and PM_{2.5} in reference to PM emission, and SO₂ and NO_x in reference to SO₂ and NO_x emissions) within and outside the project area at least at four locations (one within and three outside the plant area at an angle of 120° each), covering upwind and downwind directions.
- ii. Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed emission standards.
- iii. Shrouding shall be carried out in the work site enclosing the dock/proposed facility area. This will act as dust curtain as well achieving zero dust discharge from the site. These curtain or shroud will be immensely effective in restricting disturbance from wind in affecting the dry dock operations, preventing waste dispersion, improving working conditions through provision of shade for the workers.
- iv. Dust collectors shall be deployed in all areas where blasting (surface cleaning) and painting operations are to be carried out, supplemented by stacks for effective dispersion.
- v. The Vessels shall comply the emission norms prescribed from time to time.
- vi. Diesel power generating sets proposed as source of backup power should be of enclosed type and conform to rules made under the Environment (Protection) Act, 1986. The height of stack of DG sets should be equal to the height needed for the combined capacity of all proposed DG sets. Use of low sulphur diesel. The location of the DG sets may be decided with in consultation with State Pollution Control Board.
- vii. A detailed traffic management and traffic decongestion plan shall be drawn up to ensure that the current level of service of the roads within a 05 kms radius of the project is maintained and improved upon after the implementation of the project. This plan should be based on cumulative impact of all development and increased habitation being carried out or proposed to be carried out by the project or other agencies in this 05 Kms radius of the site in different scenarios of space and time and the traffic management plan shall be duly validated and certified by the State Urban Development department and the P.W.D./ competent authority for road augmentation and shall also have their consent to the implementation of components of the plan which involve the participation of these departments.

III. Water quality monitoring and preservation

- i. The Project proponent shall ensure that no creeks or rivers are blocked due to any activities at the project site and free flow of water is maintained.

- ii. Appropriate measures must be taken while undertaking digging activities to avoid any likely degradation of water quality. Silt curtains shall be used to contain the spreading of suspended sediment during dredging within the dredging area.
- iii. No ships docking at the proposed project site will discharge its on-board waste water untreated in to the estuary/ channel. All such wastewater load will be diverted to the proposed Effluent Treatment Plant of the project site.
- iv. Measures should be taken to contain, control and recover the accidental spills of fuel and cargo handle.
- v. The project proponents will draw up and implement a plan for the management of temperature differences between intake waters and discharge waters.
- vi. Spillage of fuel / engine oil and lubricants from the construction site are a source of organic pollution which impacts marine life. This shall be prevented by suitable precautions and also by providing necessary mechanisms to trap the spillage.
- vii. Total fresh water use shall not exceed the proposed requirement as provided in the project details. Prior permission from competent authority shall be obtained for use of fresh water.
- viii. Sewage Treatment Plant shall be provided to treat the wastewater generated from the project. Treated water shall be reused for horticulture, flushing, backwash, HVAC purposes and dust suppression.
- ix. A certificate from the competent authority for discharging treated effluent/ untreated effluents into the Public sewer/ disposal/drainage systems along with the final disposal point should be obtained.
- x. No diversion of the natural course of the river shall be made without prior permission from the Ministry of Water resources.
- xi. All the erosion control measures shall be taken at water front facilities. Earth protection work shall be carried out to avoid erosion of soil from the shoreline/boundary line from the land area into the marine water body.

IV. Noise monitoring and prevention

- i. Noise level survey shall be carried as per the prescribed guidelines and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.
- ii. Noise from vehicles, power machinery and equipment on-site should not exceed the prescribed limit. Equipment should be regularly serviced. Attention should also be given to muffler maintenance and enclosure of noisy equipments.

- iii. Acoustic enclosures for DG sets, noise barriers for ground-run bays, ear plugs for operating personnel shall be implemented as mitigation measures for noise impact due to ground sources.
- iv. The ambient noise levels should conform to the standards prescribed under E(P)A Rules, 1986 viz. 75 dB(A) during day time and 70 dB(A) during night time.

V. Energy Conservation measures

- i. Provide solar power generation on roof tops of buildings, for solar light system for all common areas, street lights, parking around project area and maintain the same regularly;
- ii. Provide LED lights in their offices and residential areas.

VI. Waste management

- i. Dredged material shall be disposed safely in the designated areas.
- ii. Shoreline should not be disturbed due to dumping. Periodical study on shore line changes shall be conducted and mitigation carried out, if necessary. The details shall be submitted along with the six monthly monitoring report.
- iii. Necessary arrangements for the treatment of the effluents and solid wastes must be made and it must be ensured that they conform to the standards laid down by the competent authorities including the Central or State Pollution Control Board and under the Environment (Protection) Act, 1986.
- iv. The solid wastes shall be managed and disposed as per the norms of the Solid Waste Management Rules, 2016.
- v. Any wastes from construction and demolition activities related thereto shall be managed so as to strictly conform to the Construction and Demolition Rules, 2016.
- vi. A certificate from the competent authority handling municipal solid wastes should be obtained, indicating the existing civic capacities of handling and their adequacy to cater to the M.S.W. generated from project.
- vii. Used CFLs and TFLs should be properly collected and disposed off/sent for recycling as per the prevailing guidelines/ rules of the regulatory authority to avoid mercury contamination.
- viii. Oil spill contingency plan shall be prepared and part of DMP to tackle emergencies. The equipment and recovery of oil from a spill would be assessed. Guidelines given in MARPOL and Shipping Acts for oil spill management would be followed. Mechanism for integration of terminals oil contingency plan with the overall area contingency plan under the co-ordination of Coast should be covered

VII. Green Belt

- i. Green belt shall be developed in area as provided in project details with a native tree species in accordance with CPCB guidelines. The greenbelt shall inter alia cover the entire periphery of the plant.
- ii. Top soil shall be separately stored and used in the development of green belt.

VIII. Marine Ecology

- i. Dredging shall not be carried out during the fish breeding and spawning seasons.
- ii. Dredging, etc shall be carried out in the confined manner to reduce the impacts on marine environment.
- iii. The dredging schedule shall be so planned that the turbidity developed is dispersed soon enough to prevent any stress on the fish population.
- iv. While carrying out dredging, an independent monitoring shall be carried out through a Government Agency/Institute to assess the impact and necessary measures shall be taken on priority basis if any adverse impact is observed.
- v. A detailed marine biodiversity management plan shall be prepared through the NIOS or any other institute of repute on marine, brackish water and fresh water ecology and biodiversity and submitted to and implemented to the satisfaction of the State Biodiversity Board and the CRZ authority. The report shall be based on a study of the impact of the project activities on the intertidal biotopes, corals and coral communities, molluscs, sea grasses, sea weeds, sub-tidal habitats, fishes, other marine and aquatic micro, macro and mega flora and fauna including benthos, plankton, turtles, birds etc. as also the productivity. The data collection and impact assessment shall be as per standards survey methods and include underwater photography.
- vi. Marine ecology shall be monitored regularly also in terms of sea weeds, sea grasses, mudflats, sand dunes, fisheries, echinoderms, shrimps, turtles, corals, coastal vegetation, mangroves and other marine biodiversity components including all micro, macro and mega floral and faunal components of marine biodiversity.
- vii. The project proponent shall ensure that water traffic does not impact the aquatic wildlife sanctuaries that fall along the stretch of the river.

IX. Public hearing and Human health issues

- i. The work space shall be maintained as per international standards for occupational health and safety with provision of fresh air respirators, blowers, and fans to prevent any accumulation and inhalation of undesirable levels of pollutants including VOCs.

- ii. Workers shall be strictly enforced to wear personal protective equipments like dust mask, ear muffs or ear plugs, whenever and wherever necessary/ required. Special visco-elastic gloves will be used by labour exposed to hazards from vibration.
- iii. In case of repair of any old vessels, excessive care shall be taken while handling Asbestos & Freon gas. Besides, fully enclosed covering should be provided for the temporary storage of asbestos materials at site before disposal to CTSDf.
- iv. Safety training shall be given to all workers specific to their work area and every worker and employee will be engaged in fire hazard awareness training and mock drills which will be conducted regularly. All standard safety and occupational hazard measures shall be implemented and monitored by the concerned officials to prevent the occurrence of untoward incidents/ accidents.
- v. Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.
- vi. Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
- vii. Occupational health surveillance of the workers shall be done on a regular basis.

X. Corporate Environment Responsibility

- i. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 1st May 2018, as applicable, regarding Corporate Environment Responsibility.
- ii. The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest /wildlife norms/ conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.
- iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.
- iv. Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection

measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.

- v. Self environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.

XI. Miscellaneous

- i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.
- ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
- iii. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
- iv. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
- v. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
- vi. The criteria pollutant levels namely; SPM, RSPM, SO₂, NO_x (ambient levels) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.
- vii. The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.
- viii. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.

- ix. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
- x. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).
- xi. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
- xii. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
- xiii. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
- xiv. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
- xv. The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.
- xvi. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

Standard EC Conditions for Project/Activity 7(g): Aerial ropeways**I. Statutory compliance:**

- i. The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1986, in case of the diversion of forest land for non-forest purpose involved in the project.
- ii. The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.
- iii. The project proponent shall prepare a Site-Specific Conservation Plan & Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report. (incase of the presence of schedule-I species in the study area)
- iv. The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State Pollution Control Board/ Committee.
- v. A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project should be obtained.
- vi. All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department, the Forest Conservation Act, 1980 and the Wildlife (Protection) Act, 1972 etc. shall be obtained, as applicable by project proponents from the respective competent authorities.

II. Air quality monitoring and preservation

- i. The project proponent shall install system to carryout Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM₁₀ and PM_{2.5} in reference to PM emission) covering upwind and downwind directions.
- ii. Appropriate Air Pollution Control (APC) system (both during the construction and operation) shall be provided for all the dust generating points *inter alia* including loading, unloading, transfer points, fugitive dust from all vulnerable sources, so as to comply prescribed standards.

- iii. Diesel power generating sets proposed as source of backup power should be of enclosed type and conform to rules made under the Environment (Protection) Act, 1986. The height of stack of DG sets should be equal to the height needed for the combined capacity of all proposed DG sets. Use of low sulphur diesel. The location of the DG sets may be decided with in consultation with State Pollution Control Board.
- iv. Adequate parking shall be constructed at upper terminal and lower terminal. PP shall ensure smooth traffic management.

III. Water quality monitoring and preservation

- i. Storm water from the project area shall be passed through settling chamber.
- ii. Garland drains and collection pits shall be provided for each stock pile to arrest the run-off in the event of heavy rains and to check the water pollution due to surface run off.
- iii. Total fresh water use shall not exceed the proposed requirement as provided in the project details.
- iv. Prior permission from competent authority shall be obtained for use of fresh water.
- v. No wastewater shall be discharged in open. Appropriate Water Pollution Control system shall be provided for treatment of waste water.
- vi. A certificate from the competent authority, in case of discharging treated effluent/ untreated effluents into the Public sewer/ disposal/drainage systems along with the final disposal point should be obtained.

IV. Noise monitoring and prevention

- i. Noise level survey shall be carried as per the prescribed guidelines and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.
- ii. The ambient noise levels should conform to the standards prescribed under E(P)A Rules, 1986 viz. 75 dB(A) during day time and 70 dB(A) during night time..

V. Energy Conservation measures

- i. Energy conservation measures like installation of LED/CFLs/TFLs for lighting should be integral part of the project design and should be in place before project commissioning.
- ii. Solar energy shall be used in the project i.e. at upper terminal and lower terminal to reduce the carbon footprint.

VII. Waste management

- i. The solid wastes shall be segregated, managed and disposed as per the norms of the Solid Waste Management Rules, 2016.
- ii. The waste oil, grease and other hazardous waste shall be disposed of as per the Hazardous & Other waste (Management & Transboundary Movement) Rules, 2016.
- iii. Any wastes from construction and demolition activities related thereto shall be managed so as to strictly conform to the Construction and Demolition Rules, 2016.

VIII. Public hearing and Human health/safety issues

- i. Comply with the safety procedures, norms and guidelines (as applicable) as outlined in IS 5228, IS 5229 and IS 5230, code of practice for construction of aerial ropeways, Bureau of Indian Standards.
- ii. Maintaining hoists and lifts, lifting machines, chains, ropes, and other lifting tackles in good condition.
- iii. Ensuring that walking surfaces or boards at height are of sound construction and are provided with safety rails or belts.
- iv. The project should conform to the norms prescribed by the Director General Mine safety. Necessary clearances in this regard shall be obtained.
- v. Adequate infrastructure, including power, shall be provided for emergency situations and disaster management.
- vi. Adequate first aid facility shall be provided during construction and operation phase of the project.
- vii. Regular safety inspection shall be carried out of the ropeway project and a copy of safety inspection report should be submitted to the Regional Office.
- viii. Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.

IX Corporate Environment Responsibility

- ix. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 1st May 2018, as applicable, regarding Corporate Environment Responsibility.

- x. The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.
- xi. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.
- xii. Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.
- xiii. Self environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.

X. Miscellaneous

- i. The project proponent shall prominently advertise it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days indicating that the project has been accorded environment clearance and the details of MoEFCC/SEIAA website where it is displayed.
- ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
- iii. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
- iv. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.

- v. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
- vi. The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.
- vii. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
- viii. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
- ix. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).
- x. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
- xi. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
- xii. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
- xiii. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
- xiv. The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.

- xv. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

**Standard EC Conditions for Project/Activity 7(h): Common Effluent
Treatment plants (CETPs)**

I. Statutory compliance:

- i. The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1986, in case of the diversion of forest land for non-forest purpose involved in the project.
- ii. The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.
- iii. The project proponent shall prepare a Site-Specific Conservation Plan & Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report. (incase of the presence of schedule-I species in the study area)
- iv. The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State Pollution Control Board/ Committee.
- v. The project proponent shall obtain the necessary permission from the Central Ground Water Authority, in case of drawl of ground water / from the competent authority concerned in case of drawl of surface water required for the project.
- vi. A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project should be obtained.
- vii. All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, etc. shall be obtained, as applicable by project proponents from the respective competent authorities.

II. Air quality monitoring and preservation

- i. The gaseous emissions from DG set shall be dispersed through adequate stack height as per CPCB standards. Diesel generating sets shall be installed, in the downwind directions.
- ii. Appropriate Air Pollution Control (APC) system shall be provided for fugitive dust from all vulnerable sources, so as to comply prescribed standards.

III. Water quality monitoring and preservation

- i. The project proponent shall install 24x7 continuous effluent monitoring system with respect to standards prescribed in Environment (Protection) Rules 1986 as amended from time to time and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognised under Environment (Protection) Act, 1986 or NABL accredited laboratories.
- ii. Total fresh water use shall not exceed the proposed requirement as provided in the project details. Prior permission from competent authority shall be obtained for use of fresh water.
- iii. There shall be flow meters at inlet and outlet of CETP to monitor the flow. Suitable meters shall be provided to measure the quantity of effluent received, quantity of effluent recycled/reused and discharged.
- iii. The units and the CETP will maintain daily log book of the quantity and quality of discharge from the units, quantity of inflow into the CETP, details of the treatment at each stage of the CETP including the raw materials used, quantity of the treated water proposed to be recycled, reused within the Industrial park/units, quantity of the treated effluent discharged. All the above information shall be provided on- line of the web site exclusively prepared for the purpose by the CETP owner. The website shall be accessible by the public. The financial and energy details of the CETP will also be provided along with details of the workers of the CETP.
- viii. The CETP operator will maintain an annual register of member units which will contain the details of products with installed capacities and quality and quantity of effluents accepted for discharge. This will form a part of the initial and renewal applications for consent to operate to be made before the State Pollution Control Board.
- iv. No changes in installed capacity, quality or quantity of effluents as agreed upon in the initial MOU between the operator and the member units, addition of any new member units shall be carried without prior approval of the ministry
- v. The Unit shall inform the State Pollution Control Board at least a week prior to undertaking maintenance activities in the recycle system and store/dispose treated effluents under their advice in the matter.
- vi. The unit shall also immediately inform the Pollution Control Board of any breakdown in the recycling system, store the effluents in the interim period and dispose effluents only as advised by the Pollution Control Board.
- vii. The MoU between CETP and member units shall indicate the maximum quantity of

effluent to be sent to the CETP along with the quality.

- viii. The unit shall maintain a robust system of conveyance for primary treated effluents from the member units and constantly monitor the influent quality to the CETP. The Management of the CETP and the individual member shall be jointly and severally responsible for conveyance and pre-treatment of effluents. Only those units will be authorized to send their effluents to the CETP which have a valid consent of the Pollution Control Board and which meet the primary treated standards as prescribed. The CETP operator shall with the consent of the State Pollution Control Board retain the powers to delink the defaulter unit from entering the conveyance system.
- ix. The effluent from member units shall be transported through pipeline. In case the effluent is transported thorough road, it shall be transported through CETP tankers only duly maintaining proper manifest system. The vehicles shall be fitted with proper GPS system.
- x. Before accepting any effluent from member units, the same shall be as permitted by the SPCB in the consent order. No effluent from any unit shall be accepted without consent from SPCB under the Water Act, 1974 as amended.
- xi. Treated water shall be disposed on land for irrigation. An irrigation management plan shall be drawn up in consultation with and to the satisfaction of the State Pollution Control Board.
- xii. The Project proponents will build operate and maintain the collection and conveyance system to transport effluents from the industrial units in consultation with and to the satisfaction of the State Pollution Control Board and ensure that the industrial units meet the primary effluent standards prescribed by the State Pollution Control Board.
- xiii. The State Pollution Control Board will also evaluate the treatment efficiency of the Effluent Treatment Plant (ETP) and its capability of meeting the prescribed standards. The final scheme of treatment would be such as is approved by the Pollution Control Board in the Consent to Establish.
- xiv. The project proponents will create an institutional arrangement for the involvement of individual members in the management of the CETP.

IV. Noise monitoring and prevention

- i. Noise level survey shall be carried as per the prescribed guidelines and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.

- ii. Noise from vehicles, power machinery and equipment on-site should not exceed the prescribed limit. Equipment should be regularly serviced. Attention should also be given to muffler maintenance and enclosure of noisy equipments.
- iii. Acoustic enclosures for DG sets, noise barriers for ground-run bays, ear plugs for operating personnel shall be implemented as mitigation measures for noise impact due to ground sources.

V. Waste management

- i. ETP sludge generated from CETP facility shall be handled and disposed to nearby authorized TSDF site as per Hazardous and Other Waste Management Rules, 2016.
- ii. Non Hazardous solid wastes and sludge arising out of the operation of the CETP shall be adequately disposed as per the Consent to be availed from the State Pollution Control Board. Non Hazardous solid wastes and sludge shall not be mixed with Hazardous wastes.
- iii. The CETP shall have adequate power back up facility, to meet the energy requirement in case of power failure from the grid.
- iv. The site for aerobic composting shall be selected and developed in consultation with and to the satisfaction of the State Pollution Control Board. Odour and insect nuisance shall be adequately controlled.
- v. Any wastes from construction and demolition activities related thereto shall be managed so as to strictly conform to the Construction and Demolition Rules, 2016.
- vi. The solid wastes shall be segregated, managed and disposed as per the norms of the Solid Waste Management Rules, 2016.

VI. Energy Conservation measures

- i. Provide solar power generation on roof tops of buildings, for solar light system for all common areas, street lights, parking around project area and maintain the same regularly;
- ii. Provide LED lights in their offices and residential areas

VII. Green Belt

- i. Green belt shall be developed in area as provided in project details, with native tree Green belt shall be developed in an area equal to 33% of the plant area with a native tree species in accordance with CPCB guidelines. The greenbelt shall inter alia cover the entire periphery of the plant.

VIII. Public hearing and Human health issues

- i. Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.
- ii. Adequate infrastructure, including power, shall be provided for emergency situations and disaster management.
- iii. Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
- iv. Occupational health surveillance of the workers shall be done on a regular basis.

IX. Corporate Environment Responsibility

- i. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 1st May 2018, as applicable, regarding Corporate Environment Responsibility.
- ii. The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.
- iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will report directly to the head of the organization.
- iv. Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.
- v. Self environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.

X. Miscellaneous

- i. The project proponent shall prominently advertise it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days indicating that the project has been accorded environment clearance and the details of MoEFCC/SEIAA website where it is displayed.
- ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
- iii. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
- iv. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
- v. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
- vi. The criteria pollutant levels or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.
- vii. The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of operation by the project.
- ix. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
- x. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
- viii. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).

- ix. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
- x. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
- xi. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
- xii. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
- xiii. The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.
- xiv. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

Standard EC Conditions for Project/Activity 7(i): Common Municipal Solid Waste Management Facility (CMSWMF)

I. Statutory compliance:

- i. The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1986, in case of the diversion of forest land for non-forest purpose involved in the project.
- ii. The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.
- iii. The project proponent shall prepare a Site-Specific Conservation Plan & Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report. (incase of the presence of schedule-I species in the study area)
- iv. The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State Pollution Control Board/ Committee.
- v. The project proponent shall obtain the necessary permission from the Central Ground Water Authority, in case of drawl of ground water / from the competent authority concerned in case of drawl of surface water required for the project.
- vi. A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project should be obtained.
- vii. All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department shall be obtained, as applicable by project proponents from the respective competent authorities.

II. Air quality monitoring and preservation

- i. The project proponent shall install 24x7 continuous emission monitoring system at process stacks to monitor stack emission with respect to standards prescribed in Environment (Protection) Rules 1986 and connected to SPCB and CPCB online servers and calibrate these systems from time to time according to equipment supplier specification through labs recognised under Environment (Protection) Act, 1986 or NABL accredited laboratories. ((for projects involving incineration)

- ii. As proposed, air pollution control device viz. gas quencher; treatment with mixture of hydrated lime and activated powder for adsorption of partial acidity and VOCs (if any); bagfilter/ESP for removal of particulate matter; venturi scrubber followed by packed bed scrubber with caustic circulation to neutralize the acidic vapours in flue gas; and demister column for arresting water carry over will be provided to the incinerator. Online pollutant monitoring shall be provided as per CPCB guidelines for monitoring particulate matter, SO₂, NO_x and CO from the incinerator stack. The periodical monitoring of Dioxins and Furans in the Stack emissions shall be carried out.
- iii. Analysis of Dioxins and Furans shall be done through CSIR – National Institute for Interdisciplinary Science and Technology (NIIST), Thiruvananthapuram or equivalent NABL Accredited laboratory.
- iv. Incinerator shall be designed as per CPCB guidelines. Energy shall be recovered from incinerator.
- v. Gas generated in the Land fill should be properly collected, monitored and flared.
- vi. The project proponent shall install system to carryout Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM₁₀ and PM_{2.5} in reference to PM emission, and SO₂ and NO_x in reference to SO₂ and NO_x emissions) within and outside the plant area at least at four locations (one within and three outside the plant area at an angle of 120° each), covering upwind and downwind directions.

III. Water quality monitoring and preservation

- i. The project proponent shall install continuous effluent monitoring system with respect to standards prescribed in Environment (Protection) Rules 1986 and connected to SPCB and CPCB online servers and calibrate these systems from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.
- ii. Sufficient number of Piezometer wells shall be installed in and around the project site to monitor the ground water quality in consultation with the State Pollution Control Board / CPCB. Trend analysis of ground water quality shall be carried out each season and information shall be submitted to the SPCB and the Regional Office of MoEF&CC.
- iii. The depth of the land fill site shall be decided based on the ground water table at the site.
- iv. Rain water runoff from the landfill area and other hazardous waste management area shall be collected and treated in the effluent treatment plant.

- v. Total fresh water use shall not exceed the proposed requirement as provided in the project details. Prior permission from competent authority shall be obtained for use of fresh water.
- vi. The Company shall ensure proper handling of all spillages by introducing spill control procedures for various chemicals.
- vii. All leachates arising from premises should be collected and treated in the ETP followed by RO. RO rejects shall be evaporated in MEE. Toxicity Characteristic Leaching Procedure (TCLP) test to be performed on leachates.
- viii. Scrubber water, leachate water or wheel wash effluent shall be treated in the effluent treatment plant followed by RO to achieve zero liquid discharge.
- ix. Sewage Treatment Plant shall be provided to treat the wastewater generated from the project. Treated water shall be reused within the project.
- x. A certificate from the competent authority for discharging treated effluent/ untreated effluents into the Public sewer/ disposal/drainage systems along with the final disposal point should be obtained.

IV. Waste management

- i. No non-hazardous wastes, as defined under the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016, shall be handled in the premises.
- ii. The solid wastes shall be segregated, managed and disposed as per the norms of the Solid Waste Management Rules, 2016.
- iii. Any wastes from construction and demolition activities related thereto shall be managed so as to strictly conform to the Construction and Demolition Rules, 2016.
- iv. A certificate from the competent authority handling municipal solid wastes should be obtained, indicating the existing civic capacities of handling and their adequacy to cater to the M.S.W. generated from project.

V. Transportation

- i. Project should ensure that the site is properly cordoned off from general movement and no unauthorized person or goods permitted to enter the premises. Necessary security provision should be made as a condition in the Authorisation under the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 to prevent

unwanted access.

- ii. Traffic congestion near the entry and exit points from the roads adjoining the project site shall be avoided. Parking should be fully internalized and no public space should be utilized.
- iii. A detailed traffic management and traffic decongestion plan shall be drawn up to ensure that the current level of service of the roads within a 02 kms radius of the project is maintained and improved upon after the implementation of the project. This plan should be based on cumulative impact of all development and increased habitation being carried out or proposed to be carried out by the project or other agencies in this 02 Kms radius of the site in different scenarios of space and time and the traffic management plan shall be duly validated and certified by the State Urban Development department and the P.W.D./ competent authority for road augmentation and shall also have their consent to the implementation of components of the plan which involve the participation of these departments.

VI. Green belt

- i. Green belt shall be developed in an area as provided in project details, with native tree species in accordance with Forest Department. The greenbelt shall inter alia cover the entire periphery of the project site.
- ii. Top soil shall be separately stored and used in the development of green belt.

VII. Public hearing and Human health/safety issues

- i. Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.
- ii. Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
- iii. Occupational health surveillance of the workers shall be done on a regular basis.

VIII. Corporate Environment Responsibility

- i. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 1st May 2018, as applicable, regarding Corporate Environment Responsibility.

- ii. The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.
- iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly report to the head of the organization.
- iv. Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.
- v. Self environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.

IX. Miscellaneous

- i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently. (for projects involving incineration)
- ii. The project proponent shall prominently advertise it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days indicating that the project has been accorded environment clearance and the details of MoEF&CC/SEIAA website where it is displayed (For projects involving only Landfill without incineration)
- iii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.

- iv. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
- v. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
- vi. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
- vii. The criteria pollutant levels namely; SPM, RSPM, SO₂, NO_x (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain (incase of incineration involved).
- viii. The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.
- viii. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
- ix. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
- ix. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).
- x. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
- xi. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
- xii. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.

- xiii. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
- xiv. The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.
- xv. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

Standard EC Conditions for Project/Activity 8(a/b): Building and Construction projects / Townships and Area Development projects

I. Statutory compliance:

- i. The project proponent shall obtain all necessary clearance/ permission from all relevant agencies including town planning authority before commencement of work. All the construction shall be done in accordance with the local building byelaws.
- ii. The approval of the Competent Authority shall be obtained for structural safety of buildings due to earthquakes, adequacy of firefighting equipment etc as per National Building Code including protection measures from lightening etc.
- iii. The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1986, in case of the diversion of forest land for non-forest purpose involved in the project.
- iv. The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.
- v. The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State Pollution Control Board/ Committee.
- vi. The project proponent shall obtain the necessary permission for drawl of ground water / surface water required for the project from the competent authority.
- vii. A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project should be obtained.
- viii. All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department shall be obtained, as applicable, by project proponents from the respective competent authorities.
- ix. The provisions of the Solid Waste (Management) Rules, 2016, e-Waste (Management) Rules, 2016, and the Plastics Waste (Management) Rules, 2016 shall be followed.
- x. The project proponent shall follow the ECBC/ECBC-R prescribed by Bureau of Energy Efficiency, Ministry of Power strictly.

II. Air quality monitoring and preservation

- i. Notification GSR 94(E) dated 25.01.2018 of MoEF&CC regarding Mandatory Implementation of Dust Mitigation Measures for Construction and Demolition Activities for projects requiring Environmental Clearance shall be complied with.
- ii. A management plan shall be drawn up and implemented to contain the current exceedance in ambient air quality at the site.
- iii. The project proponent shall install system to carryout Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM₁₀ and PM_{2.5}) covering upwind and downwind directions during the construction period.
- iv. Diesel power generating sets proposed as source of backup power should be of enclosed type and conform to rules made under the Environment (Protection) Act, 1986. The height of stack of DG sets should be equal to the height needed for the combined capacity of all proposed DG sets. Use of low sulphur diesel. The location of the DG sets may be decided with in consultation with State Pollution Control Board.
- v. Construction site shall be adequately barricaded before the construction begins. Dust, smoke & other air pollution prevention measures shall be provided for the building as well as the site. These measures shall include screens for the building under construction, continuous dust/ wind breaking walls all around the site (at least 3 meter height). Plastic/tarpaulin sheet covers shall be provided for vehicles bringing in sand, cement, murrum and other construction materials prone to causing dust pollution at the site as well as taking out debris from the site.
- vi. Sand, murrum, loose soil, cement, stored on site shall be covered adequately so as to prevent dust pollution.
- vii. Wet jet shall be provided for grinding and stone cutting.
- viii. Unpaved surfaces and loose soil shall be adequately sprinkled with water to suppress dust.
- ix. All construction and demolition debris shall be stored at the site (and not dumped on the roads or open spaces outside) before they are properly disposed. All demolition and construction waste shall be managed as per the provisions of the Construction and Demolition Waste Rules 2016.
- x. The diesel generator sets to be used during construction phase shall be low sulphur diesel type and shall conform to Environmental (Protection) prescribed for air and noise emission standards.

- xi. The gaseous emissions from DG set shall be dispersed through adequate stack height as per CPCB standards. Acoustic enclosure shall be provided to the DG sets to mitigate the noise pollution. Low sulphur diesel shall be used. The location of the DG set and exhaust pipe height shall be as per the provisions of the Central Pollution Control Board (CPCB) norms.
- xii. For indoor air quality the ventilation provisions as per National Building Code of India.

III. Water quality monitoring and preservation

- i. The natural drain system should be maintained for ensuring unrestricted flow of water. No construction shall be allowed to obstruct the natural drainage through the site, on wetland and water bodies. Check dams, bio-swales, landscape, and other sustainable urban drainage systems (SUDS) are allowed for maintaining the drainage pattern and to harvest rain water.
- ii. Buildings shall be designed to follow the natural topography as much as possible. Minimum cutting and filling should be done.
- iii. Total fresh water use shall not exceed the proposed requirement as provided in the project details.
- iv. The quantity of fresh water usage, water recycling and rainwater harvesting shall be measured and recorded to monitor the water balance as projected by the project proponent. The record shall be submitted to the Regional Office, MoEF&CC along with six monthly Monitoring reports.
- v. A certificate shall be obtained from the local body supplying water, specifying the total annual water availability with the local authority, the quantity of water already committed, the quantity of water allotted to the project under consideration and the balance water available. This should be specified separately for ground water and surface water sources, ensuring that there is no impact on other users.
- vi. At least 20% of the open spaces as required by the local building bye-laws shall be pervious. Use of Grass pavers, paver blocks with at least 50% opening, landscape etc. would be considered as pervious surface.
- vii. Installation of dual pipe plumbing for supplying fresh water for drinking, cooking and bathing etc and other for supply of recycled water for flushing, landscape irrigation, car washing, thermal cooling, conditioning etc. shall be done.
- viii. Use of water saving devices/ fixtures (viz. low flow flushing systems; use of low flow faucets tap aerators etc) for water conservation shall be incorporated in the building plan.

- ix. Separation of grey and black water should be done by the use of dual plumbing system. In case of single stack system separate recirculation lines for flushing by giving dual plumbing system be done.
- x. Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices referred.
- xi. The local bye-law provisions on rain water harvesting should be followed. If local bye-law provision is not available, adequate provision for storage and recharge should be followed as per the Ministry of Urban Development Model Building Byelaws, 2016. Rain water harvesting recharge pits/storage tanks shall be provided for ground water recharging as per the CGWB norms.
- xii. A rain water harvesting plan needs to be designed where the recharge bores of minimum one recharge bore per 5,000 square meters of built up area and storage capacity of minimum one day of total fresh water requirement shall be provided. In areas where ground water recharge is not feasible, the rain water should be harvested and stored for reuse. The ground water shall not be withdrawn without approval from the Competent Authority.
- xiii. All recharge should be limited to shallow aquifer.
- xiv. No ground water shall be used during construction phase of the project.
- xv. Any ground water dewatering should be properly managed and shall conform to the approvals and the guidelines of the CGWA in the matter. Formal approval shall be taken from the CGWA for any ground water abstraction or dewatering.
- xvi. The quantity of fresh water usage, water recycling and rainwater harvesting shall be measured and recorded to monitor the water balance as projected by the project proponent. The record shall be submitted to the Regional Office, MoEF&CC along with six monthly Monitoring reports.
- xvii. Sewage shall be treated in the STP with tertiary treatment. The treated effluent from STP shall be recycled/re-used for flushing, AC make up water and gardening. As proposed, no treated water shall be disposed in to municipal drain.
- xviii. No sewage or untreated effluent water would be discharged through storm water drains.
- xix. Onsite sewage treatment of capacity of treating 100% waste water to be installed. The installation of the Sewage Treatment Plant (STP) shall be certified by an independent expert and a report in this regard shall be submitted to the Ministry before the project is commissioned for operation. Treated waste water shall be reused on site for landscape,

flushing, cooling tower, and other end-uses. Excess treated water shall be discharged as per statutory norms notified by Ministry of Environment, Forest and Climate Change. Natural treatment systems shall be promoted.

- xx. Periodical monitoring of water quality of treated sewage shall be conducted. Necessary measures should be made to mitigate the odour problem from STP.
- xxi. Sludge from the onsite sewage treatment, including septic tanks, shall be collected, conveyed and disposed as per the Ministry of Urban Development, Central Public Health and Environmental Engineering Organization (CPHEEO) Manual on Sewerage and Sewage Treatment Systems, 2013.

IV. Noise monitoring and prevention

- i. Ambient noise levels shall conform to residential area/commercial area/industrial area/silence zone both during day and night as per Noise Pollution (Control and Regulation) Rules, 2000. Incremental pollution loads on the ambient air and noise quality shall be closely monitored during construction phase. Adequate measures shall be made to reduce ambient air and noise level during construction phase, so as to conform to the stipulated standards by CPCB / SPCB.
- ii. Noise level survey shall be carried as per the prescribed guidelines and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.
- iii. Acoustic enclosures for DG sets, noise barriers for ground-run bays, ear plugs for operating personnel shall be implemented as mitigation measures for noise impact due to ground sources.

V. Energy Conservation measures

- i. Compliance with the Energy Conservation Building Code (ECBC) of Bureau of Energy Efficiency shall be ensured. Buildings in the States which have notified their own ECBC, shall comply with the State ECBC.
- ii. Outdoor and common area lighting shall be LED.
- iii. Concept of passive solar design that minimize energy consumption in buildings by using design elements, such as building orientation, landscaping, efficient building envelope, appropriate fenestration, increased day lighting design and thermal mass etc. shall be incorporated in the building design. Wall, window, and roof u-values shall be as per ECBC specifications.

- iv. Energy conservation measures like installation of CFLs/ LED for the lighting the area outside the building should be integral part of the project design and should be in place before project commissioning.
- v. Solar, wind or other Renewable Energy shall be installed to meet electricity generation equivalent to 1% of the demand load or as per the state level/ local building bye-laws requirement, whichever is higher.
- vi. Solar power shall be used for lighting in the apartment to reduce the power load on grid. Separate electric meter shall be installed for solar power. Solar water heating shall be provided to meet 20% of the hot water demand of the commercial and institutional building or as per the requirement of the local building bye-laws, whichever is higher. Residential buildings are also recommended to meet its hot water demand from solar water heaters, as far as possible.

VI. Waste Management

- i. A certificate from the competent authority handling municipal solid wastes, indicating the existing civic capacities of handling and their adequacy to cater to the M.S.W. generated from project shall be obtained.
- ii. Disposal of muck during construction phase shall not create any adverse effect on the neighboring communities and be disposed taking the necessary precautions for general safety and health aspects of people, only in approved sites with the approval of competent authority.
- iii. Separate wet and dry bins must be provided in each unit and at the ground level for facilitating segregation of waste. Solid waste shall be segregated into wet garbage and inert materials.
- iv. Organic waste compost/ Vermiculture pit/ Organic Waste Converter within the premises with a minimum capacity of 0.3 kg /person/day must be installed.
- v. All non-biodegradable waste shall be handed over to authorized recyclers for which a written tie up must be done with the authorized recyclers.
- vi. Any hazardous waste generated during construction phase, shall be disposed off as per applicable rules and norms with necessary approvals of the State Pollution Control Board.
- vii. Use of environment friendly materials in bricks, blocks and other construction materials, shall be required for at least 20% of the construction material quantity. These include Fly

Ash bricks, hollow bricks, AACs, Fly Ash Lime Gypsum blocks, Compressed earth blocks, and other environment friendly materials.

- viii. Fly ash should be used as building material in the construction as per the provision of Fly Ash Notification of September, 1999 and amended as on 27th August, 2003 and 25th January, 2016. Ready mixed concrete must be used in building construction.
- ix. Any wastes from construction and demolition activities related thereto shall be managed so as to strictly conform to the Construction and Demolition Rules, 2016.
- x. Used CFLs and TFLs should be properly collected and disposed off/sent for recycling as per the prevailing guidelines/ rules of the regulatory authority to avoid mercury contamination.

VII. Green Cover

- i. No tree can be felled/transplant unless exigencies demand. Where absolutely necessary, tree felling shall be with prior permission from the concerned regulatory authority. Old trees should be retained based on girth and age regulations as may be prescribed by the Forest Department. Plantations to be ensured species (cut) to species (planted).
- ii. A minimum of 1 tree for every 80 sqm of land should be planted and maintained. The existing trees will be counted for this purpose. The landscape planning should include plantation of native species. The species with heavy foliage, broad leaves and wide canopy cover are desirable. Water intensive and/or invasive species should not be used for landscaping.
- iii. Where the trees need to be cut with prior permission from the concerned local Authority, compensatory plantation in the ratio of 1:10 (i.e. planting of 10 trees for every 1 tree that is cut) shall be done and maintained. Plantations to be ensured species (cut) to species (planted). Area for green belt development shall be provided as per the details provided in the project document.
- iv. Topsoil should be stripped to a depth of 20 cm from the areas proposed for buildings, roads, paved areas, and external services. It should be stockpiled appropriately in designated areas and reapplied during plantation of the proposed vegetation on site.

VIII. Transport

- i. A comprehensive mobility plan, as per MoUD best practices guidelines (URDPFI), shall be prepared to include motorized, non-motorized, public, and private networks. Road should be designed with due consideration for environment, and safety of users. The road system can be designed with these basic criteria.

- a. Hierarchy of roads with proper segregation of vehicular and pedestrian traffic.
 - b. Traffic calming measures.
 - c. Proper design of entry and exit points.
 - d. Parking norms as per local regulation.
- ii. Vehicles hired for bringing construction material to the site should be in good condition and should have a pollution check certificate and should conform to applicable air and noise emission standards be operated only during non-peak hours.
 - iii. A detailed traffic management and traffic decongestion plan shall be drawn up to ensure that the current level of service of the roads within a 05 kms radius of the project is maintained and improved upon after the implementation of the project. This plan should be based on cumulative impact of all development and increased habitation being carried out or proposed to be carried out by the project or other agencies in this 05 Kms radius of the site in different scenarios of space and time and the traffic management plan shall be duly validated and certified by the State Urban Development department and the P.W.D./ competent authority for road augmentation and shall also have their consent to the implementation of components of the plan which involve the participation of these departments.

IX. Human health issues

- i. All workers working at the construction site and involved in loading, unloading, carriage of construction material and construction debris or working in any area with dust pollution shall be provided with dust mask.
- ii. For indoor air quality the ventilation provisions as per National Building Code of India.
- iii. Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.
- iv. Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
- v. Occupational health surveillance of the workers shall be done on a regular basis.
- vi. A First Aid Room shall be provided in the project both during construction and operations of the project.

X. Corporate Environment Responsibility

- i. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 1st May 2018, as applicable, regarding Corporate Environment Responsibility.
- ii. The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.
- iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.
- iv. Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.

XI. Miscellaneous

- i. The project proponent shall prominently advertise it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days indicating that the project has been accorded environment clearance and the details of MoEFCC/SEIAA website where it is displayed.
- ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
- iii. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.

- iv. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
- v. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
- vi. The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.
- vii. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
- viii. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
- ix. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).
- x. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
- xi. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
- xii. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
- xiii. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
- xiv. The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed

by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.

- xv. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.



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Ministry of Housing and Urban Affairs
Government of India

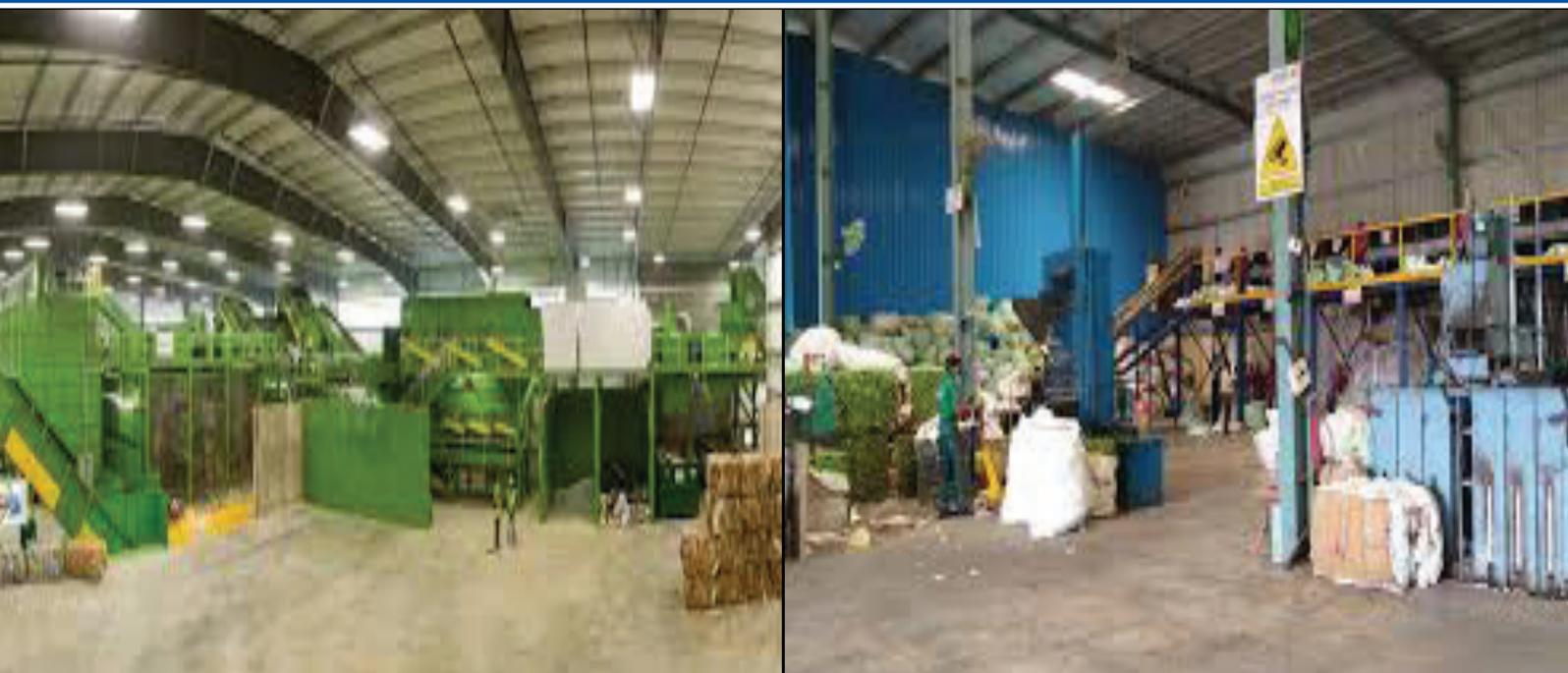


ANNEXURE A/7

Swachh Bharat Mission - Urban

ADVISORY ON MATERIAL RECOVERY FACILITY (MRF)

for Municipal Solid Waste



Central Public Health and Environmental Engineering Organisation
(CPHEEO)

Ministry of Housing and Urban Affairs
Government of India

www.swachhbharaturban.gov.in | www.cpheeo.gov.in

June 2020



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Ministry of Housing and Urban Affairs
Government of India



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दुर्गा शंकर मिश्र

सचिव

Durga Shanker Mishra

Secretary



भारत सरकार
आवासन और शहरी कार्य मंत्रालय
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Preface

One of the objectives of Swachh Bharat Mission- Urban (SBM-U) is the scientific handling of spiraling Municipal Solid Waste in urban India. Segregation at source followed by resource recovery is an established principle of waste management. SBM-U has been advising segregation at source and the same has taken root across the country today. It follows that the Material Recovery Facilities (MRFs) mandated under the Solid Waste Management Rules 2016 are implemented in a massive way to build-up on the benefits of segregation.

There is no doubt that MRFs will be a game-changer for Urban Local Bodies (ULBs) to achieve success in scientific solid waste management. MRFs are also essential building blocks for the 3R principles i.e. reduce, reuse, recycle which, in turn, is the foundation for resource efficiency and the creation of a circular economy. Moreover, this approach leads to improved public health and quality of life apart from generating jobs, integration of informal workers into the formal workforce, generation of revenue and creation of new products from waste streams finally leading to not just a Swachh (clean) but a Swasth (healthy), Sashakt (empowered), Sampann (prosperous) and Atmanirbhar (self-reliant) Bharat.

I congratulate the officers of SBM-U division and CPHEEO for bringing out this advisory which will be of great use by Chairpersons, Commissioners and Executive Officers etc of all ULBs.

Happy World Environment Day !

(Durga Shanker Mishra)

New Delhi
June 5, 2020

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सत्यमेव जयते



एक भारत स्वच्छता की ओर

भारत सरकार
आवासन और शहरी कार्य मंत्रालय
निर्माण भवन

GOVERNMENT OF INDIA
MINISTRY OF HOUSING AND URBAN AFFAIRS
NIRMAN BHAWAN

नई दिल्ली-110011, तारीख 20

New Delhi-110011, dated the 20



FOREWORD

With rapid urbanization, the issue of Municipal Solid Waste Management (MSW) in the country has emerged as a challenge with an estimated 65 million tonnes of MSW generated annually by around 400 million citizens residing in urban areas. Rule 15h of the Solid Waste Management Rules of 2016 mandates the setting up of "Material Recovery Facilities (MRFs) or secondary storage facilities with sufficient space for sorting of recyclable materials to enable informal or authorised waste pickers and waste collectors to separate recyclables from the waste and provide easy access to waste pickers and recyclers for collection of segregated recyclable waste". While the thrust on the establishment of MRFs is clear, the rules do not go into the specifics of these facilities, their formation and effective functioning. A need was therefore felt to bring out an advisory that deals with the subject in detail including types of MRFs, its constituents, selection criteria for MRFs, process flow, amongst others. The document also presents select best practices from cities such as Indore, Ambikapur, Chennai, Dungarpur and Rajpura which can serve as a model and inspiration for other ULBs in their MRF journey.

Ultimately, it is our endeavor to help our towns and cities adopt the 3R mantra of reduce, reuse and recycle in principle and in practice thus leading to the creation of a circular economy. Establishment and optimum utilization of MRFs will not only reduce waste volumes but also result in cost savings, reduce environmental management efforts and generate livelihood opportunities for informal, local vendors and recyclers. Through effective resource recovery, we will not only encourage 'Green Consumerism' but create strong foundations for a sustainable ecosystem based on the 'zero-waste' approach.

I take the opportunity to thank and congratulate SBM-U Division and CPHEEO for their efforts to bring out this advisory which I am sure, will prove useful to all Urban Local Bodies and indeed, all practitioners of scientific solid waste management.

New Delhi

5th June, 2020

V.K. Jindal

(V.K. Jindal)

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Abbreviations

CBO	Community Based Organizations
CPCB	Central Pollution Control Board
CPHEEO	Central Public Health and Environmental Engineering Organization
C&D	Construction and Demolition
GHG	Green House Gas(es)
INR	Indian Rupee
ISWM	Integrated Solid Waste Management
kWh	Kilo Watt Hour
MT	Metric Tonne
MoHUA	Ministry of Housing and Urban Affairs
MNRE	Ministry of New and Renewable Energy
MoEFCC	Ministry of Environment, Forest and Climate Change
MRF	Material Recovery Facility
MSW	Municipal Solid Waste
MSWM	Municipal Solid Waste Management
NGO	Non-Government Organization
O&M	Operation and Maintenance
PA	Per Annum
PPP	Public Private Partnership
PVC	Polyvinyl Chloride
RDF	Refuse Derived Fuel
RWA	Resident Welfare Association
SBM	Swachh Bharat Mission
SCP	Secondary Collection Point
SHG	Self Help Group
SLRM	Solid Liquid Resource Management
SPCB	State Pollution Control Board
SWM	Solid Waste Management
TPD	Tons Per Day
ULB	Urban Local Body
WHO	World Health Organization
WtE	Waste to Energy

Definitions

1. "aerobic composting" means a controlled process involving microbial decomposition of organic matter in the presence of oxygen;
2. "anaerobic digestion" means a controlled process involving microbial decomposition of organic matter in absence of oxygen;
3. "authorization" means the permission given by the State Pollution Control Board or Pollution Control Committee, as the case may be, to the operator of a facility or urban local authority, or any other agency responsible for processing and disposal of solid waste;
4. "biodegradable waste " means any organic material that can be degraded by micro-organisms into simpler stable compounds;
5. "bio-methanation" means a process which entails enzymatic decomposition of the organic matter by microbial action to produce methane rich biogas;
6. "bulk waste generator" means and includes buildings occupied by the Central government departments or undertakings, State government departments or undertakings, local bodies, public sector undertakings or private companies, hospitals, nursing homes, schools, colleges, universities, other educational institutions, hostels, hotels, commercial establishments, markets, places of worship, stadia and sports complexes having an average waste generation rate exceeding 100kg per day;
7. "bye-laws" means regulatory framework notified by local body, census town and notified area townships for facilitating the implementation of these rules effectively in their jurisdiction.
8. "census town" means an urban area as defined by the Registrar General and Census Commissioner of India;
9. "combustiblewaste" means non-biodegradable, non-recyclable, non-reusable, nonhazardous solid waste having minimum calorific value exceeding 1500 kcal/kg and excluding chlorinated materials like plastic, wood pulp, etc;
10. "composting" means a controlled process involving microbial decomposition of organic matter;
11. "co-processing" means use of non-biodegradable and non-recyclable solid waste having calorific value exceeding 1500k/ Cal as raw material or as a source of energy or both to replace or supplement the natural mineral resources and fossil fuels in industrial processes;
12. "decentralized processing" means establishment of dispersed facilities for maximizing the processing of biodegradable waste and recovery of recyclables closest to the source of generation so as to minimize transportation of waste for processing or disposal;
13. "disposal" means the final and safe disposal of post processed residual solid waste and inert street sweepings and silt from surface drains on land as specified in Schedule I to prevent contamination of ground water, surface water, ambient air and attraction of animals or birds;

14. "domestic hazardous waste" means discarded paint drums, pesticide cans, CFL bulbs, tube lights, expired medicines, broken mercury thermometers, used batteries, used needles and syringes and contaminated gauge, etc., generated at the household level;
15. "door to door collection" means collection of solid waste from the door step of households, shops, commercial establishments, offices, institutional or any other nonresidential premises and includes collection of such waste from entry gate or a designated location on the ground floor in a housing society, multi storied building or apartments, large residential, commercial or institutional complex or premises;
16. "dry waste" means waste other than biodegradable waste and inert street sweepings and includes recyclable and non-recyclable waste, combustible waste and sanitary napkin and diapers, etc;
17. "facility" means any establishment wherein the solid waste management processes namely segregation, recovery, storage, collection, recycling, processing, treatment or safe disposal are carried out;
18. "handling" includes all activities relating to sorting, segregation, material recovery, collection, secondary storage, shredding, baling, crushing, loading, unloading, transportation, processing and disposal of solid wastes;
19. "inert" means wastes which are not biodegradable, recyclable or combustible street sweeping or dust and silt removed from the surface drains;
20. "incineration" means an engineered process involving burning or combustion of solid waste to thermally degrade waste materials at high temperatures;
21. "informal waste collector" includes individuals, associations or waste traders who are involved in sorting, sale and purchase of recyclable materials;
22. "leachate" means the liquid that seeps through solid waste or other medium and has extracts of dissolved or suspended material from it;
23. "local body" for the purpose of these rules means and includes the municipal corporation, nagar nigam, municipal council, nagarpalika, nagar Palikaparishad, municipal board, nagar panchayat and town panchayat, census towns, notified areas and notified industrial townships with whatever name they are called in different States and union territories in India;
24. "materials recovery facility" (MRF) means a facility where non-compostable solid waste can be temporarily stored by the local body or any other entity mentioned in rule 2 or any person or agency authorised by any of them to facilitate segregation, sorting and recovery of recyclables from various components of waste by authorised informal sector of waste pickers, informal recyclers or any other work force engaged by the local body or entity mentioned in rule 2 for the purpose before the waste is delivered or taken up for its processing or disposal;
25. "non-biodegradable waste" means any waste that cannot be degraded by micro organisms into simpler stable compounds;
26. "operator of a facility" means a person or entity, who owns or operates a facility for handling solid waste which includes the local body and any other entity or agency appointed by the local body;
27. "primary collection" means collecting, lifting and removal of segregated solid waste from source of its generation including households,

- shops, offices and any other non-residential premises or from any collection points or any other location specified by the local body;
28. “processing” means any scientific process by which segregated solid waste is handled for the purpose of reuse, recycling or transformation into new products;
29. “recycling” means the process of transforming segregated non-biodegradable solid waste into new material or product or as raw material for producing new products which may or may not be similar to the original products;
30. “redevelopment” means rebuilding of old residential or commercial buildings at the same site, where the existing
31. “refused derived fuel”(RDF) means fuel derived from combustible waste fraction of solid waste like plastic, wood, pulp or organic waste, other than chlorinated materials, in the form of pellets or fluff produced by drying, shredding, dehydrating and compacting of solid waste;
32. “residual solid waste” means and includes the waste and rejects from the solid waste processing facilities which are not suitable for recycling or further processing;
33. “sanitary land filling “ means the final and safe disposal of residual solid waste and inert wastes on land in a facility designed with protective measures against pollution of ground water, surface water and fugitive air dust, wind-blown litter, bad odour, fire hazard, animal menace, bird menace, pests or rodents, greenhouse gas emissions, persistent organic pollutants slope instability and erosion;
34. “sanitary waste” means wastes comprising of used diapers, sanitary towels or napkins, tampons, condoms, incontinence sheets and any other similar waste;
35. “secondary storage” means the temporary containment of solid waste after collection at secondary waste storage depots or MRFs or bins for onward transportation of the waste to the processing or disposal facility;
36. “segregation” means sorting and separate storage of various components of solid waste namely biodegradable wastes including agriculture and dairy waste, non-biodegradable wastes including recyclable waste, nonrecyclable combustible waste, sanitary waste and non-recyclable inert waste, domestic hazardous wastes, and construction and demolition wastes;
37. “solid waste” means and includes solid or semi-solid domestic waste, sanitary waste, commercial waste, institutional waste, catering and market waste and other nonresidential wastes, street sweepings, silt removed or collected from the surface drains, horticulture waste, agriculture and dairy waste, treated bio-medical waste excluding industrial waste, bio-medical waste and e-waste, battery waste, radio-active waste generated in the area under the local authorities and other entities mentioned in rule 2;
38. “sorting” means separating various components and categories of recyclables such as paper, plastic, cardboards, metal, glass, etc., from mixed waste as may be appropriate to facilitate recycling;
39. “transfer station” means a facility created to receive solid waste from collection areas and transport in bulk in covered vehicles or containers to waste processing and, or, disposal facilities;

40. “transportation” means conveyance of solid waste, either treated, partly treated or untreated from a location to another location in an environmentally sound manner through specially designed and covered transport system so as to prevent the foul odour, littering and unsightly conditions;
41. “treatment” means the method, technique or process designed to modify physical, chemical or biological characteristics or composition of any waste so as to reduce its volume and potential to cause harm;
42. “user fee” means a fee imposed by the local body and any entity mentioned in rule 2 on the waste generator to cover full or part cost of providing solid waste collection, transportation, processing and disposal services.
43. “waste generator” means and includes every person or group of persons, every residential premises and non residential establishments including Indian Railways, defense establishments, which generate solid waste;
44. “waste hierarchy” means the priority order in which the solid waste is to should be managed by giving emphasis to prevention, reduction, reuse, recycling, recovery and disposal, with prevention being the most preferred option and the disposal at the landfill being the least;
45. “waste picker” means a person or groups of persons informally engaged in collection and recovery of reusable and recyclable solid waste from the source of waste generation the streets, bins, material recovery facilities, processing and waste disposal facilities for sale to recyclers directly or through intermediaries to earn their livelihood.

Background

Urban India is facing an escalating challenge of providing the basic infrastructural needs of a growing urban population. According to the 2011 census, the population of India was 1.21 billion, out of which 31 % live in urban areas. It is projected that by 2050, half of India's population will live in urban areas. In addition, the total number of towns (statutory and census) in the country have increased from 5,161 in 2001 to 7,936 in 2011 and out of this, the statutory towns are 4378 at present. With the increasing population, municipal solid waste management (MSWM) in the country has emerged as a challenge not only because of the environmental and aesthetic problems, but also because of the huge quantities of municipal solid waste (MSW) generated every day, requiring scientific solution.

Due to rapid urbanization, the country faces a massive challenge in waste management. Urban India generates 54.75 million tons of municipal solid waste annually. Solid Waste Management (SWM) is an essential service provided by urban local bodies in the country to keep urban areas clean. However, most urban local bodies dump their solid waste at unregulated dump sites within or outside their jurisdiction, causing serious environmental hazards.

In order to expedite management of municipal solid waste management, the Ministry of Housing and Urban Affairs, (erstwhile Ministry of Urban Development) launched Swachh Bharat Mission (SBM) in 2014 which aimed to address the challenges in management of MSW and to support cities / towns in developing modern and appropriate systems within the Mission period. With the implementation of SBM, out of total

MSW generation of 1.47 lakh TPD, 60 % waste is processed, an increase of about 260 % in processing in 5 years (as of March 2020). Out of 84,420 wards in the country, 79,139 wards i.e., (93.7 %) have door to door collection and 57,208 wards i.e., (67.7%) have 100 % source segregation.

Municipal Solid Waste as per SWM Rules 2016

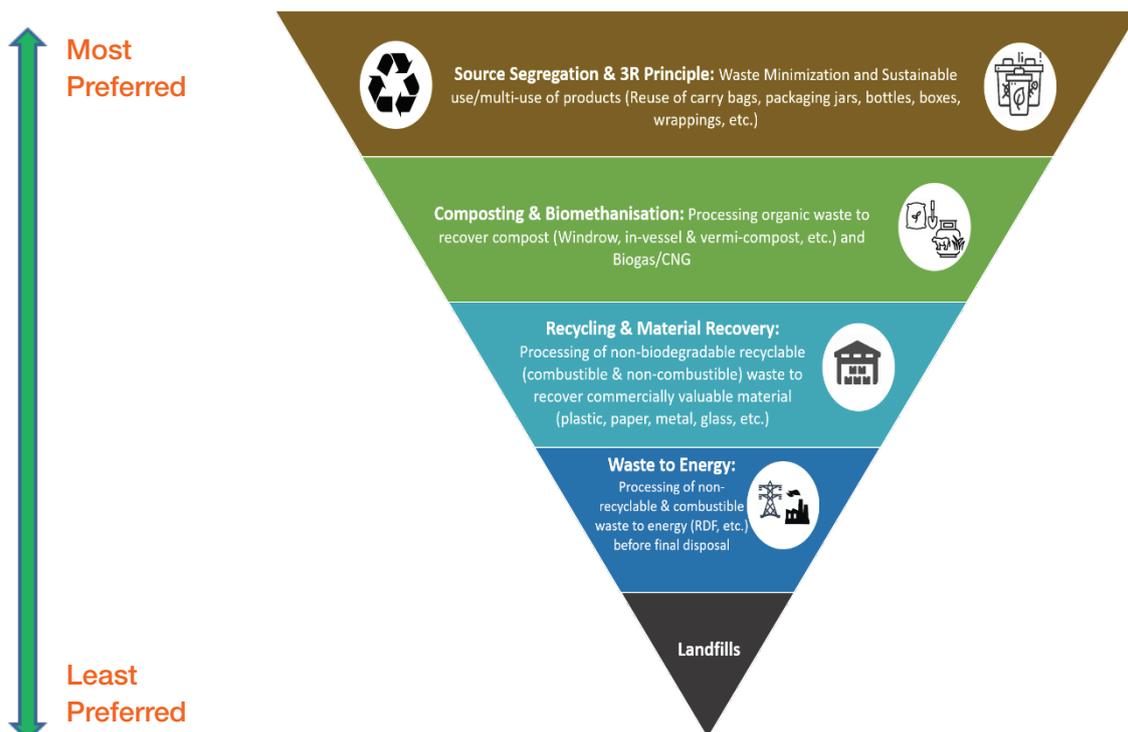
Solid waste means and includes solid or semi-solid domestic waste, sanitary waste, commercial waste, institutional waste, catering and market waste and other non-residential waste, street sweepings, silt removed or collected from the surface drains, horticulture waste, agriculture and dairy waste, allowable properly treated bio-medical waste but excluding industrial waste, bio-medical waste and e-waste, battery waste and radioactive waste generated in the area under the local authority's jurisdiction.

Solid Waste Management (SWM) is the science associated with the management of solid waste using the best principles and practices of public health, economics, engineering, conservation,

aesthetics and other environmental considerations. The Integrated Solid Waste Management (ISWM) system is based on the waste management hierarchy (see figure below), with the aim to reduce the amount of waste being disposed, while maximizing resource recovery and efficiency.

2.1 3R approach for Waste Minimization

SWM is intricately linked to the 3R approach (reduce, reuse, and recycle), which preliminarily emphasizes the importance of waste reduction, reuse, and recycling side-by-side with waste processing or management. The adoption of 3R principles minimizes the amount of waste to be disposed, thereby also minimizing the public health and environmental risks associated with it.



Maximization of resource recovery at all the stages of solid waste management is advocated by this approach.

The 3R Approach is aimed at optimizing waste management in all the waste generation and management activities, involving all the stakeholders (waste generators, service providers, informal sector, regulators, government, and community or neighborhoods). The adoption of 3R minimizes the waste being handled by the ULB and reduces the public health and environmental risks associated with it.

The integrated solid waste management (ISWM) system is based on the waste management hierarchy (Figure 1), with an aim to reduce the amount of waste being disposed while maximizing resource recovery. Processing non-biodegradable waste to recover commercially valuable materials (e.g. plastic, paper, metal, glass, e-Waste recycling) and recovering energy before final disposal of waste (e.g. RDF, co-processing of combustible non-biodegradable dry fraction of MSW in cement plants, etc.)

Recycling diverts a significant fraction of municipal, institutional, and business waste away from disposal and, thereby, saves scarce natural resources and reduces environmental impacts and the burden on public authorities to manage waste. Recycling can generate revenues, which result in reducing overall costs for MSWM.

The key benefits of recycling are: (1) reduced volume of waste to be managed, (2) cost savings from sale of recyclables, (3) longer life span of landfills and (4) livelihood opportunities and enhancement for the informal sector, the recyclers and recycling industry.

2.1.1 Reduce

The concept of reducing the amount of waste generated by reducing consumption is essential to waste management hierarchy. The logic behind it

is simple to understand – if there is less of waste generated, then there is less to recycle, reuse or to manage. The process of reducing begins with an examination of what is being used, what it is used for and by how much it can be reduced. It also involves modification of processes and packaging; substitution; minimization and elimination.

2.1.2 Reuse

The reuse of items (for multiple times) or re-purposing them for a use different from what they are originally intended for is the next essential thing in the waste reduction hierarchy. Items may be reused for one's own use (or reuse) or donated so that others can use them so that the gross consumption of materials is reduced and the waste generation thereof.

2.1.3 Recycle

The last stage of the 3R waste hierarchy is to recycle. Recycling is the transformation of waste into a raw material for manufacturing a new item. There are very few materials on the earth that cannot be recycled, hence it is very effective in waste management. Thus, the 3R approach stands at the very top of the waste management hierarchy.

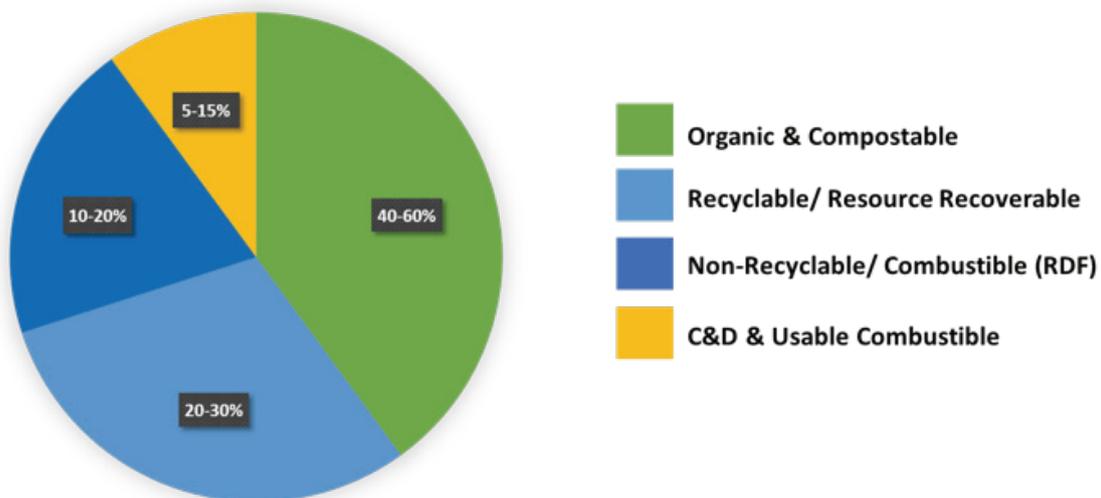
The scientific management of MSW leads to improved public health and quality of life apart from generating jobs, generating revenue and new products from waste streams. World Health Organization (WHO) has observed that 22 types of diseases can be prevented / controlled by improving the MSW management system. This will indirectly save huge financial resources currently spent on health and medical services.

Further, the scientific MSWM through MRFs also provides job opportunities to women and the informal sector. The informal sector includes both the “kabadi” system or scrap dealers and waste pickers that help reduce environmental impacts by improving resource recovery and reducing waste quantities for disposal. Their integration into

2.2 Broad Categorization of MSW



2.3 Composition of Municipal Solid Waste



the formal MSW management system through resident welfare associations (RWAs), community-based organizations (CBOs), non-government organizations (NGOs), self-help groups (SHGs) and private sector will contribute to the reduction of the overall MSW management costs, provide support to the local recycling industry and create new job opportunities. MRFs are vital cogs in the integration of informal workers in MSWM.

2.4 Material Recovery Facility (MRF) in SWM Rules 2016

As per the SWM Rules, 2016 “Materials Recovery Facility” (MRF) means a facility where non-compostable solid waste can be temporarily stored by the local body or any person or agency authorized by any of them to facilitate segregation, sorting and recovery of recyclables from various components of waste by authorized informal sector of waste pickers, informal recyclers or any

other work force engaged by the local body for the purpose before the waste is delivered or taken up for its processing or disposal;

Material recovery starts at the primary level, by households who segregate recyclables like newspapers, cardboard, plastics, bottles, etc. from waste to sell such material to kabadiwalas, local recyclers and scrap dealers. The items that cannot be sold to the kabadi system are discarded and become part of the MSW.

2.5 Dry Waste as per SWM Rules 2016

As per the SWM Rules 2016, Dry Waste is defined as “waste other than bio-degradable waste and inert street sweepings and includes recyclable and non-recyclable waste, combustible waste and sanitary napkins and diapers, etc.”

2.6 Duty of ULB to set up MRF as per SWM Rules 2016

As per the SWM Rules 2016, it is the duty and responsibility of the ULB to setup material recovery facilities (MRFs) or secondary storage facilities with sufficient space for sorting of recyclable materials to enable informal or authorized waste pickers and waste collectors to separate recyclables from the waste and provide easy access to waste pickers and recyclers for collection of segregated recyclable waste such as paper, plastic, metal, glass, textile from the source of generation or from material recovery facilities (MRFs).

3. What is Material Recovery Facility (MRF)

A material recovery facility (MRF) accepts waste materials, whether source segregated or mixed, and further separates, processes and stores them for later use as raw materials for remanufacturing, reusing and reprocessing

Material Recovery Facility (MRF) is also known as Material Reclamation Facility or Material Recycling Facility. An MRF is a place where waste collected from the doorstep in a segregated manner is further segregated and various components of recyclable waste recovered from it for recycle or resale.

The waste material is basically segregated into different streams of waste fractions (paper, plastic, packaging paper, bottles etc.) which is sold to intermediaries who supply bulk material to the recycling industries. MRFs require medium to large storage spaces depending on their capacity to temporarily store sorted recyclables which can be made available to recyclers in bulk at higher resale value.

In mechanized MRFs, the entire process is carried out with sophisticated systems and equipment that enable efficient separation of large quantity of material into different fractions.

The main function of the MRF is to maximize the quantity of recyclables processed, while segregating materials that will generate the highest possible revenues from the recycling market. MRF also helps in segregating combustible fraction (RDF), non-recyclables and inert from the dry waste stream. These fractions may be utilize/reused as –

- Recyclables – Reuse/ reprocessed
- Non-recyclables - Road making/ plastic to oil

- RDF - Waste to Energy/ Cement Industries
- Inert - C&D plant/ daily cover of SLF

3.1 Need of Material Recovery Facility (MRF)

Municipal Solid Waste (MSW) is the trash or garbage that is discarded from various sources i.e., Domestic, Commercial, Institutional, Industrial/ Trade etc. in day to day activities. Aforementioned waste management hierarchy indicates that the least preferred option of ISWM is disposal of waste in landfills. SWM 2016 rules do not permit disposal of organic matter into sanitary landfills and mandate that only inert rejects (residual waste) from processing facilities, inert street sweepings, etc. can be landfilled. All options of waste minimization should be utilized before appropriate treatment technologies are selected and implemented. With the aim to reduce the amount of waste being finally disposed, and maximizing resource recovery and efficiency, Material Recovery Facilities (MRFs) need to be established within the ULBs.

A Material Recovery Facility (MRF) is an infrastructure to receive, sort, process and store recyclable/ non recyclables/ RDF and inert materials, with the aim to maximize the quantity of recyclables processed, while producing materials that will generate the highest possible revenues in the market and maximize the reuse of other segregated fraction in different processes/ industries. It is the responsibility of the ULB to set up material recovery facilities with enough space for sorting of recyclable materials as a follow up of source segregation of waste at-least as Dry and Wet waste in their SWM.

MRFs serve as intermediate processing step between the collection of recyclable materials from

waste generators and the sale of recyclable/ non-recyclables/ RDF/inert materials to the recycling market and for other processes and industries .

3.2 Advantages of MRF

Recycling prevents a significant fraction of municipal, institutional and bulk waste from being dumped or disposed in landfills. It results in the availability of scarce resources as well as reducing environmental impacts and the burden of waste management on public authorities. If the necessary market mechanisms are established, recycling can generate revenue, contributing to the cost recovery in the municipal solid waste service provision. It helps the ULB by reducing waste volumes and results in cost savings in the collection, transportation and disposal infrastructure, longer life span for landfills/reduced requirement of land, reduced environmental management efforts and generates livelihood opportunities for informal, local vendors/recyclers in the recycling industry.

3.3 Types of Material Recovery Facility by Ownership and Operations

MRFs may be publicly owned and operated, publicly owned and privately operated, or privately owned and operated. Jointly owned and jointly operated MRFs are also possible.

There are basically two types of MRFs: Mixed and Dry/Clean, based on waste received:

3.3.1 Mixed MRF

Unsegregated, mixed waste with biodegradable and non-biodegradable material is collected and sent to the MRF processing facility. At the mixed MRF, the mixed waste stream may be segregated manually or mechanically to separate recyclable

material from compostable and inert wastes. Compostable matter and recyclable materials may then be processed separately, and residual inert wastes are sent to the landfill. Receiving mixed waste (recyclable materials combined with other municipal solid waste) that requires labor intensive sorting activities to separate recyclables from the mixed waste. The MRF unit can use a combination of manual, hybrid and machine-based sorting .

3.3.2 Dry MRF or Clean MRF

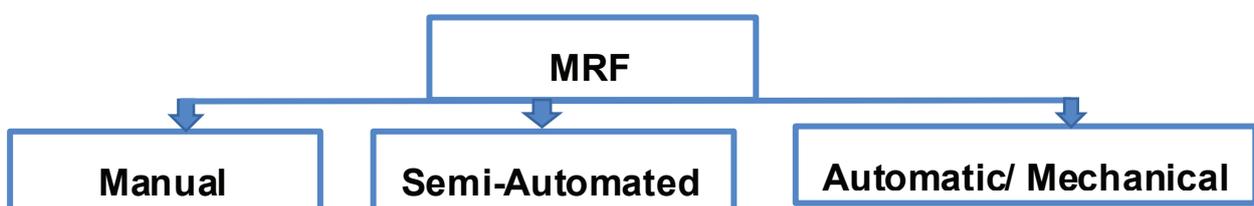
A facility that receives source segregated or commingled recyclable materials (recyclable materials that are already separated from other main solid waste or wet waste). A “clean” MRF reduces the material contamination and can recycle more materials than mixed MRFs. Dry segregated material is received in a commingled form consisting of a combination of paper, cardboard, magazines, plastics etc. and commingled containers (plastic, glass, metal, etc.), among other materials. The first stage of processing typically uses manual labor or equipment that separate waste materials into various streams (metal, paper, plastic, containers, etc.). These recyclables are also sorted by using automated machines when quantities to be handled are large.

Depending on the scale of operations, type of operations and the level of mechanization in the facility, MRFs may be classified as manual, semiautomatic or mechanized.

3.3.3 Manual MRF

In manual MRFs, sorting process is carried out manually. This type of MRFs are suitable for small quantities of MSW like 5-10 TPD only. Sometimes, these Material recovery facilities are also termed

MRFs can be further categorized in terms of the type of operations / technology employed



as Solid Liquid Resource Management (SLRM) centers. These SLRM centers received waste either in mixed form or in wet and dry waste streams. In SLRM centers processing of wet waste can also be carried out depending upon the land availability and location.

3.3.4 *Semiautomatic MRF*

This type of Material Recovery Facilities has combination of manual and mechanized operations. Semi-automated MRF can cater for 10- 100/200 plus TPD of segregated waste. Semi-automated MRFs also work as secondary collection points in which after segregation of wet & dry streams, further transportation of MSW is carried out in compacted manner to save on transportation cost.

3.3.5 *Mechanical / Automated MRF*

Mechanized material recovery facilities are fully mechanized/ automated facilities for material recovery in large quantities (>100 TPD) with least human intervention. These facilities are best suitable for segregation of recyclables/non-recyclables/RDF/inert, when only source segregated dry waste is coming to the facility. These mechanized plants have limitations to segregate mix MSW if the wet/ mix waste is more than 20% of the total received waste.

3.4 Selection of MRF

The configuration of MRF processing line is critical to the overall quality of the materials segregated. It depends on several factors including the quality and quantity of incoming waste (segregated or mixed) and required specifications for the end products and also the land available. Selection of MRF depends largely on ULBs capabilities- its financial conditions and its linkage to market/ industries for sale of byproducts. It is pertinent to note that every given the specific conditions, every ULB has requirement of tailor-made types of MRFs. ULBs have to adopt the type of MRF as per their specific requirement depending upon the following aspects:

- Waste Quantity
- Waste characterization
- Availability of land
- Capital and Operational cost of facility (including cost of Manpower)
- Provisions/ Linkages for sale of recyclables and by products
- Type and linkage of final treatment/disposal facility

3.5 Siting Criteria for MRF

Ideally the MRF shall be located close to both the source of the MSW generation and the industries that will use the recycled materials since the minimization of travel distances is important for reducing costs. In order to be located near the residential areas, the facility must be both environmentally and aesthetically acceptable. A buffer space with trees / shrubs will help improve aesthetics and decrease any noise pollution.

- MRFs need to be located close to existing roads, but traffic blocks resulting from the movement of waste collection trucks should be considered and avoided.
- These facilities must be near or within urban areas that generate the inputs to be processed for recyclables.
- If the development area is zoned, MRFs are preferably located in an industrial zone or close to a sanitary landfill to facilitate efficient movement of waste from various generators and disposal of residual waste.
- MRFs should be sited, considering the local geographical features, in a safe manner
- Flood-prone areas should not be selected.

3.6 Authorizations/ Permissions Required

The permissions have to be sought from the State Pollution Control Board (SPCB) in the form of consent to establish, consent to operate, etc. Later, an annual report needs to be given to the SPCB / Pollution Control Committee (PCC). The various forms can be in the SWM Rules 2016 and the Plastic Waste Management Rules 2016. There may be exceptions for small capacity MRF's.

3.7 Pictorial presentation of Type of MRF

Manual MRF	Semi-automatic MRF	Mechanical/ Automatic MRF
Weighbridge/ Weighing Scale	Weighbridge/ Weighing Scale	Weighbridge/ Weighing Scale
Manual Loading	Loader: Manual/Mechanical	Mechanical Loader
Sorting Table/ Sorting platform	Sorting Table/ Sorting Platform	Sorting Table
	Conveyor System	Conveyor System
	Trommel	Trommel
	Magnetic Separator (Optional)	Magnetic Separator
	Baler (Optional)	Air Classifier
		Shredder/ Bottle Perforator (Optional)
		Baler (Optional)

Figure: Basic equipment / Necessary processes in different types of MRFs

However, the ULBs are to contact their respective SPCB/PCC to understand these in greater detail and comply with the same. In addition, there will be other requirements such as factory license and utility connections.

3.8 Constituents in an MRF can be as follows:

- MRF is situated within a warehouse-type building with concrete flooring and enclosed by a perimeter fence for security.
- It should have the following components:
- Weighing scale / Weighbridge
- Changing/Washroom/Rest rooms and creche, as required
- Receiving or tipping area
- Sorting/processing area
- Storage area for recyclables
- Residual storage area
- Admin/ Record room/First Aid Room
- Fire Extinguishing facilities
- It should also be provided with the basic connections for water and electricity and with adequate space for the entry and exit of waste transporting vehicles. Provisions for toilet/change/washrooms must be included.
- The warehouse design should minimize the

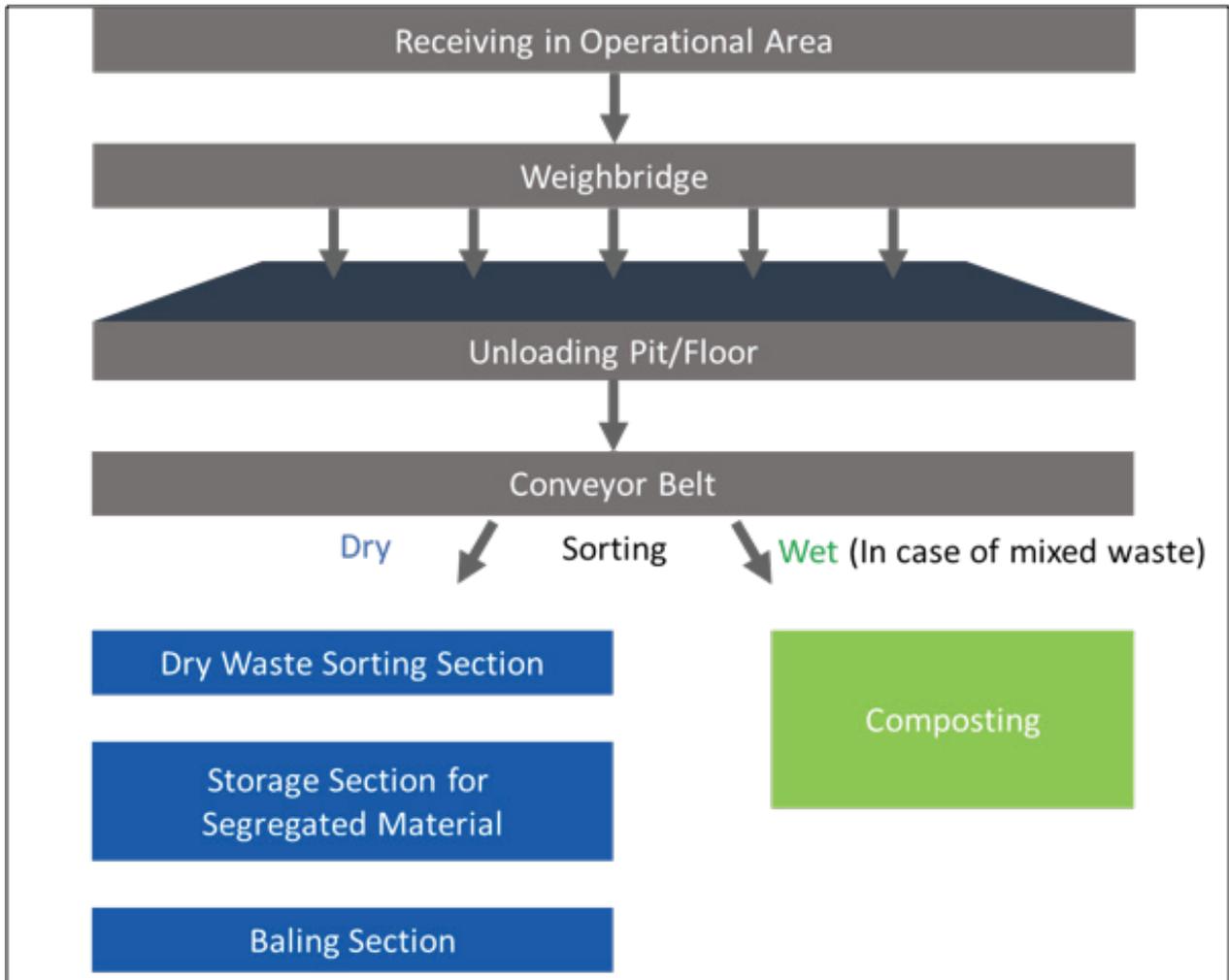
placement of columns that could interfere with the efficient movement of materials and equipment and should facilitate the installation of higher ceilings.

- Receiving areas should have the capacity to receive at least 2 days' waste storage space for the MRF's processing capacity in anticipation of equipment breakdown and to provide materials for the second-shift operation, if required.

3.10 General Categories of dry Waste Segregation in MRF :

S.No	Paper	Plastic Items (non PVC)	Plastic items (PVC)
1	Glass Items	Rubber Items	Metal Items (Ferrous)
2	Leather Items	Thermocol	Aluminium Coated Paper
3	Wooden Items	X-ray Films	Clothes
4	Cardboards	Jute bags	Electronic Items
5	Aluminium Coated Plastic	Metal Items (Non-ferrous)	Medical Waste/ Tablet Cover

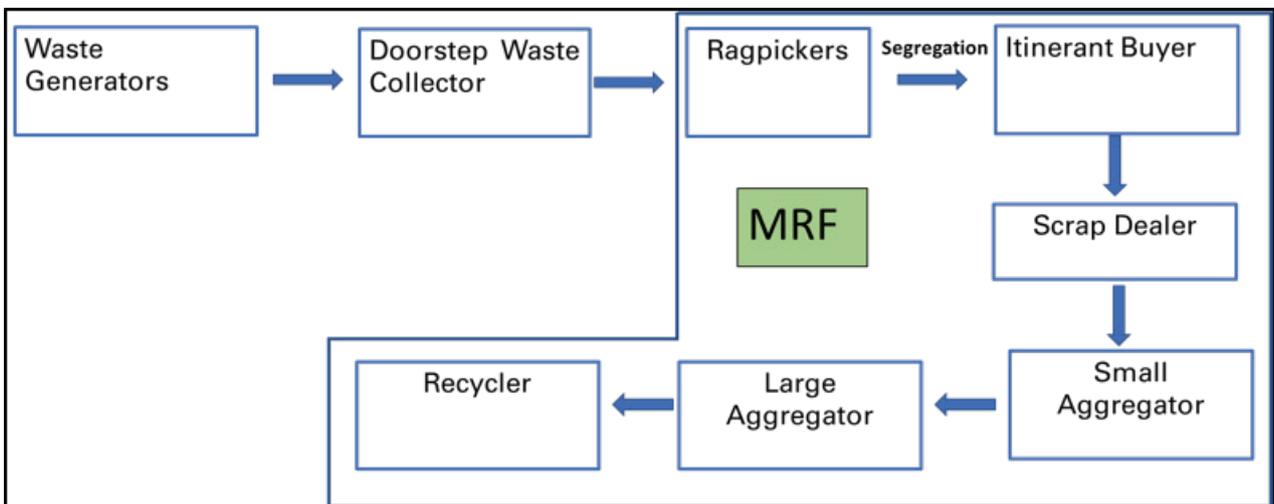
3.9 Standard Process Flow of MRF



3.12 Unit Processes in MRF

The MRFs employ varying combinations of manual and mechanical processes, based on the type of facility, availability of equipment and labour, and associated cost implications. MRFs employing manual labour for sorting operations have relatively

3.11 Typical Value Chain of MRF



lower costs but may operate at lower efficiencies compared with mechanical sorting facilities. An MRF, depending on the level of complexity, will consist of a combination of processing units in varying degrees of mechanization:

(a) Pre-sorting: Waste sorting or processing in the facility through manual or mechanical pre-sorting is essential to separate out these bulky/large pieces and packets of wastes. Manual sorting results in higher labour costs and lower processing rates. Manual sorters remove bulky waste as the waste passes along a conveyor belt, which carries the pre-sorted waste to the mechanized sorting unit of the facility. Mechanical, bulky waste sorters are also used in semi automated and automated MRFs.

(b) Mechanical sorting: Mechanical processes based on principles of electromagnetics, fluid mechanics, pneumatics, etc. are used to segregate the different waste streams in the pre-sorted waste. Mechanical processes require specialized equipment for segregation of commingled municipal waste. Mechanical sorting typically employs the following processes:

- 1) Screening:** Screening achieves an efficient separation of wastes into two or more size distributions. Two types of screens are used in MRFs- disc screens and trommels.
- 2) Ferrous metal separation:** In the second stage, electromagnets are used for separating ferrous metals from mixed waste.
- 3) Air classification:** The residual waste stream is passed through an air stream with sufficient velocity to separate light materials from heavy material, specifically for separating out lightweight plastics and paper from the mixed stream. Three types of air classifiers may be employed: (i) horizontal air classifier, (ii) vibrating incline air classifier, and (iii) incline air classifier.
- 4) Non-ferrous metal separation:** The non-ferrous metal separator segregates zinc, aluminium, copper, lead, nickel, and other metals from commingled waste. An eddy current separator removes non-ferrous items from the waste based on their electrical conductivity.
- 5) Segregation of non-recyclables and Combustibles:** Segregation of non-recyclables and combustibles fractions can be done manually / mechanically to enhance the efficiency and earning of facilities.
- 6) Optical system (sensor based):** This system separates various grades of paper, plastics, and glass, which are not sorted out in the air classifier. This system works in two stages. The first stage employs programmed optical sensors to determine the nature of different materials. In the second stage, based on information received from the sensor, sorted material is routed to appropriate bins by directional air jets.
- 7) Size reduction:** Sorted materials after segregation, if large for further use or processing and should be reduced to smaller sizes.
- 8) Baling:** Sorted & sized materials are baled for further processing or use.

4

Proposed Material Recovery Facilities for different cities

This section of advisory covers the proposed MRFs for different categories of ULBs. ULBs have been categorized against the population range. The details are listed below to provide better understanding regarding MRFs and the type of MRF required for cities.

(i) Population Range – up to 50,000

Waste generation- ULBs having population in the range of 1- 50,000 and waste generation of approximately 15 to 20 tons per day (TPD), assuming more than 50% of door to door collection and Segregation of waste.

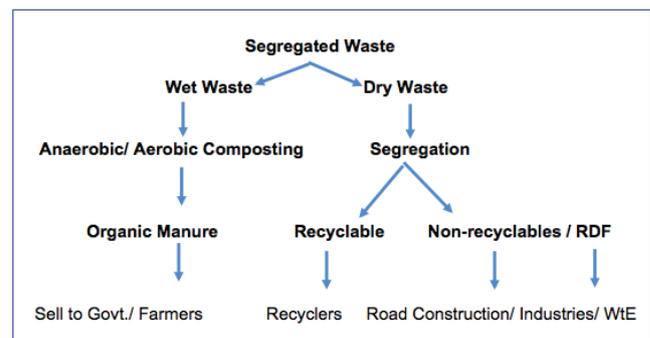
Waste characterization of MSW: In this population range, ULBs normally have less than 50% of dry waste and more than 50% of wet waste. There are possibilities that ULBs are collecting certain percentage of mixed waste.

MRF Component	Indicative value
Design Capacity	3-5 MRFs in a ULB, (1, 2, 5 TPD each) as per the ULB's requirement
Manpower	10-12 per MRF
Area Requirement	1500-2500 sqm (Approx.) This area includes basic infrastructure of segregation shed, utilization/ processing area for wet waste, admin / record room, parking of door to door vehicles and storage area for segregated recycles.

Indicative Capital Investment	Rs. 15-30 lakhs per facility excluding cost of land
Operation Cost	Rs. 15-17 lakhs per year includes honorarium/ salary and regular repair, maintenance cost and consumables.

Proposed Solution- Manual MRF cum Solid Liquid Resource Management (SLRM) center. These facilities will take care of both dry waste stream as well as wet waste fraction. These proposed facilities can also segregate the mixed waste.

Suggested Process Flow- To manage the source segregated wet and dry fraction of MSW or some quantity of mixed MSW. The proposed process flow is mentioned below:



(ii) Population Range- 50,000- 1,00,000

Waste generation- ULBs having population in the range of 50001- 100,000 and waste generation of approximately 35 to 40 tons per day (TPD), assuming more than 50% of door to door collection and Segregation of waste.

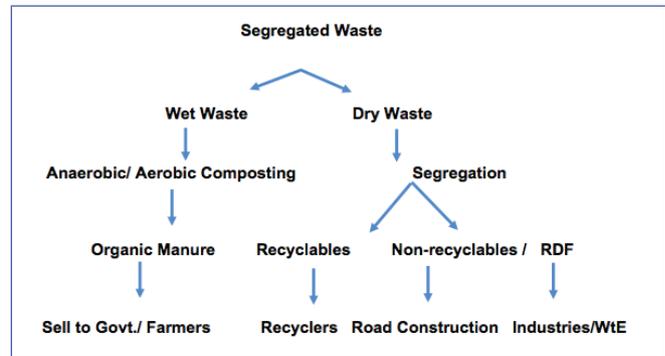
Waste characterization of MSW: In this population range, ULBs normally have less than 50% of dry waste and more than 50% of wet waste. There are possibilities that ULBs are collecting certain percentage of mixed waste.

Proposed Solution- Manual MRF cum Solid Liquid Resource Management (SLRM) center. These facilities will take care of both dry waste stream as well as wet waste fraction. These proposed facilities can also segregate the mixed waste.

MRF Component	Indicative Value
Design Capacity	3-5 MRFs in a ULB, (1, 2, 5, 10 TPD each) as per the ULB's requirement
Manpower	16-18 per MRF

Area Requirement	1500-4000 sqm (Approx.) This area includes basic infrastructure of segregation shed, utilization/ processing area for wet waste, admin / record room, parking of door to door vehicles and storage area for segregated recycles.
Indicative Capital Investment	Rs. 15-45 lakhs per facility excluding cost of land
Operation Cost	Rs. 20-23 lakhs per year includes honorarium/ salary and regular repair, maintenance cost and consumables.

Suggested Process Flow- To manage the source segregated wet and dry fraction of MSW or some quantity of mixed MSW. The proposed process flow is mentioned below:



Photographs of Some Manual MRFs / SLRM Centre



(iii) Population Range 1,00,001- 5,00,000

Waste generation- ULBs having population in the range of 1,00,001- 5,00,000 and waste generation of approximately 200 tons per day (TPD), assuming more than 50% of door to door collection and Segregation of waste.

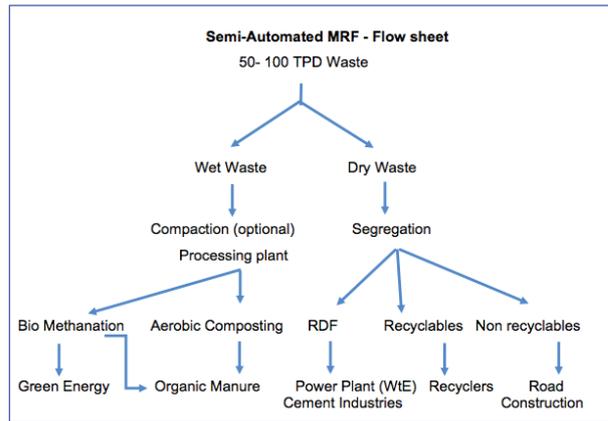
Waste characterization of MSW: In this population range, ULBs normally have more than 50% of dry waste and less than 50% of wet waste. It is assumed certain percentage of mixed waste is coming along with source segregated waste.

Proposed Solution- Semi automated MRF can be a sustainable solution for these ULBs. These Semi automated MRFs can also be used as waste transfer stations with addition of some compaction equipment and hook loaders. Compaction of segregated waste/ inert will help in reducing the cost of transportation simultaneously air pollution and release of green house gases (GHGs) by reducing the number of trips of trucks.

Manpower	25-30 per MRF
Area Requirement	6000-8000 sqm (Approx.) This area includes basic infrastructure of segregation shed, utilization/ processing area for wet waste, admin / record room, parking of door to door vehicles and storage area for segregated recycles.
Indicative Capital Investment	Rs. 4.5-6 crores per facility excluding cost of land
Operation Cost	Rs. 60-70 lakhs per year includes honorarium/ salary and regular repair, maintenance cost and consumables.

Suggested Process Flow- To manage the source segregated wet and dry fraction of MSW or some quantity of mixed MSW the proposed process flow is mentioned below:

MRF Component	Indicative Value
Design Capacity	2-5 MRFs in a ULB, 50, 75, 100 TPD each as per ULB's requirement



Photographs of Some Dry Waste MRFs



(iv) Population Range 5,00,001- 10,00,000

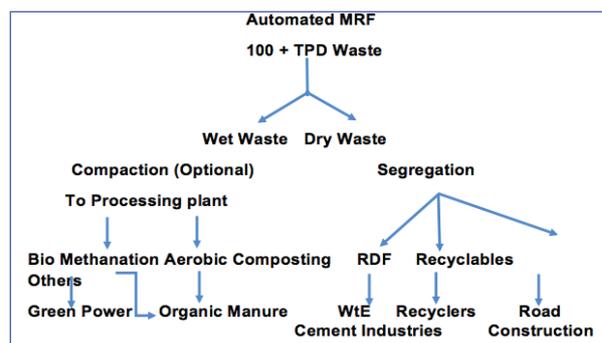
Waste generation- ULBs having population in the range of 5,00,001 – 10,00,000 and waste generation of approximately 200-500 tons per day (TPD), assuming more than 50% of door to door collection and Segregation of waste.

Waste characterization of MSW: In this population range of cities normally have more than 55% of dry waste and less than 45% of wet waste. It is assumed that certain percentage of mixed waste is coming along with source segregated waste.

Proposed Solution- Semi automated MRF may be a sustainable solution for this type of ULBs. Compaction of received waste can also be done at these MRF centers to reduce transfer cost. Compaction of segregated waste/ inert will help in reducing the cost of transportation simultaneously reducing air pollution and release of greenhouse gases (GHGs) by reducing the number of trips of trucks. These plants can be operated on PPP model.

Area Requirement	8000-10000 sqm (Approx.) This area includes basic infrastructure of segregation shed, utilization/ processing area for wet waste, admin / record room, parking of door to door vehicles and storage area for segregated recycles.
Indicative Capital Investment	Rs. 6 crores per facility excluding cost of land
Operation Cost	Rs. 70-80 lakhs per year includes honorarium/ salary and regular repair, maintenance cost and consumables.

Suggested Process Flow- To manage the source segregated wet and dry fraction of MSW or some quantity of mixed MSW with compaction of segregated waste to minimize the transportation cost. The proposed process flow is mentioned below:



MRF Component	Indicative Value
Design Capacity	2-5 MRFs in a ULB, 100 TPD each as per ULB's requirement
Manpower	25-30 per MRF



(v) Population Range 10,00,000 Plus

Waste generation- ULBs having population in the of 10,00,000+ and waste generation of approximately 500+ tons per day (TPD), assuming more than 75% of door to door collection and Segregation of waste.

Waste characterization of MSW in this population range of ULBs normally have more than 60% of dry waste and less than 40% of wet waste. It is assumed certain percentage of mixed waste is coming along with source segregated waste.

Proposed Solution- Automated / fully mechanized MRF can be a sustainable solution for this type of ULBs. Automated/ fully mechanized MRF have some limitation in segregation of mixed waste hence it is required to that all the automated MRFs will receive only dry waste.

It is proposed to have these facilities on each of the municipal zone of the city having waste generation more than 250 TPD to optimize segregation, transportation cost and sustainability. These plants can be operated on PPP model.

MRF Component	Indicative Value
Design Capacity	2-7 MRFs in a ULB (or as per requirement) 100-200-300 TPD each
Manpower	35-50 per MRF

Area Requirement	10000-20000 sqm (Approx.) This area includes basic infrastructure of segregation shed, utilization/ processing area for wet waste, admin / record room, parking of door to door vehicles and storage area for segregated recycles.
Indicative Capital Investment	Rs. 18-20, 24-26 and 29-31 (for 100,200,300 TPD respectively) crores per facility excluding cost of land
Operation Cost	Rs. 65-.80 Lakhs/month includes honorarium/ salary and regular repair, maintenance cost and consumables.

Suggested Process Flow- To manage the source segregated dry fraction of MSW with least/ minimum quantity of mixed MSW with compaction of segregated waste to minimize the transportation cost. The proposed process flow is mentioned below:



Photographs of Some Automated / Mechanical MRFs



5

List of Equipment at Semi- Automated or Automated MRF

To effectively handle the day-to-day operations for sorting segregated dry waste for & resource recovery, the following equipment/ instruments will be needed.

No	Equipment	Intended Use
1	Weighbridge	Weighing of large quantities of incoming waste
2	Weighing scales	Weighing of incoming waste and sorted recyclables
3	Sorting tables	Manual sorting and segregation of recyclables
4	Loaders	Loading of incoming waste into conveyor system, sorting tables; Loading of baled recyclables into outgoing vehicles; Moving of residual or rejected waste out of the facility to the processing/ disposal site
5	Conveyor with hopper	Receiving waste from loader and movement of waste for segregation in to select recyclables
6	Conveyor system	Mechanized and regulated movement of waste for segregation
7	Trommel	Segregation of dry waste or recyclables based on particle size
8	Magnetic separator	Separation of ferrous-bearing metals
9	Air classifier	Separation of materials such as paper and plastic based on size, shape, and density
10	Bottle perforator	Perforation of plastic bottles prior to compaction to optimize baling
11	Bailer	Compaction and binding of recyclables
12	Forklift	Movement of baled waste within MRF

However, even in Manual MRF certain equipment like weighing scale, sorting table, air classifier, baler could be present.

A. Sound Practices in MRFs

Do's at MRF

1. A regular check on the working, performance and maintenance etc, of the processing machinery shall be done once in a month.
2. Indoor air quality and adequate lighting shall be monitored continuously for healthy working environment
3. Provision of suitable exhausts/vents/scrubbers, etc.
4. Adequate fire protection measures
5. All workers covered under social security and insurance scheme's
6. Compulsory use of Protection gears
7. Good Hygiene and Sanitation practices including safe drinking water
8. MRF kept Clean and Tidy
9. Ensure Proper Segregation and Low Rejects
10. Periodic Meetings of workers for drills, training
11. Keeping detailed logbook of MRF
12. Good housekeeping and cleaning all machinery after use
13. First Aid

B. Practices Prohibited at MRFs

Dont's at MRF

1. No Inflammable objects in premise
2. No Smoking
3. No Child Labor
4. Pregnant women to avoid operating machinery
5. Avoid Water and Electricity Wastage
6. No Discrimination
7. No Littering
8. No animals allowed
9. Do not Burn Waste
10. No explosives or firearms in MRF
11. Keep hands away from moving parts of machinery
12. Do not wear loose clothing around machinery
13. Avoid long term storage of RDF

The process of collection, segregation, transportation and recycling involves exposure to contaminants and hazardous waste. The safety aspects to be considered are mentioned in Annexure 3.

Safety Practices			
No	Hazard	Precaution	Cure
1	Cuts and injuries due to presence of broken glass, sharps, needles which may lead to septic wounds and tetanus	Use of Safety Gloves	Medical help should be immediately sought in case of injury
2	Exposure to fumes causing irritation of nose, throat and lungs.	Suitable masks should be used by the Safai Mitra while working at Swachhta	Medical help should be immediately sought
3	Contact with faecal matter and the risk of contracting gastrointestinal diseases and worm infestations	Along with wearing gloves, sanitizers should always be carried and used	Medical help should be immediately sought
4	Vulnerable to blood borne diseases if hospital waste is collected	Gloves should be worn and direct contact with any waste (especially faecal matter and hospital waste should be avoided)	Medical help should be immediately sought
5	Exposure to sun, radiation and rain	Areas with radiation should be avoided.	In case of contact with any radioactive waste, they should immediately contact a doctor
6	Callosities on the fingers observed		Should immediately contact a doctor
7	Health problems like body ache, leg ache due to long distances travelled	Can be provided with a garbage truck to pick up waste	

7.1 Hygiene Practices

It is mandatory to provide a safe working environment for staff, working personnel and any other occupants or visitor at the MRF.

- 1 Keep the MRF dry & clean always
- 2 Keep sorting & storage area dry and free from pest & flies
- 3 Regularly spray disinfection liquid as better prevention practices
- 4 All working personnel and any other occupant at the MRF must use reusable safety gloves, boots and mask. It is advisable to wear uniform while working.
- 5 Use disposable mask & gloves for visitors.
- 6 Make provision for hand wash and disinfectant, hands must be washed with soap before eating/leaving the MRF.
- 7 Monthly cleaning & Pest-Control Treatment routine has to be fixed within the MRF and should be followed without ignorance.

7.2 First Aid Box

This is only for designing a basic first aid kit and its components and should not be taken as a first aid procedure or training. It is important to have a well-stocked first aid kit at the MRF to deal with minor accidents and injuries. The first aid kit should be kept in a cool and dry place out of the reach of children.

A basic first aid kit should contain:

- a. Emergency telephone numbers for emergency medical services 1092/102/108
- b. Bandages in a variety of different sizes and shapes
- c. Small, medium and large sterile gauze dressings
- d. A box of adhesive bandages
- e. Crêpe rolled bandages
- f. Safety pins
- g. Disposable sterile gloves
- h. Tweezers, scissors
- i. Micro-porous, sticky tape
- j. Thermometer (preferably digital)
- k. Cream or spray to relieve insect bites and stings
- l. Antiseptic cream
- m. Directions for requesting emergency assistance

7.3 Other Important Guidelines

- a. The entrance and exit should be kept clear always
- b. The emergency exits should be kept clear always and should never be used for any temporary/permanent activity
- c. A minimum safe distance between two machineries as advised by the manufacturer.
- d. From maintenance perspective, min 1-metre clearance around each equipment.
- e. Shed should be constructed with the stipulated structural stability and always keep out rain
- f. The MRF should be certified by a structural engineer/local ULB engineer and the fire department as per rules.

8

Case studies

8.1 Indore – Automated MRF- Case Study for the Population range >10 Lakhs



Indore Municipal Corporation (IMC)
 >10 lakh population
 Capacity: 300 TPD
 Fully automated Mechanized Plant

Neptra Resource Management Pvt Ltd. provides waste management services in the MRF. The Company reuses, reduces, and recycles wastes including chemical industrial wastes. The Material Recovery Facility in Indore is a fully automated, mechanized MRF. The waste is sorted in 13 categories with the help of optical sorting technology and robotics. The project is set up on PPP Model.

Capex – INR 25 cr

Opex – INR 70-80 lakhs per month

Land - 4.5 acre, Operations Start date – September 2019



8.2 Chennai Dry waste MRF: Case Study for the Population range >10 Lakhs (Zone Wise)



The waste is directly collected from the households by sanitary workers and the dry waste is segregated as saleable and non-saleable, where in the saleable waste is sold by the sanitary workers to vendors and the non-saleable fraction is sent to cement factory for use as fuel. The domestic hazardous waste and E-Waste is collected separately and stored in resource recovery facility and regularly disposed to TNPCB authorized facilitator. The project is made at a total capital cost of INR. 18 lakhs. Capex, Opex, and land required per facility is as below:

Capex- Rs. 40 lakhs | Opex- Rs. 23 lakhs per year | Land- 4000 sqm



8.3 Ambikapur Mixed Waste MRF/SLRM- Case Study for the Population range 1-5 Lakhs



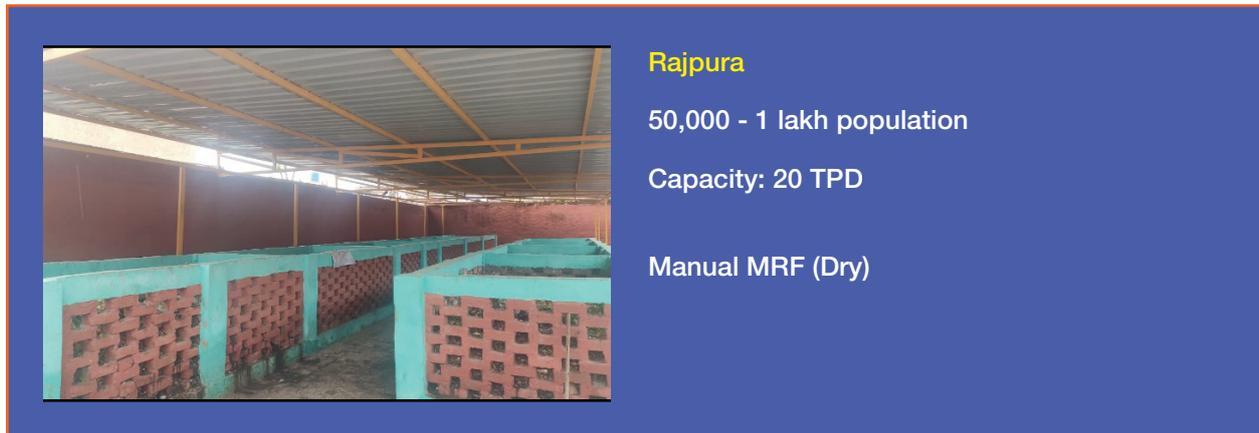
The source segregated waste is directly collected from the households by the workers in compartmentalized tricycles and taken to the facility. At the facility, secondary segregation takes place into 20 inorganic categories (paper, plastic, etc.). This followed by baling, packing, weighing and subsequent record keeping. Recyclables are sold and non-recyclables are compressed and sold for use as RDF.

Operation Start Date: March 2015

Capex- Rs. 35 lakhs | Opex- Rs 5 lakhs per month | Land- 2000 sqm



8.4 Rajpura Manual MRF- Case Study for the Population range 50k-1 Lakh



Rajpura town is divided into 5 zones, each zone has its own MRF with running compost pits for the area. The town has deployed rickshaws and rag pickers to carry segregated waste from the house holds to the respective MRFs and compost pits. Wet waste is put in the compost pits and recovered dry waste is kept in the MRFs, where it is further segregated and sold by the rag pickers.

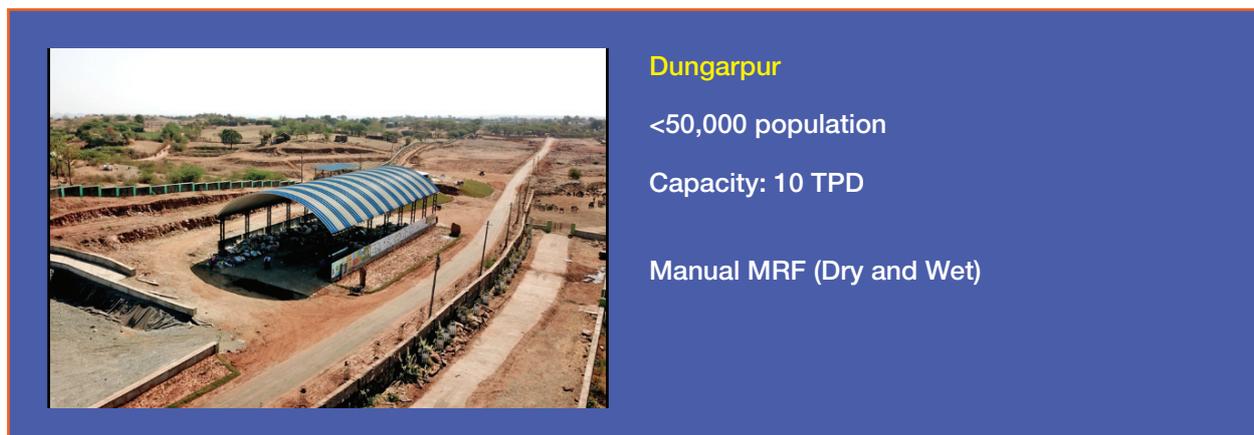
Capex: INR. 65 lakhs

Opex: INR. 2 lakhs per month

Land: 1500- 2000 sqm, Operations Start date – September 2019



8.5 Dungarpur Manual MRF- Case Study for the Population range <50 Thousand



Dungarpur uses a centralized dry waste processing facility. The facility is used for secondary segregation of dry waste which is collected through door to door vehicles in residential areas in the morning and commercial areas in the evening. Dry waste is segregated into 8 categories like plastics, paper, poly (aluminum coating and plain), metal, glass, cloth, coconut shells and RDF (Refuse derived fuel). RDF waste is sent to Cement Industry through NEPRA Environment Solutions, Ahmedabad (Gujrat). The inert waste left after secondary segregation of Dry waste is disposed through Sanitary landfill facility. No waste goes to the open landfill. All the waste is processed through waste processing facility. The dry waste is sold to the recycler at a fixed price after secondary segregation. MRF has helped in reducing the load on processing infrastructure and landfills. The Informal waste pickers have been integrated with this facility so that a permanent income is set up for these workers and their livelihood is assured. Nearby free accommodation and toilet facility is also provided by ULB to Waste pickers.

Capex- Rs. 40 lakhs | Opex- Rs. 23 lakhs per year | Land- 4000 sqm
 Operations Start date – October 2017



Annexure -1

Details of MRF Equipment

Weighbridge

A weighbridge is used to weigh the vehicles and their contents. By weighing the vehicle both empty and when loaded, the load carried by the vehicle can be calculated. A weighbridge is usually mounted permanently on a concrete foundation or on inbuilt steel foundation along with a digital



will provide a slip after weighing with the details fed by the operators (e.g. Operator name/seller name/ Product name along with details of rate and cost).

❖ SINGLE WINDOW PRINTER SCALE



display of the weight of the vehicle.
Platform weighing Scale with printing slip

This is platform weighing scale with a built-in thermal printer with auto print facility. This machine

The Conveyor System

It operates in a semi mechanized method for selective picking of recyclables. Different fraction of non-biodegradable waste such as PET bottles, glass bottles, plastic, metal, polythene, paper and inert materials are separated on the belt conveyor. Since the waste is moving and not piled in a place effective segregation takes place on a conveyor belt. The ergonomic work design of conveyor belt helps minimize the fatigue of monotonous work of the waste handlers and ease the process of segregation. Belt conveyor system is the most common type of conveyor system utilized for solid waste since they can effectively move materials up the inclines and are extremely versatile.

Ferrous Metals Separation

Magnetic separation is a well-proven and established technology and is an essential



component of every MRF, whether manually or mechanically intensive. Magnetic separation removes the ferrous metals from the other commingled recyclables based on the attraction between ferrous metals and the magnet.

Screening

Screening is employed to separate materials of different sizes into two or more size distributions. Screens will function to separate oversized and undersized materials as a pre-processing technique for other unit operations within the MRF. The types of screens used in the MRF can be disc screens and trommels.

Disc screens are flat screens that consist of an array of disks that spin on shafts. Disc screens move the materials across the screen by means of the disc rotation, which allows materials to be fed directly onto the screen. This feature makes the disc screen less likely to cause glass breakages compared to other screens. The disc screen also offers adjustability in the opening size and can be self-cleaning. Disc screens are most effective when the fine material to be removed is denser than the larger materials; the larger materials are relatively rounded and will not prevent passage of the fines to the screen.

Whereas, trommels are rotating cylindrical screens that are inclined at a downward angle with the horizontal. Material is fed into the trommel at the elevated end and the separation occurs while the



material moves down the drum. The tumbling action of the trommel effectively separates materials that may be attached to each other. Length, angle and diameter of the drum, depth of the material and the speed of rotation are important specifications in configuring the trommel to accomplish the desired goals. If necessary, the trommel can have steps that function to carry the materials to a higher location within the drum at lower rotational velocity. Two-stage trommels may be used to first remove small items along the initial length of the cylinder and then separate larger items over the remaining length of the cylinder.

Air Classification

Air classification is utilized to separate light materials from heavier materials through the use of an air stream of sufficient velocity to carry away the lighter materials. A vertical zig zag air classifier with a rotating drum feeder may be used in the MRF to separate aluminium, cartons and plastics from glass. A cyclone separator may also be used in conjunction with the air classifier to remove the lighter separated fraction from the air stream after it exits the classifier throat. The cyclone separator uses a centrifugal action that results from the airflow through the cyclone to move the materials to the walls of the separator. The materials then slide down the walls to the exit. However, there are the following sub processes involved in handling plastic related waste.

a) Cleaning using air blower method

- b) Shredding of the thin plastic, multilayer plastic, packaging plastic
- c) Grinding of hard plastic (optional)
- d) Agglomeration of the shredded plastic for use in extruder
- e) Extrusion of the agglomerated plastic in lumps

Air Blower

An air blower is used for dry cleaning of thin plastic/multilayer plastic of dust and moisture. Air is forced through a channel by an air blower to separate the jumbled material and remove dust and moisture from the waste. Waste is manually fed through the feed hopper and is blown off by the air stream and cleaned materials are released through the discharge hopper.

Shredder

Dry and dust free thin plastic is shredded into 2-4 mm flakes using thin plastic shredder. These



shredders tear up the plastic into small pieces/flakes, preparing them for recycling into other products. Shredded plastic is easier to use in road construction and is the feed/raw material for the agglomeration stage. Shredder includes cutting tools welded on the shaft, connected to an AC Motor.

Agglomeration & Extrusion

Plastic extrusion is a process for converting plastic materials from solid to liquid states and reconstituting them as certain finished components. The material is gradually melted by the energy generated by turning screws and by heaters arranged along the barrel. Generally, materials like polyethylene (PE), polypropylene, acetal, acrylic,



nylon (polyamides), polystyrene, polyvinyl chloride (PVC), acrylonitrile butadiene styrene (ABS) and polycarbonate undergo extrusion process where the raw material (shredded waste Plastic) is melted and formed into a continuous flow.

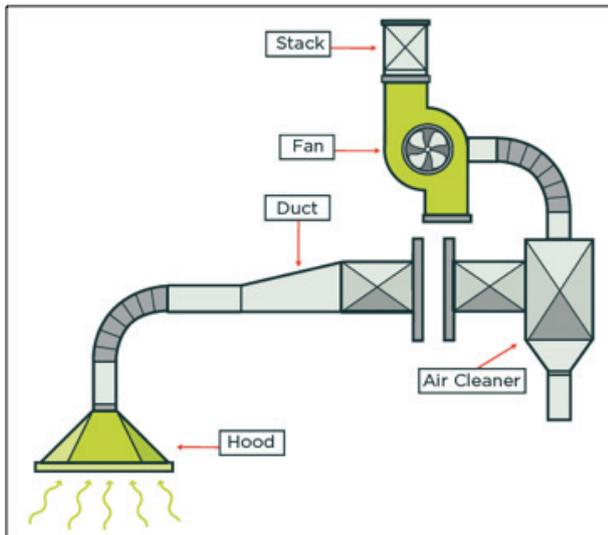
Size Reduction

Size reduction is the unit operation for mechanically reducing the size of waste materials. It is carried out through shredding, grinding and milling. Since the effectiveness of many unit operations within the MRF depends on keeping the materials as large as possible, size reduction will only be utilized after all separation is accomplished.

Compactors

Compaction increases the density of the recovered materials so that the materials can be stored and transported with cost efficiency through the minimization of volume in each load. The level and





method of compaction are determined by market specifications since different markets/ recycling industries want to receive materials baled, shredded or loose.

Baling

The plastic / PET bottles being low weight and high-volume material, handling huge quantity of plastic waste in limited space could be challenging.

The baler machine is used to compress high volume of plastic waste / PET bottles, into rectangular bales and bind them. Rectangular bales are best for space saving because of their shape and are usually raised by a forklift. Bales are easy and safe to transport.

Mechanical Baler

Mechanical balers are typically used to compact similar types of waste, such as office paper, corrugated fibreboard, plastic foil, and cans for sale to recycling companies. These balers are made of steel with a hydraulic ram to compress the material loaded. Some balers are simple and labour-intensive but are suitable for smaller volumes. Other balers are very complex and automated and are used where large quantities of waste are handled.

There are different balers used depending on the material type. After a specific material is crushed



down into a dense cube, it is tied as a bale by a thick wire and then pushed out of the machine. This process allows for easy transport of all materials involved.

Two-ram baler closed door: A two-ram baler is a baling machine that contains two cylinders and can bundle and package most commodities except for cardboard and clear film. This baler is known for its durability and can take in more bulky material.

Single-ram baler: A single-ram baler is a baling machine that contains one cylinder. Because this baler is relatively smaller than the two-ram baler, it is best for small and medium ULBs.

Manual Baler Hand press

The hand baler machine is manual equipment used for making bales of materials including plastic, paper, cardboard, farm-waste, etc. It is a single person operating equipment with the provision of a spring-loaded compressing lever, to make bales effectively, with the help of which the lever is positioned perfectly to dump the waste into the baler and start compression. Over time the improved designs have rendered it a lot easier to tie the form/ bales keeping the lever locked, thereby improving the compaction efficiency. It is mobile with its wheels.



Features:

- No Electricity required.
- Easy Mobility with the provision of Wheels.
- Slotted door for easy tying of Bales.
- Maintenance Free.
- Economical Unit.
- Easy Operation.
- Aids in Waste Management and effective Utilization of Space.

Types of Waste Materials that can be baled:

- Plastic Wraps.
- Cotton
- Stretch Wraps.
- Multi-Layered Plastic.
- Farm Waste including Hay Waste, etc.
- Cardboard.
- Paper Waste.
- Shredded Paper

Coconut shredder

Coconut husk is a waste that also needs to be handled. The dried coconut husk is shredded to make coco peat.

The coconut shredder is a motorized shredding machine used to shred coconut husk, dried leaves, branches etc. to make coco peat.

Typical Technical Specifications of Equipment's in the MRF

The setting up of MRF involves selection of proper equipment for an efficient processing at the center. In order to select the type of equipment



a technical specification is needed. Accordingly, brief indicative specifications of various equipment are shown below.

Flat Segregation Conveyor Belt:

Particulars	Technical Specification
Length x width x height	7.65 m x 7.65 m x .8m
Rotor	0.4 m
Production capacity	5 MT / shift
Speed	Speed control from 1.6m/min to 9 m/min
Bearing	Pedestal type
Stand	Mild steel
Conveyor belt	Heavy rubber
Motor	3.7kW
Applicability	Flat bed, Automated for manual dry waste segregation. Provision for seating arrangements for workers while sorting
Accessories and parts	Should be equivalent to IS quality standards. Detailed specification of each accessories and parts to be mentioned by the supplier.
Erection and commissioning	By Supplier
Transport, packaging, forwarding, insurance, etc.	By supplier
After sales service	One-year free service with parts for total machine after commissioning
Applicable taxes	As per GST

Baling Machine:

Particulars	Technical Specification
Automation	Automatic
Capacity force	65 MT
Bale size (length x width x height)	.7m x .7m x 1m
Working pressure	138 Bar
Cycle time	25 min per bale
Bale weight	70 to 100 KG
No. Of cylinders	2
Piston thickness	110 mm
Motor	7.46 kW
Oil tank capacity	210 litre
Production capacity per day	2500 to 3000 kg
Applicability	All types of plastics- PET, HDPE, LDPE, MLP, Paper, Clothes
Accessories and parts	Should be equivalent to IS quality standards and supplied by branded companies. Detailed specification of each accessories and parts to be mentioned by the supplier.
Erection and commissioning	By Supplier
Transport, packaging, forwarding, insurance, etc.	By supplier
After sales service	One year free service with parts for total machine after commissioning
Applicable taxes	As per GST

Weighbridge:

Particulars	Technical Specification
Dimension (Length x width)	3m x 1.8m
Capacity	Maximum 5 MT
Type	Electronic Pit less
Applicability	Should accommodate vehicle like Auto, Tata Ace, trucks, cars and generate weighing Slip
Accessories and parts	Should be equivalent to IS quality standards. Detailed specification of each accessories and parts to be mentioned by the supplier.
Erection and commissioning	By Supplier
Transport, packaging, forwarding, insurance, etc.	By supplier
After sales service	One year free service with parts for total machine after commissioning
Applicable taxes	As per GST

Shredding / Grinding Machine:

Particulars	Technical Specification
Applicability	Shredding / grinding of all 7 categories of plastic wastes
Automation	Automatic
Throat size (length x width)	38-51cm x 35.5 – 46cm,
Blades	6 nos. (4 nos. rotor blade + 2 nos. fixed blade)
Blade size	46 x 13cm
Rotor shaft	Equibalanced shaft
Shredding capacity	200 to 250 kg/hr
Mesh hole size	13 mm
Production output	3-4mm
Applicability	Shredding of all type of hard plastics - PET, HDPE, LDPE
Motor (Power requirement)	15-22.5 kW
Body	Made of mild steel and cast iron
Pully and balance wheel	Cast Iron
Stand	Mild steel
Hopper type	Easily accessible
Accessories and parts	Should be equivalent to IS quality standards and supplied by branded companies. Detailed specification of each accessories and parts to be mentioned by the supplier.
Erection and commissioning	By Supplier
Transport, packaging, forwarding, insurance, etc.	By supplier
After sales service	One year free service with parts for total machine after commissioning
Applicable taxes	As per GST

Air Blower:

Particulars	Technical Specification
Length x Width x Height	2.5 x 1.8 x 14m
Weight	400 kg
Body	3 mm sheet
Production capacity	150 kg / hr
Applicability	All soft plastics
Motor	7.46 kW
Rotor dimension	35.5 cm dia , 1.83m length
Rotor rod	8 nos.

Pully	B Section 25.5 cms (B section belt required)
Bearing	Pedestal type
Accessories and parts	Should be equivalent to IS quality standards. Detailed specification of each accessories and parts to be mentioned by the supplier.
Erection and commissioning	By Supplier
Transport, packaging, forwarding, insurance, etc.	By supplier
After sales service	One year free service with parts for total machine after commissioning
Applicable taxes	As per GST

Agglomeration Machine:

Particulars	Technical Specification
Applicability	All thin plastics, Multi-layer plastics and Styrofoam
Automation	Automatic
Inner diameter	63.5- 76.2cm
Height	76.2 – 90 cms
Bearing housing type	3 bearings
Production capacity	200 – 250 kg / hr
Blades	10 nos. (2 rotor + 8 starter blade)
Blade size	20 cms
Blade material	HCHC (High Carbon High Chromium)
Rotor shaft	Equi balanced shaft
Motor	30-37 kW
Body	Mild steel
Hopper type	Easily accessible one
Frame	Heavy mild steel frame
Accessories and parts	Should be equivalent to IS quality standards. Detailed specification of each accessories and parts to be mentioned by the supplier.
Erection and commissioning	By Supplier
Transport, packaging, forwarding, insurance, etc.	By supplier
After sales service	One-year free service with parts for total machine after commissioning
Applicable taxes	As per GST

Extrusion Machine:

Particulars	Technical Specification
Applicability	for specific categories of plastic wastes
Automation	Automatic
Screw rod	100 - 120 mm hardened alloy steel screw
Length	2.75- 3.7 m
Barrel	Hardened barrel structure
Heaters	Electrical heaters
Hopper	50 kg capacity hopper
Gear box	8 nos. (EBH – 160 Extruder Helical Gear box)
Production capacity	75 – 100 kg / hr
Applicability	All thin plastics, Multilayer Plastic & Styrofoam
Motor	11- 15 kW
Frame	Structural strong frame
Control panel	Complete machine Control panel board
Accessories and parts	Should be equivalent to IS quality standards. Detailed specification of each accessories and parts to be mentioned by the supplier.
Erection and commissioning	By Supplier
Transport, packaging, forwarding, insurance, etc.	By supplier
After sales service	One-year free service with parts for total machine after commissioning
Applicable taxes	As per GST

Annexure -2

MSW HANDLING TOOLS AND EQUIPMENT INCLUDING MECHANIZED TRANSFER STATION

S No.	Name of the Company	Contact Person Name & Address	Contact Number & Email Address
1	Hyva India Pvt. Ltd.	Mr. Haridas Gopalkrishnan EL 215, MIDC Mahape, Navi Mumbai Maharashtra-400710	Call +91-9677159207 Email: haridasg@hyvaindia.com ; susheel@hyvaindia.com Phone: +91 22 67618888 Customer Care: 1800 2121 528 Fax: +91 22 27672182 www.hyva.com sales@hyvaindia.com
2	Zonta Infratech Pvt. Ltd.	Mr. Dennis Pulimittathu, 1st Floor, Reliable Phoenix Towers, #16 & 16/1, Museum Road, Bengaluru - 560001	Call +91-8067292100, 8086779855, 8965050732, dennis.puli@zontainfratech.com
3	Kam Avida Enviro Engineers Pvt. Ltd.	Mr. Krishna MD, Plot No. 2, Survey No. 255/1, Hinjewadi, Tal.: Mulshi, Dist.: Pune - 411057	Call 09822025166; 022-66756300; Tel.: +91 - 020 - 6675 6500 (BOARD) Fax: +91 - 020 - 6675 6400 E-Mail: query@kam-avida.com Email: mkrishna12@sify.com ; salesnorth1@csd.kam-avida.in ; mk@kam-avida.com
4	TPS Infrastructure Ltd.	Jaspreet Singh 84, M-Block, Commercial Complex, Greater Kailash Part-II, New Delhi 110 048, (INDIA).	Email : tps@tpsmfg.com , tps@tpsmfg.net ; nehra.jaspreet@tpsmfg.com
5	Waste Management Corporation	Mr. Ajay Arora GG-1/1798, Vikaspuri, New Delhi-110018	Email: info@wastemanagementcorp.com ; ajayarora@wastemanagementcorp.com +91-11-28543080 +91-9811169618
6	Precision Conveyor Systems	Mr. Santosh Jha (Director) B-26, 1st Floor, Hill Apptt., Plot No: 17, Sec-13, Rohini, Delhi-110085, INDIA	Call +91-9810014957, +91-9013445492, 91-11-27564654 91-11-27564654 info@precisionconveyors.com , precesion@gmail.com
7	Advance Equipment & Projects	E-18-B, Sector-8, Noida, Uttar Pradesh-201301	+91 9873384443 advance_equipment@yahoo.com
8	AVK Technologies Private Limited	Plot No. 440, Udyog Vihar-3, Udyog Vihar, Gurugram, Haryana-122016	0124-4002426 bbchaudhry@rediffmail.com

9	Genesis Waste Handling Private Limited	I12-16, Gajraulla Indl. Area, (UPSIDC), Gajraulla II, J.P Nagar, Uttar Pradesh-244235	+919818190759 gw.h.equip@gmail.com
10	Green Tech Life	Level II, Prestige Omega, 104 EPIP Zone, Whitefield, Bangalore-560066	+91 9820086532 support@greentechlife.in
11	JCB (JC Bamford Excavators Ltd.)	23/7, Mathura Road, Ballabgarh, Faridabad, Haryana-121004	0129-4299000 delhi.marketing@jcb.com
12	Marvel Globes Industries	Plot No. 954, Gali No. 2, Luxman Vihar, Phase 1, railway Road, Gurgaon, Haryana-122001	+91 9810688683 marvelgloves@gmail.com
13	Navdeep Engineering Private Limited	732, Near Bus Stand Babyal, Ambala cant, Haryana	+91 8071802590 meenakshibajaj33@rediffmail.com
14	SRG International Private Limited	Plot No 13 A, Sector 4, Industrial Area, Faridabad, Haryana-121004	+91 8071803487 srgprefab@gmail.com
15	Usha Engineering	S-70/71, Lodhi Road Industrial Area Mohan nagar, Ghaziabad-201005	0120-2658299 rakesh.sales@ushaengineerings.com

Annexure -3

Safety Photo Illustration for MRF

The following photos provide specific comment on safety issues related to those operations.

	<p><i>Photo 1</i></p> <p>Hand sorting operations may require additional safety attention to include high visibility clothing, training on ergonomics and possibly job rotation.</p>
	<p><i>Photo 2</i></p> <p>An example of safety signage indicating required personal protective equipment.</p>
	<p><i>Photo 3</i></p> <p>Safe operation of heavy equipment requires constant attention to avoid contact with fixed objects and minimizing personnel foot traffic.</p>



Photo 4

An illustration of labeling on an electrical disconnect identifying the affected equipment.



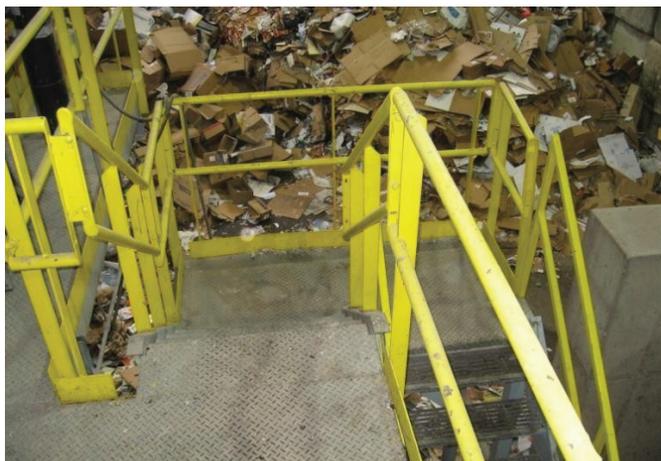
Photo 5

An example of machine guarding. Machine guarding should be a high visibility color to communicate potential hazards.



Photo 6

Fire extinguishers should be located throughout the facility with clear access paths maintained. The proper type of fire extinguisher should be evaluated based on fire exposures.

*Photo 7*

An example of appropriate safety and hand railings on an access stair way.

High visibility colors for safety equipment is recommended and required in certain applications.

*Photo 8*

An example of an elevated work platform. Work platforms must be safe to work from and should contain no holes that can lead to tripping.

Work platforms must also be sturdy and not subject to tipping over.

*Photo 9*

All personnel who may walk in areas where heavy equipment is in operation are required to wear high visibility clothing.

*Photo 10*

Only trained and authorized personnel may operate forklift trucks.

Training is required initially and at least every 3 years.

*Photo 11*

Other equipment that is used in a MRF location will require appropriate safety training for employees.

*Photo 12*

An example of a lock out procedure utilizing multiple locks.

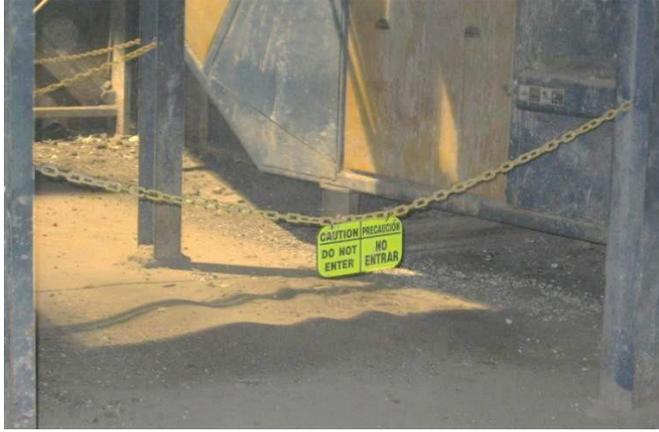


Photo 13

An example of a warning sign to prevent foot traffic beneath a conveyor sorting line.



Photo 14

Any moving parts that are below 2m from the ground level or walking and working platforms must be protected with machine guarding.

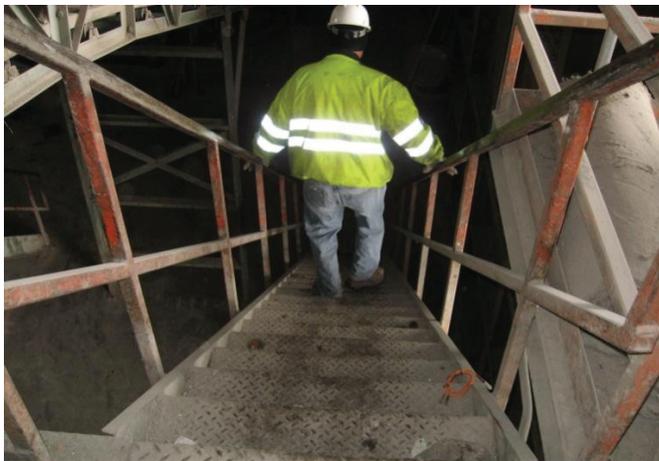


Photo 15

An example of a safe work practice of using the handrails when walking down a platform stairway.



Swachhata Pledge

Mahatma Gandhi dreamt of an India which was not only free but also clean and developed.

Mahatma Gandhi secured freedom for Mother India.

Now it is our duty to serve Mother India by keeping the country neat and clean.

I take this pledge that I will remain committed towards cleanliness and devote time for this.

I will devote 100 hours per year that is two hours per week to voluntary work for cleanliness. I will neither litter nor let others litter.

I will initiate the quest for cleanliness with myself, my family, my locality, my village and my work place.

I believe that the countries of the world that appear clean are so because their citizens don't indulge in littering nor do they allow it to happen.

With this firm belief, I will propagate the message of Swachh Bharat Mission in villages and towns.

I will encourage 100 other persons to take this pledge which I am taking today.

I will endeavour to make them devote their 100 hours for cleanliness.

I am confident that every step I take towards cleanliness will help in making my country clean.



ANNEXURE A/8

**Standard Operating Procedure for
Setting Up & Operation of Secondary Storage & Transportation Facilities for
Municipal Solid Waste**



CENTRAL POLLUTION CONTROL BOARD
(Ministry of Environment, Forest & Climate Change)
“Parivesh Bhawan”, East Arjun Nagar,
Delhi-110032

23rd December, 2024

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**Standard Operating Procedure (SOP) for
Secondary Storage & Transportation Facilities of Municipal Solid Waste**

1.0 Background

Original Application No. 92/2023, filed by Neel Mani (Applicant) versus Municipal Corporation of Delhi & Others, pertains to health and hygiene concerns due to the establishment and operation of a secondary garbage storage depot (Dhalao) located next to Plot No.74, West Friends Colony, New Delhi. The applicant raised grievances regarding the establishment and operation of the said dhalao, which has caused serious health and environmental issues. Hon'ble NGT in the aforementioned matter vide order dated 4.09.2023 & 27.11.24 (**Annexure I**) has directed CPCB to look into the aspect of issuance of appropriate Standard Operating Procedure (SOP) on the subject applicable to all States/UTs.

This document has been prepared by CPCB in compliance of the aforementioned order of Hon'ble NGT.

2.0. Legal framework for Secondary Storage & Transportation facilities under Solid Waste Management (SWM) Rules, 2016

The following are the provisions in the SWM Rules 2016 (**Annexure II**) related to secondary storage and transportation of Solid waste:

Rule 3(24) "**primary collection**" means collecting, lifting and removal of segregated solid waste from source of its generation including households, shops, offices and any other non-residential premises or from any collection points or any other location specified by the local body;

Rule 3(43) "**secondary storage**" means the temporary containment of solid waste after collection at secondary waste storage depots or MRFs or bins for onward transportation of the waste to the processing or disposal facility.

Rule 15: Stipulates the provisions related to collection, storage & transportation of Solid Waste. As per the Rules, the local authorities and Panchayats shall, -

- Setup material recovery facilities or secondary storage facilities with sufficient space for sorting of recyclable materials to enable informal or authorized waste pickers and waste collectors to separate recyclables from the waste and provide easy access to waste pickers and recyclers for collection of segregated recyclable waste such as paper, plastic, metal, glass, textile from the source of generation or from material recovery facilities;
- Establish waste deposition centres for domestic hazardous waste and give direction for waste generators to deposit domestic hazardous wastes at this centre for its safe disposal.
- Collect waste from vegetable, fruit, flower, meat, poultry and fish market on day-to-day basis and promote setting up of decentralized compost plant or bio-methanation plant at suitable locations in the markets or in the vicinity of markets ensuring hygienic conditions;
- Collect separately waste from sweeping of streets, lanes and by-lanes daily, or on alternate days or twice a week depending on the density of population, commercial activity and local situation;
- Set up covered secondary storage facility for temporary storage of street sweepings and silt removed from surface drains in cases where direct collection of such waste into transport vehicles is not convenient. Waste so

collected shall be collected and disposed of at regular intervals as decided by the local body;

- Transport segregated bio-degradable waste to the processing facilities like compost plant, bio-methanation plant or any such facility. Preference shall be given for onsite processing of such waste;
- Transport non-bio-degradable waste to the respective processing facility or material recovery facilities or secondary storage facility.

It is to be noted that SWM Rules, 2016 do not permit Secondary storage of biodegradable/ unsegregated waste. The same is permitted for sorting recyclable waste and temporary storage of street sweepings and drain silt. The term “Dhalao” has specifically not been addressed in the SWM Rules, 2016

3.0. Swachh Bharat Mission MSW Management Manual

Ministry of Housing and Urban Affairs has prepared the “Swachh Bharat Mission MSW Management Manual” Detailed aspects related to segregation, collection and transportation of solid waste have been covered in Section 2.0 of Part II of the Manual (**Annexure III**). The Manual on Municipal Solid Waste Management provides guidance to urban local bodies on the planning, design, implementation and monitoring of municipal solid waste management systems for effective implementation of SWM Rules, 2016 across the Country. The following aspects of Secondary Storage Points have been covered in the manual:

- The Secondary storage points can be cement concrete bins, masonry bins, and dhalaos which are being replaced by metal containers due to hygiene and other related issues .
- Fixed compactors transfer stations (FCTS) have been introduced as ideal replacement for the traditional dhalaos and act as mini transfer stations. Compared to transfer stations, the FCTS require much smaller area hence more number of them can be developed in a ULB.
- Wherever possible, it is advisable to synchronise primary collection and secondary collection, thereby avoiding the need for secondary storage bins or depots.
- In general, waste storage containers should be covered and designed to facilitate mechanical lifting to avoid multiple handling and environmental harm. The design of waste storage containers or depots (secondary collection points) should be synchronous with the design of vehicles deployed for both primary and secondary waste collection.
- At the secondary collection points segregated waste must be stored on site in separate covered bins or containers for further collection. Further, ULBs should ensure that at secondary storage points the waste should be attended daily or before container starts overflowing
- It is necessary to wash community bins at regular intervals to ensure a healthy and hygienic environment for users and workers. It is specifically mentioned that secondary waste storage is cleaned once in a month and should be painted once in a year. Periodic inspection of the such depots should be carried out once in three a month and repaired.
- Vehicles and equipment for Secondary Storage Collection have also been specified such as Bins for community places to be lifted by mechanised container & mobile compactors for transfer points etc..

4.0. Status of Secondary Storage & Transportation Facilities (SSTF) of Solid Waste

- Secondary storage points are required for secondary collection of waste. In most of the cities, such waste storage depots exist which are either civil structure / concrete bins or metal bins or Dhalaos (which has specifically not been addressed in the SWM Rules, 2016)
- Indiscriminate disposal of unsegregated waste, which is not permitted as per SWM Rules, is observed at such facilities leading to adverse impact on the surroundings including the following:
 - **Odor and Bad Smell:** These storage points often emit a foul, affecting the surrounding area's quality of life.
 - **Littering:** Animals and rag pickers rummage through the waste, causing litter around the depot.
 - **Leachate Contamination:** Liquid waste (leachate) from the garbage can seep into the soil, contaminating it and potentially polluting groundwater. Rain can exacerbate this by carrying waste and leachate to nearby area.
 - **Pest and Vector Breeding:** Dhalaos act as reservoirs for pests like rats and vectors like flies and mosquitoes, posing health risks.
 - **Traffic Congestion:** Occupying road space, these depots contribute to traffic issues if they lie nearby roads.
 - **Aesthetic Degradation:** Dhalaos often create an unsightly appearance, reducing the visual appeal of the area and lowering its perceived cleanliness.
 - **Unhygienic Conditions:** Poorly managed waste storage leads to unhygienic conditions, attracting stray animals and increasing the risk of disease transmission.

- **Non-compliance with Waste Segregation:** Secondary storage depots often fail to maintain proper segregation of waste as per provisions of rule 15 of SWM Rules, 2016.
- **Environmental Degradation:** Poor waste management at these sites leads to soil and water contamination and impacts real estate values due to the degraded surroundings.

5.0. SOP for Setting Up & Operation of Secondary Storage & Transportation Facilities (SSTF) of Solid Waste

5.1 Classification of SSTF

Based on the provision for Secondary Storage in SWM Rules, SBM Manual and status of existing SSFs, the following SOP is proposed for Setting Up & Operation of SSTFs. The following two categories of waste handling facilities have been covered in this SOP:

(a)Secondary Storage Facilities(SSF):

- These are facilities with designated infrastructure for waste storage and sorting facility and include Material recovery facilities. Civil structures/large size Metallic containers.
- SSFs serve as intermediate locations for temporarily holding segregated waste collected from primary collection sources before being transported to processing or disposal facilities.
- SSFs are to be used for temporary storage of non-biodegradable, recyclable materials and street sweepings & silt removed from surface drains in cases

where direct collection of such waste into transport vehicles is not possible. They are not to be permitted for biodegradable waste as SWM Rules do not permit intermediate storage of biodegradable waste

(b) Secondary transportation facilities (STF): Fixed Compact Transfer Stations and mobile equipment such as Compactor Containers, Refuse Collector without Compactor are used for secondary transportation of waste without storage. STFs can be used for both biodegradable (such as kitchen waste, food waste from restaurants etc. as well as recyclable (such as plastics, Glass, metal scrap etc.) and road sweeping & drain silt

5.2 Issues related to Secondary Storage & Transportation Facilities (SSTF)

- Secondary storage points are required for secondary collection of waste. In most of the cities, such waste storage depots exist which are either civil structure / concrete bins or metal bins or Dhalaos (which has specifically not been addressed in the SWM Rules, 2016)
- Indiscriminate disposal of unsegregated waste, which is not permitted as per SWM Rules, is observed at such facilities leading to adverse impact on the surroundings including the following:
 - **Odor and Bad Smell:** These storage points often emit a foul, affecting the surrounding area's quality of life.
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- **Traffic Congestion:** Occupying road space, these depots contribute to traffic issues if lies nearby roads.
- **Aesthetic Degradation:** Dhalaos often create an unsightly appearance, reducing the visual appeal of the area and lowering its perceived cleanliness.
- **Unhygienic Conditions:** Poorly managed waste storage leads to unhygienic conditions, attracting stray animals and increasing the risk of disease transmission.
- **Non-compliance with Waste Segregation:** Secondary storage depots often fail to maintain proper segregation of waste as per provisions of rule 15 of SWM Rules, 2016.
- **Environmental Degradation:** Poor waste management at these sites leads to soil and water contamination and impacts real estate values due to the degraded surroundings.

5.3 Identification of Location Criteria for Setting up of SSF and placement of STF

Location for Setting up SSF should be identified taking into consideration the following points:

- Placement of Secondary Storage facilities to be avoided in densely populated areas. The same to be placed in isolated areas and should not be placed adjacent/near to sensitive areas such as schools and hospitals.
- SSFs should be avoided near water bodies, flood-prone zones, or ecologically sensitive areas to prevent contamination and environmental damage.

- Location at which the STF is to be placed should also be identified following the above criteria

5.4 Demarcation of land for SSF and STF

The required land for the identified SSF should be clearly demarcated as per the following criteria:

- a. **Mapping of SSF:** The catchment area of the SSF is to be clearly specified
- b. **Quantity of waste:** The quantity of waste to be handled by the SSF is to be assessed based on the waste generated in the defined catchment area of the SSF
- c. **Assessment of Land required for setting up of SSF:** The land required should have sufficient area for setting up the required plant and machinery and also have sufficient space for movement & parking of pick-up and drop vehicles
- d. The parking zone for where STF is to be placed should also be clearly demarcated following the aforementioned criteria.

5.5 Design Considerations of SSF and STF

The following criteria to be taken into consideration for both SSF and STF (as applicable)

- Provisions for Segregation of Solid Waste as per provisions of SWM Rules, 2016 at all levels, including primary collection & transportation as well as secondary collection and transportation, to be made as required for processing of Solid Waste
- Concrete structures (dhalao) for dumping of mixed solid waste not to be permitted as per SWM Rules

- The capacity of machinery should be determined based on the volume of waste generated in the catchment area to avoid overflow and ensure smooth operations. should be 200% more than the expected daily in-flow of waste
- Machinery should be compatible with the design and capacity of primary and secondary collection vehicles for efficient waste transfer and reduced handling time.
- The SSTF operations should be synchronized with movements of primary and secondary collection vehicles to optimize its usage and also avoid the need for secondary storage bins (dhalaos) or depots.
- The collection and transfer should be so planned so as to minimize the number of intermediate transfers, prior to disposal to the final processing facility
- Fencing should be provided around SSFs to prevent illegal dumping and unauthorized access to the facility

5.6 Environmental Protection Measures

The following measures should be taken to minimize adverse environmental impact of the SSF and STF

- **Covered storage:** The collection & storage equipment should be covered to avoid ingress of rain water.
- **Lining:** Lining of impervious material to be provided in case of SSF, so as to restrict percolation of waste water/leachate to prevent groundwater contamination.
- **Odour management:** Necessary measures, including properly designed equipment to avoid spillage, regular synchronized collection of waste to prevent waste decomposition, spray of disinfectants and deodorants to be taken to minimize odour due to waste handling at SSF and STF.

- **Leachate Management:** - Adequate provisions for collection, treatment and disposal of waste water generated from SSF and STF to be made as per stipulated norms
- **Rejects:** The rejects generated at SSF to be managed properly as per provisions of the relevant Solid Waste Management Rules
- **Fire management:** Appropriate fire prevention measures to be taken by Local bodies to prevent fire incidents at SSF
- **Impact on Aesthetics:** Green belt to be developed wherever possible. or barriers to be erected around the SSF to minimize depreciative impact of the SSF on the aesthetics of the surroundings. Temporary barriers to be placed during operations of STF

5.7 Operation & Maintenance of Secondary Storage & Transportation Facilities

The following O&M measures to be adopted for efficient SWM at SSTF

- Proper logbook giving details of quantity/frequency of waste transported from /to the SSF & STF to be maintained by the local bodies
- Regular cleaning of the SSF & STF to be carried out at least once in a month
- Painting of the equipment with prescribed colour as per provision of SWM Rules to be carried out at least once in a year
- Adequate facilities for repair and maintenance of the equipment to be provided by the local bodies
- Logbook giving details of cleaning and maintenance activities of SSF & STF to be maintained by the local bodies and to displayed on their website
- The staff engaged in maintenance be equipped with PPEs and training and awareness be imparted on proper upkeep of such points.

- All STFs to be provided with GPS to track their movement and their movements be monitored by the Local bodies.

5.8 Monitoring by SPCBs/PCCs

- The Local bodies to provide the details of SSFs (including their GPS locations) along with the collection and transportation plan to the concerned SPCBs/PCCs. Such details to be displayed on the SPCB/PCC websites.
- Regular inspection of SSF & STF to be carried out by the concerned SPCBs.
- Record of such inspections and action taken on violations, if observed, to be maintained and also displayed on the concerned SPCB/PCC website.

Divy.
23/12/2024

Divya Sinha

Scientist 'F'

Central Pollution Control Board

दिव्या सिन्हा / Divya Sinha
वैज्ञानिक 'एफ' / Scientist 'F'
केंद्रीय प्रदूषण नियंत्रण बोर्ड
Central Pollution Control Board
(पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार)
(Ministry of Environment, Forest & Climate Change, Govt. of India)
परिवेश भवन, पूर्वी अर्जुन नगर, दिल्ली-110032
Parivesh Bhawan, East Arjun Nagar, Delhi-110032



ADVANCE SERVICE COPY OF THE REJOINER TO THE REPLY ON BEHALF OF THE APPLICANT IN THE MATTER TITLE AS OA/165/2024 (ACHHRU RAM SHARMA VS STATE OF PUNJAB & ORS.)

From Kuldeep Kumar/Suresh Kumar Clerks ARTLO <Clerks@artlo.in>

Date Mon 7/7/2025 5:07 PM

To OFFICE@MARKLEGAL.CO.IN <OFFICE@MARKLEGAL.CO.IN>; ISHANTGOYAL@APREFINERY.COM <ISHANTGOYAL@APREFINERY.COM>; ISHANTGOYAL@APREFINERY.COM <ISHANTGOYAL@APREFINERY.COM>; BHUWANGOYAL@APREFINERY.COM <BHUWANGOYAL@APREFINERY.COM>; COMPLAINT.SEWAKENDRA@GMAIL.COM <COMPLAINT.SEWAKENDRA@GMAIL.COM>; MSPPCB@GMAIL.COM <MSPPCB@GMAIL.COM>; BHUWANGOYAL@APREFINERY.COM <BHUWANGOYAL@APREFINERY.COM>

Cc Aastha Tyagi <aastha@artlo.in>; Manan Takkar <manantakkar@artlo.in>; Prince <prince@artlo.in>

1 attachment (4 MB)

ACHHRU RAM SHARMA VS STATE OF PUNJAB AND ORS.pdf;

Please find attached herewith a copy of the rejoinder to the reply on behalf of the applicant in the matter titled as **OA/165/2024 (ACHHRU RAM SHARMA VS STATE OF PUNJAB & ORS.)** at National Green tribunal Pune.

The same has been served upon your good self towards advance service.

Kindly acknowledge the receipt of same.