

# DUST POLLUTION

PROTECT  
YOUR  
CITY

Department of Environment  
Government of NCT of Delhi  
[www.environment.delhigovt.nic.in](http://www.environment.delhigovt.nic.in)

## 1. What is Dust:

Dust in general, is fine particles of matter in atmosphere which come from various source such as soil, construction and demolition activities, vehicle movement etc.

Dust is characterized by a concentration, size and properties of dispersed particles. Dust emissions in the form of particulate matter arising from Construction and Demolition activities are an environmental nuisance both within the site and beyond the plant site / boundary. Dusts from various Construction and Demolition activities release wide range of particle sizes and material types and can cause both serious health problems ranging from eye irritation, nose, mouth and respiratory system problem.



## 2. Prescribed Standards for Particulate Matter:

| Pollutant  | Time Weighted Average | Concentration in Ambient Air                |  |
|--|-----------------------|---|--|
|  |                       | Industrial, Residential, Rural & Other Area | Ecologically Sensitive Area (notified by Central Government) |
| Particulate Matter (size less than 10 $\mu\text{m}$ ) or $\text{PM}_{10}$ $\mu\text{g}/\text{m}^3$   | Annual                | 60  | 60   |
|  | 24 Hours              | 100   | 100  |
| Particulate Matter (size less than 2.5 $\mu\text{m}$ ) or $\text{PM}_{2.5}$ $\mu\text{g}/\text{m}^3$ | Annual                | 40  | 40   |
|  | 24 Hours              | 60  | 60   |

Source: NAAQS notification dated 18.11.2009.



### 3. Sources of Dust:

- Demolition of existing and old structures;
- Renovation of existing buildings (residential or commercial);
- Construction of new buildings (residential or commercial or hotel or school etc.);
- Excavation/ reconstruction of asphalt/ concrete roads;
- Construction of new fly over bridges/ under bridges/ sub-ways etc.;
- Renovation/ Installation of new water/ telephone/ internet/ sewer pipe lines etc.
- Silt collection and disposal system.
- Particles from wear of brakes, tyres and clutches, road surface abrasion and re-suspension of accumulated dust particles on the road surface and kerbside in the wake of passing traffic.



### 4. Harmful Health Effects of Dust Pollution:

- Dust induced eye irritation, coughing, sneezing etc.
- Allergy
- Decreased lung function
- Increased episodes of asthma attacks etc.
- Children and Old age people are most affected.



### 5. Existing Regulation/Acts/Rules related to Dust Pollution Control:

- Environment (Protection) Act, 1986 and Rules/ Notification there under
- Air (Prevention and Control of Pollution) Act, 1981
- Orders of Hon'ble National Green Tribunal (NGT) in OA 21/2014 titled Vardhman Kaushik Vs UOI and Ors and other orders of Hon'ble courts
- Fine / environment compensation as per order of Hon'ble NGT

#### a. On spot fine for violations at construction site:

- i. If the offending construction in plot upto 100 sq. mt. the environmental compensation would be Rs. 10,000/-
- ii. If the offending construction in more than 100 sq. mt. but upto 200 sq. mt., the environmental compensation would be Rs. 20,000/-
- iii. If the offending construction is in a plot more than 200 sq. mt. But less than 500 sq. Mt. the environmental compensation would be Rs. 30,000/-
- iv. If the offending construction is in a plot area of more than 500 sq. mt. the environmental compensation would be Rs. 50,000/-
- v. Wherever the constructed area is more than 20,000 sq. mt. the environmental compensation would be Rs. 5 Lakhs.

#### b. Fine of Rs. 5,000/- on dumping of construction and other waste material in public places.

#### c. Fine of Rs. 5,000/- for each violation during carriage and transportation of construction material, debris through trucks or other vehicles.

#### d. Ban on dumping of construction material into the Yamuna with imposition of a fine of Rs 50,000/- on the violators.

(Refer website: <http://www.greentribunal.gov.in/> )



## 6. Some Mitigation Measures to control Dust Pollution:

### a) Dust pollution Control measures at construction site- Storage of construction material and C&D wastes:

- Store the sand and other fine aggregates in demarcated areas with a covering.
- Store the loose cement in silos and other fine material in sealed bags.
- Raise barricade along the perimeter and Mount dust barrier sheet extarpaulin / plastic on scaffolding around the construction / demolition building – particularly side facing residential areas.
- Locations of storage / dumping wastes within site to be such to ensure minimum dust dispersal during handling (loading / unloading).
- Ensure no storing / dumping C&D wastes / construction material on metalled (pucca) roads.
- Cordon off sites of demolition activities and take adequate measures to reduce dispersal of dust beyond site limits.
- Sprinkle water / fine spray from nozzles to suppress dust re-suspension at site.
- Simultaneously develop of green buffer at construction site (preferably shrubs & trees that have low uptake of water).



### b) Dust Pollution Control during transportation of Construction material and C&D wastes:

- Cover the C&D material by a sheet made of either jute, tarpaulin, plastic or any other effective material.
- Do not overload Trucks / lorries.
- Ensure minimization of dispersal of dust borne particles during unloading activities of construction material at site / off site by using water sprinklers or covering by a sheet made of either jute, tarpaulin, plastic or any other effective material.
- Roads surfaces to be well maintained to avoid jerk to transport vehicles.

- Bound or enclose the equipment / machineries include transporting (conveyor belt) crushing / hammering etc and use of water sprinklers to suppress dust emissions.
- Maintain the transport vehicles (PUC compliance).
- Damp the routes of transport vehicles within construction site by water (preferably treated waste water) sprinklers.
- Provided necessary safety equipment such as face masks, gloves etc to workers.

(Source: Central Pollution Control Board <https://goo.gl/bKqzo5> )



## 7. Whom to Approach

- All Municipal Corporations (East Delhi Municipal Corporation, South Delhi Municipal Corporation, and North Delhi Municipal Corporation), New Delhi Municipal Council, Delhi Cantonment Board, Delhi Development Authority, Public Works Department,
- SDM and Tehsildars of all the Districts (Revenue Department)
- Delhi Pollution Control Committee
- Delhi Traffic Police

## 8. What a Citizen can do on finding violation:

To receive the public complaints in order to control dust pollution, Delhi Pollution Control Committee (DPCC) has opened whatsapp account with mobile number "9717593501" and "9717593501".



**Your efforts and alertness can make a lot of difference towards controlling Dust Pollution.**

**Department of Environment**

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## DO's

Always maintain your motor vehicles, machineries etc. and its exhaust silencer in proper condition.

Ensure that your Diesel Generator Set is provided with acoustic enclosure.

Keep the volume of the loudspeaker or sound amplification system low so as not to annoy your neighbours.

Say No to Crackers.

Ensure that construction activities take place only in covered/barricaded areas.

Plant more and more trees to act as noise barrier.

## Don't's

- Avoid using horns except at emergencies.
- Avoid use of multi toned/air horns in your vehicle.
- Avoid use of loudspeaker in the open.
- Do not use loudspeaker or any sound amplification system between 10.00 P.M and 6.00 A.M., except in closed premises.
- Do not make your neighbour a captive listener to your music system.
- Do not play fire-crackers between 10.00 P.M. to 6.00 A.M.
- Don't use horn in the silence zones.

**Whom to Approach/Who can take action in case of violations of Noise rules.**

- All Deputy Commissioners, Office of Divisional Commissioner, GNCTD
- All Sub Divisional Magistrates, Office of Divisional Commissioner, GNCTD
- Asstt. Commissioners of Police (Control Room & Traffic)
- All Sub Divisional Police Officers including Railways & Airports
- Chairman and Member Secretary of Delhi Pollution Control Committee, Delhi

**You can instantly register your complaint/grievance regarding Noise Pollution:**

1. By calling Delhi Police helpline No. 155271
2. By visiting website [ngms.delhi.gov.in](http://ngms.delhi.gov.in)

**DEPARTMENT OF ENVIRONMENT**

**Government of NCT of Delhi**

**6th Level, C-Wing, Delhi Secretariat, Delhi - 110002**

## NOISE POLLUTION-MINIMISE AND CONTROL FOR OUR OWN HEALTH

# NOISE POLLUTION

Department of Environment  
Government of NCT of Delhi

Noise is generally an unwanted sound which produces unpleasant effects and discomfort on the ears.

LET'S DECLARE FREEDOM FROM HONKING

NO HONKING DRIVE



# Noise Pollution and it's Sources

## Acts Related to Noise Pollution Control

- Air (Pollution and Prevention) Act, 1981
- Environment (Protection) Act, 1986
- Noise Pollution (Regulation and Control) Rules, 2000

## Ambient Air Quality Standard in Respect of Noise

| Category             | Day Time | Night Time |
|----------------------|----------|------------|
| Industrial           | 75       | 70         |
| Commercial           | 65       | 55         |
| Residential          | 55       | 45         |
| Silence              | 50       | 40         |
| All Values dB(A) Leq |          |            |

Industrial Activities

Transportation systems

Loud speakers and Public address systems

Construction Activities

## Notified areas as Silence Areas/Zones:



An area of 100 meters around all Educational Institutions having more than one thousand students.



An area of 100 meters around all Courts.



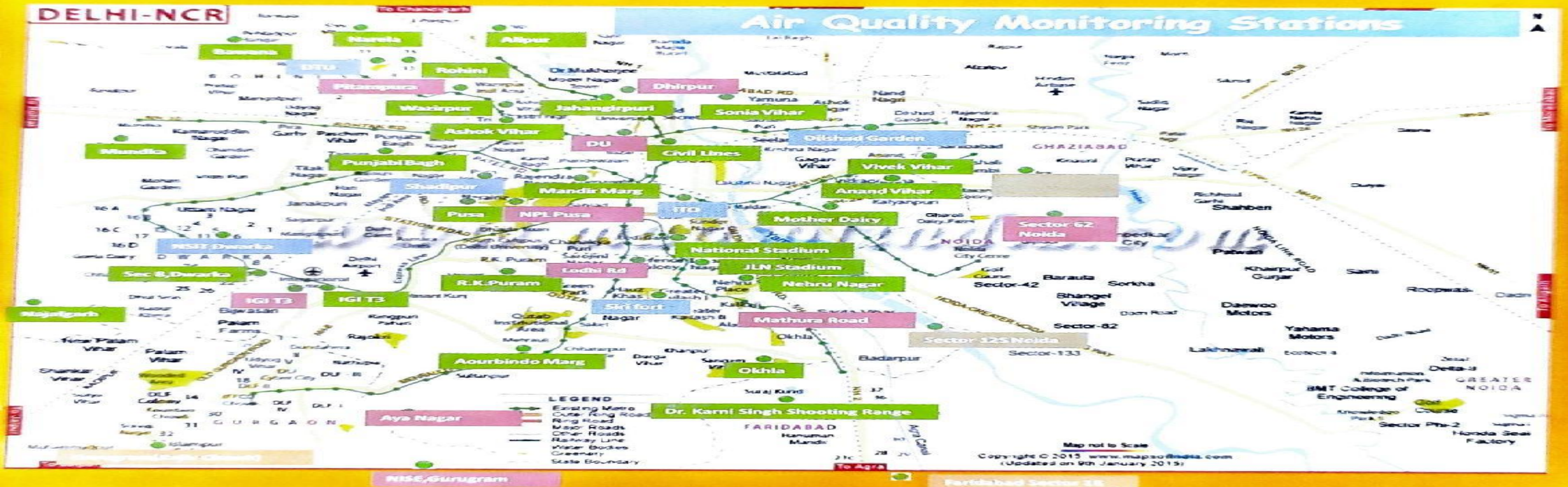
An area of 100 meters around all Government Office Complexes.



An area of 100 meters around all 100 bedded and above hospitals.



# GRADED RESPONSE ACTION PLAN (GRAP) TO CONTROL AIR POLLUTION



**Department of Environment**

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## **SEVERE + OR EMERGENCY**

(Ambient  $\text{PM}_{2.5}$  or  $\text{PM}_{10}$  Concentration value of  $300\mu\text{g}/\text{m}^3$  or  $500\mu\text{g}/\text{m}^3$  respectively persist for 48 hours or more)

**STOP ENTRY OF  
TRUCK TRAFFIC  
INTO DELHI  
(EXCEPT ESSENTIAL  
COMMODITY )**



**STOP  
CONSTRUCTION  
ACTIVITIES**



**INTRODUCE  
ODD AND EVEN  
SCHEMES FOR  
PRIVATE VEHICLES**



**TASK FORCE TO TAKE DECISION ON ADDITIONAL STEPS INCLUDING SHUTTING OF SCHOOLS**



## SEVERE

(Ambient  $PM_{2.5}$  or  $PM_{10}$  Concentration value is more than  $250\mu g/m^3$  or  $430\mu g/m^3$  respectively)



**SHUT DOWN BADARPUR  
POWER PLANT**



**INTENSIFY PUBLIC  
TRANSPORT SERVICES**



**INCREASE FREQUENCY OF  
MECHANIZED CLEANING OF ROAD  
AND SPRINKLING  
OF WATER ON ROADS**



## **VERY POOR**

(Ambient  $PM_{2.5}$  or  $PM_{10}$  Concentration value is between  $121-250\mu g/m^3$  or  $351-430\mu g/m^3$  respectively)



**STOP USE OF DIESEL  
GENERATOR SETS**

**ENHANCE PARKING FEE  
BY 3-4 TIMES**



**INCREASE BUS AND  
METRO SERVICES**

**STOP USE OF COAL/FIREWOOD**



**RWA AND HOUSE OWNERS TO PROVIDE  
ELECTRIC HEATERS TO SECURITY GUARDS TO  
AVOID OPEN BURNING**



**ALERT BY ADVERTISEMENT TO  
ADVISE PEOPLE TO AVOID POLLUTED AREAS**





## MODERATE TO POOR

(Ambient  $PM_{2.5}$  or  $PM_{10}$  concentration value is between  $61-120\mu g/m^3$  or  $101-350\mu g/m^3$  respectively)



**Enforce/Stop garbage burning**

**Enforce all pollution control regulations in industries**



**Mechanical Sweeping and water sprinkling on unpaved roads on every two days**

**Heavy fine for visible emitting vehicles/ Enforcement of PUC norms.**



**Enforce rules for dust control in construction activities**

**Deploy traffic police for smooth traffic flow at vulnerable areas**



**Strict enforcement of diversion of non destined trucks and allow trucks registered after 2005 only to enter into delhi**

**Strictly enforce Supreme Court ban on firecrackers**



**Ensure fly ash ponds are watered**

**Inform people by social media**





## Do's

- ☞ For shorter distances, take a walk.
- ☞ Plan your shopping needs in advance to avoid repeated marketing using transportation.
- ☞ Carpool. Two-or four- can ride as cheaply as one.
- ☞ Get a valid Pollution Under Control Certificate from authorized testing center.
- ☞ Use CNG/Electric based Transportation.
- ☞ Switch off vehicles at Red Light in busy Signals.
- ☞ Carry out Plantation in the neighboring areas.
- ☞ Ensure that construction activities take place only in covered/barricaded areas.
- ☞ Take Piped Gas connection instead of LPG.

## Don'ts

- ☞ Do Not burn Garbage/Plastic/Biomass.
- ☞ Don't use extensively your private vehicles, try to use public transportation whenever possible.
- ☞ Do Not burst Firecrackers.
- ☞ Avoid morning walk and outdoor exercises during severe and very poor Air Quality Index.

### Department of Environment

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## Background Note on Green Crackers

### I. Directions of Hon'ble Supreme Court of India in writ petition (Civil) No. 728/2015

Hon'ble Supreme Court of India in writ petition (Civil) No. 728/2015 in its order dated 23 October 2018 directed that the crackers with reduced emission (improved crackers) and green crackers, only would be permitted to be manufactured and sold. The relevant directions are as reproduced below:

- I. Use of Reduced Emission firecrackers (Improved crackers) - (a) Avoidance of use of ash as desiccant or filler materials in crackers for reduction in particulate matter by 15-20%. These can be implemented subject to approval by PESO, and (b) usage of charcoal meeting specifications of explosives and pyrotechnics as prescribed by PESO.
- II. Use of Reduced Emission firecrackers (Green crackers: Safe water and air sprinklers (SWAS) - Low emission sound and light emitting functional crackers with PM reduction by 30-35% and significant reduction in NO<sub>x</sub> and SO<sub>2</sub> due to in-situ water generation as dust suppressant and low cost due to usage of low cost oxidants. These can be implemented subject to approval by PESO.

#### Point wise directions:

- The crackers with reduced emission (improved crackers) and green crackers, as mentioned in Suggestion Nos. II and III above only would be permitted to be manufactured and sold.
- As a consequence, production and sale of crackers other than those mentioned in Suggestion Nos. II and III is hereby banned.
- The manufacture, sale and use of joined firecrackers (series crackers or laris) is hereby banned as the same causes huge air, noise and solid waste problems.
- The sale shall only be through licensed traders and it shall be ensured that these licensed traders are selling those firecrackers which are permitted by this order.
- No e-commerce websites, including Flipkart, Amazon etc., shall accept any online orders and effect online sales. Any such e-commerce companies found selling crackers online will be hauled up for contempt of court and the Court may also pass, in that eventuality, orders of monetary penalties as well.
- Barium salts in the fireworks is also hereby banned.
- PESO is directed to review the chemical composition of fireworks, particularly reducing Aluminum content, and shall submit its report in respect thereof within a period of two weeks from today. For undertaking this exercise, PESO would also associate FRDC.
- Even those crackers which have already been produced and they do not fulfill the conditions mentioned in Suggestion Nos. II and III above will not be allowed to be sold in Delhi and NCR.

PESO will ensure fireworks with permitted chemicals only to be purchased/possessed/sold/used during Diwali and all other religious festivals of



- any religion whatsoever, and other occasions like marriages, etc. It shall test and check for the presence of banned chemicals like Lithium/Arsenic/ Antimony/Lead/Mercury.
- PESO will ensure suspension of the licenses of manufacturers of such fireworks items and appropriate disposal of such stock.
- PESO will ensure that only those crackers whose decibel (sound) level are within the limits are allowed in the market and will ensure to take action by suspending the licenses of the manufacturers on such violations and disposal of such lots. To add to it, as mentioned in the order dated September 12, 2017, the directions issued and restrictions imposed in the order passed by this Court on July 18, 2005 in Noise Pollution (V) shall continue to be in force.
- Direction Nos. 4 to 9 and 11 contained in the order dated September 12, 2017 shall continue to operate and are reiterated again.
- Extensive public awareness campaigns shall be taken up by the Central Government/State Governments/Schools/ Colleges informing the public about the harmful effects of firecrackers.
- On Diwali days or on any other festivals like GURPURAB etc., when such fireworks generally take place, it would strictly be from 8:00 p.m. till 10:00 p.m. only. On Christmas eve and New Year eve, when such fireworks start around midnight, i.e. 12:00 a.m., it would be from 11:55 p.m. till 12:30 a.m. only.
- The Union of India, Government of NCT of Delhi and the State Governments of the NCR would permit community firecracking only (for Diwali and other festivals etc. as mentioned above), wherever it can be done. For this purpose, particular area/fields would be pre-identified and predesignated by the concerned authorities. This exercise shall be completed within a period of one week from today so that the public at large is informed about the designated places one week before Diwali. The areas designated now for the purpose of Diwali shall be valid for community firecracking on other occasions/festivals as well, as mentioned above. Even for marriages and other occasions, sale of improved crackers and green crackers is only permitted.
- Insofar as other States are concerned, an endeavour shall be made by them also to explore the feasibility of community firecracking. However, it is made clear that Direction No. (xiv) pertaining to the duration within which fireworks can take place on all such occasions would be applicable throughout India. Similarly, Direction No. (xiii) for extensive public awareness campaigns is also a pan India direction.
- All the official respondents, and particularly the Police, shall ensure that fireworks take place only during the designated time and at designated places, as mentioned above. They shall also ensure that there is no sale of banned firecrackers. In case any violation is found, the Station House Officer (SHO) of the concerned Police Station of the area shall be held personally liable for such violation and this would amount to committing contempt of the Court, for which such SHO(s) would be proceeded against.

CPCB and respective State Pollution Control Boards/ Pollution Control Committees (SPCBs/PCCs) of the States and Union Territories shall carry out short-term monitoring in their cities for 14 days (commencing from 7 days prior to Diwali and ending 7 days after Diwali) for the parameters namely, Aluminum



- Barium, Iron apart from the regulatory parameters against the short-term Ambient Air Quality Criteria Values (AAQCVs) proposed by CPCB with regard to bursting of firecrackers. This will help in generation of data on pollution caused by the bursting of firecrackers and would be helpful for regulation and control quantity of Aluminum, Barium and Iron used in the manufacture of firecrackers.

**II. Directions no. 04 to 09 and 11 contained in the order dated 12.09.2017:**

4. The concerned police authorities and the District Magistrates will ensure that fireworks are not burst in silence zones that is, an area at least 100 meters away from hospitals, nursing homes, primary and district health-care centres, educational institutions, courts, religious places or any other area that may be declared as a silence zone by the concerned authorities.
5. The Delhi Police is directed to reduce the grant of temporary licences by about 50% of the number of licences granted in 2016. The number of temporary licences should be capped at 500. Similarly, the States in the NCR are restrained from granting more than 50% of the number of temporary licences granted in 2016. The area of distribution of the temporary licences is entirely for the authorities to decide.
6. The Union of India will ensure strict compliance with the Notification GSR No. 64(E) dated 27th January, 1992 regarding the ban on import of fireworks. The Union of India is at liberty to update and revise this notification in view of the passage of time and further knowledge gained over the last 25 years and issue a fresh notification, if necessary.
7. The Department of Education of the Government of NCT of Delhi and the corresponding Department in other States in the NCR shall immediately formulate a plan of action, in not more than 15 days, to reach out to children in all the schools through the school staff, volunteers and NGOs to sensitize and educate school children on the health hazards and ill-effects of breathing polluted air, including air that is polluted due to fireworks. School children should be encouraged to reduce, if not eliminate, the bursting of fireworks as a part of any festivities.
8. The Government of NCT of Delhi and other States in the NCR may consider interacting with established medical institutions for issuing advisories cautioning people about the health hazards of bursting fireworks.
9. The interim direction issued by this Court on 31st July, 2017 prohibiting the use of compounds of antimony, lithium, mercury, arsenic and lead in the manufacture of fireworks is made absolute. In addition, the use of strontium chromate in the manufacture of fireworks is prohibited.
11. Since there are enough fireworks available for sale in Delhi and the NCR, the transport of fireworks into Delhi and the NCR from outside the region is prohibited and the concerned law enforcement authorities will ensure that there is no further entry of fireworks into Delhi and the NCR till further orders. In our opinion, even 50,00,000 kg of fireworks is far more than enough for Dussehra and Diwali in 2017. The permanent licensees are at liberty to exhaust their existing stock of fireworks in Delhi and the NCR and, if that is not possible, take measures to transport the stocks outside Delhi and the NCR.



## Do's and Don't's for firecrackers

### What You can Do as a Citizen:

- On Diwali days or on any other festivals like Gurgurab etc., when such fireworks generally take place, it should strictly be from 8:00 p.m. till 10:00 p.m. only. On Christmas eve and New Year eve, when such fireworks start around midnight, i.e. 12:00 a.m., it should be from 11:55 p.m. till 12:30 a.m. only.
- The crackers approved with reduced emission (improved crackers) and green crackers, will be permitted to be manufactured and sold.
- The manufacture, sale and use of joined firecrackers (series crackers or laris) is banned as the same causes huge air, noise and solid waste problems.
- The sale should only be through licensed traders and it should be ensured that these licensed traders are selling those firecrackers which are permitted by Hon'ble Supreme Court's order.
- No e-commerce websites, including Flipkart, Amazon etc., shall accept any online orders and effect online sales. Any such e-commerce companies found selling crackers online will be hauled up for contempt of court and the Court may also pass, in that eventuality, orders of monetary penalties as well.
- Use of Barium salts in the fireworks is also banned.
- PESO will ensure suspension of the licenses of manufacturers of such fireworks items and appropriate disposal of such stock and found presence of banned chemical for fireworks.
- Designated areas will be provided for community firecracking. The areas designated for the purpose of Diwali shall be valid for community firecracking on other occasions/festivals as well. Even for marriages and other occasions, sale of improved crackers and green crackers is only permitted.



- The concerned police authorities and the District Magistrates will ensure that fireworks are not burst in silence zones.
- Notified areas as Silence Areas/Zones:
  - An area of 100 meters around all Educational Institutions having more than one thousand students,
  - An area of 100 meters around all Courts,
  - An area of 100 meters around all Government Office Complexes,
  - An area of 100 meters around all 100 bedded and above hospitals
- Whom to Approach/Who can take action in case of violations of Noise rules:
  - All Deputy Commissioners, Office of Divisional Commissioner, GNCTD
  - All Sub Divisional Magistrates, Office of Divisional Commissioner, GNCTD
  - Asstt. Commissioners of Police (Control Room & Traffic).
  - All Sub Divisional Police Officers including Railways & Airports
  - Chairman and Member Secretary of Delhi Pollution Control Committee, Delhi

#### **Harmful effects of bursting of firecrackers:**

Health issues: throat, nose and eye-related problems, triggers problems such as asthma, coughing, bronchitis, and can aggravate problems associated with lung disease, and in extreme cases could cause nervous system breakdown and cognitive interference. firecrackers produce extremely high levels of personal exposure to  $PM_{10}$  and  $PM_{2.5}$  levels that are likely to have significant short-term and long-term adverse health effects

Environmental issues: releases harmful gases and causes air pollution, noise pollution by producing loud noises, global warming by releasing the greenhouse gas carbon dioxide in the atmosphere after burning.