



# Construction & Demolition Sites: Controlling Dust Emissions Sensitisation meeting by Hon'ble Minister Environment, GNCTD



# Like previous years, all agencies will implement GRAP in Delhi as per categories



#### Air quality category

#### **Moderate to Poor**

PM<sub>2.5</sub>: 61-120 PM<sub>10</sub>: 101-350

#### **Very Poor**

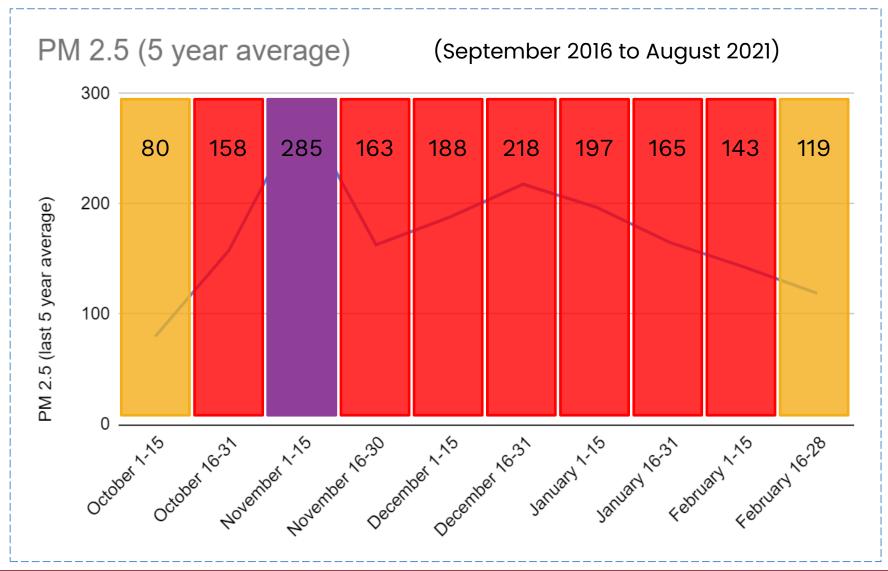
PM<sub>2.5</sub>: 121-250 PM<sub>10</sub>: 351-430

#### Severe

 $PM_{2.5} > 250$  $PM_{10} > 430$ 

#### Severe+

PM<sub>2.5</sub> >300 (48 hrs) PM<sub>10</sub> >500 (48 hrs)



If air quality is in a higher category than estimated, then actions to be taken as per higher category





# Main sources of air pollution







#### Measures for dust emission control





Demolition management



**Operations** 



Material handling



C&D Waste Management



**Material storage** 



Vehicle movement, routes & emission from vehicle



## Measures for demolition management



## 1 Debris during demolition



- Designing layout of site to minimize fugitive dust generation potential, including access roads, entrance and exits, storage piles, vehicle staging areas
- Site be screened with appropriate screens or sheet

Removal of materials from site



Materials should be removed from the site right after finishing the task. Prolonged storage of construction debris on site or exposure to wind should be avoided



#### Measures for demolition management



3

#### Before and during demolition



- Applying treated water to mitigate dust generation
  - Anti smog guns, water pills, water cannons, hose, fire hydrants, sprinklers
- Water/ chemical suppressant spraying should be carried out prior to and during demolition

4

# Crushing of material for reuse, transportation or disposal



Activities like crushing should be sited as far away as possible from sensitive receptors, eg crushing, screening



### Measures for material handling



Always keep the number of handling operations to a minimum by ensuring that dusty material isn't moved or handled unnecessarily

Keep material handling areas and vehicle staging areas clean and free from dust

Use of scaffolding sheets/ nets, wind fencing for dust control

Use of scaffolding sheets/ nets, wind fencing for dust control

Material needs to be removed from the site as soon as possible. Planned schedule of delivery of landscaping materials in order to minimize the storage time on site. Prolonged storage of construction and demolition debris on site or exposure to wind should be avoided

Use static sprinklers, hand held hoses and other watering methods, as necessary



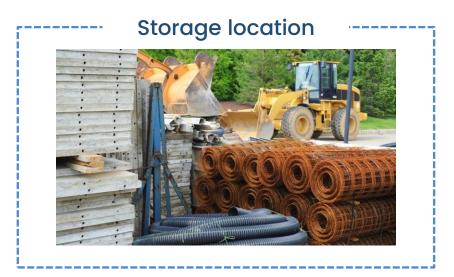
### Measures for material storage



#### **Debris & construction material**



- Store in covered space
- Reduce wind-blown dust generation by using scaffolding sheets/ nets, wind fencing for dust control
- Tarpaulin, plastic, agrished nets fences
   / screens



- Store materials or stockpiles away from the site boundary and residential, commercial, educational buildings and places of public access
- Proper shape storage piles so that they do not have steep sides or faces



## Measures for operations

















Cutting

Grinding

Drilling

Sawing

Trimming

Planning

Sanding

01

Pre-wash work surfaces; Screen off work areas; and sweeping away

02

Spraying water, preferably from a water efficient spray pump, over the material as it is being cut greatly reduces the amount of dust generated

03

Local exhaust ventilation should be used where possible

## Measures for C&D Waste Management



#### Storage



- All areas for storing C&D wastes / construction material to be demarcated and preferably barricaded particularly those materials that have potential to be dust borne
- Store any materials away from residential, commercial and educational spaces
- Water sprinkling / fine spray from nozzles to suppress dust re-suspension at site



Areas where loading / unloading (fugitive dust) activities to be demarcated and located in such a way that dust dispersal is minimized

# Deposition of construction waste



- Get the waste deposited at nearby C&D plant for processing
- Ensure that there is no littering or illegal dumping of waste.



# Measures for Vehicle movement, routes & emission from vehicle



#### Vehicle movement



- Ensure loading bay is covered
- Wash vehicle underbody and tyres before entering and leaving the site
- Plan movement of material in a way to minimize delay between delivery and use
- Ensure loading height is minimized by the use of chutes
- Road cleaning and water sprinkling should be carried out on a daily basis
- Ensure vehicle has Pollution Under Control certification



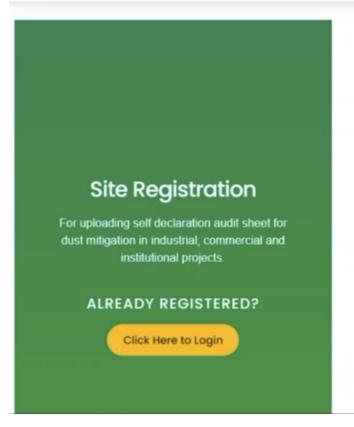
#### **C&D Site Self Audit Portal**





Self Declaration: Dust Control Audit (To be filled by all projects in which dust is generated)

- For all C&D sites > 500 Sq. m
- Created under the direction of Commision for Air Quality Management (CAQM)
- Project proponents
  have to register and
  submit self audit
  report of dust
  control measures to
  DPCC

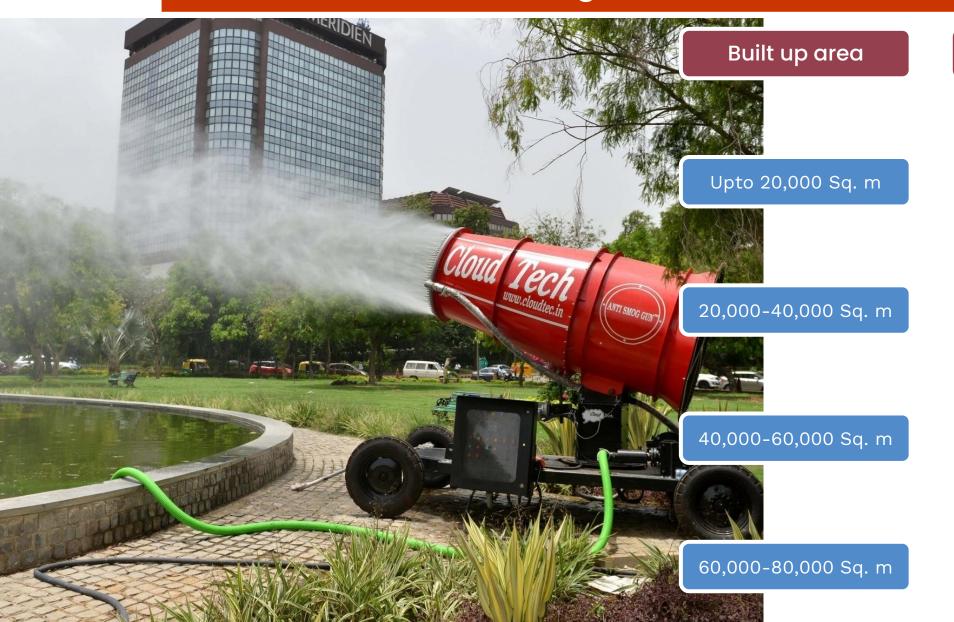


Project's Name *				
Address of Project Site				
Address 1 *		Address 2 *		
Pin Code * Latitude			Longitud	de *
Project Type *		Name of Project	t Propone	nt*
Select	~			
Office Address of Project Proponent				
Address 1 *		Address 2 *		Activate Windows Go to Settings to activate Window



## Anti Smog Gun Guidelines





Number of anti smog gun













02

06





Dust/wind breaking walls of appropriate height around the periphery of the construction site.



Tarpaulin or green-net on scaffolding around the area under-construction and the building.



All vehicles carrying construction material & construction debris should be fully covered & protected.



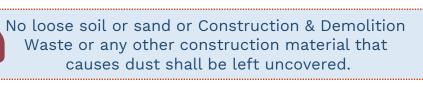
Installation of Anti Smog Gun(s) (for >20,000 sqmt built up area).



All vehicles including carrying construction material & construction debris of any kind should be cleaned & wheels washed.



All construction debris and construction material of any kind should be stored on the site and not dumped on public roads or pavements.







05

03

07



08











#### Delhi Pollution Control Committee Guidelines



No grinding and cutting of building materials in open area. Wet-jet should be used in grinding and stone cutting.



Roads leading to or at construction sites must be paved and blacktopped i.e. metallic roads (for >20,000 sqmt built up area).



Every worker working on construction site & involved in loading, unloading & carriage of construction material & construction debris should be provided with dust-mask to prevent inhalation of dust particle.



Unpaved surfaces and areas with loose soil should be adequately sprinkled with water to suppress dust.



Construction and demolition waste should be recycled on-site or transported to authorized recycling facility & due record of the same should be maintained.



Arrangement should be provided for medical help, investigation & treatment to workers involved in the construction of building & carry of construction material & debris relatable to dust emission.



Dust mitigation measures shall be displayed prominently at the construction site for easy public viewing.

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# Thanks