

# Status

## **Industrial Pollution Control**

### **1. Annual Inspection of GPIs**

CPCB has taken up annual exercise of inspection of 100% Grossly Polluting Industries (GPIs) operating in river Ganga main stem since 2017. Four rounds have been completed in 2017, 2018, 2019 and 2020. Inspections of GPIs being carried out annually by involving expert technical institutes such as IITs, NITs, AMU, JMI, CPPRI, PCRI, NSI VSI etc.

Until February 2017, CPCB could conduct inspections of about 30% of the total GPIs inventoried due to manpower and other logistic constraints. It was, therefore, decided that 100% inspection of GPIs shall be carried out annually involving expert technical institutes

Till 2019, GPIs of river Ganga main stem states, namely Uttarakhand, Uttar Pradesh, Bihar, Jharkhand and West Bengal, in consultation with the State Pollution Control Board (SPCBs) were inventoried and inspected. From 2020 onwards, GPIs located in Yamuna basin including Hindon sub-basin are also considered for annual inspection.

### **2. Charter Based Participatory Approach**

Industries are facilitated through charter based participatory approach for reduction in water consumption, effluent generation and pollution load by adoption of cleaner technologies & training for best management practices. Sector specific Charters have been implemented in Pulp & Paper, Sugar, Distillery and Textile sectors. Charter was formulated to enforce appropriate technologies for effluent treatment in industries in Ganga basin and to motivate them as well to comply with the prescribed environmental norms, accomplish desired level of environmental protection and achieve prescribed norms of discharge so as to meet objectives of the National Mission for Clean Ganga.

Implementation of charter and adoption of cleaner based technologies resulted into following:

#### **Major achievement during 2017-2019**

- ✓ Effluent generation reduced from 348 MLD in 2017 to 302 MLD in 2019.
- ✓ Reduced Pollution load discharge from 26 TPD of BOD in 2017 to 16.51 TPD of BOD in 2019.
- ✓ Compliance with environmental norms increased from 39% in 2017 to 85% in 2018 and 96% in 2019.
- ✓ Reduction in specific fresh water consumption (23%-56%) in major industrial sectors (Pulp & Paper, Distillery, Sugar, Textile etc.) of Grossly Polluting Industries in five Ganga main stem states.
- ✓ Complete stoppage of discharge of black liquor from pulp & paper industries and spent wash from distilleries.

## **Pulp and Paper Industry**

- Charter successfully implemented in 93 pulp & paper mills. Installation of Wastewater Treatment System, Chemical Recovery Plant (CRP) for Black liquor and Activated Sludge Process (ASP) based secondary treatment followed by Tertiary Treatment
- Achieved Zero Black Liquor Discharge from Agro based Pulp & Paper industries in Uttarakhand and Uttar Pradesh
- More than 25 RCF category mills has achieved ZLD.

- Reduction in specific water consumption in 2019 w.r.t. 2017 – 23.2%
- Reduction in specific Effluent discharged in 2019 w.r.t. 2017 – 35.40%
- Reduction in specific BOD Load in 2019 w.r.t 2017 – 85.42%

### **Sugar Industry**

- Performance assessment of ETPs and water audit were carried out in operational condition during crushing season 2019-20.
- Prepared scientific irrigation management plan for all sugar mills.
- Set up CPU in sugar mills for treatment of process condensate for recycle/ reuse in the process.
- Set up separate treatment plant for spray pond overflow effluents.
- Reduction in specific fresh water consumption by 56% in 2019 w.r.t. 2017
- Reduction in specific effluent discharge by 27% in 2019 w.r.t. 2017
- Reduction in BOD load by 28% in 2019 w.r.t. 2017.

### **Distilleries**

- Distilleries are among the industries having highest fresh water consumption and highest pollution load.
- Distilleries are achieving ZLD through Multi Effect Evaporator (MEE) which reduces the volume of effluent (spent wash) by 60% and concentrated spent wash is utilized either in bio composting or in incineration boiler.
- Upgradation of process technology by adoption of fed-batch/continuous fermentation, Multi Pressure Distillation (MPR) and installation of MEE has led to reduction in spent wash generation.
- CPCB has prepared the 'Charter for Zero Liquid Discharge in Molasses based Distilleries' to facilitate distilleries to adopt best practices to achieve ZLD
- The 'Standard Operating Procedure (SOP) for bio-composting operation in molasses based distilleries' has been published on CPCB website.
- To achieve ZLD and for water conservation, distilleries are installing Condensate Polishing Unit (CPU) for treatment of evaporation condensate, spent lees and other non-process low strength effluent.
- Distilleries have installed OCEMS devices as per CPCB directions and established their connectivity with CPCB/SPCB server, which has enabled continuous monitoring of the effluent generation as well as its treatment in distilleries.
- Average specific water consumption has been reduced from 12-14 KL/ KL of alcohol production in 2017-18 to 6-8 KL/ KL of alcohol production in 2020-21
- Average specific spent wash generation has been reduced from 9-11 KL/ KL of alcohol production in 2017-18 to 6-8 KL/ KL of alcohol production in 2020-21

### **Textiles**

- Three stage ETP systems made functional in all textile mills.
- Fresh water consumption & effluent generation rates enforced in textile mills through strict metering and fixing specific norms.
- Upgradation of ETP system upto tertiary treatment level and augmentation of Activated Sludge Process based biological treatment unit made in all operational textile mills (about 160 mills).
- Capacity augmentation of ETP systems carried out.
- Strict metering carried out to regulate use of fresh water and effluent generation as per the prescribed norms under the Charter.
- Upgradation of ETP system and standardization of fresh water consumption led to reduction in pollution load by 29% in 2019 w.r.t. 2017

### **Tanneries**

- All PETPs augmented to provide requisite treatment to their effluent to meet the discharge norms at inlet of CETPs.
- Mechanical desalting system introduced in tanneries to reduce TDS content in effluent.
- Segregation of Chrome bearing effluent for chrome recovery installed.
- Prepared Charter to achieve ZLD & reduce TDS concentration in effluents in 41 member tanneries of CETPs at Banthar and Site-II in Unnao by replacing use of salt preserved raw hides with fresh/ chilled hides sourced from slaughter houses in Uttar Pradesh and through adoption of cleaner technologies & waste minimization practices within 18 months.

### **Chemicals**

- Overall reduction in effluent generation is estimated as 51% in 2019 as compared to level in 2017.
- Similarly, reduction in BOD load is estimated as 69 % in 2019 as compared to level in 2017.
- Effluent generation in 2019 is almost at same level as that in 2018. However, there is reduction in BOD load by 35 % in 2019 as compared to 2018, though there is increase in production.

### **Slaughter House**

- Installation of anaerobic treatment system
- Tertiary treatment followed by secondary treatment
- Reduction in specific fresh water consumption by 26.6% in 2019 w.r.t. 2017
- Reduction in specific effluent discharge by 20% in 2019 w.r.t. 2017

### **Installation of Online Continuous Effluent Monitoring System (OCEMS)**

- Out of 1080 GPIs in Ganga main stem OCEMS has been installed in 948 GPIs
- Out of 1660 GPIs in Yamuna basin (including Hindon sub-basin), OCEMS has been installed in 285 GPIs.
- Out of 207 STPs in Ganga front towns, OCEMS has been installed in 24 STPs
- Nomination from 80 District Magistrates out of 90 has been received for receiving SMS alert generated through OCEMS by GPIs falls under Ganga main stem.

### **River Ganga water quality**

1. Water quality of polluted stretches in River Ganga restored at five stretches/locations:
  - a. After confluence of Song River (downstream Raiwala) to Haridwar downstream in Uttarakhand
  - b. Narora, Kannauj downstream in Uttar Pradesh(UP)
  - c. Prayagraj (Rasoolabad) to Prayagraj downstream, UP
  - d. Behrampur to Palta in West Bengal(WB)
  - e. Howrah, Shivpur to Diamond Harbour, WB
2. Zero incidences of coloured water discharge and fish mortality in River Ganga and its tributaries.
3. Water quality restored in River Dhela, Bahela and Kosi in terms of Dissolved Oxygen (DO) and Biochemical Oxygen Demand (BOD).

### **Status of Drains (2018 to 2020)**

CPCB is carrying out half yearly joint monitoring of drains discharging into the river Ganga and its tributaries. CPCB monitored 208 drains in 2018 & 2019 and 334 drains in 2020 in consultation with SPCBs (UKPCB, UPPCB, BSPCB, JSPCB & WBPCB) in the main stem of Ganga along with its tributaries (Banganga, Ramganga, Kali-East, Pandu, etc.). Based on Post-monsoon 2018, 2019 and 2020 monitoring data following observations are made:

1. In 2018, Out of 208 drains, 18 drains were tapped and no interim measure was taken. The flow of 208 drains were observed 12867.74 MLD & Organic load was 651.36 TPD.
2. In 2019, Out of 208 drains, 38 drains were tapped and no interim measure was taken. The flow of 208 drains was observed 13799.37.23 MLD & Organic load was 622.54 TPD.
3. In 2020, Out of 334 drains, 64 drains were tapped, 05 STP outlet and interim measure was taken in 17 drains. The flow observed in 334 drains was 11784.8 MLD & Organic load was 481.13 TPD.