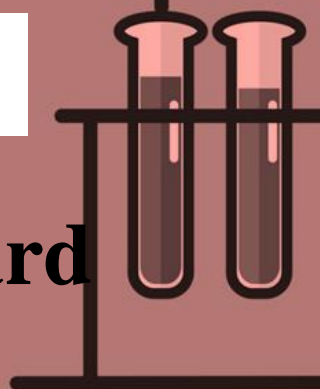
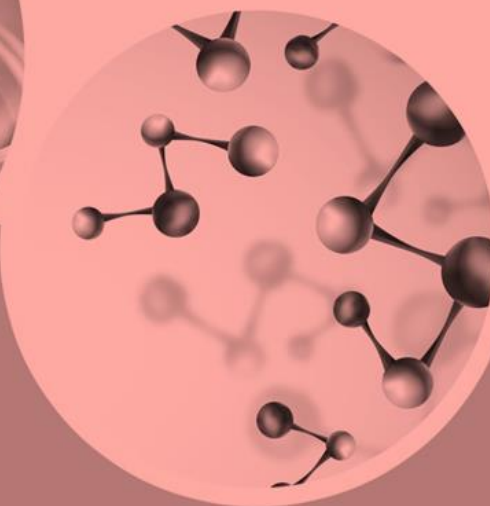


# Air Pollution Emergency Response Plan



**ANGUL**

**State Pollution Control Board  
Odisha**



**August 2020**

# **Air Pollution Emergency Response Plan (APERP)**

**ANGUL**



**STATE POLLUTION CONTROL BOARD, ODISHA**

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## **FOREWORD**

Ministry of Environment, Forest & Climate Change, Govt. of India has identified 122 nonattainment cities based on the ambient air quality. In these cities, air quality remains persistently above the National Ambient Air Quality Standard. In Odisha, there are seven such non-attainment cities, such as Angul, Bhubaneswar, Balasore, Cuttack, Kalinga Nagar, Rourkela and Talcher. In order to improve the air quality in these cities the State has taken up several actions. Air Pollution Emergency Response Plan (APERP) is one of these major actions taken.

The objective of Air Pollution Emergency Response Plan (APERP) is to prevent air pollution from getting worse when adverse weather conditions result in sudden increase in air pollution level. It is comprised of temporary measures to be taken and is implemented according to the severity of the air pollution levels. Once the air pollution levels come down and stabilize, measures imposed are withdrawn.

This response plan is being prepared for sensitizing all the stakeholder departments who can use it for decision making at the adverse air pollution situation. It is expected that all the implementing departments shall follow the plan in case of extreme air pollution in any of the non-attainment cities. The efforts of the Member Secretary, SPCB and Engineers and Scientists of SPCB in bringing out this Emergency Response Plan is praiseworthy.

**(Asit Tripathy)**

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## 1. Background

The air qualities in cities are influenced by regional-level activities and meteorological conditions. During certain period in a year, due to high intensity activities and adverse metrological conditions, the air quality deteriorates to such an extreme level that it poses significant health risk. Particularly the elderly people, sick persons, women and children are worst affected.

Air quality is measured through several parameters. In order to present the air quality in a comprehensive and simple manner, the Central pollution Control Board (CPCB) has developed an Air Quality Index (AQI) that is used across the country. The AQI classifies the air quality in a scale ranging from ‘*Good*’ to ‘*Severe*’ following a protocol that uses PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub> and NO<sub>x</sub> as the input air quality parameters.



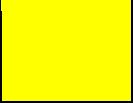

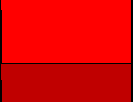

Due to intense urban activities, air qualities in urban areas are observed to be falling below ‘satisfactory’ quality in unfavourable meteorological condition, particularly during winters at a greater frequency. Therefore, an appropriate intervention mechanism has become essential to put a check on further deterioration and to restore air quality including precautionary measure to minimize health risk.

Management of air quality involves multiple agencies like, State Pollution Control Board, Forest & Environment Department, District Administration, Urban Local Bodies, Traffic Police, Transport Department and Education Department etc. This document outlines the actions to be taken by different agencies and departments, in case an emergency situation arises in terms of air quality in Bhubaneswar City to bring back the air quality to an acceptable level.

## 2. Air Quality Index

Air Quality Index (AQI) is a key tool to measure the air quality. The AQI is used to provide information about the city air quality in a simple manner. The expression of AQI is reflective of possible health effects which may cause over an exposure of a few hours or days to such unhealthy air. Higher the AQI value, the greater is the level of air pollution and the greater the health concern. The classification of air quality in terms of AQI and corresponding health effect are presented in **Table – 1**.

**Table 1: Air Quality Index and Health Effect**

| Sl. No. | AQI     | Class        | Colour Coding   | Health Impact   |
|---------|---------|--------------|---|---|
| 1       | 0-50    | Good         |  | Minimal impact  |
| 2       | 51-100  | Satisfactory |  | Minor breathing discomfort to sensitive people                            |
| 3       | 101-200 | Moderate     |  | Breathing discomfort to the people with lungs, asthma and heart diseases  |
| 4       | 201-300 | Poor         |  | Breathing discomfort to most people on prolonged exposure                 |
| 5       | 301-400 | Very Poor    |  | Respiratory illness on prolonged exposure                                 |
| 6       | 401-500 | Severe       |  | Affects healthy people and seriously impacts those with existing diseases |

### **3. Air Pollution Emergency Response Plan (APERP)**

The proposed Air Pollution Emergency Response Plan (APERP) comprises of a set of measures to be implemented in form of a graded response mechanism with greater vigour and stringency to prevent and avoid occurrence of high level of air pollution in cities. This is linked to the national air quality index that categorises daily air quality as *good, satisfactory, moderate, poor, very poor, severe* and *emergency*. All actions suggested for each category are cumulative and add up to the level of emergency as air quality worsens.

The proposed emergency measures, approach for each pollution source according to the Air Quality Index (AQI) categories includes appropriate measures for different levels of pollution in terms of PM<sub>10</sub> and PM<sub>2.5</sub>. While the comprehensive clean air action plan must be implemented round the year, the APERP measures are meant to be temporary but on emergency basis and are to be implemented based on the severity of the air pollution levels. Once the pollution levels come down and stabilized, the enforcement measures are withdrawn. The objective of the APERP is to prevent pollution from getting worse when adverse weather conditions lead to a spike in pollution.

For APERP implementation, a scientific Task Force under OSPCB, will appraise the High-powered committee in the Forest and Environment Department on pollution levels and its forecasting on daily basis, based on monitoring data and advice on measures to be enforced. Accordingly, the High-powered Committee may issue directions / advisory to the concerned authorities to implement the pre-defined actions. Each implementing department will appoint a nodal officer to facilitate implementation. The action notified for *moderate* and *poor* which are largely about stringent enforcement actions in different sectors will become default action for continuous implementation throughout the year. Additional measures meant for *very poor* and *severe* may be notified, since such situation is created especially during adverse meteorological conditions.

This system have input of daily air quality data into the SPCB website and public dissemination system on air quality and health alert through electronic media or social networking. The measures can be customized based on the special needs and the unique pollution profile of the city.

| <u>Severe + or Emergency</u><br>When PM <sub>2.5</sub> levels cross 300 microgram per cum or PM <sub>10</sub> levels cross 500 microgram per cum (or 5 times above the standard) or persist for 48 hrs or more.  |  |
|--|--|
| Action to be taken   | Agency responsible   |
| Stop entry of diesel HMV / LMV traffic into city (except essential commodities)  | <ul style="list-style-type: none"> <li>• Traffic Police</li> <li>• Angul Municipality</li> </ul>                         |
| Stop construction activities   | <ul style="list-style-type: none"> <li>• State Pollution Control Board (SPCB)</li> <li>• Angul Municipality</li> </ul>   |
| Introduce odd and even scheme for private vehicles based on license plate numbers Or introduce low emissions zones in the city to stop entry of polluting vehicles (old and ageing and polluting diesel vehicles etc). For this purpose introduce sticker system as per MORTH guidelines to indicate fuel and date of manufacture of vehicles. | <ul style="list-style-type: none"> <li>• Transport Department</li> <li>• Traffic Police</li> </ul>                       |
| State Pollution Control Board Task Force to  | <ul style="list-style-type: none"> <li>• Education Department</li> <li>• State Pollution Control Board (SPCB)</li> </ul> |



|   |  |
|---|--|
| take decision on any additional steps including shutting of schools   |  |
| <b><u>Severe</u></b>  |  |
| <b>When PM<sub>2.5</sub> levels are above 250 microgram per cum or PM<sub>10</sub> levels are above 430 microgram per cum</b>             |  |
| <b>Action to be taken</b>   | <b>Agency responsible</b>  |
| Close brick kilns, Hot Mix plants, Stone Crushers and other highly polluting units / activities or as applicable locally                  | <ul style="list-style-type: none"> <li>• Forest &amp; Environment Department</li> <li>• State Pollution Control Board (SPCB)</li> <li>• District Collector, Angul</li> <li>• Police</li> </ul> |
| Shut down / minimize operation of polluting coal based power plant in neighbouring area.  | <ul style="list-style-type: none"> <li>• State Pollution Control Board (SPCB)</li> <li>• District Collector, Angul</li> </ul>  |
| Intensify public transport services. Introduce differential rates to encourage off-peak travel.   | <ul style="list-style-type: none"> <li>• Transport Department</li> <li>• State Transport Corporations</li> </ul>   |
| Increase frequency of mechanized cleaning of road and sprinkling of water on roads. Identify road stretches with high dust generation.    | <ul style="list-style-type: none"> <li>• All road owning agencies including Angul Municipality, Public Works Department and National Highway Authority of India</li> </ul>                     |
| Restrict movement of trucks inside the coal field mine areas  | <ul style="list-style-type: none"> <li>• State pollution control Board (SPCB)</li> <li>• Department of Steel and mines, Govt of Odisha</li> </ul>  |
| Regulate Coal transport by road.  | <ul style="list-style-type: none"> <li>• Department of Steel and Mines, Govt of Odisha</li> <li>• Transport Department</li> <li>• District Collector, Angul</li> </ul>                         |
| <b><u>Very Poor</u></b>   |  |
| <b>When PM<sub>2.5</sub> levels are between 121-250 microgram per cum or PM<sub>10</sub> levels are between 351-430 microgram per cum</b> |  |
| <b>Action to be taken</b>   | <b>Agency responsible</b>  |
| Stop use of diesel generator sets   | <ul style="list-style-type: none"> <li>• State Pollution Control Board (SPCB)</li> </ul>   |
| Enhance parking fee by 3-4 times  | <ul style="list-style-type: none"> <li>• Angul Municipality</li> </ul>   |
| Augment public transport services by increasing   | <ul style="list-style-type: none"> <li>• Department of Transport</li> </ul>  |



|   |   |
|---|---|
| frequency   | <ul style="list-style-type: none"> <li>State Transport Commissioner</li> </ul>  |
| Stop use of coal/firewood/briquettes in hotels and open eateries  | <ul style="list-style-type: none"> <li>Angul Municipality</li> </ul>  |
| Residential societies and individual house owners to provide electric heaters during winter to security staff to avoid open burning   | <ul style="list-style-type: none"> <li>Angul Municipality</li> <li>Resident Welfare Associations</li> </ul>               |
| Alert in newspapers/TV to advice people with respiratory and cardiac patients to avoid polluted areas and restrict outdoor movement.  | <ul style="list-style-type: none"> <li>State Pollution Control Board (SPCB)</li> </ul>                                    |
| <p><b><u>Moderate to poor</u></b></p> <p><b>Poor - When PM<sub>2.5</sub> levels are between 91-120 microgram per cum or PM<sub>10</sub> levels are between 251-350 microgram per cum; Moderate - When PM<sub>2.5</sub> is between 61-90 microgram per cum or PM<sub>10</sub> is between 101-250 microgram per cum</b></p> |   |
| <b>Action to be taken</b>   | <b>Agency responsible</b>   |
| Stringently enforce/stop garbage burning in landfills and other places and impose heavy fines on person responsible   | <ul style="list-style-type: none"> <li>Angul Municipality</li> </ul>  |
| Close/stringently enforce all pollution control regulations in brick kilns and industries   | <ul style="list-style-type: none"> <li>State Pollution Control Board (SPCB)</li> <li>District Collector, Angul</li> </ul> |
| Stringently enforce pollution control in thermal power plants through Pollution Control Board monitoring  | <ul style="list-style-type: none"> <li>State Pollution Control Board (SPCB)</li> </ul>                                    |
| Do periodic mechanized sweeping on roads particularly in roads with heavy traffic and water sprinkling every two days   | <ul style="list-style-type: none"> <li>Angul Municipality</li> <li>Traffic Police</li> <li>PWD</li> </ul>                 |
| Strict vigilance and no tolerance for visible emissions – stop plying of visibly polluting vehicles by impounding or heavy fine   | <ul style="list-style-type: none"> <li>Department of Transport</li> <li>Traffic Police</li> </ul>                         |
| Stringently enforce rules for dust control in construction activities and close non-compliant sites   | <ul style="list-style-type: none"> <li>District Collector, Angul</li> <li>Police</li> </ul>                               |
| Deploy traffic police for smooth traffic flow at identified vulnerable areas  | <ul style="list-style-type: none"> <li>Traffic Police</li> </ul>  |
| Divert non-destined truck traffic   | <ul style="list-style-type: none"> <li>Angul Municipality</li> <li>Traffic Police</li> </ul>                              |

|  |  |
|--|--|
| Strictly enforce Supreme Court orders on firecrackers  | <ul style="list-style-type: none"> <li>• State Pollution Control Board (SPCB)</li> <li>• District Collector, Angulin consultation with Chief Controller of Explosives, Petroleum and Explosive Safety Organization (PESO)</li> <li>• Police</li> </ul> |
| Ensure fly ash ponds are watered every alternate day during summer months (March-May)  | <ul style="list-style-type: none"> <li>• State Pollution Control Board (SPCB)</li> <li>• District Collector, Angul</li> </ul>  |
| Information dissemination, social media, mobile Apps should be used to inform people about the pollution levels, contact details of control room, enable them to report polluting activities/sources to the concerned authorities, and actions that will be taken by government based on the level of pollution. | <ul style="list-style-type: none"> <li>• State Pollution Control Board (SPCB)</li> <li>• District Collector, Angul</li> <li>• I &amp; PR Department</li> </ul>   |

#### 4. Public Action in Emergency

While the National Air Quality Index (AQI) and advisory of the taskforce will inform people about the risks of exposure, people are also expected to take precautionary measures to protect themselves. Suggested actions by public are listed below:

| Level according to AQI            | Action   |
|-----------------------------------|--|
| <b>Severe, Very poor and Poor</b> | Those suffering from heart diseases, asthma, and other respiratory disease may consider avoiding undue and prolonged exposure                |
|                                   | Schools to suspend all outdoor activities and sport events   |
|                                   | Report visible emissions from vehicles, industries, power plants, garbage burning, and other non-compliances to the respective control rooms |
|                                   | Do not use diesel and kerosene generators  |
|                                   | Maintain vehicles properly (PUC certificate, replace car air filter, maintain right tyre pressure)   |
|                                   | Minimize unnecessary travel, use public transport & avoid using private vehicles   |