

# POLLUTION CONTROL ACTS,RULES,CONSENT, AUTHORIZATION & MANAGEMENT



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## Stockholm Conference, 1972

*“the environment cannot be improved in conditions of poverty, unless we are in a position to provide employment and purchasing power for the daily necessities of the tribal people and those who live in around our jungles, we cannot prevent them from combing the forests for food and livelihood; from poaching and from despoiling the vegetation. How can we speak to those who live in villages and slums about keeping the oceans, the rivers and the air clean when their own lives are contaminated at the source”*

*-- Indira Gandhi, Stockholm Conference, 1972*



# POLLUTION CONTROL ACTS RULES AND NOTIFICATIONS IN INDIA

(10)

(01)

(02)

(03)

(04)

(05)

(06)

(07)

The Water (Prevention and Control of Pollution) Act, 1974

The Water (Prevention and Control of Pollution) Cess Act, 1977

The Air (Prevention and Control of Pollution) Act, 1981

The Environment (Protection) Act, 1986

The Public Liability Insurance Act, 1991

The National Environmental Tribunal Act, 1995

The National Environmental Appellate Authority Act, 1997

(Next Page)

(011)

(012)

(021)

Cess Rules, 1978

(031)

(032)

Air Rules, 1981

Air Rules, (UT) 1983

(051)

Rules, 1991

(061)

Nil

(071)

Appellate Rules, 1997

(0111)

- Constitution of Appellate Authority
- Delegation of powers to Union Territory (UT)
- Central Water Laboratory

(0311)

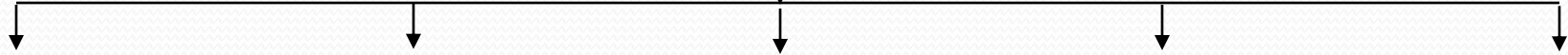
- Declaration of air pollution control areas
- Constitution of appellate authority
- Fee for analysis

# RULES AND NOTIFICATION UNDER E (P) ACT

E (P) ACT



(O4)



041  
(Key Rules)

Pollution Control  
049

Waste (Management  
and Handling) Rules

Products

Chemical and  
Accidents



E(P) Rules, 1986

Noise Pollution

042 Hazardous waste,  
1989

044 The Ozone  
Depleting  
substances, 2000

046 The Manufacture,  
Storage and Import of  
Hazardous Chemicals  
Rules, 1989

- Authorized inspection
- Authorized persons to take sample
- Delegation of powers
- Emission standards
- Ambient noise standards
- National ambient air quality standards
- Vehicular emission standards
- Handling of azo dyes
- Coastal regulation zone
- Doon valley regulation zone
- Dahanu regulation
- EIA notification

043 Bio-medical waste,  
1998

045 the Recycled  
Plastics Manufacture  
and Usage Rules,  
1999

047 The Chemical  
Accidents (Emergency  
planning,  
Preparedness and  
Response) Rules,  
1996

044 Municipal solid  
waste, 2000

046 The Bureau of  
Indian Standards  
Certification  
Regulation, 1997

048 The Manufacture,  
Use, Import, Export,  
Storage of Hazardous  
Microorganisms  
Genetically  
Engineered  
Organisms or Cells  
Rules, 1989

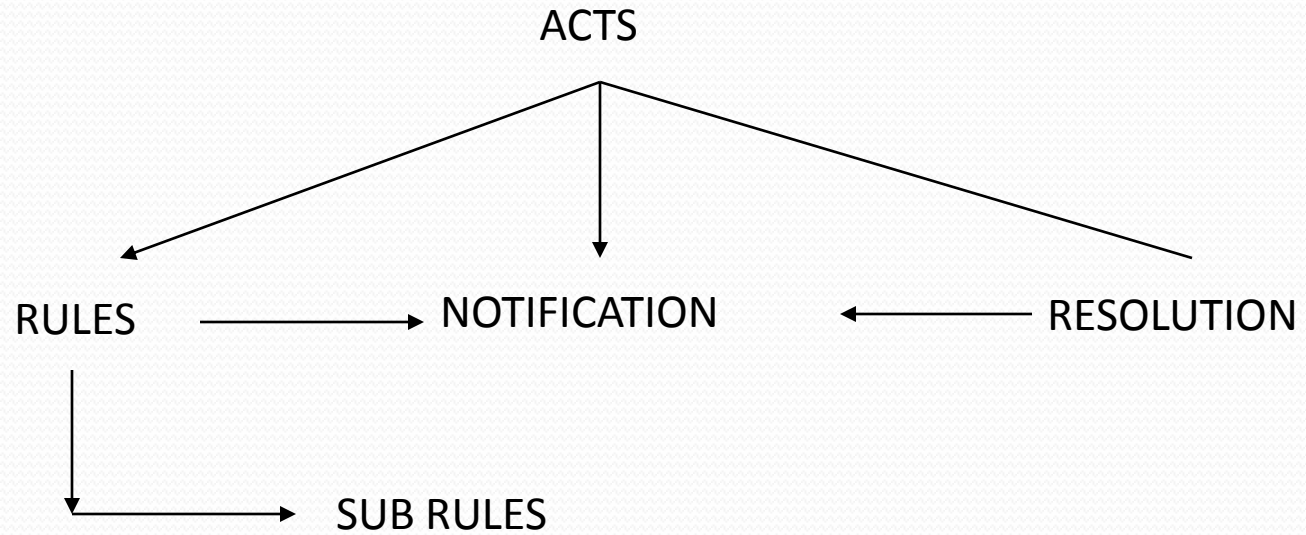
045 The Batteries  
Rules, 2011

046 Plastic Waste  
Mgmt Rules, 2011

047 E-Waste Mgmt  
Rules, 2011

048 Construction and  
Demolition waste  
Mgmt Rules, 2016

# HIGHERCHIAL ORDER



# STRUCTURE OF ACTS

- ➔ Preamble
- ➔ Short title
- ➔ Definition
- ➔ Authority and Organization
- ➔ Relation of Government and Organization
- ➔ Power of Organization
- ➔ Function of Organization
- ➔ Penal Provision
- ➔ Appellate and Appeal
- ➔ Cognizance of offence

# **The Water (Prevention & Control of Pollution) Act, 1974**

## **PREAMBLE**

**‘An Act to provide for the prevention and control of water pollution and the maintaining or restoring of wholesomeness of water’**

# DEFINITION OF POLLUTION UNDER SECTION 2 OF WATER ACT

Pollution means such contamination of water or such alteration of the physical, chemical or biological properties of water or such alteration of the physical, chemical or biological properties of water or such discharge of any sewage or trade effluent or of any other liquid, gaseous or solid substances into water (whether directly or indirectly) as may, or is likely to, create a nuisance or render such water harmful or injurious to public health or safety, or to domestic, commercial, industrial, agricultural or other legitimate uses, or to the life and health of animals or plants or of aquatic organisms;



# DEFINITION OF PLAYERS UNDER SECTION 2 OF WATER ACT

- “Board” means the Central Board or a State Board.
- “Central Board” means the Central Pollution Control Board constituted under section 3
- “State Board” means a State Pollution Control Board constituted under section 4
- “State Government” in relation to a Union territory means the Administrator thereof appointed under article 239 of the Constitution
- Occupier (Polluter) in relation to any factory or premises, means the person who has control over the affairs of the factory or the premises, and includes, in relation to any substance, the person in possession of the substance;

# DEFINITION OF POLLUTION SOURCES UNDER SECTION 2 OF WATER ACT

- “Outlet” includes any conduit pipe or channel, open or closed carrying sewage or trade effluent or any other holding arrangement which causes, or is likely to cause, pollution.
- “Sewage effluent” means effluent from any sewerage system or sewage disposal works and includes sullage from open drains.
- “Sewer” means any conduit pipe or channel, open or closed, carrying sewage or trade effluent.
- “trade effluent” includes any liquid, gaseous or solid substance which is discharged from any premises used for carrying on any “Industry, operation or process, or treatment and disposal system” other than domestic sewage.

# CONSTITUTION OF CENTRAL BOARD (UNDER SECTION 3)

**Central Board**



**Chairman**



**Representative Agriculture,  
Fisheries/ Trade**



**PSU**



**Government  
Of India  
Nominee**



**Representative  
of SPCB**



**Member Secretary**

**Central Board is a body corporate**

# CONSTITUTION OF STATE BOARD (UNDER SECTION 4)

**State Board**



**Chairman**



**Representative Agriculture,  
Fisheries/ Trade**



**PSU**



**State  
Government  
Of India  
Nominee**



**Representative  
of Local Authorities**



**Member Secretary**

**State Board is a body corporate**

# FUNCTIONS OF THE CENTRAL BOARD

- Advise the Central Government on any matter concerning the prevention and control of water pollution ;
- Plan and cause to execute a nation-wide programme for the prevention, control or abatement of water pollution;
- Coordinate the activities of the State Boards and resolve disputes among them; provide technical assistance and guidance to the State Boards, carry out and sponsor investigation & research relating to problems of water pollution and for their prevention, control or abatement;
- Plan and organize training of persons engaged in programmes on the prevention, control or abatement of water pollution;
- Organize through mass media, a comprehensive mass awareness programme on the prevention, control or abatement of water pollution.

- Collect, compile and publish technical and statistical data relating to water pollution and the measures devised for their effective prevention, control or abatement; prepare manuals, codes and guidelines relating to treatment and disposal of sewage and trade effluents as well as for stack gas cleaning devices and stacks of ducts;
- Disseminate information in respect of matters relating to water pollution and their prevention & control;
- Lay down, modify or annual, in consultation with the State Government concerned, the standard for stream or well; and
- Perform such other functions as may be prescribed by the Government of India.
- However, under 16 (1), subject to the provision of this act, the main function of the central board shall be to promote cleanliness of the stream and wells of the different areas of the state.

# FUNCTIONS OF THE STATE POLLUTION CONTROL BOARD

**Advice** the State Government with respect to suitability of any premises or location for carrying-out any industry which is likely to pollute a stream or well.

**Lay down** standards of treatment of sewage and trade effluents, for emission of automobiles, industrial plants or any other polluting sources.

**Evolve** methods of disposal of sewage and trade effluents on lands.

**Develop** reliable and economically viable methods for treatment of sewage, trade effluents pollution control equipment.

**Granting consent** to polluter under the Water Act.

**To inspect** water and wastewater treatment installation.

**Assess** the quality of water.

## POWERS OF POLLUTION CONTROL BOARD

<b>S. NO.</b>	<b>POWERS</b>	<b>WATER ACT</b>
<b>1</b>	<b>To obtain information</b>	<b>Section 20</b>
<b>2</b>	<b>To take sample</b>	<b>Section 21</b>
<b>3</b>	<b>To entry &amp; inspection</b>	<b>Section 23</b>
<b>4</b>	<b>To grant consent / authorization</b>	<b>Section 25/26</b>
<b>5</b>	<b>To withdrawal consent / authorization</b>	<b>Section 27</b>
<b>6</b>	<b>Powers to carryout some work</b>	<b>Section 30</b>
<b>7</b>	<b>Emergency (remedial action)</b>	<b>Section 32</b>
<b>8</b>	<b>Powers to restrict through courts</b>	<b>Section 33</b>
<b>9</b>	<b>Power to give directions</b>	<b>Section 33 A</b>
<b>10</b>	<b>Power to declare pollution control area</b>	<b>Section 19</b>




# POWER TO GIVE DIRECTIONS UNDER SECTION 18 OF WATER ACT

➤ 18 1 (a) Central Government → CPCB

➤ 18 1 (b) CPCB → SPCB  
State Govt. → SPCB

If disputes → Referred to Central Govt.

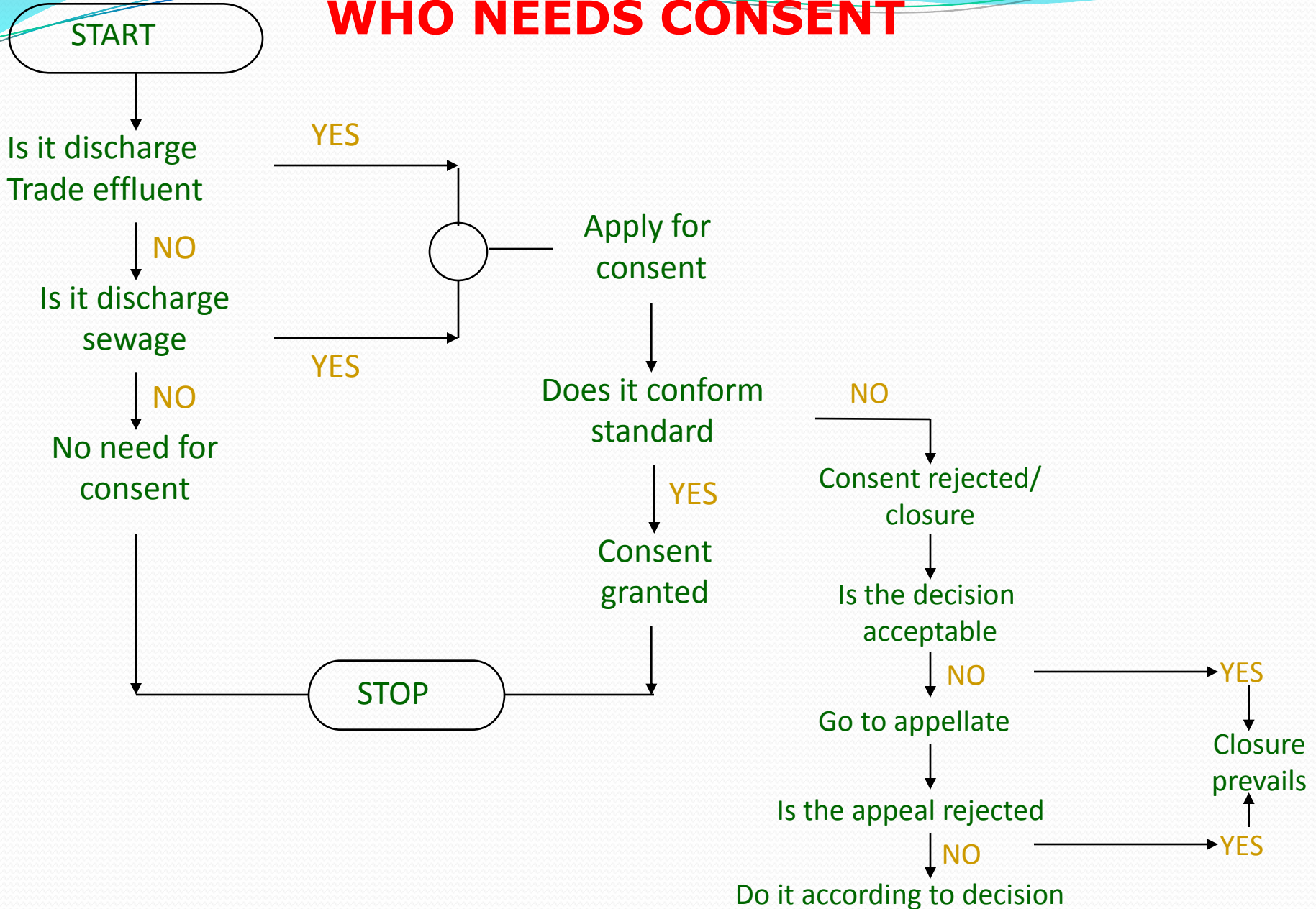


GRANTING CONSENT UNDER  
SECTION 25/26 OF WATER  
ACT

# What is Consent?

Consent is a permit to discharge /emit pollutants within the limit stipulated by the regulatory authorities

# WHO NEEDS CONSENT



# Consent Condition

- Water discharge
- Validity of consent
- Quantity of wastewater
- Quality of wastewater
- Defined outlet
- Specify the production/quantity per day
- Self monitoring protocol and reports to PCB
- Approval of effluent treatment scheme
- Housekeeping
- Receiving body
- Ensure operation of control equipments in good running condition
- Laboratory procedures; systems

# Validity of Consent Period

**RED CATEGORY – EVERY YEAR**

**ORANGE CATEGORY – ONCE IN TWO YEARS**

**GREEN CATEGORY – ONCE IN TWO YEARS**

In its preamble it is stated, "WHEREAS decisions were taken at the United Nations Conference on the Human Environment held in Stockholm in June, 1972, in which India participated, to take appropriate steps for the preservation of the natural resources of the earth which, among other things, include the preservation of the quality of air and control of air pollution"



# Function of the Pollution Control Board under Section 16/17 of Air Act, 1981

- Advisory
- Regulatory
- Data management, information dissemination & capacity building of stakeholders
- Research & Development



# Function of the Pollution Control Board under Section 16/17 of Air Act, 1981

- Advisory

## Section 16(2) (Central Pollution Control Board)

- a. Advise the Central Government on any matter concerning the improvement of the quality of air and prevention, control or abatement of air pollution
- b. Plan & cause to be executed a nation wide programme for prevention, control or abatement of air pollution

# Function of the Pollution Control Board under Section 16/17 of Air Act, 1981

- Advisory

## Section 17(1) (State Pollution Control Board)

- To plan a comprehensive programme for the prevention, control or abatement of air pollution and to secure the execution there of
- To advise the State Government on any matter concerning the prevention, control or abatement of air pollution
- To advise the State government with respect to the suitability of any premises or location for carrying on any industry which is likely to cause air pollution

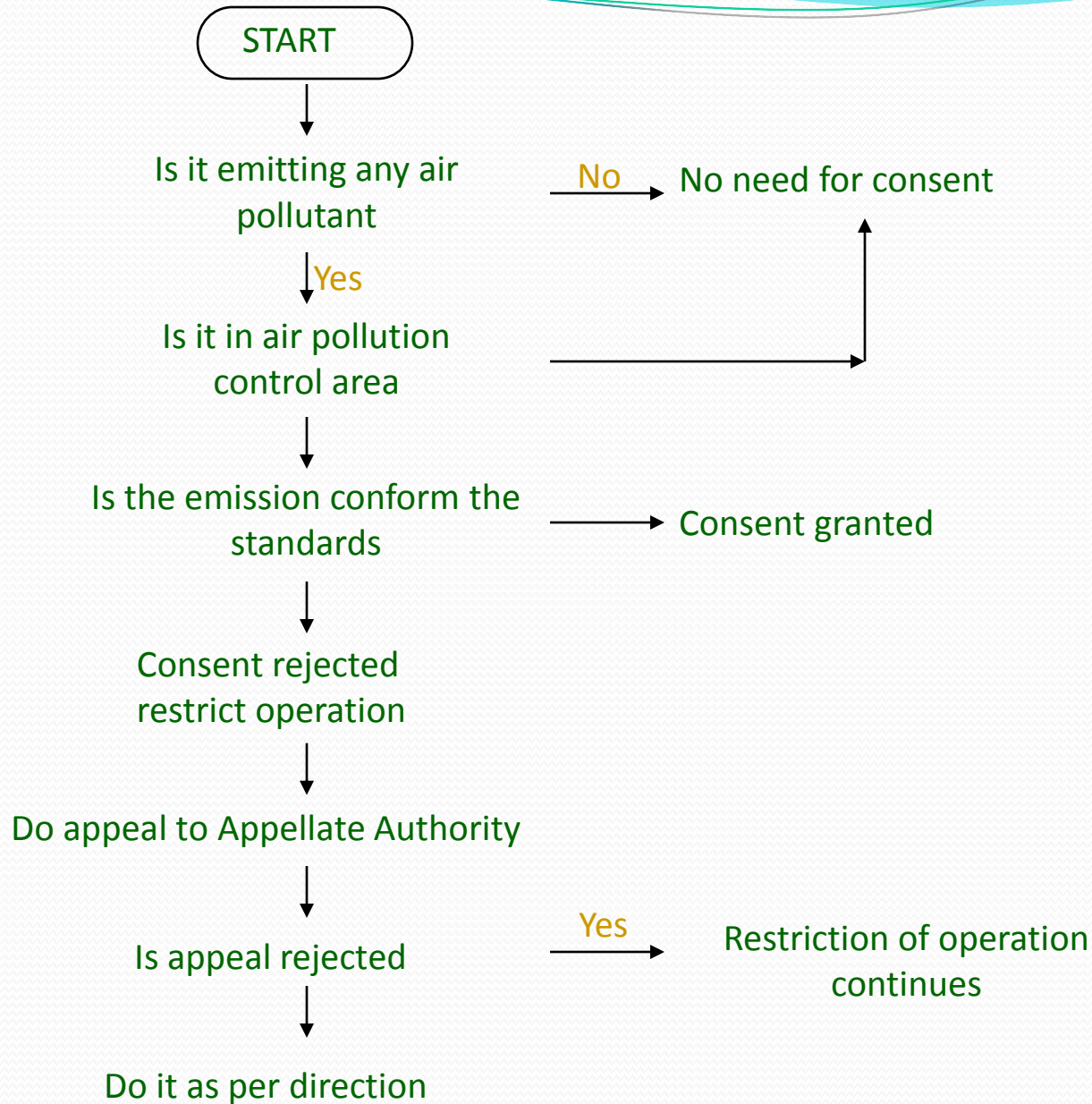
# Regulatory Function of the State Pollution Control Board under Air Act, 1981

Section	Provisions
17 1(g)	Laying down of emission standard from industrial and automobile source or for the discharge of any pollutant into atmosphere from any other source except ship and aircraft
17 1(e)	To inspect any control equipment, industrial plant or manufacturing process and to give, by order, such directions to such persons as it may consider necessary to take steps for the prevention, control or abatement of air pollution
17 1(f)	To inspect air pollution control areas at such intervals as it may think necessary, assess the quality of air there in and take steps for the prevention, control or abatement of air pollution in such areas
21	Granting consent for establish or operate any industrial plant in an air pollution control area



# GRANTING CONSENT

# WHO NEEDS CONSENT UNDER AIR ACT



# THE AIR ACT, 1981

## ➤ Consent Conditions (Mandatory Under Section 22)

- ❖ Lay down the Standards
- ❖ Specification of Control Equipments
- ❖ Chimney Heights
- ❖ Ensure operation of control equipments in good running conditions
- ❖ Technological improvement on control equipments
- ❖ Monitoring Protocol
- ❖ Introduction of LDAR to control fugitive emissions
- ❖ Validity Period of the consent
- ❖ Introduction of Environmental Audit
- ❖ Restriction of Fuels
- ❖ To maintain a register

## ➤ Consent Condition as Guidelines

- ❖ Energy Audit to reduce fuel consumption
- ❖ Adaptation of ISO : 14001
- ❖ Reporting Air emissions monitoring results to SPCBs
- ❖ Green Belt around the industries

# POWERS OF STATE POLLUTION CONTROL BOARD

<b>S. NO.</b>	<b>POWERS</b>	<b>AIR ACT</b>
<b>1</b>	<b>To obtain information</b>	<b>Section 25</b>
<b>2</b>	<b>To take sample</b>	<b>Section 26</b>
<b>3</b>	<b>To entry &amp; inspection</b>	<b>Section 24</b>
<b>4</b>	<b>To grant consent / authorization</b>	<b>Section 21</b>
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<b>9</b>	<b>Power to give directions</b>	<b>Section 31 A</b>
<b>10</b>	<b>Power to declare pollution control area</b>	<b>Section 19</b>
<b>11</b>	<b>Power to ensure standard from automobiles</b>	<b>Section 20</b>

# PENALTIES & PROCEDURES

- FAILURE TO COMPLY WITH THE PROVISIONS OF SECTION 21 OR SECTION 22 OR WITH THE DIRECTIONS ISSUED UNDER SECTION 31A (SECTION 37)
  - ❖ IMPRISONMENT NOT LESS 1 YR AND SIX MONTHS BUT CAN BE EXTENDED TO SIX YEARS WITH FINE
- PENALTIES FOR FALSE INFORMATION FOR OBTAINING CONSENT (SECTION 38)
  - ❖ IMPRISONMENT FOR A TERM WHICH MAY EXTEND TO 3 MONTHS OR WITH FINE OF Rs 10,000/- OR WITH BOTH
- MEMBERS, OFFICERS AND EMPLOYEES OF BOARD TO BE CONSIDERED AS PUBLIC SERVANT (SECTION 44)



# National Air Quality Standard

S. No.	Pollutants	Time Weighted Average	Concentration in Ambient Air		Methods of Measurement
			Industrial, Residential, Rural and other Areas	Ecologically Sensitive Area (notified by Central Government)	
1	Sulphur Dioxide (SO <sub>2</sub> ), µg/m <sup>3</sup>	Annual*	50	20	1. Improved West and Gaeke 2. Ultraviolet Fluorescence
		24 Hours**	80	80	
2	Nitrogen Dioxide (NO <sub>2</sub> ), µg/m <sup>3</sup>	Annual*	40	30	1. Modified Jacob & Hochheiser (Na-Arsenite) 2. Chemiluminescence
		24 Hours**	80	80	
3	Particulate Matter (Size <10µm) or PM <sub>10</sub> µg/m <sup>3</sup>	Annual*	60	60	1. Gravimetric 2. TOEM 3. Beta attenuation
		24 Hours**	100	100	
4	Particulate Matter (Size <2.5 µm) or PM <sub>2.5</sub> µg/m <sup>3</sup>	Annual*	40	40	1. Gravimetric 2. TOEM 3. Beta attenuation
		24 Hours**	60	60	
5	Ozone (O <sub>3</sub> ), µg/m <sup>3</sup>	8 hours**	100	100	1. UV photometric 2. Chemiluminescence 3. Chemical Method
		1 hours**	180	180	
6	Lead (Pb), µg/m <sup>3</sup>	Annual*	0.50	0.50	1. AAS/ICP Method after sampling using EPM 2000 or equivalent filter paper 2. ED-XRF using Teflon filter
		24 Hour**	1.0	1.0	

# Contd...

S. No.	Pollutants	Time Weighted Average	Concentration in Ambient Air		Methods of Measurement
			Industrial, Residential, Rural and other Areas	Ecologically Sensitive Area (notified by Central Government)	
7	Carbon Monoxide (CO), mg/m <sup>3</sup>	8 Hours **	02	02	Non dispersive Infra Red (NDIR) Spectroscopy
		1 Hour**	04	04	
8	Ammonia (NH <sub>3</sub> ), µg/m <sup>3</sup>	Annual*	100	100	1. Chemiluminescence 2. Indophenol blue method
		24 Hour**	400	400	
9	Benzene (C <sub>6</sub> H <sub>6</sub> ), µg/m <sup>3</sup>	Annual *	05	05	1. Gas chromatography based continuous analyzer 2. Adsorption and Desorption followed by GC analysis
10	Benzo(a)Pyrene (BaP)-particulate phase only, ng/m <sup>3</sup>	Annual*	01	01	Solvent extraction followed by HPLC/GC analysis
11	Arsenic (As), ng/m <sup>3</sup>	Annual*	06	06	AAS/ICP method after sampling on EPM 2000 or equivalent filter paper
12	Nickel (Ni), ng/m <sup>3</sup>	Annual*	20	20	AAS/ICP method after sampling on EPM 2000 or equivalent filter paper

# REGULATIONS ON HAZARDOUS WASTE MANAGEMENT

- Environment (Protection) Act, 1986
- Hazardous Wastes (Management and Handling) Rules, 1989
- Hazardous Wastes (Management, Handling and Transboundary Movement) Rules, 2008.
- **Hazardous and other wastes (Management and Transboundary Movement) Rules, 2016) – notified on 4<sup>th</sup> April, 2016**

# SALIENT FEATURES OF RULES, 2016

## Applicability

- Shall apply to the Management of Hazardous & Other Wastes as specified in the Schedules of these rules;
- **Shall NOT APPLY to:**
  - Wastewater and exhaust gases – covered under provisions of Water and Air (Pollution & Control of Pollution) Acts, 1974 (6 of 1974) & 1981 (14 of 1981) respectively;
  - Wastes arising out of operations from ships beyond 5 kms of relevant baseline as covered under provisions of Merchant Shipping Act, 1958 (44 of 1958) and as amended from time to time;
  - Radio-active wastes as covered under the provisions of the Atomic Energy Act, 1962 (33 of 1962);
  - Bio-medical wastes covered under the Bio-Medical Wastes (Management and Handling) Rules, 1998 and as amended from time to time;
  - Domestic wastes as covered under the Municipal Solid Wastes (Management and Handling) Rules, 2000 made under the Act and as amended from time to time.

# Structure of Hazardous and Other Wastes Rules, 2016

## Total 6 Chapters; 8 Schedules and 12 Forms;

- **Chapter I** – deals with applicability and important definitions;
- **Chapter II** – deals with provisions of waste management w.r.t. responsibilities of various stakeholders for environmentally sound management of Hazardous & Other Wastes;
- **Chapter III** – deals with the provision for Import & Export of Hazardous & Other Wastes;
- **Chapter IV** – deals with provisions of Treatment, Storage & Disposal of Hazardous & Other Wastes;
- **Chapter V** – deals with Packaging, Labelling & Transport of Hazardous & Other Wastes; and
- **Chapter VI** – deals with Miscellaneous aspects of Hazardous & Other Wastes including annual returns, liability of Occupier, Importer or Exporter, provisions of Appeal and Responsibilities of Authorities

# SCHEDULE OF THE RULE

<b>SCHEDULE-I</b>	List of processes generating hazardous wastes
<b>SCHEDULE-II</b>	List of waste constituents with concentration limits
<b>SCHEDULE-III</b>	<p>Part A List of hazardous wastes applicable for import and export with Prior Informed Consent [Annexure VIII of the Basel Convention*]</p> <p>Part B List of other wastes applicable for import and export and not requiring Prior Informed Consent [Annex IX of the Basel convention*]</p> <p>Part C List of Hazardous Characteristics</p> <p>Part D List of other wastes applicable for import and export without permission from Ministry of Environment, Forest and Climate Change [Annex IX of the Basel Convention*]</p>
<b>SCHEDULE-IV</b>	List of commonly recyclable hazardous wastes

<b>SCHEDULE-V</b>	PART A Specifications of Used Oil Suitable for recycling Part B Specification of fuel derived from waste oil
<b>SCHEDULE-VI</b>	Hazardous and Other wastes prohibited for import
<b>SCHEDULE-VII</b>	List of authorities and corresponding duties
<b>SCHEDULE-VIII</b>	List of documents for verification by Customs for import of other wastes specified in Part D of Schedule III

# FORMS OF THE RULE

<b>FORM-1</b>	Application required for grant/renewal of authorisation for generation or collection or storage or transport or reception or recycling or reuse or recovery or pre-processing or co-processing or utilisation or treatment or disposal of hazardous and other waste
<b>FORM-2</b>	Form for grant or renewal of authorisation by state pollution control Board to the occupiers, recyclers, re-processors, re-users, user and Operators of disposal facilities



<b>FORM-3</b>	Format for maintaining records of hazardous and other wastes
<b>FORM-4</b>	Format for maintaining records of hazardous and other wastes to submit Annual return to SPCB on or before 30 <sup>th</sup> June every year
<b>FORM-5</b>	Application for import or export of hazardous and other waste For reuse or recycling or recovery or co-processing or utilisation

**“Hazardous waste”** means **any waste** which by reason of characteristics such as physical, chemical, biological, reactive, toxic, flammable, explosive or corrosive, **causes danger or is likely to cause danger to health or environment, whether alone** or in contact with other waste or substances

**“Other Wastes”** means wastes specified in Part B and Part D of Schedule III for import or export and includes all such waste generated indigenously within the country;

# RESPONSIBILITIES OF OCCUPIER

Occupier shall follow the following steps, namely:-

**waste minimization including prevention, reuse, recycling; recovery, utilization including co-processing and safe disposal.**

Occupier shall be responsible for **safe and environmentally sound management of hazardous and other wastes.**

Hazardous & Other Wastes generated shall be **sent or sold to an authorized actual user or shall be disposed of in an authorized disposal facility.**

**Provide relevant information to CHWTSDF operator needed for safe storage & disposal.**

## RESPONSIBILITIES OF OCCUPIER

- **Apply in Form 1 to SPCB for authorisation** within a period of sixty days from the date of publication of these rules along with relevant documents.
- **Maintain a record in Form 3 & submit annual return to SPCB in Form 4 on or before the 30th day of June following the financial year.**
- **Store** wastes for a **period not exceeding ninety days & maintain record** of sale, transfer, storage, recycling, recovery, pre-processing, co-processing and utilisation of such wastes.

# HW Classification

## II.Characteristics of Hazardous Waste

- **Ignitability:-**

- can create fire under certain condition

- flashpoint < 60°C

- eg:- waste /ents



Flammable materials

- **Reactivity:-**

- substance that are unstable under normal condition.

- can cause explosion, produce toxic fumes, vapours

- pH b/w 2 and 11.5

- eg:- cyanide/sulphide, batteries etc



Figure 1 Hazardous Waste Classification and Labeling

- **Corrosivity:-**

- acids or bases

- pH < 2 or > 12.5

- if liquid it will corrode steel



- **Toxicity:-**

- harmful when ingested/absorbed

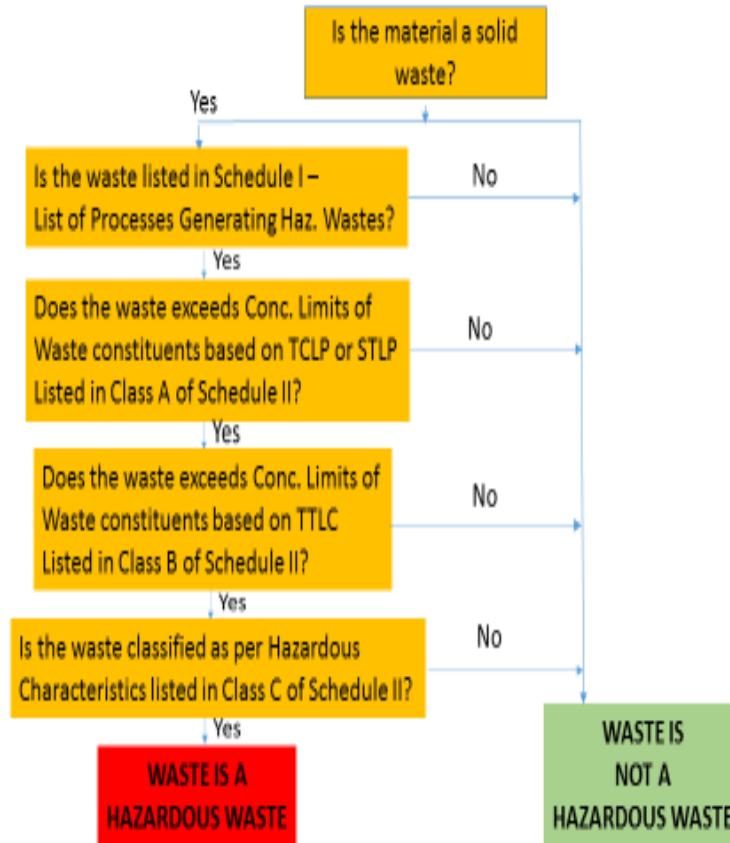
- leach from waste and pollute ground water

- eg:- lead, mercury etc



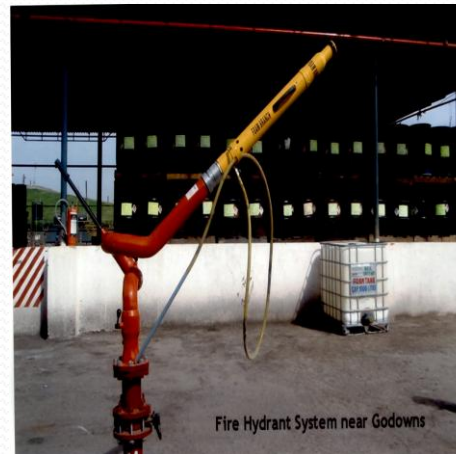
# How to Identify HW?

Fig. – 3: Flow chart for Determination of Hazardous Wastes as per Rules, 2016



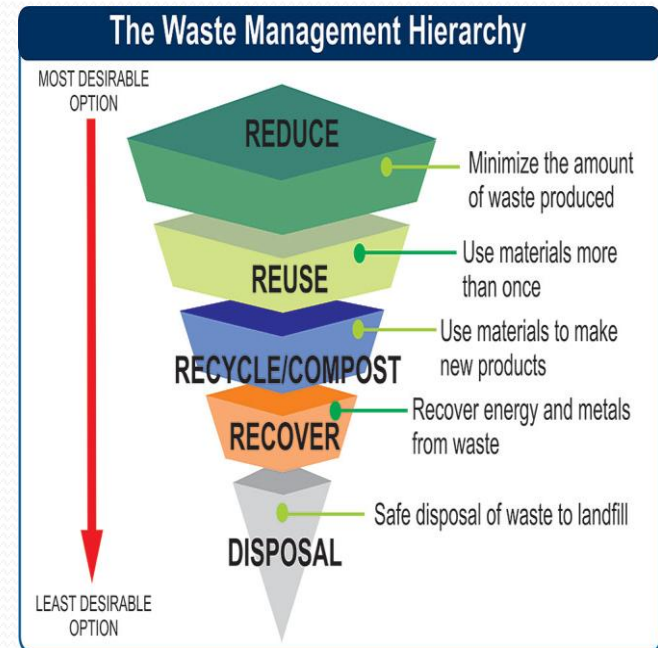
# Best Practices for HW Storage

- The occupier must mark the hazardous waste containers with the labels as specified in Form 8 of the Rules with **fluorescent yellow colour background** written in RED words as **'HAZARDOUS WASTES'** and **'HANDLE WITH CARE'** in *English and vernacular language*. The word **'OTHER WASTES'** to be written prominently in orange in *English and vernacular language*.
- Proper distance between the storage bays (as per CPCB guidelines);
- Storage area has to be properly fenced with signage;



# Waste Management Hierarchy

- The waste hierarchy consists of 4 stages:
  - Reduce – reduce the quantity of waste produced;
  - Reuse – reuse items wherever possible;
  - Recycle – recycle old materials into new products; and
  - Residual – dispose of residual waste to landfill.







**CLEANLINESS IS NEXT TO  
GODLINESS**



THANK YOU