

**BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI**
Original Application No. 1276/2024

IN THE MATTER OF:

Sudarshan Singh & Ors.

....Applicants

Versus

State of Punjab & Ors.

...Respondents

N.D.O.H. – 24.02.2025

INDEX

S. No.	Particulars	Page No.
1.	Affidavit on behalf of the Ministry of Environment, Forest, and Climate Change.	1-7
2.	<u>Annexure R8/1:</u> A true copy of Notification S.O. 1886(E) dated 20.04.2022.	8-13
3.	<u>Annexure R8/2:</u> A true copy of Notification S.O. 637(E) dated 28.02.2014.	14-15
4.	<u>Annexure R8/3:</u> A true copy of Categorization of Industrial Sectors under Red, Orange, Green and White Category issued by CPCB.	16-73
5.	<u>Annexure R8/4:</u> A true copy of 'Environmental Guidelines for Stone Crushing Units' issued by CPCB.	74-85

THROUGH



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New Delhi
Date: 20.02.2025

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

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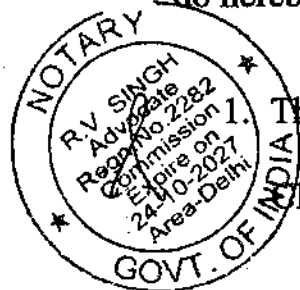
State of Punjab & Ors.

...Respondent

**AFFIDAVIT ON BEHALF OF THE MINISTRY OF ENVIRONMENT,
FOREST AND CLIMATE CHANGE.****MOST RESPECTFULLY SHOWETH:**

I, Dr. Krishnendu Mondal, currently working as Scientist 'D' at the
Ministry of Environment, Forest and Climate Change (MoEF&CC), New Delhi,

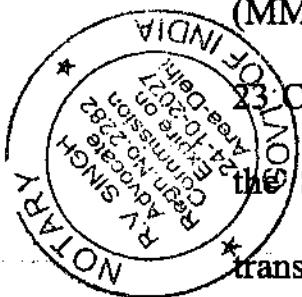
do hereby solemnly affirm and state as under:



That I, in my official capacity in the Ministry Environment, Forest and
Climate Change, i.e., Respondent No.8 in the above mentioned matter, I

am conversant with the facts and circumstances of the case on the basis of official records, and as such authorized and competent to swear this affidavit.

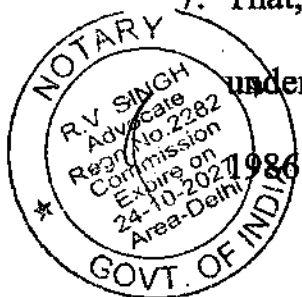
2. It is submitted that a short affidavit is being filed by the answering respondent at this stage and craves leave and liberty to file a detailed Counter Affidavit to the aforesaid application, as and when required
3. That, the applicant has filed the present application stating that the, Respondent No. 9 and 10 i.e. M/s Vijay Lakshmi Gram Udyog and its proprietor are involved in illegal mining at village Akalgarh, Tazpur tehsil District Pathankot, Punjab. The applicant has stated that the largescale mechanised mining and operation of the crusher in the village concerned has impacted the environment adversely and that not only is illegal mining being done, but it is unregulated and unscientific, and it can also alter the course of the River flowing nearby increasing the risk of flood.
4. It is humbly submitted that, the State Department of Mines and Geology is the Nodal Authority in the State for dealing with the allotment of mining leases under the Mines and Minerals (Development and Regulation) Act (MMDR Act). Further, the State Government is empowered under Section 3 of the MMDR Act to enforce and regulate the mining operations in the State, including to make rules for prevention of illegal mining, transportation and storage of minerals.



5. It is submitted that, the Ministry issued Environmental Impact Assessment (herein after referred as "EIA") Notification dated 14th September, 2006 which requires certain projects to obtain prior Environmental Clearance ("EC") before any construction work in case of new projects or expansion and modernization of existing projects or activities. The Schedule to the Notification details the categories or Projects or Activities which require prior environmental clearance.

6. That, all Projects and Activities are broadly categorized into two categories - Category "A" and Category "B", based on the spatial extent of potential impacts and potential impacts on human health and natural and man made resources. 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, require prior environmental clearance from the Central Government in the Ministry of Environment, Forest and Climate Change (MoEF&CC) and all projects or activities included as Category 'B' in the Schedule require prior environmental clearance from the State/Union territory Environment Impact Assessment Authority (SEIAA).

7. That, in exercise of the powers conferred upon the Central Government under sub section (3) of section 3 of the Environment (Protection) Act, and in accordance with the procedures specified in the EIA

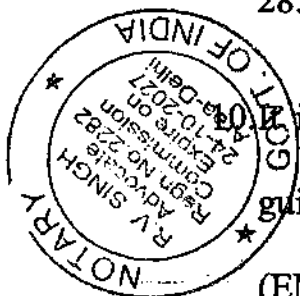


Notification, 2006, SEIAAs have been constituted in different States/UTs to discharge the functions of the regulatory authorities for the respective States/UTs.

8. That, the Ministry vide notification S.O. 1886 (E) dated 20.04.2022 has delegated the power to the State Level Environment Impact Assessment Authority (SEIAA) to grant Environmental Clearances to all minor mineral (including sand) mining projects, irrespective of mine lease area and ≤ 250 ha mining lease area in respect of major mineral mining lease other than coal. A copy of the Notification S.O. 1886 (E) dated 20.04.2022 is marked and annexed herein as **ANNEXURE R8/1**.

9. That the Ministry vide notification no. S.O. 637 (E) dated 28.02.2014 delegated the power to SEIAA to issue show cause notice to project proponents in case of violation of the conditions of the Environmental Clearances (EC) issued by the said Authorities to projects or activities within their jurisdiction and to issue directions to the said project proponents for keeping such EC in abeyance or withdrawing them, if required, for violations. A copy of the Notification S.O. 637 (E) dated 28.02.2014 is marked and annexed herein as **ANNEXURE R8/2**.

is most respectfully stated that, the Ministry has formulated the new guidelines i.e. "Enforcement & Monitoring Guidelines for Sand Mining" (EMGSM-2020) supplemental to the existing guidelines i.e. Sustainable



Sand Management Guidelines 2016 (SSMG-2016), which focusses on the effective monitoring of the sand mining since from the identification of sand mineral sources to its dispatch and end-use by consumers and the general public. Further, this document will serve as a guideline for collection of critical information for enforcement of the regulatory provision(s) and also highlights the essential infrastructural requirements necessary for effective monitoring for Sustainable Sand Mining. Further, EMGSM-2020 & SSMG-2016 shall be read and implemented in sync with each other. In case, any ambiguity or variation between the provisions of both these document arises, the provision made in "Enforcement & Monitoring Guidelines for Sand Mining-2020" shall prevail.

11. Standalone crusher units falling outside the Mining lease area are operated after obtaining Consent to Establish (CTE)/ Consent to Operate (CTO) by concerned State Pollution Control Boards (SPCBs) and Pollution Control Committee (PCCs) under the existing provisions of the Water (Prevention & Control of Pollution) Act, 1974, and the Air (Prevention & Control of Pollution) Act, 1981

12. It is humbly submitted that crushing units need to comply with the Environmental Norms as stipulated under the Environment (Protection)

Rules, 1986 for crushing unit. The illegal operation of the units should be stopped immediately by the concerned authorities.



13. That, the Central Pollution Control Board in exercise of its power under the Water (Prevention & Control of Pollution) Act, 1974 and Air (Prevention & Control of Pollution) Act, 1981 categorized the Crushing Units under orange category with a Pollution Index score with maximum contribution of air pollution of total pollution potential vide letter dated 17.03.2016. A copy of the Categorization of Industrial Sectors under Red, Orange, Green and White Category is annexed and marked herein as **ANNEXURE R8/3**.

14. It is submitted that the Central Pollution Control Board (CPCB) has issued Environmental Guidelines in the month of July, 2023 for Crushing Units to monitor, regulate the environmental norms and to further keep a check on the activities of 'stone-crushers'. A copy of the 'Environmental Guidelines for Stone Crushing Units' issued in the month of July, 2023 is annexed and marked herein as **ANNEXURE R8/4**.

15. It is humbly submitted that, the State Pollution Control Board is the Nodal Authority in the State for dealing with cases related to pollution or environment management coming under the purview of the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act, 1981 and the Environment (Protection) Act



16. That, in view of the aforementioned facts and circumstances, this Hon'ble Tribunal may kindly be pleased to pass appropriate order(s)/directions as the Hon'ble Tribunal may deem fit and proper in the interest of justice.



DEPONENT

(डा. कृष्णेंद्रु मंडल)
(Dr. KRISHNENDU MONDAL)
वैज्ञानिक 'डी'/Scientist 'D'
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय
Min. of Environment, Forest and Climate Change
भारत सरकार, नई दिल्ली
Govt. of India, New Delhi

VERIFICATION

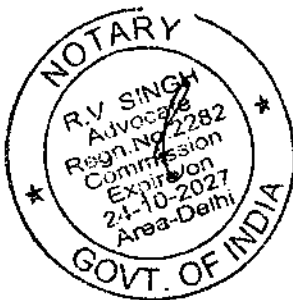
Verified at _____ on this 20 FEB 2025 day of _____, 2025 that the contents of this affidavit based on official record(s) maintained and information available in the office are true and correct, no part of it is false and nothing has been concealed there from.

Surydhi
I Identified the deponent/executant
who has signed in my presence.



DEPONENT

(डा. कृष्णेंद्रु मंडल)
(Dr. KRISHNENDU MONDAL)
वैज्ञानिक 'डी'/Scientist 'D'
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय
Min. of Environment, Forest and Climate Change
भारत सरकार, नई दिल्ली
Govt. of India, New Delhi



solemnly affirmed before me, read
over & explained to the deponent

Notary Public. DELHI

20 FEB 2025



भारत का राजपत्र

The Gazette of India

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असाधारण
EXTRAORDINARY

भाग II—खण्ड 3—उप-खण्ड (ii)
PART II—Section 3—Sub-section (ii)

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नई दिल्ली, बुधवार, अप्रैल 20, 2022/चैत्र 30, 1944
NEW DELHI, WEDNESDAY, APRIL 20, 2022/CHAITRA 30, 1944

पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय

अधिसूचना

नई दिल्ली, 20 अप्रैल, 2022

का.आ. 1886(अ).—केंद्रीय सरकार पर्यावरण और वन विभाग के पूर्ववर्ती मंत्रालय में पर्यावरण (संरक्षण) अधिनियम, 1986 की धारा (3) की उप-धारा (1) और उप-धारा (2) के खंड (v) के अधीन प्रदत्त शक्तियों का प्रयोग करते हुए, पर्यावरण समाघात निर्धारण अधिसूचना, 2006 (जिसे इसमें इसके पश्चात ईआईए अधिसूचना, 2006 कहा गया है), परियोजनाओं की कतिपय प्रवर्ग के लिए पूर्व पर्यावरणीय मंजूरी आज्ञापक बनाने के लिए, संख्या का.आ.1533(अ), तारीख 14 सितंबर, 2006 द्वारा प्रकाशित की है।

और राज्य पर्यावरण समाघात निर्धारण प्राधिकरण (एसईआईए) का गठन प्रवर्ग ख के अधीन सभी प्रस्तावों के लिए पर्यावरण मंजूरी (ईसी) पर विचार और अनुदान के लिए प्रत्यायोजित शक्तियों का प्रयोग करने हेतु राज्य स्तर पर ईआईए अधिसूचना, 2006 के कार्यान्वयन के लिए पर्यावरण (संरक्षण) अधिनियम, 1986 की धारा 3 की उप-धारा (3) के अधीन किया गया है;

और राज्य पर्यावरण समाघात निर्धारण प्राधिकरण ने पर्यावरण मंजूरी मूल्यांकन प्रक्रिया में पिछले पंद्रह वर्षों में पर्याप्त अनुभव प्राप्त किया है और राज्य स्तर पर पर्यावरण मंजूरी प्रस्तावों के कुशल और पारदर्शी निपटान के लिए परिवेश पोर्टल के माध्यम से पूरी तरह से ऑनलाइन कर दिया गया है;

और केंद्रीय सरकार राज्य स्तर पर मंजूरी की प्रसुविधा के लिए पर्यावरण मंजूरी प्रक्रिया को और विकेंद्रीकृत करना आवश्यक समझती है;

और आज की तारीख में, सुरक्षा भागीदारी के महत्वपूर्ण तत्वों के साथ राष्ट्रीय रक्षा और सामरिक महत्व से संबंधित प्रवर्ग ख की परियोजनाओं का राज्य स्तर पर भी मूल्यांकन किया जा रहा है, जिसे केंद्रीय सरकार राष्ट्रीय सुरक्षा चिंताओं को ध्यान में रखते हुए केंद्रीय रूप से मूल्यांकन करना आवश्यक समझती है;

अतः अब, केंद्रीय सरकार, पर्यावरण (संरक्षण) नियम, 1986 के नियम 5 के उप-नियम (4) के साथ पठित पर्यावरण (संरक्षण) अधिनियम, 1986 (1986 का 29) की धारा 3 की उप-धारा (1) और उप-धारा (2) के खंड (v) द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए उक्त नियमों के नियम 5 के उप-नियम (3) के खंड (क) के अधीन नोटिस की अपेक्षा को समाप्त करने के पश्चात्, लोकहित में भारत सरकार की तत्कालीन पर्यावरण एवं वन मंत्रालय की अधिसूचना संख्यांक का.आ. 1533(अ), तारीख 14 सितम्बर, 2006, की अधिसूचना में निम्नलिखित और संशोधन करती है अर्थात्:-

उक्त अधिसूचना में-

(1) पैरा 4 में, उप-पैरा (iii) क) के स्थान पर, निम्नलिखित रखा जाएगा, अर्थात्: -

(iii) क) राष्ट्रीय रक्षा या सामरिक या सुरक्षा महत्व से संबंधित हैं या जिन्हें केंद्रीय सरकार द्वारा संकटकाल जैसे महामारी, प्राकृतिक आपदाओं जैसी अत्यावश्यकताओं के कारण ऐसी प्रवर्ग 'ख' परियोजनाओं को अधिसूचित किया गया है या राष्ट्रीय कार्यक्रमों या स्कीमों या मिशन या ऐसी परियोजनाओं के अधीन पर्यावरण के अनुकूल क्रियाकलापों का संवर्धन करने के लिए जो इस अधिसूचना में यथा अधिकथित समय-सीमा से अधिक विलंबित हैं और समय-समय पर इस संबंध में यथा-अधिकथित मानदंडों को पूरा करती हैं, उन्हें केंद्रीय स्तर पर प्रवर्ग 'ख' परियोजनाओं के रूप में विचार किया जाएगा;

(2) अनुसूची में, -

(i) मद 1(क) के सामने, -

(क) स्तंभ (3) में, -

(क) गैर-कोयला खनन पट्टे के संबंध में "> 100 हेक्टेयर खनन पट्टा क्षेत्र" के स्थान पर, निम्नलिखित रखा जाएगा, अर्थात्: -

"कोयले के अलावा अन्य प्रमुख खनिज खनन पट्टे के संबंध में >250 हेक्टेयर खनन पट्टा क्षेत्र";

(ख) ">150 हेक्टेयर" प्रतीक, अंक और अक्षर के स्थान पर, "> 500 हेक्टेयर" प्रतीक, आंकड़े और अक्षर रखे जाएंगे;

(ख) स्तंभ (4) में, -

(क) गैर-कोयला खनन के संबंध में <100 हेक्टेयर खनन पट्टा क्षेत्र के स्थान पर,

पट्टा", निम्नलिखित रखा जाएगा, अर्थात्: -

"लघु खनिज खनन पट्टों के संबंध में सभी खनन पट्टा क्षेत्र और कोयले के अलावा अन्य प्रमुख खनिज खनन पट्टे के संबंध में <250 हेक्टेयर खनन पट्टा क्षेत्र";

(ख) "<150 हेक्टेयर" के प्रतीकों, अंकों और अक्षरों के स्थान पर "<500 हेक्टेयर" के प्रतीक, अंक और अक्षर रखे जाएंगे;

(ii) मद 1(ग) के सामने, -

(क) स्तंभ (3) में, -

(क) क्रम संख्या (i) में, "> 50 मेगावाट, प्रतीकों, अंकों और अक्षरों के स्थान पर "> 100 मेगावाट" प्रतीक, आंकड़े और अक्षर रखे जाएंगे;

(ख) क्रम संख्या (ii) और उससे संबंधित प्रविष्टियों का लोप किया जाएगा;

(ख) स्तंभ (4) में, -

(क) क्रम संख्या (i) में, "<50 मेगावाट" प्रतीक, अंक और अक्षर के स्थान पर, "<100 मेगावाट" प्रतीक, आंकड़े और अक्षर रखे जाएंगे;

(ख) क्रम संख्या (ii) में, -

(i) "और <50,000 हेक्टेयर" शब्द, प्रतीक और अंक का लोप किया जाएगा;

(ii) बिंदु (ग) में सारणी में, "से <50,000" शब्द, प्रतीक और अंक का लोप किया जाएगा; ।

(ग) स्तंभ (5) में, क्रम संख्या (ii) के पश्चात, निम्नलिखित क्रम संख्या अंतःस्थापित किया जाएगा, अर्थात् :-

"(iii) अंतर-राज्यीय मुद्दों से संबंधित सिंचाई परियोजनाओं का मूल्यांकन केंद्रीय स्तर पर श्रेणी में परिवर्तन के बिना किया जाएगा";

(iii) मद 1(घ) के सामने,-

(क) स्तंभ (3) में, "> 50 मेगावाट" प्रतीकों, अंकों और अक्षरों के स्थान पर, "> 100 मेगावाट" प्रतीकों, अंकों और अक्षरों को रखा जाएगा;

(ख) स्तंभ (4) में, "<50 मेगावाट" प्रतीक, अंक और अक्षर के स्थान पर, "<100 मेगावाट" प्रतीक, आंकड़े और अक्षर रखे जाएंगे;

(iv) मद 2(क) के सामने, -

(क) स्तंभ (3) में, ">1" प्रतीकों और अंक के स्थान पर, ">2.5" प्रतीकों और अंक को रखा जाएगा;

(ख) स्तंभ (4) में, "<1" प्रतीकों और अंक के स्थान पर, "< 2.5" प्रतीक और अंक रखे जाएंगे;

(ग) स्तंभ (5) में, विद्यमान पैरा के पश्चात, निम्नलिखित पैरा अंतःस्थापित किया जाएगा, अर्थात् :-

"खनन पट्टा क्षेत्र के भीतर स्थित धुलाई मशीनों के साथ एकीकृत कोयला खनन परियोजनाओं को कोयला खनन परियोजनाओं के लिए विद्यमान सीमा के अनुसार केंद्रीय स्तर या राज्य स्तर पर, यथास्थिति, विचार किया जाना जारी रहेगा";

(v) मद 2 (ख) के सामने, -

(क) स्तंभ (3) में, विद्यमान प्रविष्टियों का लोप किया जाएगा;

(ख) स्तंभ (4) में, "<0.5 मिलियन टीपीए का उत्पादन" प्रतीक, अंक, शब्द और अक्षर के स्थान पर, "सभी खनिज परिष्करण परियोजना, परिष्करण की प्रक्रिया पर ध्यान दिए बिना" शब्द रखे जाएंगे;

(ग) स्तंभ (5) में, विद्यमान पैरा के पश्चात, निम्नलिखित पैरा रखा जाएगा,

अर्थात् :-

"भीतर स्थित लाभकारी संयंत्रों के साथ एकीकृत खनन परियोजनाएं खनन पट्टा क्षेत्र पर केन्द्रीय स्तर पर विचार किया जाता रहेगा या यथास्थिति, राज्य स्तर, खनन परियोजनाओं के लिए विद्यमान सीमा के अनुसार।";

(vi) मद 7 (क) के सामने,-

(क) स्तंभ (3) में, "सभी परियोजनाओं" शब्दों के स्थान पर "सभी नई परियोजनाएं" शब्द रखे जाएंगे;

(ख) स्तंभ (4) में, निम्नलिखित अंतःस्थापित किया जाएगा, अर्थात् :-

"सभी विस्तार परियोजनाएं, जिनमें हवाई पट्टियां भी सम्मिलित हैं, जो वाणिज्यिक उपयोग के लिए हैं।"

[फा. सं. आईए 3-22/10/2022-आईए. III]

डॉ. सुजीत कुमार बाजपेयी, संयुक्त सचिव

टिप्पण : मूल अधिसूचना भारत के राजपत्र, असाधारण, भाग II, खंड III, उप-खंड (ii), संख्या का.आ. 1533(अ), तारीख 14 सितंबर, 2006 द्वारा प्रकाशित की गई थी और अधिसूचना संख्या का.आ. 1807(अ), तारीख 12 अप्रैल, 2022 द्वारा अंतिम संशोधन किया गया था।

MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

NOTIFICATION

New Delhi, the 20th April, 2022

S.O. 1886(E).—WHEREAS, the Central Government in the erstwhile Ministry of Environment and Forests, in exercise of its powers under sub-section (1) and clause (v) of sub-section (2) of section (3) of the Environment (Protection) Act, 1986 has published the Environment Impact Assessment Notification, 2006 (hereinafter referred to as the EIA Notification, 2006), vide number S.O.1533 (E), dated the 14th September, 2006 for mandating prior environmental clearance for certain category of projects;

And whereas, the State Environment Impact Assessment Authorities (SEIAAs) have been constituted under sub-section (3) of section 3 of the Environment (Protection) Act, 1986 for implementation of the EIA Notification, 2006 at State level for exercising delegated powers to consider and grant Environmental Clearance (EC) for all proposals under Category B;

And whereas, the SEIAAs have gained substantial experience over the past fifteen years in the EC appraisal process and the process at the State level has also been made completely online through the PARIVESH portal for efficient and transparent disposal of EC proposals;

And whereas, the Central Government deems it necessary to further decentralise the EC process for facilitating clearances at State level;

And whereas, as on date, category 'B' projects, relating to national defence and strategic importance with significant element of security involvement are also being appraised at the State level which, the Central Government deems it necessary to be appraised centrally taking into account national security concerns;

Now, therefore, in exercise of the powers conferred by sub-section (1) and clause (v) of sub-section (2) of section 3 of the Environment (Protection) Act, 1986 (29 of 1986), read with sub-rule(4) of rule 5 of the Environment (Protection) Rules, 1986, the Central Government, after having dispensed with the requirement of notice under clause (a) of sub-rule (3) of rule 5 of the said rules, in public interest, hereby makes the following further amendments in the notification of the Government of India, in the erstwhile Ministry of Environment and Forests, number S.O. 1533 (E), dated the 14th September, 2006, namely:-

In the said notification,-

(1) in paragraph 4, for sub-paragraph (iii a), the following shall be substituted, namely:-

(iii a) Such Category 'B' projects, relating to the National defence or strategic or security importance or those as notified by the Central Government on account of exigencies such as pandemics, natural disasters or to promote environmentally friendly activities under National Programmes or Schemes or Missions or such projects which are inordinately delayed beyond the stipulated timeline as laid down in this notification and also meet the criteria as laid down in this regard from time to time, shall be considered at the Central level as Category 'B' projects;

(2) in the Schedule,-

(i) against item 1(a),-

(a) in column (3),-

(A) for ">100 ha. of mining lease area in respect of non-coal mining lease", the following shall be substituted, namely:-

">250 ha mining lease area in respect of major mineral mining lease other than coal";

(B) for the symbol, figures and letters "> 150 ha", the symbol, figures and letters "> 500 ha" shall be substituted;

(b) in column (4),-

(A) for "≤ 100 ha of mining lease area in respect of non-coal mine lease", the following shall be substituted, namely:-

"All mining lease area in respect of minor mineral mining leases and ≤ 250 ha mining lease area in respect of major mineral mining lease other than coal";

- (B) for the symbols, figures and letters " ≤ 150 ha", the symbols, figures and letters " ≤ 500 ha" shall be substituted;
- (ii) against item 1(c),—
- (a) in column (3),—
- (A) in serial number (i), for the symbols, figures and letters " ≥ 50 MW", the symbols, figures and letters " ≥ 100 MW" shall be substituted;
- (B) serial number (ii) and the entries relating thereto shall be omitted;
- (b) in column (4),—
- (A) in serial number (i), for the symbol, figures and letters " < 50 MW", the symbol, figures and letters " < 100 MW" shall be substituted;
- (B) in serial number (ii),—
- (I) the word, symbol and figures "and $< 50,000$ ha." shall be omitted;
- (II) in point (c) in the table, the word, symbol and figures "to $< 50,000$ " shall be omitted;
- (c) in column (5), after serial number (ii), the following serial number shall be inserted, namely:—
- "(iii) Irrigation projects involving Inter-State issues shall be appraised at Central level without change in category.";
- (iii) against item 1(d),—
- (a) in column (3), for the symbols, figures and letters " ≥ 50 MW", the symbols, figures and letters " ≥ 100 MW" shall be substituted;
- (b) in column (4), for the symbol, figures and letters " < 50 MW", the symbol, figures and letters " < 100 MW" shall be substituted;
- (iv) against item 2(a),—
- (a) in column (3), for the symbols and figure " ≥ 1 ", the symbols and figures " ≥ 2.5 " shall be substituted;
- (b) in column (4), for the symbols and figure " < 1 ", the symbols and figures " < 2.5 " shall be substituted;
- (c) in column (5), after the existing paragraph, the following paragraph shall be inserted, namely:—
- "Integrated coal mining projects with washeries located within mining lease area shall continue to be considered at Central level or State level, as the case may be, as per the extant threshold for coal mining projects.";
- (v) against item 2 (b),—
- (a) in column (3), the existing entries shall be omitted;
- (b) in column (4), for the symbol, figures, words and letters " < 0.5 million TPA throughput", the words "All mineral beneficiation projects irrespective of the procedure for beneficiation" shall be substituted;
- (c) in column (5), after the existing paragraph, the following paragraph shall be inserted, namely:—
- "Integrated mining projects with beneficiation plants located within mining lease area shall continue to be considered at Central level or State level, as the case may be, as per the extant threshold for mining projects.";
- (vi) against item 7 (a),—
- (a) in column (3), for the words "All projects", the words "All new projects" shall be substituted;

(b) in column (4), the following shall be inserted, namely:—

“All expansions projects, including airstrips, which are for commercial use.”.

[F. No. IA3-22/10/2022-IA.III]

Dr. SUJIT KUMAR BAJPAYEE, Jt. Secy.

Note : The principal notification was published in the Gazette of India, Extraordinary, Part II, Section III, sub-section (ii), vide, number S.O. 1533(E), dated the 14th September, 2006 and was last amended, vide, the notification number S.O. 1807(E), dated the 12th April, 2022.

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रजिस्ट्री सं० डी० एल०-33004/99

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भारत का राजपत्र

The Gazette of India

असाधारण

EXTRAORDINARY

भाग II—खण्ड 3—उप-खण्ड (ii)

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पर्यावरण और वन मंत्रालय

अधिसूचना

नई दिल्ली, 28 फरवरी, 2014

का.आ. 637(अ).—केंद्रीय सरकार, पर्यावरण (संरक्षण) अधिनियम, 1986 (1986 का 29) की धारा 23 द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए उक्त अधिनियम की धारा 5 के अधीन इसमें निहित शक्तियों को पर्यावरण (संरक्षण) अधिनियम, 1986 की धारा 3 की उप-धारा (3) के अधीन केंद्रीय सरकार द्वारा गठित किए गए सभी राज्य और संघराज्यक्षेत्र पर्यावरण समाचात प्राधिकरणों (जिन्हें इसमें इसके पश्चात् उक्त प्राधिकरण कहा गया है) को उक्त प्राधिकरणों द्वारा अपनी अधिकारिता के भीतर परियोजनाओं या क्रिया कलापों को जारी पर्यावरण अनापत्तियों की शर्तों के अतिक्रमण की दशा में परियोजना प्रस्तावकों को कारण बताओ नोटिस जारी करने तथा इस शर्त के अधीन कि केंद्रीय सरकार शक्तियों के ऐसे प्रत्यायोजन का प्रतिसंहरण कर सकेगी या उक्त अधिनियम की धारा 5 के उपबंधों को स्वयं अवलंब ले सकेगी, यदि केंद्रीय सरकार की राय में लोक हित में ऐसी कार्यवाही आवश्यक है, यदि अपेक्षित हो तो अतिक्रमणों के लिए उक्त परियोजना प्रस्तावकों को ऐसी पर्यावरण अनापत्तियों को उन्हें प्रास्थगित रखने या वापस लिए जाने हेतु निदेश जारी करने की शक्तियों का प्रत्यायोजन करती है।

[सं. जे-11013/2/2013-आई ए (आई)]

अजय त्यागी, संयुक्त सचिव

MINISTRY OF ENVIRONMENT AND FORESTS

NOTIFICATION

New Delhi, the 28th February, 2014

S.O. 637(E).—In exercise of the powers conferred by section 23 of the Environment (Protection) Act, 1986 (29 of 1986), the Central Government hereby delegates the powers vested in it under section 5 of the said Act to all the State and Union Territory Environment Impact Assessment Authorities (Hereinafter referred to as the said Authorities) constituted by the Central Government under sub-section (3) of section 3 of Environment (Protection) Act, 1986, to issue show cause notice to project proponents in case of violation of the conditions of the environment clearances issued by the said Authorities to projects or activities within their jurisdiction and to issue directions to the said project proponents for keeping such environment clearances in abeyance or withdrawing them, if required, for violations, subject to the condition that the Central Government may revoke such delegations of powers or may itself invoke the provisions of section 5 of the said Act, if in the opinion of the Central Government such a Course of action is necessary in the public interest.

[No. J-11013/2/2013-IA. (I)]

AJAY TYAGI, Jt. Secy.

950 GI/2014

(1)

अधिसूचना

नई दिल्ली, 28 फरवरी, 2014

का.आ. 638(अ).—केन्द्रीय सरकार, पर्यावरण (संरक्षण) अधिनियम, 1986 (1986 का 29) की धारा 19 के खण्ड (क) द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए उक्त की धारा के प्रयोजन के लिए इससे उपाबद्ध उस सारणी के स्तंभ (3) में उनमें से प्रत्येक के सामने उल्लिखित अधिकारिता के साथ उस सारणी के स्तंभ (2) में उल्लिखित प्राधिकरण या अधिकारी को प्रतिकृत करती है:

सारणी

क्रम संख्यांक	प्राधिकरण/अधिकारी	अधिकारिता
(1)	(2)	(3)
1.	पर्यावरण (संरक्षण) अधिनियम, 1986 की धारा 3 की उपधारा (3) के अधीन केंद्रीय सरकार द्वारा गठित राज्य या संघ राज्यक्षेत्र स्तर पर्यावरण समाघात प्राधिकरण (एस.ई.आई.ए.ए.)	संपूर्ण राज्य या संघ राज्यक्षेत्र
2.	पर्यावरण और वन मंत्रालय (एम.ओ.ई.एफ.) के किन्हीं प्रादेशिक कार्यालयों में तैनात कोई निदेशक, वन संरक्षक या अपर प्रधान मुख्य वन संरक्षक	पर्यावरण और वन मंत्रालय द्वारा यथा- विनिश्चित प्रादेशिक कार्यालय की अधिकारिता

[सं. जे-11013/2/2013-आई ए (आई)]

अजय त्यागी, संयुक्त सचिव

NOTIFICATION

New Delhi, the 28th February, 2014

S.O. 638(E).—In exercise of the powers conferred by clause (a) of section 19 of the Environment (Protection) Act, 1986 (29 of 1986), the Central Government hereby authorises the Authority or officer mentioned in column (2) of the Table hereto for the purpose of the said section with the jurisdiction mentioned against each of them in column (3) of that Table:

TABLE

S. No.	Authority/Officer	Jurisdiction
(1)	(2)	(3)
1.	State or Union Territory level Environment Impact Assessment Authority (SEIAA) constituted by the Central Government under sub-section (3) of section 3 of the Environment (Protection) Act, 1986.	Whole of State or Union Territory
2.	Any Director, Conservator of Forests or Additional Principal Chief Conservator of Forests Posted in any of the Regional Offices of the Ministry of Environment and Forests (MoEF).	Jurisdiction of the Regional Office as decided by the Ministry of Environment and Forests

[No. J-11013/2/2013-IA. (I)]

AJAY TYAGI, Jt. Secy.

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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;

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17

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.

- | | |
|---|------------------|
| 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 |

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

25

(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, NOx, SOx, 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

27

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	<p>Waste-water which is polluted and the pollutants are -</p> <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. <p>(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)</p>	30
W12	<p>Non-toxic high strength polluted waste-water having BOD in the range of 1000-5000 mg/l and the pollutants are biodegradable.</p> <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	<p>Non toxic- polluted waste-water having BOD below 1000 mg/l and the pollutants are easily biodegradable.</p> <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	<p>Waste-water generated from the chemical processes and which is polluted due to presence of high TDS (total dissolved solids) of inorganic nature.</p> <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	<p>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> <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	<p>Non-toxic polluted waste-water from those units which are:</p> <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

29

	<p>sludge process) based Effluent Treatment Plant.</p> <p>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.</p>	
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

SLNo.	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 :

1. 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 -

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

2. 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 -

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

3. 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 -

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

4. 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	5	6	7	(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.	Orignl 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	DC 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.

39

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 operators, 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. Al most, 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& IBM) rules, 2008 - Items namely - Spent catalyst containing nickel, cadmium, Zinc, copper, arsenic, vanadium and cobalt.	30	-	30	25	-	25	65	R-R	All the three types of pollutants are expected.
11.	67	Processes involving chlorinated hydrocarbons	30	-	30	20	-	20	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 Khandasari)	20	10	30	15	10	25	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	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	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.

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 assemblies 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	20	10	30	0	30	10	67	R-R	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. 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	<p>i. Explosives manufacture and use contribute some measure of hazardous waste to the environment.</p> <p>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.</p> <p>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.</p>
21.	45	Manufacturing of paints and varnishes, pigments and intermediate (excluding blending/mixing)	30	-	30	25	-	25	15	70	R-R	<p>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.</p> <p>ii. Dust and odour may also be a problem.</p> <p>iii. Washing of vessels will contribute waste-waters.</p> <p>iv. Large quantity of HWs are also produced.</p>
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	<p>i. The Airports are generating mainly the waste-waters.</p> <p>ii. This is the water pollution normalized score for airports having discharge more than 100 KLD.</p> <p>iii. The airports / strips having discharge less than 100 KLD will have score of 50 and hence orange category.</p> <p>iv. If the score is normalized wrt water + HW both, then all the airports will come under Orange category (score - 58.33).</p>
24.	3	Asbestos and asbestos based industries	-	-	-	30	-	30	10	75	R-R	<p>i. This is mainly air polluting industry.</p> <p>ii. Final score is based on air pollution score only.</p> <p>iii. Asbestos is carcinogenic and banned in many countries.</p>
25.	5	Basic chemicals and electro chemicals and its derivatives including manufacturing of acid	30	-	30	-	-	-	10	75	R-R	<p>i. Standards prescribed for Inorganic Chemicals are adopted.</p> <p>ii. It is mainly water polluting industry having effluents which are toxic and not easily biodegradable.</p>

26.	7	Cement	-	20	10	30	-	75	R-R	<p>iii. Water pollution score normalized to 100 is undertaken.</p> <p>iv. The earlier Red category industrial sector namely "Hydrocyanic acid and its derivatives" is also merged under this industrial sector.</p> <p>This is mainly air polluting industry & hence normalized air pollution score.</p>
27.	9	Chlorates, per-chlorates & peroxides	30	-	-	-	-	75	R-R	<p>i. It is mainly water polluting industry having effluents which are toxic and not easily biodegradable.</p> <p>ii. Water pollution score normalized to 100 is undertaken.</p>
28.	10	Chlorine, fluorine, bromine, iodine and their compounds	30	-	-	-	-	75	R-R	<p>i. It is mainly water polluting industry having effluents which are toxic and not easily biodegradable.</p> <p>ii. Water pollution score normalized to 100 is undertaken.</p>
29.	16	Dyes and Dye-Intermediates	30	20	5	25	20	75	R-R	<p>i. This industrial sector is the one among the '17 categories of Highly Polluting Industries'.</p> <p>ii. Such types of industrial sectors generate all sorts of pollution.</p>
30.	26	Health-care Establishment (as defined in BMW Rules)	20	10	30	-	-	75	R-R	<p>i. Mainly water polluting.</p> <p>ii. The water pollution score is normalized to 100 & valid for Hospitals having total waste-water generation > 100 KLD.</p> <p>iii. The hospitals with Incinerator will be categorized as Red Irrespective of the quantity of the waste-water generation.</p> <p>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.</p>
31.	29	Hotels having overall waste-water generation @ 100 KLD and more.	20	10	30	15	-	75	R-R	<p>i. Mainly water polluting. Small boiler may be installed.</p> <p>ii. The water pollution score is normalized to 100 & valid for Hotels having waste-water generation > 100 KLD.</p> <p>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.</p> <p>iv. The hotels having more than 20 rooms and waste-water generation less than 10 KLD and</p>

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 add 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.	having no-boiler & no hazardous waste generation, the pollution score will be 20 & are categorized as Green.
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 assemblies 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.	

45

36.	52	Nuclear power plant	10	-	10	30	-	30	15	75	R-R	<p>i. Mainly air polluting due to indinerator. Others - cooling water.</p> <p>ii. Air pollution score is normalized to 100.</p>
37.	58	Pesticides (technical) (excluding formulation)	30	-	30	25	-	25	20	75	R-R	<p>i. This industrial sector is the one among the '17 categories of Highly Polluting Industries'.</p> <p>ii. Such types of industrial sectors generate all sorts of pollution.</p>
38.	64	Photographic film and its chemicals	30	-	30	-	-	-	-	75	R-R	<p>i. Silver salts and other chemicals are used in preparation. Slight quantity of effluents is generated.</p> <p>ii. Water pollution scores are normalized to 100.</p>
39.	68	Railway locomotive work shop/Integrated road transport workshop/Authorized service centers	20	10	30	-	-	-	10	75	R-R	<p>i. Mainly water polluting industry. Water is used in the washing of locomotives, road transport vehicles during sending.</p> <p>ii. This score is valid for those Centers having discharge more than 100 KLD.</p> <p>iii. Service Centers having waste-water generation < 100 KLD, the normalized score will be = $(100 \times 20) / 40 = 50$.</p>
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	<p>i. This industrial sector is the one among the '17 categories of Highly Polluting Industries'.</p> <p>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.</p>
42.	70	Ship Breaking Industries	30	-	30	30	-	30	20	80	R-R	<p>i. The ship-breaking industry creates numerous hazards for the coastal and marine environment.</p> <p>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.</p> <p>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.</p>

43.	53	Oil and gas extraction including CBM (offshore & on-shore extraction through drilling wells)	30	-	30	-	-	-	20	83	R-R	iv. v. i. ii.	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. 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. Mainly water polluting & hazardous waste generating. 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

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 (CTP, 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 CTP, 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	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	--	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	--	15	--	43.75	O-O	Wash-water and PM emissions from boilers .
13.	76	Synthetic detergents and soaps(excluding formulation)	20	--	20	15	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	--	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	37.5	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	--	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	--	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	--	20	20	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	15	50	O-O	
20.	7	Brickfields (excluding fly ash brick manufacturing using lime process)	--	--	20	--	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	--	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	--	20	--	50	R-O	i. Mainly air polluting industry. ii. This score is for the units having coal consumption < 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 industries 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>

53

iii.	<p>For lead, the normalized air pollution score will be $= (100*25)/40 = 62.5$ 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 $= (100*25)/40 = 62.5$ and is categorized as Red.</p>																			
29.	Fertilizer (granulation / formulation / blending only)	26	Air polluting.	50	O-O															
30.	Fish feed, poultry feed and cattle feed	27	Obnoxious odour, H2S etc. AP score is normalized to 100	50	O-O															
31.	Fish processing and packing (excluding chilling of fishes)	28	Mainly water polluting. WP score is normalized to 100.	50	O-O															

32.	31	Forging of ferrous and non-ferrous metals (using oil and gas fired furnaces)	-	-	-	20	-	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	-	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	-	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	-	20	-	50	O-O	Mainly air polluting and noise generating. AP Score is normalized to 100.
37.	28	Hot mix plants	-	-	-	20	-	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 scores 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	-	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.

45.	42	Manufacturing of glass	10	-	-	20	-	20	-	50	R-O	i. Mainly air polluting (melting at 1500°C and refining). 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
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 KIO3 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	i. Water and air polluting industry. Boiler is used for steam generation. ii. Water & air pollution scores are normalized to 100
50.	45	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	-	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	-	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	-	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	20	0	50	G-O	Due to spraying applications, emissions (HC) are generated
67.	70	Thermocol manufacturing (with boiler)	--	-	-	20	-	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	-	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	-	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	-	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	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 add 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. Wastewater 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	i. Raw material is polyurethane, latex etc. ii. Emissions of VOCs and HAPs. CH3Cl2 and similar compounds as blowing agents. iii. Outdated raw materials and spoiled slots are discarded as HW.
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 refectories for dedicated fuel supply)	-	-	-	20	-	20	15	58.33	O-O	Mainly air polluting & tar (HW) generating. SO2, CO, NOx 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

9

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:

Sl No	Origin al Sl No.	Industry Sector	Original Category	Remarks
1	24	Excavation of sand from the river bed (excluding manual excavation)	0	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.
2	39	Infrastructure Development Project	0	Vast variety of such projects come under such category. This is to be decided by the concerned SPCB in line of EIA Notification , 2006.
3	53	Power press	0	Very vague term hence deleted. Such types of general engineering units have already been covered.

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 water cooling 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	-	25	G-G	Small quantities of waste-water and minor

17.	29	Decoration of ceramic cups and plates by electric furnace	-	-	-	10	-	10	-	10	-	25	G-G	Fumes of enamels. Minor air pollution.
18.	19	Digital printing on PVC clothes	-	-	-	10	-	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	-	10	-	25	O-G	Some fugitive emissions of PM during handling of grains.
20.	36	Flour mills (dry process)	-	-	-	10	-	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	-	10	-	25	G-G	Minor fugitive emissions only.
22.	34	Glue from starch (physical mixing) with gas / electrically operated oven / boiler.	-	-	-	10	-	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	-	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	-	10	-	25	G-G	Minor fumes due to application of polyurethane
26.	49	Leather foot wear and leather products (excluding tanning and hide processing except cottage scale)	-	-	-	10	-	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	-	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	-	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	-	10	-	25	O-G	Some fugitive emissions of PM are expected.
31.	65	Phenyl/ toilet cleaner formulation and bottling	-	-	-	10	-	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	-	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	-	10	-	25	G-G	Minor emissions of PM.
35.	71	Puffed rice (muri) (using gas or electrical heating system)	-	-	-	10	-	10	-	10	-	25	G-G	Minor emissions of PM.
36.	57	Pulverization of bamboo and scrap wood	-	-	-	10	-	10	-	10	-	25	O-G	Some fugitive emissions of PM are expected.
37.	72	Ready mix cement concrete	-	-	-	10	-	10	-	10	-	25	G-G	PM emissions.
38.	73	Reprocessing of waste cotton	-	-	-	10	-	10	-	10	-	25	G-G	PM emissions.
39.	60	Rice mill (Rice hullers only)	-	-	-	10	-	10	-	10	-	25	O-G	PM emissions are generated. Mainly air

40.	62	Rolling mill (gas fired) and cold rolling mill	10	-	10	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	10	-	10	-	10	-	25	G-G	Some PM emissions and obnoxious odour.
42.	63	Saw mills	-	-	10	10	10	-	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	10	10	-	10	-	10	-	25	G-G	Small quantities of waste-water are generated.
44.	80	Spice grinding (upto-20 HP motor)	-	-	10	10	10	-	10	-	10	-	25	G-G	Small quantities of fugitive emissions of raw materials.
45.	66	Spice grinding (>20 hp motor)	-	-	10	10	10	-	10	-	10	-	25	O-G	Mainly air polluting. Fugitive emissions of PM.
46.	81	Steel furniture without spray painting	-	-	10	10	10	-	10	-	10	-	25	G-G	Obnoxious gases from welding as well as noise pollution.
47.	82	Steeping and processing of grains	10	-	10	10	10	-	10	-	10	-	25	G-G	Washing waters are generated.
48.	86	Tyres and tube retreating (without boilers)	-	-	10	10	10	-	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	12	12	-	12	-	12	-	30	G-G	Cooling water and brine water circuits. Spillages / blow down may take place
50.	26	CO2 recovery	12	-	12	12	12	-	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	12	12	-	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	-	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	-	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	-	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	-	15	37.5	R-G	Mainly air pollution due to loading, unloading, storage and transportation of the minerals.

60.	54	Oil and gas transportation pipeline	-	-	-	10	5	15	-	37.5	R-G	<ul style="list-style-type: none"> Waste-water generation mainly during rains only. 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	15	--	37.5	O-G	<ul style="list-style-type: none"> Air pollution due to use boiler for supply of steam. Air pollution score is normalized to 100.
62.	84	Synthetic detergent formulation	-	-	15	-	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	15	--	37.5	O-G	<ul style="list-style-type: none"> With boiler, it is an orange category industry. Without boiler, it will be green category industry.

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	Original SI No.	Industry Sector	Original Category	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	Baling (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

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)

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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, APCCB, TNPCB, MPPCB, MPCEB, PCCB, 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, MoEPCC, New Delhi
5. CPCB Website

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**Environmental Guidelines
for
Stone Crushing Units**



Central Pollution Control Board

Ministry of Environment, Forest and Climate Change

Parivesh Bhawan, East Arjun Nagar

Delhi-110032

(July, 2023)

1.0 Introduction

Stone crushing sector is an important industrial sector engaged in producing crushed stone of various sizes (40 mm.20 mm.10 mm. crushed sand, stone dust etc) depending upon the requirement which acts as raw material for various construction activities.

Stone crushing operation releases a substantial amount of fugitive dust, which not only pollute the environment, but also pose a health hazards to the workers and the surrounding population. The growth in infrastructure is leading to increase in demand of raw materials, thereby resulting in the need to set up new stone crushing units or increase production from existing units. This poses a challenge to maintain the ambient air quality, which is possible if environmental guidelines predetermined by the industry concerned are followed.

Inventory and information about stone crushing units gathered from 27 SPCBs/PCCs (Arunachal Pradesh, Andaman & Nicobar island, Assam, Bihar, Chandigarh, Chhattisgarh, Daman, Dadra & Nagar Haveli, Goa, Gujarat, Haryana, Himanchal Pradesh, Jharkhand, J&K, Karnataka, Kerala, Madhya Pradesh Maharashtra, Manipur, Meghalaya, Mizoram, Nagaland, Odisha, Punjab, Sikkim, Tripura, Uttarakhand), and the data received indicates that there are about 16,931 stone crushing units with capacity ranges between 0.1 TPH to 1,400 TPH.

2.0 Classification of Stone Crushing Units

Based on the information received from SPCBs/PCCs, stone crushers may be classified into small, medium and large-scale in terms of production capacity.

S.No.	Category	Production capacity (TPH)
1.	Small Scale	Up to 25
2.	Medium Scale	26 to 100
3.	Large Scale	100 above

3.0 Stone Crushing Process

The stone crushing process can be broadly divided in following stages:

3.1 Transportation of raw material: Stones extracted from various sources are transported to stone-crushing units by means of trucks, trailers or automatic dumpers.

3.2 Primary crushing: Mined stones are fed directly into the primary crusher through stone feeders. The primary crusher breaks large stones and boulders into 100-140 mm size stones. Crushed stones are sent to secondary crusher for further reduction into smaller sizes. Various types of crushers are used in stone crushing industry. Jaw crushers are widely used as primary crushers.

3.3 Secondary crushing: After primary crushing, crushed stones are fed to secondary crushers through conveyor belts. In this stage, stones are further crushed to a size of 40-60 mm to 10 mm or even smaller. Stone crushing units use different types of crushers for secondary crushing. Granulator or cone crusher is usually used for secondary crushing.

3.4 Screening: From secondary crusher, crushed stones are transferred for screening through a conveyor belt. Screening is the process for segregating products of various sizes. Different mesh size screens are aligned one below the other and each screen is connected to a separate conveyor belt for discharging different size products. Mass that remains on the screen is called 'oversize' and material that passes through screen is called 'under size'. Oversize is returned to secondary crushers for further crushing and then again to screen. Under size is discharged through a 'telescopic chute' and screened products of various sizes are conveyed to stockpiles by belt conveyors. Different types of screens are used such as; grizzly-type screen, vibrating screen and rotary screen. Vibrating screens are most commonly used.

3.5 Tertiary crushing: Tertiary crushing is carried out in units that produce stone dust as their primary product. Dust is usually a by-product of stone crushing process. Units that produce dust, install a separate machine, usually roller crushers. Stones of size 10-20 mm are sent to roller crushers for grinding into fine dust.

3.6 Product storage and loading: After crushing and screening, final product is transferred to a conveyor belt which distributes the product into different stockpiles, depending on size of the product. The product/fines are either stored as stockpiles or directly loaded into trucks & dumpers and transported.

4.0 Environmental issues associated with Stone Crushing Units

The major environmental issue due to operation of a stone crushing unit is fugitive dust emissions which is contributed by the following processes:

- **Primary crushing:** Primary crushers breaks large boulders into smaller sizes. Crushing process as well as unloading of stones generate a substantial amount of fugitive dust. Mechanism for water sprinkling is provided to reduce fugitive dust. Some primary crushing areas are partially or completely covered with a shed as a measure to further prevent the fugitive dust emissions to surroundings, however at some places partial coverings provided which do not appear to be sufficient to such emissions.
- **Secondary crushing:** Compared to primary crushing, fugitive dust emitted at secondary crushing is relatively higher. Generally, insufficient covered shed provided in the process results in fugitive emissions.
- **Screening:** Screening process is also a source of fugitive dust emissions. As the material is conveyed to screen from secondary crusher, screen vibrates and thus, separates the material of different sizes resulting into huge amount of fugitive dust emissions. Generally, units provide covered shed and water sprinklers to combat

dust emissions however, improper design and operation of sprinklers and improper covering is an issue.

- **Tertiary crushing:** Fugitive emissions are generated during grinding of stones into fine dust.
- **Conveyor Belt:** Conveyor belts are primary means of transferring raw materials and products from one end to the other. Movement of products on the conveyor belts is a potential source of fugitive dust emissions. To reduce dust emissions, water sprinkling arrangement is provided on each belt. Some units cover conveyor belts either with sheets or thick cloth to reduce dust emissions.
- **Product release and storage:** Fugitive emissions generated during transfer of material through telescopic chutes is lower than that generating during direct disposal of product on stockpile. Material, such as stone dust, stored in open areas is are also a potential source of fugitive dust emissions.
- Although no process waste water is generated from stone crushing units, however, water is used for sprinkling, conveyed to settling tanks of appropriate size which is recycled and reused in process.

5.0 Environmental Guidelines for Stone Crushing Units

The stone crushing units should adopt following environmental guidelines to prevent/suppress fugitive dust emissions from their operation:

Source of emission	Measures to be Taken
Unloading of raw material for storage	Water sprinkling with adequately designed nozzle which produce tiny droplets of water should be provided during raw materials unloading .
Unloading of raw material into hopper	<ul style="list-style-type: none"> • Three sides and top should be covered and one side may be kept open for vehicular movement. • Water sprinklers should be provided on approach roads.

Primary Crushing/ Jaw Crusher	<ul style="list-style-type: none"> • Crusher should be completely enclosed by G/MS sheets on top and at least three sides completely from the ground level. One side should have provision of movable sheet/door for movement/maintenance. • Primary crushers/jaw crushers should be covered with tarpaulin/cotton cloth/suitable materials to contain fugitive dust emissions (Figure-1) • Water sprinkler system with adequately designed nozzle which produce tiny droplets of water should be provided at primary crusher/jaw crusher so that fugitive emissions are contained and amount of water sprayed should be optimized.
Secondary Crushing	<ul style="list-style-type: none"> • Crusher should be completely enclosed by G/MS sheets on top and at least three sides completely from the ground level. One side should have provision of movable sheet/door for movement/maintenance. • Dry extraction cum bag filter followed by cyclone to be provided for control of emissions.
Screening	<ul style="list-style-type: none"> • Crusher should be completely enclosed by G/MS sheets on top and at least three sides completely from the ground level. One side should have provision of movable sheet/door for movement/maintenance. Door to be kept closed during operation. • Flexible covers where conveyors pass through the screen house should be installed at entries and exits of conveyors to screen house. • Dust extraction system connected with bag filter to be provided. • Provision of water mist sprinkling systems with adequately designed nozzle which produce tiny droplets of water should be made at inlet/outlet of screens.
Tertiary Crushing	<ul style="list-style-type: none"> • Crusher should be completely enclosed by G/MS sheets on top and at least three sides completely from the ground level. One side should have provision of movable sheet/door for movement/maintenance. Dust extraction system connected with bag filter to be provided. • Provision of water mist sprinkling system should be made with adequately designed nozzle which produce tiny droplets of water.

Conveyor Belts	Conveyor belts should be properly covered from node to node with a thick sheet of suitable material along with water sprinkling system with adequately designed nozzle which produce tiny droplets of water.
Discharge points	Flexible Telescopic chute from top of discharge point to the ground level should be provided (Figure-2 & Figure-2(a)).
Product storage	<ul style="list-style-type: none"> • Properly designed telescopic chute of adequate length of suitable material should be provided at ends of conveyor so that dust generated from this section is contained at source. • All open stockpiles for aggregates of size above 5 mm should be kept sufficiently wet by water spraying. • Stockpiles of aggregates of 5 mm size or less should be covered to ensure that same is not carried away (or whipped out) by wind.

5.1 General Measures

- i. Wind breaking wall: GI/MS/brick wall should be provided along the periphery of crusher. Height of the wall should be 3-ft more than the highest node of the crusher.
- ii. Roads: Metaled/concrete roads should be provided within the premises. Ramps and the entire ground area inside the premises should also be metaled.
- iii. Housekeeping: To curb the air pollution in the crusher premises, arrangement of rotating water sprinkling system/fogger/Anti-smog gun should be provided. Water sprinklers should have adequately designed nozzle which produce tiny droplets of water, as such system is more effective in dust control with significant reduction in consumption of water. Fine dust accumulated and bag filters in the crushing area should be cleaned at regular intervals and the collected dust should be stored in sacks for further sale or disposal.
- iv. Plantation: 2-3 rows of tall trees should be planted around the periphery of crusher.
- v. Housing should be open for movement of mechanical drivers, conveyor belts, etc. should be sealed properly with flexible rubber flaps.

- vi. Name of the unit, contact details of the owner and address of the unit, plant capacity and date of issue of CTE/CTO from SPCBs/PCCs should be displayed on the display board at the entrance.
- vii. Transportation: Vehicles carrying any kind of material should be completely covered.
- viii. Regular wetting of roads should be done to suppress dust within the premises to control dust emission re-suspension.
- ix. Water consumption and handling: Unit should provide settling tanks of appropriate size and recycle & reuse of the water in process. Crusher should provide a water storage tank with adequate capacity. In case of use of groundwater, stone crushing unit should obtain permission to extract groundwater from the Central Ground Water Authority (CGWA)/Ground Water Department (GWD) of the State/UT. Unit should maintain proper log book of consumption of fresh water. Depending on availability, efforts may be made to use STP treated water instead groundwater to control emissions from process activities.

6.0 Regulatory/Monitoring Mechanism for Stone Crushing Unit

- i. Stone crushing unit should obtain Consent to Establish (CTE) and Consent to Operate (CTO) from the concerned SPCBs/PCCs.
- ii. Unit while applying for CTO/renewal of consent, should upload the duly filled checklist attached at **Annexure-1** along with digitally tagged photographs and videos of the crushing unit to ensure compliance of the conditions mentioned in the guidelines. SPCBs/PCCs should digitally verify the said conditions before issuance of CTE/CTO/renewal of consent.
- iii. CCTV/PTZ cameras should be installed at the entrance and all corners of the premises of the unit covering entire area with minimum of 30 days data storage.
- iii. Stone crushing unit shall comply with emission norms prescribed under the Environment (Protection) Rules, 1986 and conditions laid down in CTO by concerned SPCB/PCC.

- v. Online/manual ambient air monitoring systems to be installed in crusher zone as per CPCB/SPCB guidelines – in upwind and downwind directions.
- vi. Stone crushing unit should develop green belt as per the plan approved by concerned Department of the State/UT.
- vii. Local authorities should associate with stone crusher associations for the construction of metalled road in the entire crusher zone.
- viii. A District Level Committee should be constituted under chairmanship of District Magistrate/Deputy Commissioner so that surprise inspections for surveillance of stone crushing units located under their jurisdiction can be carried out on regular basis.
- ix. Health survey of workers should be carried out by the stone crusher on half-yearly basis.
- x. New Crushers should be allowed to operate only in dedicated crusher zones as per the siting policies of SPCBs/PCCs.
- xi. Stone crusher unit should be operated only during day time (i.e. 6.00 AM to 10.00 PM) to avoid inconvenience to the nearby residents due to ambient noise.



Figure-1: Covering of Primary/Jaw crusher



Figure-2: Chute from top of discharge point



Figure-2(a): Chute from top of discharge point

Annexure-1

Format/Checklist for SPCBs/PCCs before issuance of CTE & CTO

S. No.	Fugitive Emission Source Locations	Checklist for compliance of conditions of Environmental guidelines	Yes/No
1.	Unloading area of raw material, primary crusher, Screener, conveyors belts and transfer points	Water sprinklers installed with adequate designed nozzles (Upload photo/videos).	
2.	Primary crushers, Secondary crushers, Screeners and tertiary crushers	Enclosures by GI/MS sheets on top and at least three sides completely from the ground level (Upload photo/videos).	
3.	Secondary, Tertiary crushers and Screener	Dry extraction cum bag filter followed by cyclone. (Upload photo).	
4.	Covering of Conveyor belts from node to node with a thick sheet of suitable material	Covering of Conveyor belts (Upload photo).	
4	At discharge points	Flexible Telescopic chute from top of discharge point to the ground level (Upload photo).	
5	GI/MS/brick wind breaking wall of 3-ft more than the highest node of the crusher along the periphery of crusher	Wind breaking wall (Upload photo)	
General			
6.	Wind breaking wall	GI/MS/brick wind breaking wall of 3-ft more than the highest node of the crusher along the periphery of crusher (Upload photo)	
7.	Roads	Metalled/concrete roads within the premises. Ramps and the entire ground area inside the premises should also be metalled	

8.	Suppression of dust within the premises	Arrangement of rotating water sprinkling system/fogger/Anti-smog gun in the premises to suppress dust within the premises to control dust emission re suspension	
9.	Green belt	Plantation of 2-3 rows of tall trees around the periphery of crusher	
9.	Display board	Display board at the entrance, having name of unit, contact details of owner and address of unit, plant capacity and date of issue of CTE/CTO from SPCB/PCC	
10	Covering of vehicles	Covering of vehicles carrying any kind of material .	
11	CCTV/PTZ camera	CCTV/PTZ cameras installed at the entrance and all corners of the premises of the unit covering entire area with minimum of 30 days data storage	
12	Photos/videos	Upload photographs/videos ensuring compliance of all conditions as mentioned in the guidelines while applying CTE/CTO/ Renewal	

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