### Seminar on Managing Industrial Emission

# MPCB's Landmark Star Rating Program

Presented by Dr. V. M. Motghare, JD(APC)

Date:- 21<sup>st</sup> February, 2018 Venue: Hotel Park, CBD Belapur

### MPCB's Landmark Star Rating Program

FIRST EVER PROGRAM FOR PUBLIC RATING OF INDUSTRY PM EMISSIONS



Maharashtra Pollution Control Board महाराष्ट्र प्रदूषण नियंत्रण मंडळ

### Why Maharashtra?

Maharashtra is the most industrialized state of India with over 1,00,000 industries:

- 23,500 high pollution potential
- **25,500** medium pollution potential
- **51,000** low pollution potential

MPCB conducts extensive industry stack and ambient air monitoring

 More than 20,000 stack samples collected between September 2012 to January 2018

Such a detailed dataset can be used for innovative regulation schemes without further constraining manpower

## Why Transparency?

- The Star Rating Program aims to decrease air pollution by increasing transparency
- **Transparency among industries** spurs abatement by improving factory managers' information about their own plant emissions
- **Transparency among the public** spurs interest and discussion on the programs MPCB is adopting to decrease air pollution among the public

### Similar programs around the world:

- United States' Toxic Release Inventory (TRI)
- Indonesia's Program for Pollution Control, Evaluation, and Rating (**PROPER**)
- Programs in China, Ghana, Vietnam, Philippines, Ukraine, etc.

## Why Star Rating?

A star-rating index for particulate matter emissions was developed in consultation with leading academics from national and international universities. The objective is to:

• Make industry performance **easy to understand**:

The lay-person may not be able to understand particulate matter readings in absolute terms, but a star-rating system is **accessible and easy to comprehend** 

• Provide industries with **comparative performance**:

With the star rating system, industries can easily understand their own **environmental performance relative to other industries** in the same geographical area or sector

### How are Ratings Calculated?

- Over 20,000 stationary stack samples of high-pollutionpotential industries were collected and analyzed from 2012 onwards
- The program assigns star-ratings to industries based on their relative pollution levels
- Selected industries' environmental performance is rated from 1 to 5 stars, where 1 star is poor performance and 5 stars is high performance

### 

• Ratings are **made public** on the MPCB website

### How does MPCB collect data?

• State of the art **double-blind data collection**:

Lab technicians do not know which industry the sample belongs to. This ensures an unbiased measurement of the PM concentration levels. Samples are identified using an **encrypted ID**, de-crypted at the MPCB regional offices by field officers.

### • Fully **digitized** system:

Previously, hard copies of the stack sampling report were stored at each RO. MPCB will move towards fully digitizing its stack sampling database, managed by the IT team in the head office

### • Skilled logistical support:

MPCB regional officers collect iso-kinetic samples from industry stacks as per monitoring frequency.

### What is the methodology?

- Industry should belong to the Consent Committee and Consent Appraisal Committee categories as defined by MPCB
- Industry should belong to one of the following 8 sectors, identified by MPCB as sectors with high pollution potential:

Cement	Pharmaceuticals
Chemicals	Power
Metal Works	Sugar and Distilleries
Paper	Textiles

• To guarantee a high-quality star rating process, the **median** of the **most recent four stack samples** have been considered in the period between Sep 2012 and Jan 2018.

## **Rating Scale**

		OF PM EMISSION per cubic nanometre)		
RATING	MINIMUM	MAXIMUM	RATING KEY	REPRESENTATION
1 star	250	-	Very Poor	* ☆ ☆ ☆ ☆
2 star	150	250	Poor	★★☆☆☆
3 star	100	150	Moderate	★★★☆☆
4 star	50	100	Good	<b>★★★★☆</b>
5 star	0	50	Very Good	****

### Why were four samples selected?

- For high pollution potential industries, representative samples are taken. This results in four samples per year.
- Thus, at minimum, industries would be able to update their ratings every quarter. This would also ensure that MPCB has the capacity to include as many industries as possible in the sampling plan.
- Industries are visited as per a randomised schedule as per the DIPP norms. However to increase the number of industries in the star-rating programme, stack sampling is also being conducted in potential participants of the star ratings programme.

### Star Rating Website

- Key Features
  - Responsive User Interface
  - Interactive Map
  - Desktop and Mobile versions
  - Supports both Marathi and English
- Website link on MPCB's official website: mpcb.info

### Star Rating Website



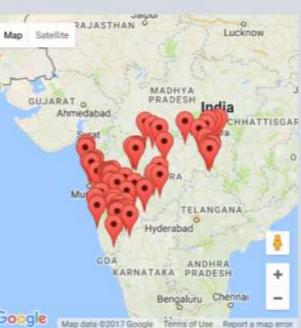




BROWSE RATING . ABOUT THE PROGRAM . PM HEALTH IMPACTS . OTHER INITIATIVES . MEDIA CENTRE . CONTACT US

### Q Search for industry

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### Star Rating Website

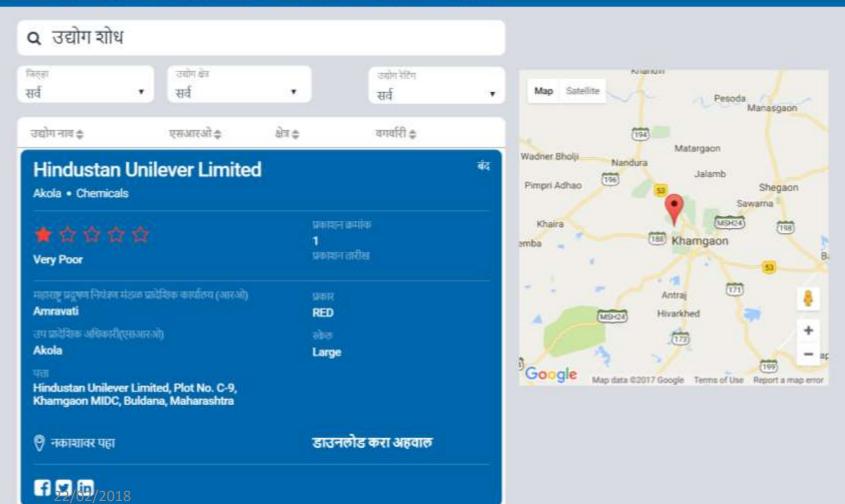


Maharashtra Pollution Control Board महाराष्ट्र प्रदूषण नियंत्रण मंडळ

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## **Industries Report Card**



Information Disclosure Program for

Maharashtra Pollution Control Board





Information Disclosure Program for Air Pollution Abatement

### Air Pollution Card





Poor

Industry Description		
MPCB Regional Office (RO)	÷	Kalyan
Sub-Regional Office (SRO)	4	Bhivandi
Туре	3	RED
Scale	3	Small
Sector		Texties

### Address

106 Indian Corporation Mankoli Naka, Bhiwandi, Thane-421302

### What does the rating mean?

Better Performing plants (i.e. plants with lower particulate matter (PM) concentration in stack emissions) get more stars. A 4-star or 5-star rating implies that most of the recent stack samples of the plant report PM emissions below a standard of 150mg/Nm3. A plant's star rating also benchmarks its relative performance: as of ratings date, 51 percent of rated plants have done better (received 4 or 5 stars) and 33 percent of rated plants have done worse (received 1 or 2 stars).

### Star Rating Key

*****	******		*****	****
Very Poor	Poor	Moderate	Coost	Very Good

## **Industries Report Card**



### Star Rating Key

Very Poor	Paker	Moderate	Good	Very Good
* 2 2 2 2	*****	******	*****	*****



Information Disclosure Program for Air Pollution Abatement

### Air Pollution Card

### Shri Vighnahar Sahakari Sakhar Karkhana Limited



Good

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MPCB Regional Office (RO)	: Pune
Sub-Regional Office (SRO)	: Pune II
Туре	: RED
Scale	: Large
Sector	Sugar and Distilleries

### Address

Nivruttinagar (Dhalewadi), Post - Shiroli BK, Taluka - Junnar Pune-410511

### What does the rating mean?

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### Star Rating Key



### **Industries Report Card**



Address

NH-6, PO Nashirabad, Jalgaon-425309

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### Star Rating Key

Very Poor	Poor	Noderate	Good	Very Goost
*****	*****	******	*****	*****

### Industry Workshops

Regional workshops were held with industries across regions. These were hosted by MPCB head office officials and regional officers. The industries are given report cards at these workshops:-

- Mumbai: 29 September 2016
- Nagpur: 7 July 2016
- Pune: 22 August 2016

More such workshops are going to be held on the following dates:-

- Nagpur: 3 March 2018
- **Mumbai**: 17 March 2018
- Pune: 31 March 2018

### Positive Response from Industries

- "The star rating program will be **helpful to control the air pollution** for all industries."
- "The Star Rating program is a very good practice which will show performance of air emission compliance by industries. This is an **excellent initiative taken by MPCB**."
- "MPCB is doing a **great job under Make in India** to keep the environment in Maharashtra clean and green"
- "Transparency in rating procedure and publication. This is a fantastic **attempt at quantitative benchmarking**"
- "Industries with good infrastructure and practices regarding air pollution can be motivated to improve, and we will have to plan for the same"

### Launch of website on 5<sup>th</sup> June 2017

Honourable Chief Minister, Cabinet Minister for Environment, Chief Secretary and Member Secretary, MPCB launched the website on World Environment Day





### Benefits of the program

- Encouraging regulators to use the data at their disposal in innovative ways to **change industry behavior**
- Industries can use their ratings to add to their ecosustainability profile, which can boost firm reputation
- **Creates competition** among industries on environmental performance
- Industries that receive good ratings may encourage other industries and share best practices for pollution abatement

### Expansion of program

- The pilot program was conducted with very few industries. MPCB looks forward to including more industries into the program as more samples are taken
- The number of industries on the website is being increased to **180** from the initial 79 in March.
- The MPCB plans to include a total of **900** industries in the star-rating programme.

### Expansion of program

- **Improve public awareness** of the program so that citizens are made aware of the air quality in their area
- Including data from **CEMS**, ambient air monitors.
- Including Water Pollution in the star rating programme by also rating industries based on water pollution.

### **Outreach Activities**

- Steps are being taken *improve public awareness*  of the program so that citizens are made aware of the air quality in their area.
- Outreach events are being organized to see engage the public.



## चंद्रपुरातील प्रदूषण दूर होणार

र्षमर जागृती : विदेशातील संघटनांचा पुढाकार



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### **Outreach Activities**



Outreach event in a school in Nagpur

## Upgradation of the website

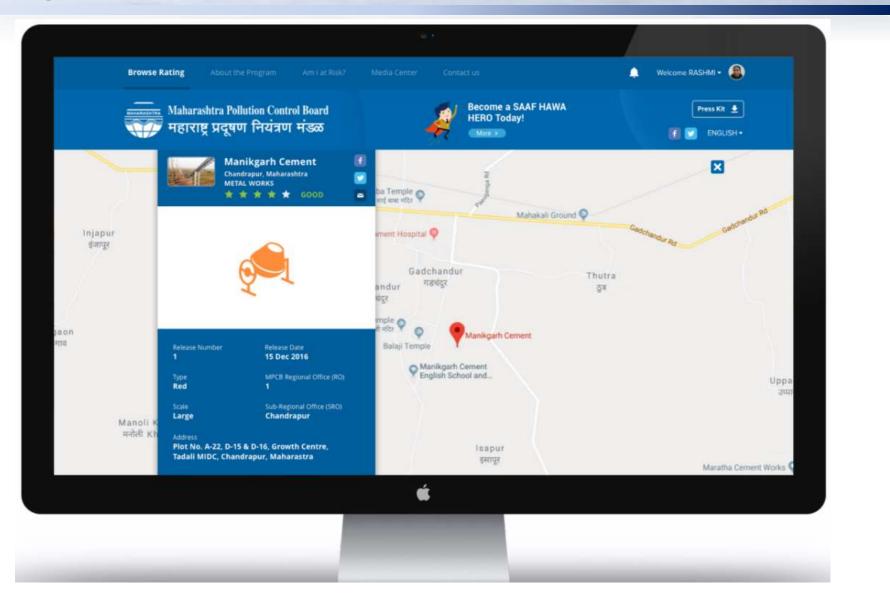
- The website is going through a major revamp.
- A number of features are being added to make the website more interactive.
- Users will be able to upload pictures and give suggestions on the website



### Upgradation of the website

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### Upgradation of the website



22/02/2018

### Media Coverage

**ECONOMIC TIMES -** Maharashtra starts industry rating to check emissions

### **BUSINESS STANDARD-**

Maharashtra starts industry rating to check emissions

### **INDIA CLIMATE DIALOGUE -**

What are you breathing today in Maharashtra?

### **HINDUSTAN TIMES -**

Study identifies 23 most polluting industries in Maharashtra

**BLOOMBERG**: Indian State Introduces First Emissions Rating System for Factories

INDIA SPEND – Star Power: Maharashtra Starts Rating Industries by Emissions

### **Other MPCB initiatives**

**State Environment Care Centre** inaugurated on 20 April 2016 by Honourable Chief Minister for real time monitoring:

- Ambient air data across Maharashtra
- CEMS devices installed in industries
- Water effluent data from CETP and industries



### Presentation at NITI Aayog National Conference on Air and Water Pollution





### Star Rating Conference at Mumbai with Stake holders





The MPCB launched the 'Clean Air Maharashtra Resolve 2022' in September to reduce air pollution through various pollution control measures

• The MPCB will also have a star rating for the ambient air quality in 17 cities of Maharashtra.

## Thank you

For more information, contact:

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Supported by Chairman MPCB, Shri Milind Mhaiskar(IAS), Member Secretary MPCB, Dr. P. Anbalagan (IAS) and Scientific Advisor Dr. S.C. Kollur



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