# Measures for Air Pollution Control from Industrial Activities

By

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Delhi Pollution Control Committee
(DPCC)

# Environmental / Pollution Control Laws being implemented by DPCC

**Acts**

**1**. The Water (Prevention and Control of Pollution) Act, 1974 and Rules made there under.

**2**. The Water (Prevention and Control of Pollution) Cess Act, 1977 and Rules made there under..

**3**. The Air (Prevention and Control of Pollution) Act, 1981 and Rules made there under.

**4**. The Environment (Protection) Act, 1986 and Rules made there under.
(This Act is umbrella Act for various Rules notified after 1986 ).

**Rules :**

**1.**The Manufacture , Storage & Import of Hazardous Chemicals Rules,1989.

**2**.The Bio-Medical Waste Management Rules,2016.

**3.**The Municipal Solid Waste (Management and Handling) Rules, 2000.

**4**.The Noise Pollution ( Regulation and Control ) Rules, 2000.

**5**.The Ozone Depleting Substances(Regulation & Control )Rules, 2000

**6**.The Batteries ( Management and Handling) Rules, 2001.

**7.**The Hazardous Wastes( Management, Handling and Transboundary Movement) Rules, 2008.

**8.**The E-Waste (Management and Handling) Rules, 2011 / E- Waste (Management) Rules, 2016 (applicable **w.e.f 01.10.2016**).

**9**.The Plastic Waste Management Rules, 2016.

**10.** Construction and Demolition Waste Management Rules, 2016.

# Salient Information

- Approved Industrial Areas - 28
- Redevelopment Areas - 22
- No. of Industries in Approved Industrial Areas - About 25000*
- Emission Control Systems(ECS) - 700 ( Appx )
- Thermal Power Plants - 5 [ 4 Gas based, 1 Coal based (BTPS)**]
- Waste to Energy Plants - 1 ( Operational at Okhla# )
  - 1 ( Under Trial Run at Gazipur )
  - 1 (Under construction at Bawana)
- Ambient Air Quality Monitoring Stations - 20 ( 6 are being maintained by DPCC)

*As per "Industrial Policy for Delhi 2010–2021" Report of Industries Deptt., GNCT D

- ** Only 2 Units of 210 MW each are operational.
- Stricter Standards in respect of Particulate Matter concentration in the emissions i.e. $\leq$ **50 mg/Nm3** has been prescribed by DPCC for BTPS.
- # Stricter Standards in respect of Particulate Matter Concentration in the emissions i.e. $\leq$ **30 mg/Nm3** has been prescribed by DPCC besides standards for Dioxin & Furans in case of Waste to Energy Plant.
- Indraprastha Power House (Coal Based ) has already been closed down & Rajghat Power Station (Coal based) is not operational.

- As per the various orders of Hon'ble Supreme Court in WP(C) No. 4677/1985, MC Mehta vs. UOI & Others, in year 1996, following highly air polluting Industries / Units were closed down in NCT of Delhi :
  - (i) 246 Brick Kilns
  - (ii) 43 Hot Mix Plants
  - (iii) 21 Arc / Induction Furnaces
- Besides these industries, Heavy & Large Industries as per then MPD-2001 (e.g. Birla Textile Mill, Swatantra Bharat Mill, Shriram Food & Fertilizers, Hindustan Vegetable Oil, Hindustan Insecticides Limited , Several Steel Rolling Mills and Paper Mills and other major Air Polluting Industries (e.g. Coal Fired Potteries etc. ), were also closed down as per orders of Hon'ble Supreme Court.
- Following Air Polluting Activities have been placed in the Prohibited / Negative List of Industries (Annexure III ) of MPD -2021 and are to be closed down w.e.f 23.09.2016 as per the Notification of MOUD Dated 23.09.2016.
  - (i) Induction Furnace
  - (ii) Cupola Furnace
  - (iii) Stainless Steel Pickling
- As per the decision taken by DPCC, Coal fired Boilers are not allowed in NCT of Delhi except in case of Thermal Power Plants and the Boilers having Electrostatic Precipitator as Emission Control System.

# Emissions , Industrial Plant & Air Pollutants

As per the definitions given under the Air Act, :

- "**Emission** means any solid or liquid or gaseous substance coming out of any chimney, duct or flue or any other outlet" ;

- "**Industrial Plant**" means any plant used for any industrial or trade purposes and emitting any air pollutant into the atmosphere

- "**Air Pollutant** means any solid , liquid or gaseous substance including noise present in the atmosphere in such concentration as may be or tend to be injurious to human beings or other living creatures or plants or property or environment.

# Air Pollution Control Area & Requirement of Consent

- MOEF vide Notification Dated **20.02.1987**, has declared

  " The whole of the Union Territory of Delhi" as an "Air Pollution Control Area"

- As per **section 21** of the Air Act,

  "No person shall, without the previous Consent of the State Board, Establish or Operate any Industrial Plant in an Air Pollution Control Area".

- As per **section 22** of the Air Act,

  "No person operating any Industrial Plant, in any Air Pollution Control Area shall discharge or cause or permit to be discharged the emission of any air pollutant in excess of the standards laid down by the State Board under clause (g) of sub-section (1) of section 17."

# Standards for Emission or Discharge of Environmental Pollutants

For the purposes of protecting and improving the quality of the Environment and preventing and abating environmental pollution, the standards for emission or discharge of environmental pollution from the **industries, operations or processes** have been prescribed / notified by MOEF from time to time and given in the Schedules I to IV of the Environment (Protection ) Rules, 1986, as amended to date.

**Schedule I** – Standards for various parameters in respect of

**104 Industries / Operations or Processes.**

**Schedule II** – **Omitted** vide notification Dated **31.12.1993.**

**Schedule III – Ambient Air Quality Standards in Respect of Noise**

**Schedule IV** – Standards for Emission of Smoke,Vapour etc from Motor Vehicles

**Schedule V** – Furnishing of Information to Authorities and Agencies in Certain Cases ( where the discharge of Environmental Pollutant in excess of the prescribed standards occurs or is apprehended to occur due to any accident or event )

**Schedule VI** – General Standards for Discharge of Environmental Pollutants ( Applicable for the Industries, operations or processes which are not mentioned in Schedule I )

**Part A : Effluent**

**Part B : Waste Water Generation Standards**

**Part C : Load Based Standards**

**Part D : General Emission Standards**

**Part E : Noise Standards at Manufacturing stage**

[for Automobiles /Vehicles, Domestic Appliances(Window Air Conditioners, Air Coolers & Refrigerators and Compactors (Rollers), Front Loaders, Concrete Mixers, Cranes (Movable),Vibrators and Saws ]

**Schedule VII** – National Ambient Air Quality Standards (Notification Dated **16.11.2009**, for **12 Pollutants** Concentration in Ambient Air )

**Annexure I – Guidelines for SPCBs/ PCCs of Schedule VI** **(** For enforcing the standards specified under **Parts "A", "B" and "C**" of Schedule VI).

**Annexure II – Guidelines for SPCBs/ PCCs of Schedule VI** **(**For enforcing the standards specified under **Part "D"** of Schedule VI).

SPCBs / PCCs may specify more stringent standards for the relevant parameters with respect to specific industry or locations after recording reasons thereof in writing.

# General Emission Standards
# (Part D of Schedule VI of EP Rules, 1986)
## Concentration based standards

| S.No. | Parameter | Standard Concentration not to exceed (in mg/Nm$^3$) |
|---|---|---|
| 1 | Particulate Matter (PM) | 150 |
| 2 | Total Fluoride | 25 |
| 3 | Asbestos | 4 Fibres/cc and dust should not be more than 2 mg/Nm$^3$* |
| 4 | Mercury | 0.2 |
| 5 | Chlorine | 15 |
| 6 | Hydrochloric acid vapour and mist | 35 |
| 7 | Sulphuric Acid Mist | 50 |
| 8 | Carbon Monoxide | 1% max. (v/v) |
| 9 | Lead | 10 mg/Nm3 |
| * - Asbestos dust shall not exceed to 2 mg/ Nm$^3$ | | |

# Ambient Air Quality Standards in Respect of Noise

| Category of Area / zone | Limits in dB(A) Leq* | |
|---|---|---|
| | Day Time | Night Time |
| Industrial Area | 75 | 70 |
| Commercial Area | 65 | 55 |
| Residential Area | 55 | 45 |
| Silence Zone | 50 | 40 |

Note:-

1. Day time shall mean from 6.00 a.m. to 10.00 p.m.
2. Night time shall mean from 10.00 p.m. to 6.00 a.m.
3. Silence zone is an area comprising not less than 100 metres around hospitals, educational institutions, courts, religious places or any other area which is declared as such by the competent authority
4. Mixed categories of areas may be declared as one of the four above mentioned categories by the competent authority.

*dB(A) Leq denotes the time weighted average of the level of sound in decibels on scale A which is relatable to human hearing.

A “decibel” is a unit in which noise is measured.

“A”, in dB(A) Leq, denotes the frequency weighting in the measurement of noise and corresponds to frequency response characteristics of the human ear.

Leq: It is an energy mean of the noise level over a specified period.

# Approved Fuels in Delhi

DPCC vide Notification Dated **27.08.1996** has approved following fuels as the "Approved Fuels" in NCT of Delhi:-

1. Coal with low Sulphur (S=0.4%)
2. Fuel Oil / LDO/ LSHS / with low Sulphur (S=1.8%)
3. Motor Gasoline (as per specifications given in the Notification dated 02.04.1996 of MoEF)
4. Diesel (as per specifications given in the Notification dated 02.04.1996 of MoEF)
5. Liquid Petroleum Gas (LPG)
6. Compressed Natural Gas (CNG)
7. Kerosene*
8. Naptha (for Power Station)
9. Aviation Turbine Fuel (for air craft)
10. Fire Wood (only for domestic use in rural areas and crematorium)
11. Bio-Gas

* Govt. of NCT of Delhi has banned the sale of Kerosene in NCT of Delhi

# Ash & Sulphur Content in Fuels Used

- Coal ( High Ash Content > 40 % , Sulphur Content 0.4 to 0.8 % )
- Coke
- **Fuel Oils**

  (i) High Speed Diesel (HSD) [Ash Content < 0.01 %, S content < 0.05 % ]
  (ii) Low Sulphur Heavy Stock ( Ash Content < 0.1 %, S content < 1 %)
  (iii) Light Diesel Oil (LDO ) ( Ash Content < 0.02 %, S content < 1.8 %)

- CNG / PNG (Mainly in Four / Five Star Hotels or where PNG supply is passing through)
- LPG
- Naptha (in Thermal Power Plant)

Furnace Oil (having ash content < 0.1 % but have high Sulphur content about 4 % ) is not allowed to be used as Fuel in Delhi.

Burning of Plastic / Rubber / Rags / Other Waste is also not allowed in Delhi.

In Delhi 0.05 % (50 PPM ) Sulphur Content HSD is supplied and LDO is not supplied except to few Delhi Govt. Hospitals.

BTPS (Coal based Power Plant )is using Beneficiated Coal having Ash content < 34 %

# Major Air Polluting Industries / Activities in Delhi

- Thermal Power Plants [5 (4 Gas based, 1Coal based(BTPS)]
- Foundries / Casting [ Cupola / Induction / Pit  Furnaces etc. ]
- Boilers [ Fuel based (Coal / Diesel etc.) ]
- Furnaces [ Fuel based (Coal / Diesel etc.)]
- Ready Mix Concrete Plants (RMC Plants)
- Buffing / Metal Polishing
- Flour Mills/Dal Mills/Spice Grinding/other Grinding / Pulverizing Units
- Electroplating/Anodizing/Galvanizing/Pickling/Phosphating
- Powder Coating / Spray Painting / Superenamelling
- Plastic Reprocessing
- Cooking / Kitchen Operations [Food Processing Units /Hotels / Restaurants etc]
- DG Sets

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- DG Sets

# Major Air Pollution Sources , Pollutants and Control Measures for Industries in Delhi

| Source | Fuel Used | Pollutants | Air Pollution Control Measures |
|---|---|---|---|
| Boiler / Hot Water Generator | Coal / Diesel / Natural Gas | Particulate Matter, SOx, NOx, | Cyclone /Multi Cyclone/Scrubber Bag Filter/ ESP (in case of Coal based TPP) |
| Furnace(Induction /Cupola/Pit etc) | Coal / Diesel | Particulate Matter, SOx, NOx, | Channelization System/ Cyclone / Multi Cyclone/ Scrubber |
| Pulverization / Grinding | - | Dust / Particulate Matter | Dust Collector (Cyclone / Multi Cyclone)/ Bag Filter |
| Metal Polishing / Buffing | - | Dust / Particulate Matter | Dust Collector (Cyclone / Multi Cyclone)/ Bag Filter |
| Fumes | - | Acidic Fumes (HCl, $H_2SO_4$, $HNO_3$ etc) | Channelization System/ Scrubber |
| Mixing / Material Handling Operations (RMC Plants) | - | Dust / Particulate Matter | Covering with enclosures / Dust Collectors (Cyclone / Multi Cyclone)/ Bag Filter), Sprinkling system for suppression of dust |
| Cooking / Kitchen Emissions (Food Processing /Hotels / Restaurants etc.) | Coal / Coke / Diesel / Natural Gas | Particulate Matter, SOx, NOx, | Channelization system / Scrubber |

# Air Pollution Control Measures for Boilers

- As per the decision taken by DPCC, Coal fired Boilers are not allowed in NCT of Delhi except in case of Thermal Power Plants and the Boilers having Electrostatic Precipitator as Emission Control System.
- Only approved Fuel in Delhi shall be used for Boilers. Burning of Plastic / Rubber / Rags / Other Waste is not allowed in Boilers.
- Minimum stack height shall be 11 meters above ground level and 2 meters above roof level in General.
- In case of Thermal Power Plants Stack Height Requirement is calculated based on the SO2 emissions (kg/hour) and shall be provided as per Schedule I of the EP Rules.
- Particulate Matter Concentration in the emission shall not exceed 150 mg/$Nm^{3}$.. In case of Coal based Thermal Power Plants much stricter standards of $\leq$ 50 mg/$Nm^{3}$ has been prescribed by DPCC for Particulate Matter emission.
- Air Pollution Control Device (APCD) / Emission Control System (ECS)(Wet Scrubber etc.), if required, shall be provided to meet the above mentioned standards. In case of Coal based Thermal Power Plants Electro Static Precipitators (ESPs) are required to meet the prescribed standard.
- APCD / ECS shall be properly operated & maintained to meet the prescribed standards and Logbook shall be maintained in this regard.
- Separate meter shall be provided for operation of APCD/ECS.
- Proper Port Hole and Platform alongwith Ladder shall be provided to facilitate the monitoring of the emissions from the Boiler Stack .
- Stack Monitoring Report for the prescribed parameters from any of the Laboratories approved by DPCC shall be provided alongwith Consent application and on annual basis to DPCC.

# Air Pollution Control Measures for Furnace

- Only approved Fuel in Delhi shall be used for Furnace . Burning of Plastic / Rubber / Rags / Other Waste is not allowed in Furnace .
- Emissions from the Furnace shall be properly channelized by providing proper hood, ducting and suction arrangement and shall be discharged through stack of minimum height of 11 meters above ground level and 2 meters above roof level.
- Particulate Matter Concentration in the emission shall not exceed 150 $mg/Nm^3$ or as specifically prescribed for particular activities mentioned in Schedule I of EP Rules
- Air Pollution Control Device (APCD) / Emission Control System (ECS)(Cyclone / Multi Cyclone / Wet Scrubber etc.), if required, shall be provided to meet the above mentioned standard.
- APCD / ECS shall be properly operated & maintained to meet the prescribed standards and Logbook shall be maintained in this regard.
- Separate meter shall be provided for operation of APCD/ECS.
- Proper Port Hole and Platform alongwith Ladder shall be provided to facilitate the monitoring of the emissions from the Furnace Stack .
- Stack Monitoring Report for the prescribed parameters from any of the Laboratories approved by DPCC shall be provided alongwith Consent application and on annual basis to DPCC.

# Channelization System for Fugitive Emissions

- Fugitive emissions (dust/fumes , cooking / kitchen emissions etc.) shall be properly channelized by providing proper hood, ducting and suction arrangement and shall be discharged at least 2 meters above the roof of the building and if required adequate air pollution control system should also be installed.
- Minimum stack height shall be 11 meters above ground level and 2 meters above roof level
- Particulate matter emission shall not exceed 150 $mg/Nm^{3.}$

# Air Pollution Control Measures for Flour Mills/Dal Mills/Spice Grinding / other Grinding / Pulverizing Units

- Fugitive / Grinding/ Pulverizing dust from process / operations shall be properly channelized by providing proper hood, ducting and suction arrangement to the Air Pollution Control Device (APCD) / Emission Control System (ECS)(Cyclone / Multi Cyclone / Bag Filters ) to meet the prescribed standard and shall be discharged through stack of minimum height of 11 meters above ground level and 2 meters above roof level.
- Normally such kind of units are having inbuilt Bag Filters / Bag House System to recover the Dust / Particulate matter which is also a Product .
- Particulate Matter Concentration in the emission shall not exceed 150 $mg/Nm^3$
- APCD / ECS shall be properly operated & maintained to meet the prescribed standards and Logbook shall be maintained in this regard.
- Separate meter shall be provided for operation of APCD/ECS.
- Monitoring Report for the Particulate Matter from any of the Laboratories approved by DPCC shall be provided alongwith Consent application and on annual basis to DPCC.

# Air Pollution Control Measures for Buffing

- Fugitive / Buffing Dust from Buffing process / operation shall be properly channelized by providing proper hood, ducting and suction arrangement to the Air Pollution Control Device (APCD) / Emission Control System (ECS)(Cyclone / Multi Cyclone / Bag Filter ) to meet the prescribed standard and shall be discharged through stack of minimum height of 11 meters above ground level and 2 meters above roof level.
- Bag Filter is the preferred choice to control the fugitive / process dust.
- Particulate Matter Concentration in the emission shall not exceed 150 $mg/Nm^3$
- APCD / ECS shall be properly operated & maintained to meet the prescribed standards and Logbook shall be maintained in this regard.
- Separate meter shall be provided for operation of APCD/ECS.
- Monitoring Report for the Particulate Matter from any of the Laboratories approved by DPCC shall be provided alongwith Consent application and on annual basis to DPCC.

# Air Pollution Control Measures for Ready Mix Concrete Plants.

- Air Pollution Control Device (APCD)(Cyclone followed by Bag House ) should be provided to control the air emissions from storage bins silos used for storage of cement / fly ash and cement feeding section to meet the prescribed standards and emissions shall be discharged through stack of minimum height of 11 meters above ground level and 2 meters above roof level.
- Concrete / Metalled floor should be provided within the premises with sprinklers for suppression of dust due to movement of vehicles. Regular cleaning and wetting of the ground within the premises should be done .
- Sand and Aggregate should be stored in a hopper or bunker which should shield the materials from the winds or stock piles.
- Sprinkler System should be provided to wet the ground and aggregate material storage yard for suppression of dust .
- Conveyer Belt and feeding hopper for the aggregate should be properly covered.
- An Adequate Buffer should be kept between the plant and neighbours.
- Plant should have boundary /wall of Metal Sheets at least upto 5 meters height to act as wind barrier.
- RMC Plants shall meet the following standards.:

“ The Suspended Particulate Matter contribution value at a distance of 40 meters from a controlled isolated as well from a unit located in a cluster should be less than 600 mg / Nm3 . The measurements are to be conducted at least twice a month for all the 12 months in a year..

# Air Pollution Control Measures for Acid Fumes

- Acid Fumes (Hydrochloric / Sulphuric / Nitric Acid etc.) are generated mainly from the following activities:
  - Electroplating
  - Anodizing
  - Galvanizing
  - Pickling
  - Phosphating
- Acid Fumes shall be properly channelized by providing proper hood, ducting and suction arrangement and shall be discharged at least 2 meters above the roof of the building and if required adequate air pollution control system (Wet Scrubber ) shall also be installed to meet the prescribed standards.
- Minimum stack height shall be 11 meters above ground level and 2 meters above roof level
- Hydrochloric Acid Vapour and Mist in the emissions shall be $\leq$ 35 mg/$Nm^{3.}$
- Sulphuric Acid Mist in the emissions shall be $\leq$ 50 mg/$Nm^3$
- Electroplating and Anodizing Industries are also required to meet the prescribed emission standards as mentioned in the EP Rules including Acid Mist (HCl & H2SO4 $\leq$ 50 mg/$Nm^{3)}$ and other parameters.

# Air Pollution Control Norms / Measures for DG Sets

**Mandatory Requirement of Acoustic Enclosure / Acoustic Treated Room (for Control of Noise)**

- **I. DG Sets manufactured prior to 01.01.2005 :**

  **(i)**Acoustic Enclosure or Acoustic Treated Room for minimum **25 dB(A) insertion loss** or for meeting the Ambient Noise Standards (notified by MOEF) whichever is on the higher side.

- **(ii)** Proper Exhaust Muffler with minimum 25 dB(A) insertion loss.
- **II**. **DG Sets manufactured on or after 01.01.2005** :
- **(i)** Integral Acoustic Enclosure at the manufacturing stage itself.
- (The manufacturer of DG Set is responsible to obtain type approval from CPCB for the DG Sets to meet the prescribed standards)
- **(ii)**Maximum Permissible Sound Pressure Level ( Noise Level) for new DG Sets upto 1000 KVA is 75 dB(A) at 1 meter from the enclosure surface.

**Emission Standards are also prescribed for Diesel Engines** [(Engine rating more than **0.8 MW**) for **Power Plant, Generator Set applications** and other requirements] and given in the next slide**.**

## EMISSION STANDARDS FOR DIESEL ENGINES (ENGINE RATING MORE THAN 0.8 MW (800 KW) ) FOR POWER PLANT, GENERATOR SET APPLICATIONS AND OTHER REQUIREMENTS

### TABLE

| Parameter | | Area Category | Total engine rating of the plant (includes existing as well as new generator sets) | Generator sets commissioning date | | |
|---|---|---|---|---|---|---|
| | | | | Before 1.7.2003 | Between 1.7.2003 and 1.7.2005 | On or after 1. 7. 2005 |
| NOx (as $NO_2$) (AT 15% $O_2$ ) , dry basis, in ppmv | | A | Upto 75 MW | 1100 | 970 | 710 |
| | | B | Upto 150 MW | | | |
| | | A | More then 75 MW | 1100 | 710 | 360 |
| | | B | More then 150 MW | | | |
| NMHC (as C)(at 15% $O_2$), $mg/Nm^3$ | | Both A and B | | 150 | 100 | |
| PM (at 15% $O_2$), $mg/Nm^3$ | Diesel Fuels- HSD & LDO | Both A and B | | 75 | 75 | |
| | Furnace Oils- LSHS & FO | Both A and B | | 150 | 100 | |
| CO (at 15% $O_2$), $mg/Nm^3$ | | Both A and B | | 150 | 150 | |
| Sulphur Content in fuel | | A | | < 2% | | |
| | | B | | < 4% | | |
| Fuel specification | | For A only | Up to 5MW | Only Diesel fuels (HSD, LDO) shall be used. | | |
| Stack height (for generator sets commissioned after 1.7.2003) | | Stack height shall be maximum of the following, in meter:<br>(i) $14\ Q^{0.3}$, Q= Total $SO_2$ emission from the plant in kg/hr.<br>(ii) Minimum 6 m. above the building where generator set is installed.<br>(iii) 30 m. | | | | |

# Stack Height Requirement for DG Sets

I. **As per the following formula**

$$H = h + 0.2\sqrt{KVA}$$

H - Total Height of Stack in Meters

h - Height of the Building in Meters where the Generator Set is installed

KVA - Total Capacity of the DG Set in KVA

II. **Stack Height for Sets** (Engine rating more than 0.8 MW **(1000 KVA)) commissioned after 01.07.2003** shall be maximum of following :

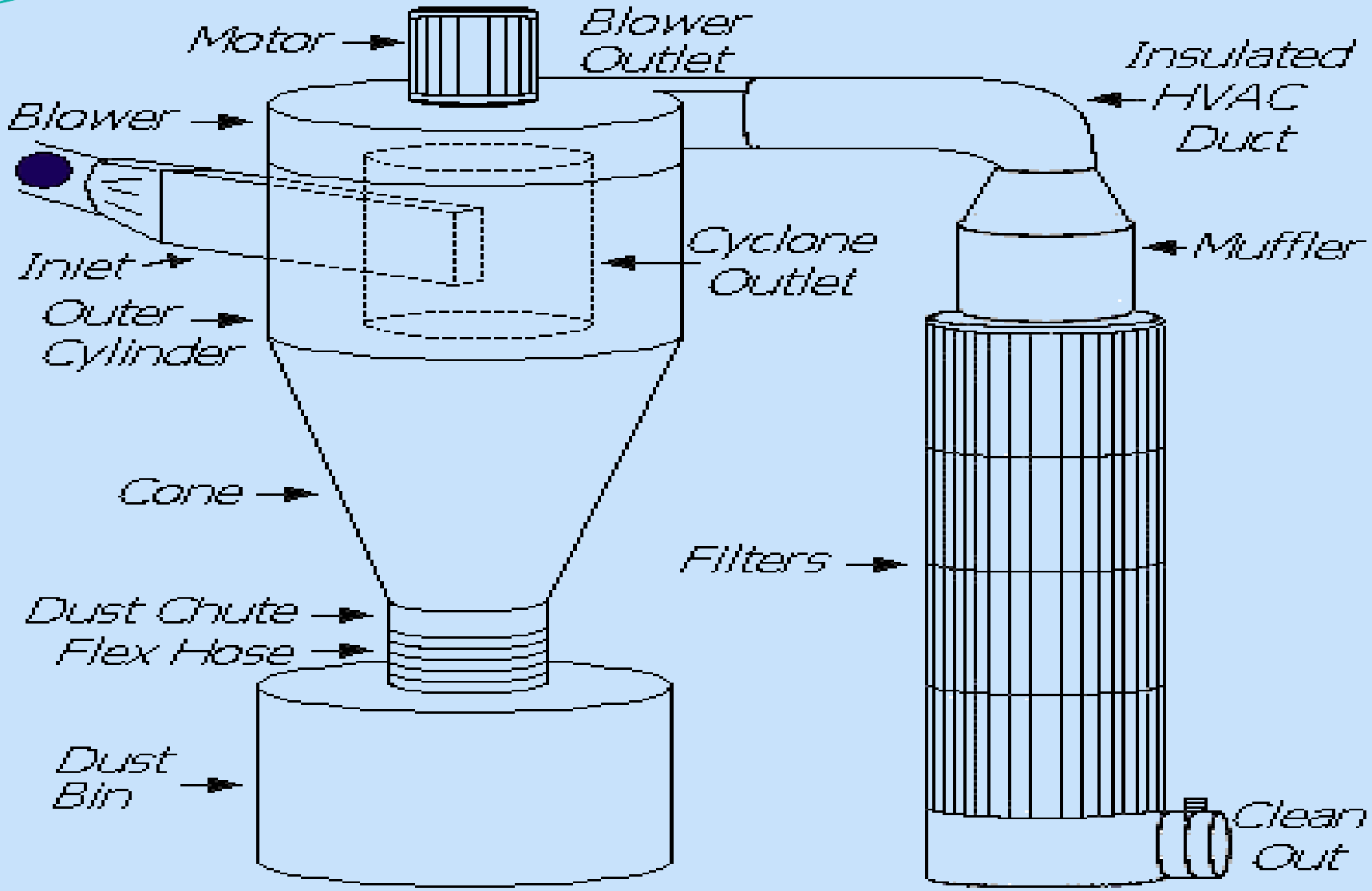
i. **14 Q $^{0.3}$** (Q- Total $SO_2$ emission from the plant in kg/hr)

ii. **Minimum 6 meter above the building** where Generator Set is installed

iii. **30 meter**


**Cyclone**

**Multi Cyclone**




# Working Diagram of Cyclone

**Venturi Scrubber**

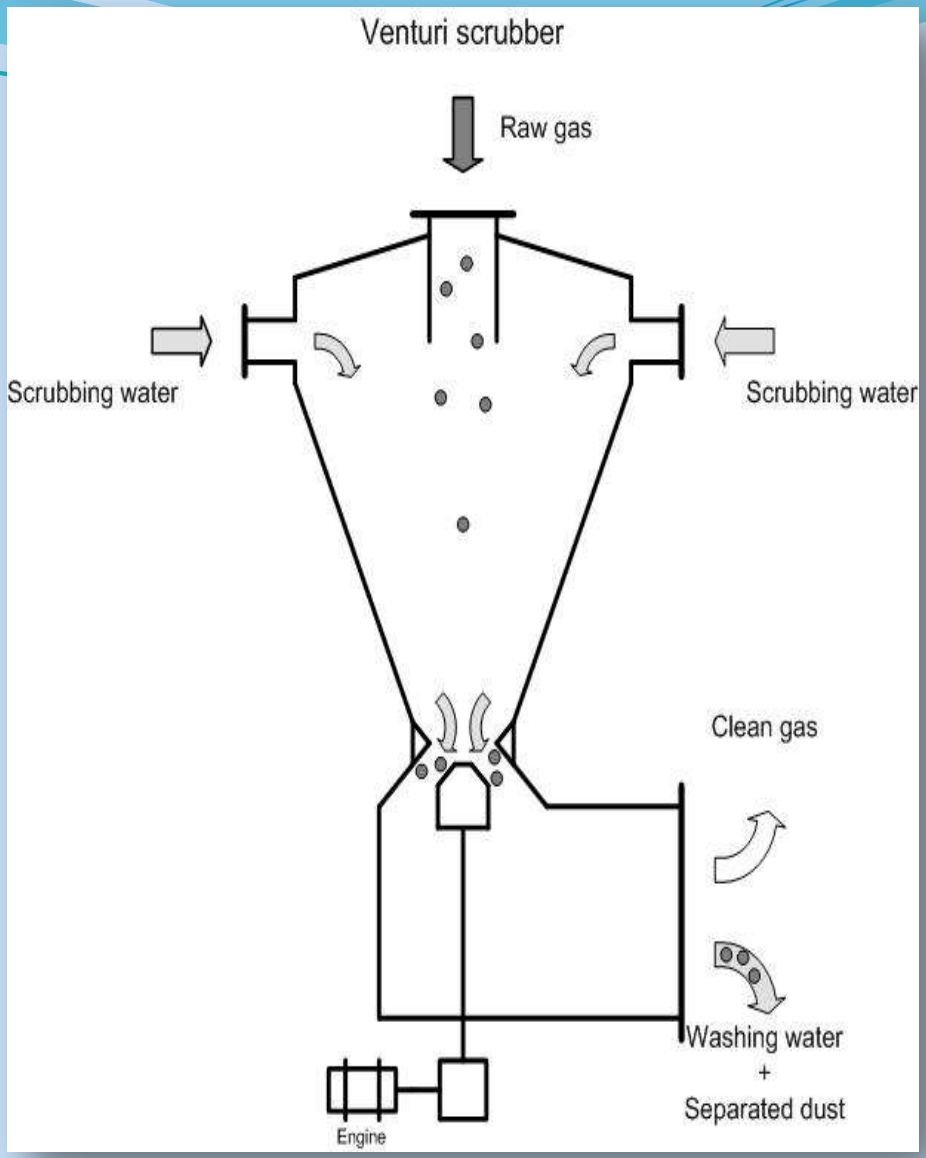
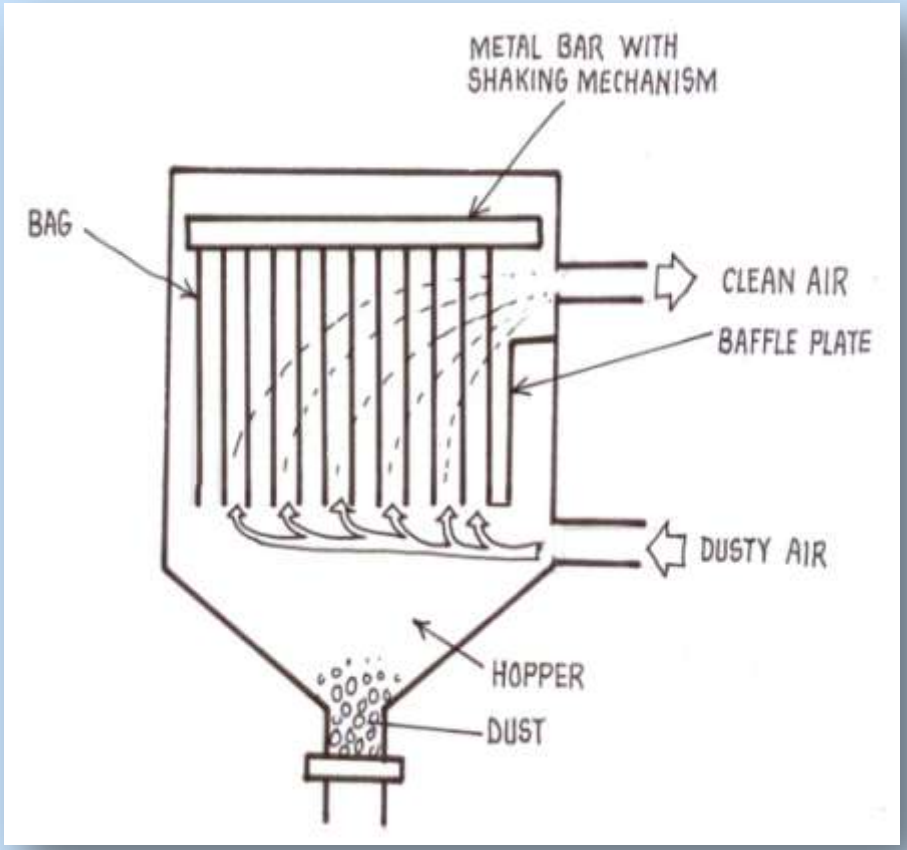



**Diagram of Venturi Scrubber**

**Packed Bed Scrubber**

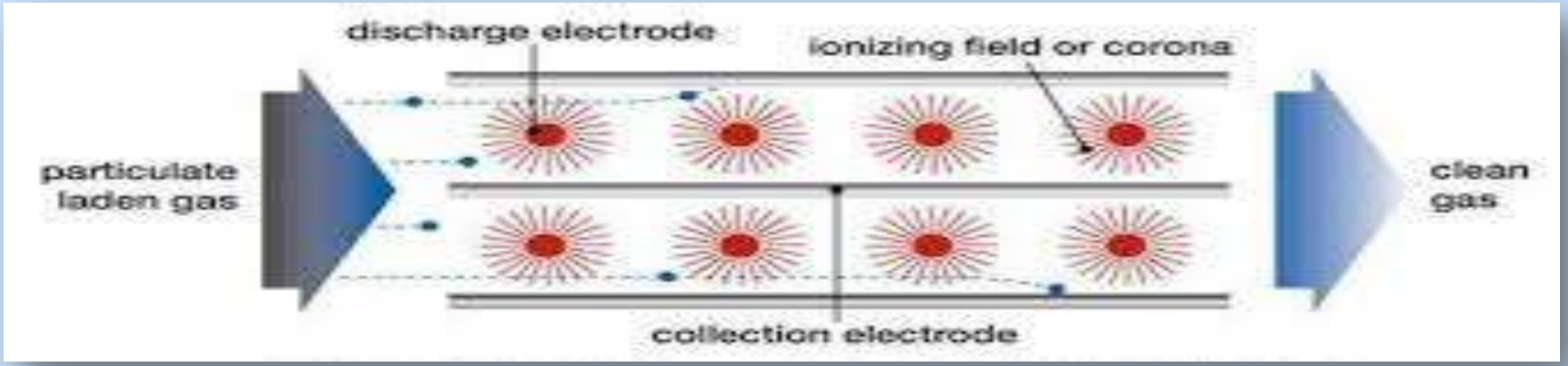
**Spray Scrubber**




**Bag Filter**

**Diagram of Bag Filter**

# Electro Static Precipitator ( ESP )




# Diagram / Working Principle of ESP

# Acid Fumes Extraction System

# Acid Fumes Extraction System for Electroplating Plant

# Acid Fumes Control  System for Pickling Industries

**Dust Control System for Buffing**

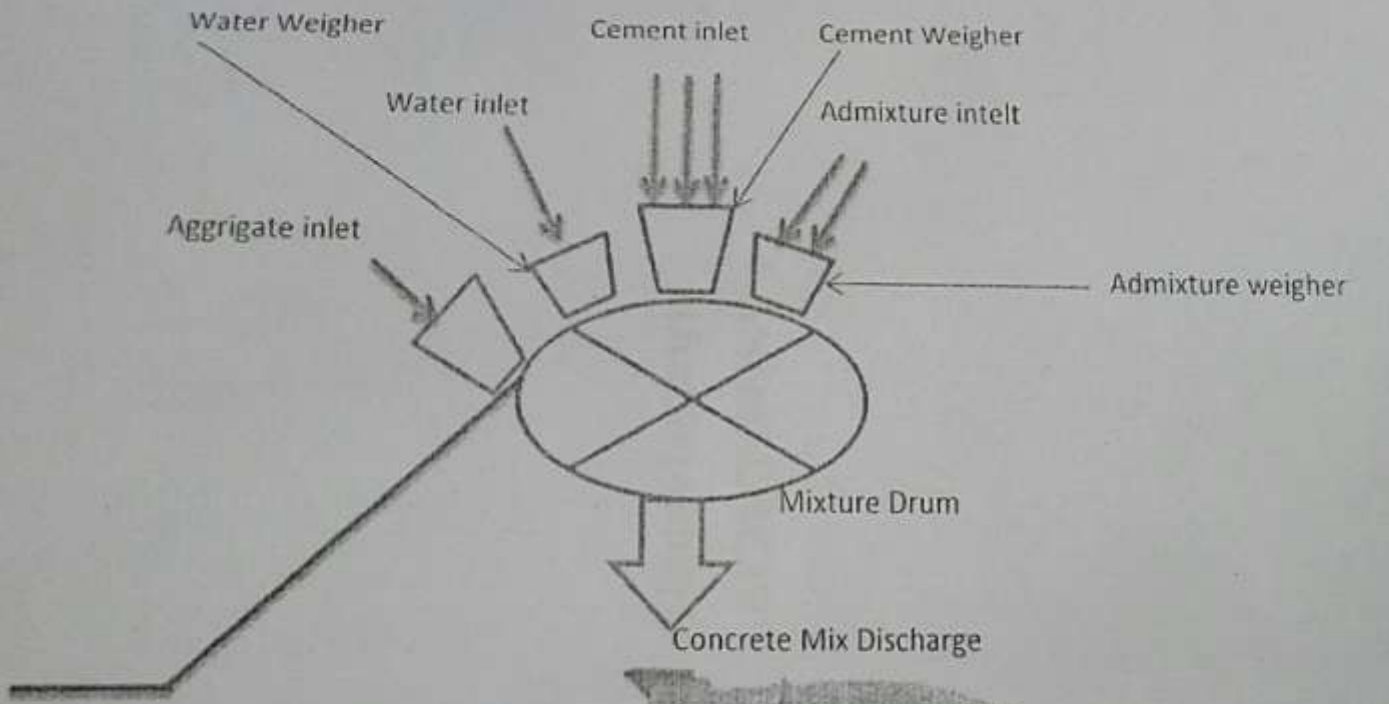
**Dust Control System for Polishing / Grinding**

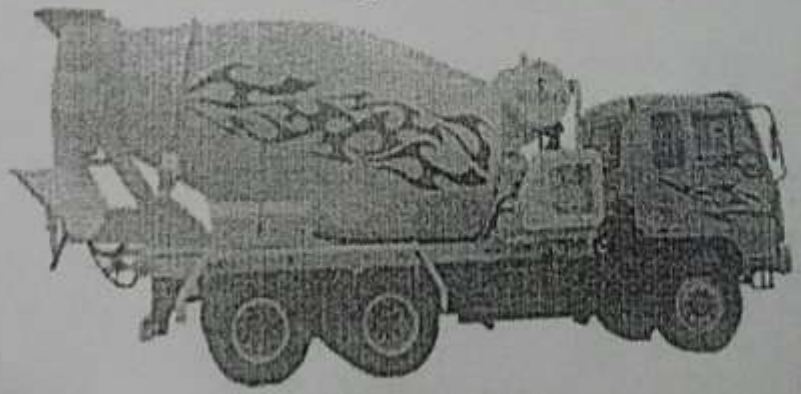
**Channelization / Control System for Furnace Emissions**


# Welding Fume Extraction System (Mobile Unit)

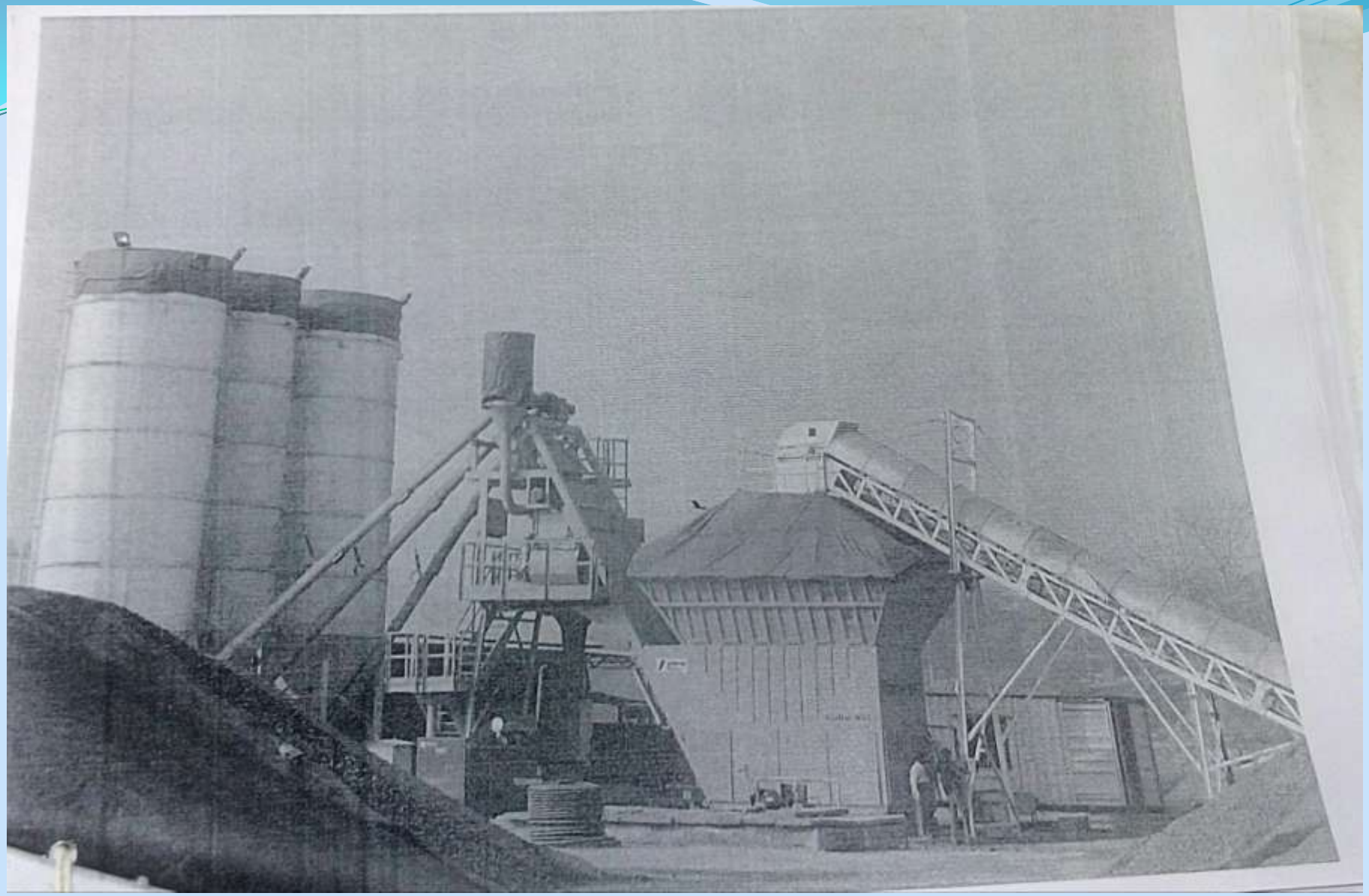
# Channelization System for Cooking / Kitchen Emissions

## Batching Plant Flow Daiagram

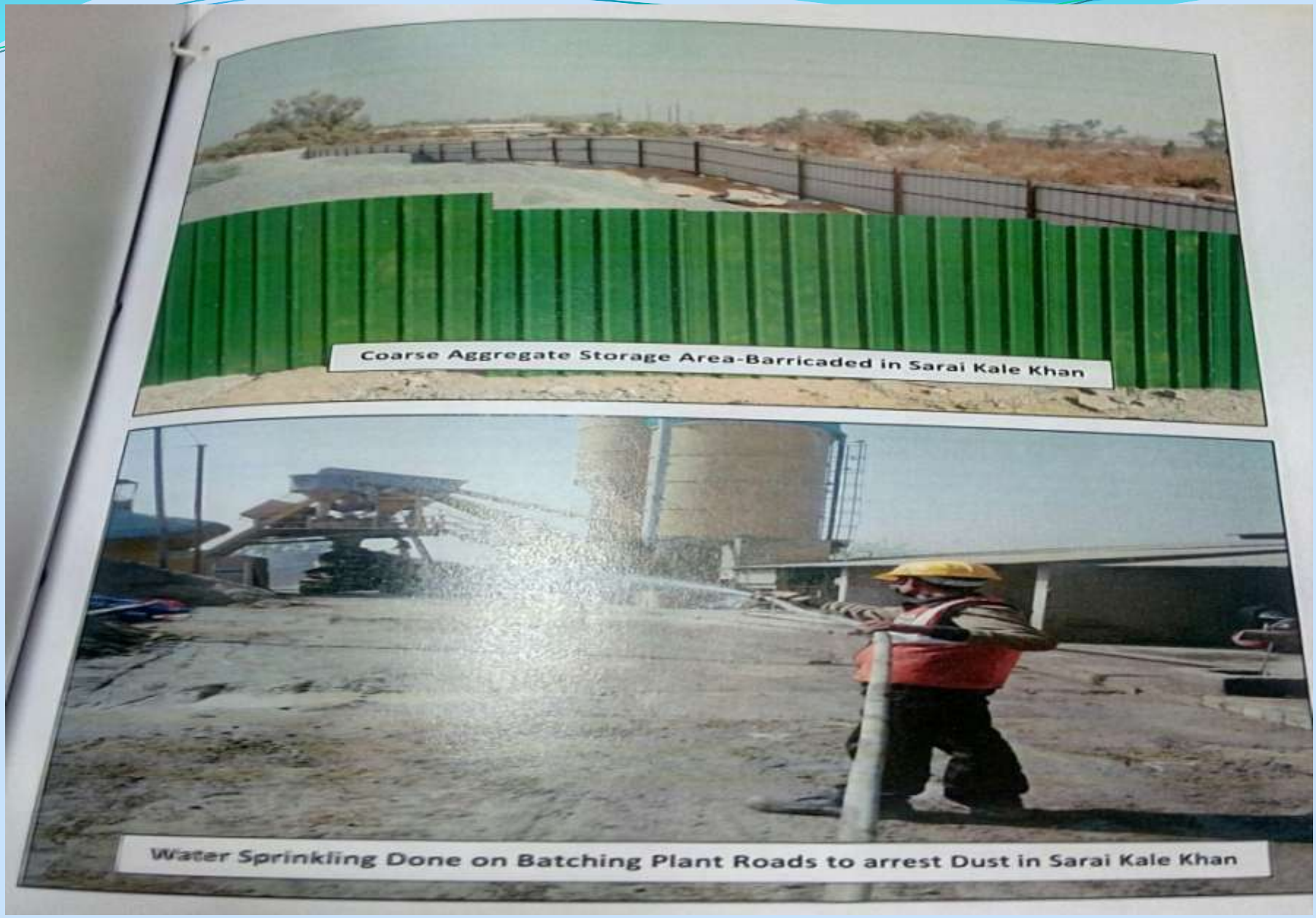


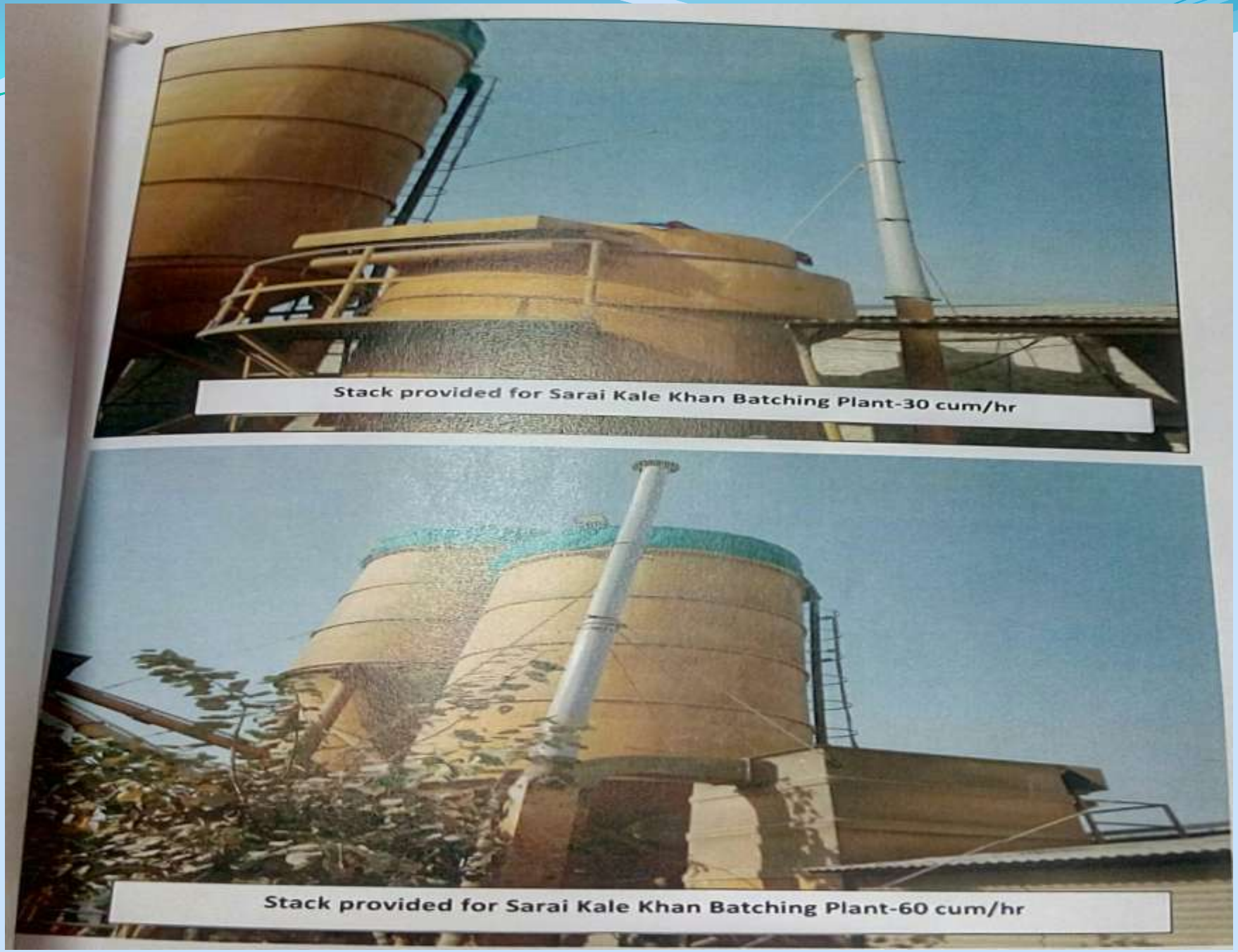



Transit Mixture



**Ready Mix Concrete Plant of L & T at Sarai Kale Khan**


Coarse Aggregate Storage Area-Barricaded in Sarai Kale Khan
Water Sprinkling Done on Batching Plant Roads to arrest Dust in Sarai Kale Khan



Stack provided for Sarai Kale Khan Batching Plant-30 cum/hr

Stack provided for Sarai Kale Khan Batching Plant-60 cum/hr

*Thank You*