Annual Report

2024-25

Government of India

Ministry of Chemicals & Fertilizers

Department of Chemicals & Petrochemicals

CONTENTS

S. No.	Chapter	Page No.
1	Introduction	1
2	An Overview of the Chemical and Petrochemical Industries	2
3	Petroleum, Chemicals & Petrochemical Investment Regions (PCPIRs)	4
4	New Scheme of Petrochemicals and Promotional activity and Major events	8
5	International Conventions and Treaties	12
6	Bhopal Gas Leak Disaster	18
7	Improving the quality of Chemical and Petrochemical Products & Trade Intelligence	22
8	Public Sector Undertakings	23
9	Autonomous Institutions	31
10	General Administration	43

Chapter-1

INTRODUCTION

1.1 The Department has the mandate to deal with the following broad subject matters:

i. Insecticides (excluding the administration of The Insecticides Act, 1968 (46 of 1968);

ii. Dye-stuffs and Dye-Intermediates;

iii. All organic and inorganic chemicals, not specifically allotted to any other Ministry or Department;

iv. Planning, development and control of, and assistance to, all industries dealt with by the Department;

v. Bhopal Gas Leak Disaster-Special Laws relating thereto;

vi. Petrochemicals;

vii. Industries relating to production of non-cellulosic synthetic fibres (Nylon Polyesters, Acrylic etc.);

viii. Synthetic Rubber; and

ix. Plastics including fabrication of plastic and moulded goods.

1.2 The Department has five major divisions viz. Chemicals, Petrochemicals, Administration, Statistics & Monitoring (S&M) and Economic Division. The Integrated Finance Division is common to the three Departments in the Ministry of Chemicals and Fertilizers.

1.3 There are three Central Public Sector Undertakings (CPSUs) in the chemical sector namely Hindustan Organic Chemicals Ltd. (HOCL), HIL (India) Limited and Hindustan Fluorocarbons Limited (HFL), which is a subsidiary of HOCL (Note: HFL is not currently operational). Two autonomous institutes namely Central Institute of Petrochemicals Engineering & Technology (CIPET) and Institute of Pesticides Formulation Technology (IPFT) function under this Department.

1.4 Shri Jagat Prakash Nadda is the Minister for Chemicals and Fertilizers. Smt. Anupriya Patel is the Minister of State for Chemicals and Fertilizers and Ms. Nivedita Shukla Verma is the Secretary of the Department.

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Chapter - 2

AN OVERVIEW OF CHEMICAL AND PETROCHEMICAL INDUSTRY

Vision of the Department of Chemicals and Petrochemicals

2.1 With the objective of achieving the vision of Viksit Bharat, the Department seeks to focus on enhancing the production of chemicals and petrochemicals in the country and to reduce India's dependence on imports. This includes taking steps to promote the manufacturing of chemicals and petrochemicals in the country, fostering innovation and technological advancement, promoting the adoption of sustainable practices, increasing the availability of skilled manpower and taking steps to improve safety measures in the sector.

Chemical and Petrochemical Industry

2.2 The chemical industry plays a key role in ensuring food security, health and improving quality of life. It includes basic chemicals and its products, petrochemicals, fertilizers, paints, varnishes, gases, soaps, perfumes & toiletry and pharmaceuticals. The diversification within the chemical industry is large and covers more than eighty thousand commercial products. Petrochemicals, which comprise of plastic and a host of other chemicals, are downstream hydrocarbons derived from crude oil and natural gas. The value additions in the petrochemicals chain offer immense possibilities and cater to the need of a large number of industries including textiles and clothing, agriculture, automobiles and other emerging areas. This industry occupies a pivotal position in the industrial and agricultural development of the country.

2.3 The sector also plays an important role in the Indian economy. The Indian chemical industry contributed 3.0% of total FDI equity inflows since 2000. Total FDI during 2014-2023 attracted in this sector was Rs.94,540 Crore whereas from 2003-04 to 2013-14, the same was Rs.45,240 crore. The share of Gross Value Added of the chemicals sector in the Manufacturing Sector during FY 2022-23 is about 9.8% at current prices and 1.4% of its national GVA in FY 2022-23. The Gross Value Added has grown at an average CAGR of 9% during the period FY2017-18 to FY2022-23.

2.4. The size of the Indian Chemical industry in terms of value of output in the year 2022-23 was Rs.15,76,459 crore at current prices. The output of chemical and chemical products has increased at a CAGR of 13% during last five years at current prices.

2.5. The production of major Chemicals and petrochemicals was 55,126 thousand MT in 2023-24 as against the production of 41,887 thousand MT in 2014-15. The production of total major chemicals and Petrochemicals in 2024-25 (April- September 2024) is 28,292 thousand MT, which is higher than production (27630 thousand MT) of previous year for same period. The Production of selected Major Chemicals and Petrochemicals during the years 2019-20 to 2024-25 (up to September 2024) is given in Annexure-I & II.

2.6 Alkali Chemicals lead with the largest share, accounting for 71% of total chemical production. Organic Chemicals follow with 15%, while Inorganic Chemicals contribute 9%. Pesticides make up 2%, and Dyes & Pigments account for 3% of the production for major chemical groups in FY 2023-24. In petrochemicals, polymers lead with the largest share, accounting for 30% of total production, followed closely by Olefins at 29%. Fiber Intermediates contribute 12%, Synthetic Yarn stands at 9%, Aromatics at 8%, and Other Petro-Based Chemicals make up 6%. Performance Plastics account for 3%, while Synthetic Rubber and Synthetic Detergent Intermediates each represent 1% and 2%, respectively, of the overall production for the major Petrochemical group in the FY 2023-2024.

2.7 The installed capacity of chemicals and petrochemicals was 69,308 (000' MT) in 2023-24. The installed capacity utilization rates for Basic Major Chemicals and Basic Major Petrochemicals in the fiscal year 2023-24 was 76.2% and 80.6% respectively. The overall capacity utilization rate for the same period stood at 79.5%. 10.58 lakh persons were engaged in the sector during 2022-23, registering a growth rate of 3.1% in the organized sector of medium and large-scale industries.

(Note: 1. The entire data relating to installed capacity and production has been taken from selected 245 medium and large scale industries/units and being collected by DCPC.

2. The total basic chemicals and petrochemicals production is aggregated based on monthly production returns received from manufacturers of chemicals under large and medium scale units only. Product- wise and Group wise details of installed capacity and production for major Chemicals and major Petrochemicals are given at ***Annexures - I & II*** *respectively.)*

3. Information pertaining to GVA, output and employment has been taken from MoSPI.

4. Information pertaining to FDI has been taken from DPIIT.

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Chapter -3

PETROLEUM, CHEMICAL AND PETROCHEMICAL INVESTMENT REGIONS (PCPIRs)

Background

3.1 The concept of Petroleum, Chemical and Petrochemical Investment Regions (PCPIRs) is to promote Petroleum, Chemical and Petrochemical sectors in an integrated and environmental friendly manner on a large scale. Government of India formulated the PCPIR policy in April 2007 to give a boost to this sector. PCPIRs were envisioned to reap the benefits of co-siting, networking and greater efficiencies through use of common infrastructure and support services.

3.2 Each PCPIR is a specifically delineated investment region having an area of about 250 sq. km (with around 40% of the area earmarked for processing activities). It is not mandatory for the State Government concerned to acquire the entire area comprising the PCPIR, but they have to notify the area under the relevant area planning and zoning law. A PCPIR is a combination of production projects, public utilities, logistics, environmental protection facilities, residential areas and administrative services.

3.3 Once the proposal is approved, the State Government concerned or its agency carries out Environmental Impact Assessment based on the Terms of Reference, as approved by Ministry of Environment, Forest and Climate Change (MoEF&CC). Environmental Clearance (EC) is granted after appraisal by an Expert Appraisal Committee of the MoEF&CC.

3.4 The policy provides that each PCPIR would have a refinery / petrochemical feedstock company as an Anchor Tenant. Government of India will ensure availability of external physical infrastructure linkages to the PCPIR including connectivity through railways, roads, ports, airports and telecom. This infrastructure is created or upgraded, through Public Private Partnership projects to the extent possible. The Central Government also provides necessary funding to make such projects viable, called Viability Gap Funding (VGF), as well as budget support for creation of these linkages through respective Ministries and Ministry of Finance.

3.5 The State Government concerned plays the lead role in setting up of the PCPIR. A nodal Department or agency is notified for coordinating the linkages. A management body constituted by the State Government for each PCPIR, under the relevant legislation, is responsible for the development and management of the PCPIR. A developer or a group of co-developers is selected through a transparent mechanism to manage the internal infrastructure of the PCPIR.

PCPIRs under implementation:

Under this policy, 03 PCPIRs are being implemented as follows:

- **Gujarat –** at Dahej in Bharuch district
- **Andhra Pradesh –** this PCPIR region is spread from Vishakhapatnam to Kakinada and East Godavari Districts.
- **Odisha –** at Paradeep in Kendrapara and Jagatsingpur districts

Comparative Status of 3 PCPIRs:

Location/ Region	Dahej, Bharuch	Vishakhapatnam-Kakinada	Paradeep	Total
Date of Approval	Feb, 2009	Feb, 2009	Dec, 2010	
Total Area (Sq. kms.)	453.0	640.0	284.15	1377.15
Processing Area (Sq.kms.)	230.0	270.0	123.0	623.0
Investments made (Rs. Crore)	1,28,509	58,918	73,518	2,60,945
Employment generated (No.)	2,45,140	86,123	40,000	3,71,263
No. of Chemical Units	626	150	48	824

3.6 Gujarat PCPIR

i. The Cabinet Committee on Economic A□airs (CCEA) approved the setting up of PCPIR in Dahej, Gujarat in February, 2009. Memorandum of Agreement (MoA) was signed between this Department and Government of Gujarat in January 2010 to implement the PCPIR.

ii. Gujarat PCPIR is under implementation at Dahej in Bharuch district and it is spread over an area of 453 sq. km. The PCPIR has been notified under the Gujarat Special Investment Region (GSIR) Act, 2009. It is strategically positioned to the east of Delhi-Mumbai Industrial Corridor and near the western coastline. In the existing estate, 11,158 hectares of land is under industrial use and 656 hectare is for housing/commercial purposes.

iii. The Anchor Tenant, viz. M/s ONGC Petro additions Ltd. (OPaL) has set up a dual feed cracker complex at Dahej SEZ with a production capacity of 1.1 MMTPA of ethylene and 0.6 MMTPA of propylene, along with the matching capacities downstream polymer processing unit (polyethylene and polypropylene). The Anchor Tenant has incurred an expenditure of Rs.30,826 Crore so far for project execution and commissioning. The project has been commissioned in 1st week of March, 2017.

iv. MoEF&CC has granted Environment and Coastal Regulation Zone (CRZ) clearance for an area of 44,445.18 hectare after excluding forest land i.e. 853.41 hectare for

development of Gujarat PCPIR on 14.09.2017.

v. The PCPIR has air connectivity with international airport at Ahmedabad (distance-250 km), domestic airports at Vadodara (90 km) and Surat (85 km).

vi. Details of the port facilities at Dahej are as follows:

I. Adani Petro net Port at Dahej with capacity of 11 MMTPA

II. GCPTCL Liquid Chemicals Terminal (4.9 MMTPA) of GCPTCL

III. LNG port (10 MMTPA) of LNG Petro net Ltd.

IV. Liquid Fuel Jetty (2MMTPA) of Reliance

V. Solid cargo jetty (5 MMTPA) of Birla Copper

vii. GIDC has set up a CETP facility having a capacity of 40 MLD, at Dahej GIDC Estate. Another CETP with a capacity of 40 MLD is proposed at Saykha Industrial Estate. Both CETPs have been commissioned.

3.7 Andhra Pradesh PCPIR:

i. Special Development Authority (SDA) is formed by Govt. of A.P. vide G.O. No.373 dt. 24.05.2008 to develop the AP-PCPIR.

ii. AP PCPIR covers 6 existing SEZs namely, Brandix SEZ, Pharam SEZ, AP-SEZ, Hetero Drug-SEZ, Kakinada SEZ and Parry Food Products SEZ.

iii. M/s HPCL is in the process of taking up the feasibility study for establishing a Petrochemical Complex without a refinery. M/s HPCL has informed that due to lack of feasibility, the green field project for establishing a refinery has not materialized and they are in the process of taking up the feasibility study for establishing a Petrochemical Complex without a refinery.

iv. AP PCPIR has 3 existing ports viz. Kakinada, Gangavaram and Vishakhapatnam.

v. 1 MLD Common Effluent Treatment Plant (CETP) at Atchutapuram SEZ has been commissioned while CETP at Brandix, JNPC- Parwada and CETP at Hetero SEZ Nakkapalli have been completed.

vi. A 220 KV Sub-station at Brandix has been completed while a 440 KV/220KV sub-station at KSEZ is in progress.

vii. Road, rail link, water supply, e□uent treatment and marine outfall projects are under different stages from study to implementation.

3.8 Odisha PCPIR:

i. Paradeep PCPIR is being developed on a 284 sq. km in Kendrapara and Jagatsingpur districts of Odisha. The master plan of Paradeep PCPIR has already been completed by the consultant. The same will be submitted to the Government after enhancement of

jurisdiction of Paradeep Development Authority to Greater Paradeep Development Authority for Notification of the Master Plan. In the meantime, Odisha Industrial Infrastructure Development Corporation (IDCO) the implementing Agency has requested Government of Odisha for enhancement of the jurisdiction of the Paradeep Development Authority.

ii. Detailed Environmental Impact Assessment (EIA) is being undertaken by Environmental Protection Training and Research Institute (EPTRI), Hyderabad. After public hearing, the EIA report was submitted to Expert Appraisal Committee (EAC) of MoEF&CC, Government of India for obtaining Environment Clearance. The EAC has raised certain observations. The Consultant is preparing the compliances to the above observations and it is expected that the same will be submitted to the EAC soon.

iii. Indian Oil Corporation's 15 MMTPA Refinery at Paradeep was commissioned in February 2016. This Refinery is also the anchor tenant for the development of PCPIR.

iv. Existing industrial units in Odisha PCPIR include Churiwal Techno pack Pvt Ltd., Chirpal Polyfilms Ltd, Ion exchange Ltd., Dhunseri Ventures Limited, IFFCO Ltd, Numaligarh Refinery Limited, Purv Packaging, Sai Bulk Bag Private Ltd, Silox India Pvt. Ltd, Renew E□uels Pvt Ltd, Nigaz Paradeep Pvt Ltd, Dry Chem India Pvt. Limited, Aegis Logistics Ltd, IVL Dhunseri Petrochem Industries Ltd, Ion Exchange (india) Ltd, Peral Precision Products Pvt. Ltd.

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Chapter -4

NEW SCHEME OF PETROCHEMICALS AND PROMOTIONAL ACTIVITY AND MAJOR EVENTS

4.1 NEW SCHEME OF PETROCHEMICALS

The Department of Chemicals and Petrochemicals implements the following schemes under the New Scheme of Petrochemicals:

a. Setting up of Plastic Parks
b. Setting up of Centres of Excellence
c. National Petrochemicals Awards, now revised as the Petrochemicals Research Innovation Commendation Scheme
d. Chemical Promotion Development Scheme (CPDS)

(A) Setting up of Plastic Parks

4.2 The scheme aims at setting up Plastic Parks, with required infrastructure and enabling common facilities through a cluster-based approach, to consolidate and synergize the capacities of the domestic downstream plastic processing industry. The larger objective of the scheme is to contribute to the economy by increasing investment, production, export and employment generation in the sector.

4.3 Under the scheme, the Government of India provides grant funding up to 50% of the project cost, subject to a ceiling of Rs.40 crore per project. The remaining project cost is funded by the State Government or their agencies, beneficiary industries etc.

4.4 10 Plastic Parks have been approved so far in the States of Madhya Pradesh (two), Odisha, Jharkhand, Tamil Nadu, Uttarakhand, Chhattisgarh, Assam, Uttar Pradesh and Karnataka. These are at different levels of implementation, as outlined in **Annexure III.**

(B) Setting up of Centres of Excellence (CoE)

4.5 The scheme aims at improving the existing technology research in the country and promoting the development of new applications. In phase-I of the Scheme implemented up to 2017, the Government of India provided financial support to the extent of maximum 50% of the total project cost subject to an upper limit of Rs. 6 crore. As per the revised Guidelines, the ceiling for Government support is Rs. 5 crore.

4.6 So far, 18 Centres of Excellence (CoE) have been approved, as given in **Annexure IV**

(C) Petrochemicals Research & Innovation Commendation Scheme (erstwhile National Petrochemicals Awards)

4.7 The Department has been implementing an Awards scheme to provide incentive for meritorious innovations and inventions in various fields of the petrochemicals and downstream plastics processing industry. 11 editions of the awards have been successfully organised so far.

4.8 In accordance with the advice of Ministry of Home A□airs, the scheme of "National Petrochemical Awards" has been revised to the "Petrochemicals Research and Innovation Commendation Scheme", which seeks to promote research and

development in the country so as to ensure better energy consumption, more e□cient plastic waste management, increase in product life cycle, development of innovative new products and quality standards etc.

(D) Chemical Promotion Development Scheme (CPDS)

4.9 Chemical Promotion Development Scheme (CPDS) is being implemented since 1997 in the Chemical Division of DCPC. The objective of CPDS is to facilitate growth and development of Chemicals and Petrochemicals Industry by creation of knowledge products through studies, survey, data banks, promotional material etc. and dissemination of knowledge through conduct of seminars, conferences, exhibition etc. to facilitate development of these sectors. The Scheme also aims to incentivize research and innovation by awarding outstanding efforts in the field of chemicals and petrochemicals.

4.10 The aim of the Scheme is to extend soft support in the form of Grants-in-Aid (General) to various organisations/ industry associations, etc. to conduct workshops, seminars, studies, etc. to obtain necessary inputs for enabling the Department to firm its views on various policy matters relating to the Chemical and Petrochemical sector.

4.11 Mega events like India Chem, Advancements in Polymeric Materials (APM), National Awards, Global Chemicals Manufacturing Hubs in India (GCPMH), etc. which are useful for the promotion of national/ international trade and attracting foreign investment, R&D for indigenization of technologies & import substitution, are organized under CPDS. Programmes focusing on green technology, chemical safety and handling, pesticides, etc. are organized which benefit chemical industries and farmers. CIPET and IPFT, the Autonomous Bodies of this Department and Industry Associations viz. DMAI, AMAI, FICCI, CII, ICC, etc. organise small events on the themes which are useful for the development of Indian Chemical & Petrochemical Industry.

4.12 India Chem and Global Chemicals Petrochemicals Manufacturing Hubs (GCPMH) Summit are largest composite biennial events of the Department organised under this Scheme. These events help to promote research and development and scope of technology transfer, skill development, sustainability initiatives for comprehensive development of the Chemical and Petrochemical sector.

4.13 Since 2016, HIL (India) Limited, a PSU under this Department, is organising farmers training programmes under CPDS on Safe and Judicious use of Pesticides in crops and creating awareness among farmers towards the adoption of Integrated Pest Management Practices to minimize pesticides residue in food grains, edible oils, fruits, and vegetables. From the year 2022-23, IPFT is also organizing farmers training programs under CPDS. Around 203 training programs in around 135 districts have been organized in di□erent parts of the country so far. The objective of the training programmes is to address the problem of farmer suicides, soil degradation, damage to the underground water bodies, animals, birds, and human beings which are subject to the adverse effect of residual pesticides in the eatables due to indiscriminate / excessive use of agrochemicals. During 2024-25, 20 training programmes for farmers have been organized by HIL, so far.

The funds utilized under CPDS since 2019-20 is as under:

(Rs. In Crore)

Year	Budget Estimates	Revised Estimates	Fund Utilized
2019-20	3.00	3.00	2.93
2020-21	3.50	2.80	2.80
2021-22	3.00	3.60	3.59
2022-23	3.00	3.00	2.99
2023-24	3.00	3.75	3.75
2024-25	**5.50**	**5.50**	**2.06***

(*till 17/12/2024)

Promotional Activities & Major events under CPDS:

Chemical and Petrochemical Industrial Safety trainings

4.14 Department of Chemical & petrochemicals has initiated a new program to impart training to workforce of Major Accident Hazardous (MAH) Units for "Safe handling of hazardous chemicals at work place and reducing risk associated with hazardous chemicals" across the country under Viksit Bharat@2047 Action Plan.

4.15 The safety training programs are intended to cover all the 2393 no of MAH Units over a period of 5 years. Each training programme is expected to cover 100 participants from 50 MAH units, with 2 employees from each of units. Thus, a total of 48 such training programs are planned to be organised, in industrial clusters across the country over next 5 years.

4.16 Till date, 4 such training programs have been organized at Ahmedabad, Gujarat, Delhi, Bhubaneswar, Odisha and Chennai, Tamil Nadu. These trainings programs were attended by 247 industrial units including 173 Major accident Hazardous units. A total of 432 safety personnels have been trained through these training programs. Thematic areas that are covered under the training programmes includes Safety & Health at work, Process safety Management, Advance Risk Assessment techniques, Toxicology, Hazard Identification techniques, Emergency preparedness, Role of ICT and other technologies in Chemical Safety, Global Harmonized System, Loss statistics and loss Prevention, Environmental Prevention and Spill prevention, Hazardous Waste Management, Labelling of chemicals and Safety data Sheet (SDS) & Fire and Explosion Safety, along with a mock drill for a hands on experience.

India Chem 2024

4.17 The 13th edition of the *'India Chem'* was organized by the Department of Chemicals & Petrochemicals jointly with the Federation of Indian Chambers of Commerce and Industry (FICCI) during 17-19th October, 2024 at Mumbai.

4.18 The event is one of the largest exhibition-cum-conference for chemical and petrochemical sector in the Asia-Pacific region, the event showcased the immense opportunities within India's rapidly growing chemical and petrochemical sector and highlighted various government initiatives aimed at fostering sustainable growth.

4.19 The keynote session was graced by Shri Jagat Prakash Nadda, Union Minister for Health & Family Welfare, and Chemicals & Fertilizers, Shri Bhupendra Rajnikant Patel, Chief Minister of Gujarat, Shri Mohan Charan Majhi, Chief Minister of Odisha, Shri Mohan Yadav, Chief Minister of Madhya Pradesh along with Smt. Anupriya Patel, Minister of State, Chemicals and Fertilizers and Shri Sampad Chandra Swain, Minister of State, Industries Department, Odisha. This was followed by a Global CEOs' Conclave, presided over by the Union Minister for Chemicals & Fertilizers, wherein industry leaders from across the globe discussed the opportunities and challenges of the Indian chemical industry. Netherlands was the partner country for this edition, and several Indian states, including Gujarat, Odisha, Andhra Pradesh, Madhya Pradesh, and Rajasthan, featured as partner states.

4.20 The event hosted an engaging job fair featuring 14 leading chemical companies from different sectors and students from CIPET - Central Institute of Plastic Engineering and Technology. During the job fair, the students were given an opportunity to interact with the industry to explore possible career prospects.

4.21 The event saw participation from 172 exhibitors, including 49 international exhibitors, and attracted 78 global CEOs, 135 speakers, and 689 foreign participants. With 1,115 Indian delegates and 8,720 business visitors, India Chem 2024 reaffirmed its significance as a major gathering for the chemicals and petrochemicals industry. There were several sessions on issues ranging from dyes, and agrochemicals, to petrochemicals, which saw discussions on the latest developments in the field, as well as on the importance of innovation and adoption of sustainable practices. Besides, there were dedicated sessions focusing on geography specific issues including the India-EU, India-East Asia, India-US and India-Russia Chemicals & Petrochemicals Forums, bringing together key stakeholders from each of these regions.

ICC Sustainability Conclave

4.22 The Department of Chemicals and Petrochemicals, Government of India, in collaboration with the Indian Chemical Council (ICC), organized 6th ICC Sustainability Conclave on the 5th and 6th December 2024 in New Delhi, focusing on fostering sustainable practices in chemical manufacturing. The event brought together speakers from over 50 industry leaders, Government officials, and experts, along with 250+ delegates from across the globe. The Conclave addressed critical challenges like regulatory alignment, infrastructure development, and public-private collaboration. It underscored the importance of innovation, integration, and Government support to foster a sustainable future for the chemical industry.

Chapter -5

INTERNATIONAL CONVENTIONS & TREATIES

5.1 Chemical Weapons Convention (CWC)

Chemical Weapons Convention is a universal, non-discriminatory, multilateral, disarmament treaty which bans the development, production, acquisition, transfer, use and stockpile of all chemical weapons. The treaty puts all the States Parties on an equal footing. Countries having stockpiles of chemical weapons are required to declare and destroy them in a specified time frame and those who produce and use chemicals that can be conveniently converted into chemical weapons have to be open and transparent about the use they put these chemicals into. The Convention was opened for signature on 13th January 1993 in Paris.

I. India is a signatory and party to the Chemical Weapons Convention (CWC), of the Organization for the Prohibition of Chemical Weapons (OPCW) with Head Quarters at The Hague, Netherlands.

ii. India signed the treaty at Paris on 14th day of January 1993. Pursuant to provisions of the Convention, India enacted the Chemical Weapons Convention Act, 2000. As on date, 193 countries are parties to the Convention.

iii. The Department of Chemicals & Petrochemicals is the administrative Department of CWC Act, 2000. Chemical Weapons Convention Act, 2000 is in force in the country w.e.f. 1st July 2005.

iv. The National Authority for Chemical Weapons Convention (NACWC) has been set up as an office of the Cabinet Secretariat, Government of India in 1997 to fulfil, on behalf of the Government of India, the obligations under the Chemical Weapons Convention and to act as the national focal point for effective liaison with the Organization for the Prohibition of Chemical Weapons (OPCW) and other State Parties on matters relating to the Convention.

v. Three Schedules of the chemicals which have been annexed to the Convention, which are required to be declared and are given as follows:

a. **Schedule-1 Chemicals** (16 Chemicals) (i.e. Chemical Weapons);

b. **Schedule-2 Chemicals** (14 Chemicals) (i.e. precursors to Chemical Weapons);

c. **Schedule-3 Chemicals** (17 Chemicals) (i.e. dual use Chemicals).

5.2 Rotterdam Convention

i. Rotterdam Convention is a multilateral treaty to promote shared responsibilities in relation to importation of certain hazardous chemicals.

ii. The convention promotes open exchange of information and calls on exporters of hazardous chemicals to use proper labelling, include directions on safe handling and inform purchasers of any known restrictions or bans.

iii. Signatory nations can decide whether to allow or ban the importation of chemicals listed in the treaty.

iv. To achieve its objectives, the Convention has following two key provisions:-

5.2 (A) The Prior Informed Consent (PIC) Procedure

I. The PIC procedure is a mechanism for obtaining the decisions of importing Parties as to whether they wish to receive future shipments of those chemicals listed in Annex III of the Convention.

II. All Parties are required to take a decision as to whether or not they will allow future import of each of the chemicals in Annex III of the Convention. These decisions are known as import responses.

III. A listing of the import responses given for each chemical subject to the PIC procedure is circulated by the Secretariat to all Designated National Authority every six months via the PIC Circular and all import responses are available on the Convention's website.

IV. The different Annexures in the PIC Regulation of the Convention are given as below:

V. **Annex- I:** It contains all information requirements for notifications.

VI. **Annex- II:** It requires a risk evaluation based on a review of scientific data in the context of the conditions prevailing in the Party's country submitting the notification of a final regulatory action to ban or restrict a chemical. The data should be generated in accordance to scientifically recognized methods and data reviews carried out in agreement of sound scientific principles and methods.

VII. **Annex- III**: It include pesticides and industrial chemicals that have been banned or severely restricted for health or environmental reasons by two or more Parties and which the Conference of the Parties has decided to subject to the PIC procedure.

VIII. There are a total of 55 chemicals listed in Annex III, 36 pesticides (including 3 Severely Hazardous Pesticide Formulations (SHPF)), 18 industrial chemicals, and 1 chemical in both the pesticide and the industrial chemical categories.

IX. **Annex- IV**: This annexure of the Convention sets out information and criteria for listing those SHPFs in Annex III and asks for further information, for example risk and/or hazard evaluations, where available.

5.2 (B) Information Exchange

i. The Convention facilitates information exchange among Parties for a very broad range of potentially hazardous chemicals.

ii. The Convention requires each Party to notify the Secretariat when taking a domestic regulatory action to ban or severely restrict a chemical.

iii. When a chemical that is banned or severely restricted by a party is exported from its territory, that Party must notify each individual importing party before the first shipment and annually thereafter.

iv. Exports of banned or severely restricted chemicals, as well as chemicals subject to the PIC procedure, are to be appropriately labelled and accompanied by basic health and safety information in the form of a safety data sheet.

5.3 Parties and their Designated National Authorities (DNAs)

Parties are countries or regional economic integration organizations that have ratified, accepted, approved or acceded to the Convention. Each Party must designate one or more

DNAs from INDIA

Industrial Chemicals	Shri Deepankar Aron Joint Secretary (Chemicals) Department of Chemicals and Petrochemicals Ministry of Chemicals and Fertilizers Room No. 340C, 'A' Wing Shastri Bhawan 110001 New Delhi	jschem-cpc@gov.in

5 Role of DCPC

i. DCPC take action only on signed version of the notification not on preliminary version of the notifications without signature of DNA (Designated National Authority) enclosing questionnaire for explicit consent.

ii. The Notification wherein the proposed chemical comes under Annex-III of Rotterdam Convention and section 6.2 of the notification marks the chemical as 'Pesticide' and 'Industrial Chemical' both or only Industrial Chemical, DCPC seeks relevant documents from the industry to ensure that the chemicals which are being imported are utilized for the purpose as mentioned in sub section 3.3 of their notification.

iii. For the notifications wherein mentioned chemicals are not listed in **Annex-III**, DCPC inform ECHA (European Chemical Agency) that Department acknowledges only those chemicals which are listed in **Annexure-III of PIC Procedure of Rotterdam convention**.

iv. Face to Face **Conference of the Parties** to the Rotterdam Convention is being conducted in every two years to review and evaluate the implementation of the Convention. It considers and adopts, as required, amendments to the Convention and its annexes, e.g. to list new chemicals brought forward by the Chemical Review Committee. DCPC participates in these COP meetings being held from time to time.

5.6 Stockholm Convention

i. Stockholm Convention on Persistent Organic Pollutants is an international environmental treaty, signed on 22nd May 2001 in Stockholm and effective from 17th May 2004, that aims to eliminate or restrict the production and use of persistent organic pollutants (POPs).

ii. The Stockholm Convention aims to protect human health and the environment from the effects of persistent organic pollutants (POPs).

iii. The Government of India had ratified the Stockholm Convention on 13th January, 2006 as per Article 25(4).

iv. Parties must take measures to eliminate the production and use of the chemicals listed under Annex A. Specific exemptions are available in Annex A and apply only to Parties that have registered for them.

List of Annexure A (Elimination)

1.	Aldrin
2.	Chlordane
3.	Chlordecone
4.	Decabromodiphenyl ether (commercial mixture, c -decaBDE)
5.	Dechlorane Plus
6.	Dicofol
7.	Dieldrin
8.	Endrin
9.	Heptachlor
10.	Hexabromobiphenyl
11.	Hexabromocyclododecane (HBCDD)

12.	Hexabromodiphenyl ether and heptabromodiphenyl ether
13.	Hexachlorobenzene (HCB)
14.	Hexachlorobutadiene
15.	Alpha hexachlorocyclohexane
16.	Beta hexachlorocyclohexane
17.	Lindane
18.	Methoxychlor
19.	Mirex
20.	Pentachlorobenzene
21.	Pentachlorophenol and its salts and esters
22.	Polychlorinated biphenyls (PCB)
23.	Polychlorinated naphthalenes
24.	Perfluorooctanoic acid (PFOA), its salts and PFOA-related compounds
25.	Perfluorohexane sulfonic acid (PFHxS), its salts and PFHxS -related compounds
26.	Short-chain chlorinated paraffins (SCCPs)
27.	Technical endosulfan and its related isomers
28..	Tetrabromodiphenyl ether and pentabromodiphenyl ether
29.	Toxaphene
30.	UV-328

5.7 Annexure B (Restriction)

Parties must take measures to restrict the production and use of the chemicals listed under Annex B in light of any applicable/acceptable purposes and/or specific exemptions listed in the Annex.

i. DDT

ii. Perfluorooctane sulfonic acid (PFOS), its salts and perfluorooctane sulfonyl fluoride (PFOSF)

5.8 Annexure C (Unintentional production)

Parties must take measures to reduce the unintentional releases of chemicals listed under Annex C with the goal of continuing minimization and, where feasible, ultimate elimination.

I.	Hexachlorobenzene (HCB)
II.	Hexachlorobutadiene (HCBD)
III.	Pentachlorobenzene
IV.	Polychlorinated biphenyls (PCB)
V.	Polychlorinated dibenzo-p-dioxins (PCDD)
VI.	Polychlorinated dibenzofurans (PCDF)
VII.	Polychlorinated naphthalenes

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Chapter -6

BHOPAL GAS LEAK DISASTER

6.1 On the intervening night of 2nd and 3rd December, 1984 "Methyl Iso-cynate " (MIC), a lethal gas stored in two tanks of Union Carbide Pesticide Factory at Bhopal leaked in the atmosphere resulting in industrial mass disaster unparalleled in its magnitude and causing serious injuries to a large number of population of Bhopal city, also resulting in immediate death toll of thousands of human lives. Various relief and rehabilitation measures initiated immediately after the disaster are still continuing.

Adjudication of Compensation Claims

6.2 Several suits were filed for compensation and damage in different courts in India, prosecution was launched. The Government of India enacted Bhopal Gas leak Disaster (Processing of Claims) Act, 1985. The Act came into force on 20th February, 1985. It empowered the Union of India to take over the conduct of all litigation in regard to claims arising out of gas disaster and to award compensation to the victims and affected persons. Under this Act, the Government has framed a Scheme known as the Bhopal Gas Leak Disaster (Registration and Processing of Claims) Scheme, 1985 for registration, processing determination of compensation to each claim and appeals, if any, arising therefrom. Under this Act, the Office of the Welfare Commissioner, Bhopal Gas Victims, was set up by the Government of India for speedy adjudication and award/disbursement of compensation to the survivors and families of the victims of the gas leak disaster.

6.3 Looking at the magnitude of the human suffering that occurred due to BGLD, Hon'ble Supreme Court of India passed a settlement order dated 14th and 15th February, 1989 directing the Union Carbide Corporation to pay a sum of US$ 470 million, which was deposited by the Company with the Registrar of the Supreme Court of India, in 1989.

Original Compensation

6.4 The actual disbursement of the compensation started from 1992 and the Office of the Welfare Commissioner awarded/disbursed Rs.1549.33 Crore as compensation in settled cases of 5,74,394 claimants belonging to the categories of death, permanent disability, temporary disability, injury of utmost severity cases, minor injury, loss of property/PSU and loss of livestock till 31st March 2024.

Pro-rata Compensation

6.5 The Hon'ble Supreme Court vide order dated 19th July, 2004, had directed the Welfare Commissioner to disburse the balance amount of approximately Rs.1,500 crore, which had accumulated with the Reserve Bank of India on account of accrual of interest and exchange rate variation, on pro-rata basis (in the ratio of 1:1 of Original Compensation)

to the claimants whose cases had been settled. The distribution of pro-rata compensation started from November, 2004. A sum of Rs.1517.99 crore as pro-rata compensation has been awarded in 5,63,151 cases till 31st October 2024. The work of disbursal of pro- rata compensation is continuing.

Disbursement of Ex-gratia

6.6 On the recommendations of the Group of Ministers (GoM) constituted on Bhopal Gas Leak Disaster, the Government took certain decisions to provide further relief and rehabilitation to the gas victims in the year 2010. One of the major decision taken by the Government was to pay Ex-gratia to the following categories of gas victims:

Categories of Ex-gratia payments to Gas victims

Category	Scale of Ex-gratia
Death	Rs.10 lakh (less amount already received)
Permanent disability	Rs.5 lakh (less amount already received)
Injury of utmost severity	Rs.5 lakh (less amount already received)
Cancer	Rs.2 lakh (less amount already received)
Total Renal Failure	Rs.2 lakh (less amount already received)
Temporary disability	Rs.1 lakh (less amount already received)

7 An amount of Rs.940.50 Crore has been approved by the Government for disbursement of Ex-gratia amongst the above categories of victims. The Office of the Welfare Commissioner has commenced disbursal of Ex-gratia to the Gas Victims on 19th December, 2010. A total no. of 64,951 cases have been decided and an amount of Rs.892.29 Crore has been disbursed in awarded cases till 31st October, 2024.

Rehabilitation of Bhopal Gas Victims (Action Plan)

6.8 An amount of Rs.102 crore was sanctioned by the Government of India for relief, rehabilitation and financial assistance to victims of gas tragedy from 1985 to 1989.

6.9 In 1990, Government of India approved 5-years Action Plan of the State Government of Madhya Pradesh (GoMP) with a capital outlay of Rs.163.10 Crore for the Medical, Economic, Social and Environmental rehabilitation of the Bhopal Gas victims. The outlay was subsequently revised upwards to Rs.258 crores. It was decided that the Action Plan was to be shared by the Government of India and GoMP in the ratio of 75:25 and implemented by the GoMP. The Action Plan was implemented from 1990 to 1999. This involved creation of infrastructure for providing relief and rehabilitation to the gas victims against this approved plan, GoMP spent an amount of Rs.1229.37 crore. The major component of the Action Plan was Medical Rehabilitation which included establishment of six full-fledged Gas Relief hospitals and also dispensaries for free treatment of gas victims.

6.10 Further, in April, 2006, an amount of Rs.14.18 crore was provided by Government of India under Jawaharlal Nehru National Urban Renewal Mission (JNNURM) for supply of piped drinking water to 14 localities around UCIL plant site where the ground water is not potable.

6.11 GoMP had submitted to Group of Ministers (GoM) in April 2008, a new Memorandum on New Plan of Action with an outlay of Rs.982.75 crore for various rehabilitation measures to be taken for Bhopal Gas Victims. On the recommendations of the GoM, the Government approved a sanction of Rs.272.75 crore shared between the Central Government and GoMP in the ratio of 75:25 for implementation of New Plan of Action, 2010. A sanction of Rs.272.75 crore was released by the Ministry of Finance, Department of Expenditure to the GoMP on 08/07/2010 'On Account' payment of Additional Central Assistance (ACA) for other projects (Grant Component) for State's Annual Plan 2010-11.

6.12 GoMP is in the process of implementation of various rehabilitation schemes as approved in the New Plan of Action 2010.

Environmental Remediation of the erstwhile Union Carbide India Ltd. (UCIL) Plant site.

6.13 An industrial disaster occurred in the night of 2nd/3rd December 1984 when Methyl Isocyanate (MIC), a lethal gas stored in two tanks of Union Carbide India Limited (UCIL)'s pesticide unit at Bhopal, leaked into the atmosphere causing thousands of deaths and injuring a large number of people.

6.14 The erstwhile Group of Ministers (GoM) constituted to examine all the issues related to the Bhopal Gas Leak Disaster, in the meetings held during 18th to 21st June, 2010, made comprehensive recommendations on all aspects including remediation and disposal of 347 MT (approx.) hazardous waste lying at the premises of former Union Carbide India Ltd. (UCIL) factory at Bhopal.

6.15 As per Union Cabinet's decision taken in the year 2010, GoMP is responsible for undertaking disposal of hazardous wastes and remediation of the erstwhile UCIL plant at Bhopal. As per Cabinet's decision, an Oversight Committee was constituted in the Ministry of Environment, Forest and Climate Change to provide oversight and support to the GoMP in taking the necessary remedial actions. As per the direction given by the Hon'ble Supreme Court in the matter of SLP (Civil) No. 9874 of 2012 UoI vs. Alok Pratap Singh and Others, 10 MT of erstwhile UCIL waste was successfully incinerated at common Hazardous Waste Incinerator at Pithampur, Madhya Pradesh by Central Pollution Control Board (CPCB) during August 13th-18th, 2015.

6.16 The proposal for disposal of remaining 337 MT (approx) of hazardous waste lying at UCIL factory site has been considered by the Oversight Committee constituted under the Chairmanship of Hon'ble Minister (EF&CC). As directed by the Oversight Committee, Department of Expenditure, Government of India has been requested to release the

funds for execution of the work of disposal of toxic waste. An amount of Rs. 126 crores has been released for the same. Thereafter, 337 MT (approx) of hazardous waste lying at UCIL factory site has been transported to common Hazardous Waste Incinerator at Pithampur, Madhya Pradesh by Relief and Rehabilitation Department, Govt. of Madhya Pradesh on 01.01.2025.

Status of Curative Petition

6.17 On the direction of the Cabinet, a Curative Petition No.345-347 was filed in December 2010 by Union of India v/s Union Carbide Corporation (UCC), USA, Dow Chemicals, USA and Others claiming enhanced compensation from UCC and/or successor companies of UCC, by seeking a review of the Court's earlier judgment of 1989, settling the compensation amount at US $470 million. The compensation claimed in the Curative Petition is due to the difference between the number of cases assumed by the Hon'ble Supreme Court at the time of passing the orders for settlement in 1989 and the actual number of cases awarded by the Office of the Welfare Commissioner, Bhopal Gas victim, Bhopal. The petition also claims reimbursement of costs incurred by the Government of India for various rehabilitation measures for victims and the amount required for environmental remediation. The said petition has been dismissed by the Hon'ble Supreme Court.

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Chapter -7

"IMPROVING THE QUALITY OF CHEMICALS & PETROCHEMICALS & TRADE INTELLIGENCE"

Mandatory BIS Standards for Chemicals & Petrochemicals:

7.1 Chemicals & Petrochemicals imported or produced domestically may contain impurities that may be hazardous to human health, safety & environment. These chemicals while being used may not be meeting technical characteristics prescribed in the BIS Standards which are presently voluntary in nature. It is, therefore, of paramount importance to improve quality of Chemicals/Petrochemicals produced in the country as well as to ensure the quality chemical are being imported. With this objective, the Department initiated an exercise to make the Standards of Chemicals/Petrochemicals as mandatory so as to ensure that both the importers and domestic manufacturers meet the Bureau of Indian Standards (BIS) quality parameters. Such Chemicals/Petrochemicals shall bear the Standard Mark under a license to be obtained from BIS. This mechanism helps in improving quality of these products as some countries may be exporting poor quality and spurious Chemicals/Petrochemicals into the country, which may not meet the quality parameters laid down by BIS Standards at present.

7.2 Hence, this Department has initiated steps to make Standards as mandatory for major Chemicals/Petrochemicals, under Section 16 of the Bureau of Indian Standard Act, 2016 in the public interest or for:

(i) Protection of human, animal or plant health

(ii) Safety of the environment, or

(iii) Prevention of unfair trade practices, or

(iv) National Security

7.3 With these measures, manufacturers and importers have to comply with BIS (Conformity Assessment) Regulations, 2018. Any person who contravenes the provisions of this Order is punished under the provisions of section 29 of the BIS Act, 2016. As per the provisions of mandatory Standards, the manufacturers of above Chemicals must conform to BIS Standards and bear the Standard Mark under license from BIS. This includes any imported material, for which the exporter based in foreign country has to apply for BIS license under Foreign Manufacturers Certification Scheme (FMCS).

7.4 List of various Chemicals & Petrochemicals for which Quality Control Orders have been notified by the Department, is placed at **Annexure V.**

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Chapter -8

PUBLIC SECTOR UNDERTAKINGS

HINDUSTAN ORGANIC CHEMCIALS LIMITED (HOCL)

8.1 Hindustan Organic Chemicals Limited (HOCL) was incorporated on 12th December, 1960 as a Government company with the objective of setting up manufacturing capacities for chemicals / intermediates required for production of dyes, dyes–intermediates, rubber chemicals, pesticides, drugs and pharmaceuticals, laminates, etc. The company had two manufacturing units located at Rasayani (Maharashtra) and at Kochi (Kerala). The Rasayani unit (Chemical Complex) started production from 1970-71 and the Kochi Unit (Phenol Complex) commenced production from 1987-88. The Kochi unit has plants to manufacture Phenol, Acetone and Hydrogen Peroxide. After the implementation of restructuring plan for HOCL that was approved by the Government of India on 17.05.2017, Rasayani unit has been closed down except the strategically important Concentrated Nitric Acid (CNA)/ Di-nitrogen Tetroxide (N_2O_4) plant which has been transferred to the Department of Space/ISRO. The CNA/ N_2O_4 plant is the only facility for production of N_2O_4 in India which is used exclusively by ISRO in its rocket launching programme. HOCL has a subsidiary company, namely Hindustan Fluorocarbons Limited (HFL), located at Rudraram, Telangana, details regarding which are given further in this chapter.

8.2 HOCL's authorised and paid up share capital is Rs.370 crore and Rs.337.27 crore [comprising of Rs.67.27 crore equity and Rs.270 crore preference shares] respectively. Govt. of India holds 58.78% of the equity of the company and the preference shares in full. HOCL is listed on the Bombay Stock Exchange (BSE).

8.3 Following globalization and liberalisation of the Indian economy in the early 1990's resulting in competition from international players, HOCL incurred losses for the first time in 1997-98. Due to continued losses leading to negative net worth by 2003-04, the company was referred to erstwhile Board for Industrial & Financial Reconstruction (BIFR) in February, 2005. Based on the recommendations of Board for Reconstruction of Public Sector Enterprises (BRPSE), Govt. approved a revival package for the company in 2006.

8.4 However, the company again suffered losses in 2008-09 and 2009-10 mainly due to recessionary trend in the market as an effect of global meltdown. Though it earned profit during 2010-11, the situation worsened thereafter with losses during 2011-12 and 2012-13 mainly due to withdrawal of anti-dumping duties on its main products phenol and acetone. In order to enable the company to tide over its liquidity problems, the Govt. on 1st August, 2013 approved postponement of redemption of Rs.270 crore preference shares issued to the Govt. of India (date of allotment 24.01.2008), which was due for redemption from 2011-12 onwards, to 2015-16 onwards. The Govt. guarantee of Rs.100 crore was also further extended up to August, 2017.

8.5 Further, Govt. guarantee of Rs.150 crore was provided to HOCL in July, 2014 for issue of bonds by the company for meeting its working capital requirement and payment of liabilities towards raw material suppliers, employee dues, etc. This enabled the company to restore manufacturing operations at its Kochi and Rasayani units. However, the global fall in the prices of petroleum products at that time caused severe crash in the prices of Phenol and Acetone and the company faced difficulties in selling the products at profitable rates and generating adequate working capital. This led to frequent shutting down of operations at both Kochi and Rasayani units thereby further aggravating the financial crisis of HOCL. Due to continuous losses and shortage of working capital, the company was not able to pay regular salary and statutory dues to the employees during 2015 to 2017. Following implementation of restructuring plan for HOCL, the plant operations of Rasayani unit have been closed down. The Phenol/Acetone plant at Kochi unit resumed operations from July, 2017 and is being operated regularly since then. HOCL Kochi unit received Suraksha Puraskar from National Safety Council Kochi among the large chemical industries category for the year 2020 and 2021.

Financial Performance

8.6 Financial performance of HOCL in terms of turnover and net profit / loss for the last 5 years and net worth as on 31.3.2024 are given below:

Year	Turnover	Net Profit / (Loss)
2019-20	300.01	(94.75) *
2020-21	411.57	15.97 *
2021-22	433.67	(26.19)
2022-23	631.44	(50.22)
2023-24	703.89	(55.32)
Net-Worth (as per new accounting standard Ind AS which includes revaluation of land and other assets) as on 31.03.2024: **Rs. 11.19Crore.**		
Net-Worth as per the Companies Act (excluding revaluation of land and other assets) as on 31.03.2024 **(-) Rs.964.34 Crore.**		

** Re-stated as per Ind AS.*

Production Details

Product	Annual Capacity	2022-23	2023-24	% increase
Phenol	40,000	37,350	47,518	27.22
Acetone	24,600	23,306	29,613	27.06
Hydrogen Peroxide	10,450	10,323	10,579	2.48

Restructuring plan for HOCL

8.7 The Government of India on 17.05.2017 approved a restructuring plan for HOCL involving closing down operations of all the non-viable plants at Rasayani unit of HOCL, except N_2O_4 plant to be transferred to ISRO on 'as is where is' basis, with about 20 acres of land and employees associated with the plant. The N_2O_4 plant is of strategic importance as it is the only indigenous source of N_2O_4 which is used as liquid rocket propellant by ISRO in the space launch vehicles. Financial implication of the restructuring plan is Rs.1008.67 crore (cash) which is to be met partly from sale of 442 acres HOCL land at Rasayani to Bharat Petroleum Corporation Ltd. (Rs.618.80 crore) and the balance through bridge loan from the Govt. The funds are to be used to liquidate the various liabilities of the company, including payment of outstanding salary and statutory dues of employees and repayment of Govt. guaranteed bonds of Rs.250 crore, and for giving VRS/VSS to the Rasayani unit employees except those retained as skeletal staff. The bridge loan amount, along with other Govt. liabilities of the company, is to be repaid to the Govt. from the disposal of remaining unencumbered land and other assets of Rasayani unit.

8.8 After implementation of restructuring plan, phenol / acetone plant at Kochi unit, resumed regular operations from July 2017. This enabled HOCL Kochi unit to achieve net turnover of Rs. 472 crore during 2018-19 (Rs. 223 crore in 2017-18) with a net profit of Rs. 22 crore (net loss of Rs. 65.24 crore in 2017-18). HOCL has repaid outstanding Govt. of India loans (principal) of Rs.26.85 crore during 2019-20 and Rs. 15.56 crore during 2020-21 and Rs.14.04 crore during 2021-22. Further, a proposal for waiver of Rs. 1351.38 crores dues to the Government, was submitted to Department of Public Enterprises (DPE). Vide letter dated 02.12.2024, DPE has conveyed the approval of Hon'ble Finance Minister for waiving the Government of India dues as above and freezing of interest thereon as on 30.09.2024. The proposal for payment of amount to encroachers on HOCL land – farmers / villagers and payment towards relocation of scattered houses was put up to HOCL Board in its meeting held on 28th January, 2022. The Board after detailed discussions recommended the proposal for submission to the administrative ministry for obtaining approval of the Competent Authority of Government of India. However, in the subsequent Board meeting the minutes were not confirmed as Secretary DCPC had directed HOCL to study other alternate options like disposing the land through MIDC and NBCC. NBCC & MIDC informed that they are not interested in disposing the land as long as there are encroachments.

HINDUSTAN FLUOROCARBONS LTD (HFL)

8.9 Hindustan Fluorocarbons Ltd. (HFL), a subsidiary company of Hindustan Organic Chemicals Ltd. (HOCL), was incorporated on 14.07.1983. It is located at Rudraram, Telangana. The company started production in the year 1987 and is engaged in the manufacture of Poly Tetra Fluoro Ethylene (PTFE) and of Chloro Di Fluoro Methane

(CFM-22). PTFE is extensively used in chemical, mechanical, electrical and electronic industries and has strategic applications in defence and aerospace sectors. CFM-22 is sold directly as a refrigerant gas and also as feed stock for production of PTFE.

8.10 Authorized and paid up share capital of HFL is Rs.21crore and Rs.19.61crore respectively. HOCL (Promoter Company) holds 56.43% of the equity share capital and balance is held by the public (39.13%) and Andhra Pradesh Industrial Development Corporation (4.44%). HFL is listed on the Bombay Stock Exchange (BSE).

8.11 HFL started making losses from its inception in 1987-88 resulting in erosion of its net worth and reference to erstwhile BIFR in 1994. A rehabilitation package for HFL under the operating agency M/s IDBI was approved by BIFR on 03.12.2007. Total cost of rehabilitation package was Rs.19.28 crore which did not involve infusion of any Govt. funds. Following implementation of the rehabilitation package, HFL made marginal profits from 2007-08 to 2012-13. However, the company did not come out of BIFR as its net worth remained negative. HFL again suffered loss of Rs.24.82 crore in 2013-14 mainly on account of provisioning for 1997 and 2007 wage revision arrears and reduction in sales realization. Thereafter, the company has continued to suffer losses mainly on account of reduction in sales realisation. Despite the 2007 rehabilitation package, net worth of the company has remained negative.

Financial Performance

8.12 Financial performance of HFL in terms of turnover and net profit/loss for the last 5 years and net worth as on 31.3.2024 are given below:

Year	Turnover (Net)	Net profit / (Loss)
2019-20	31.32	(3.63)
2020-21	3.67	(24.83)*
2021-22	0.00	(6.13)
2022-23	0.00	(5.11)
2023-24	0.00	1.23
Net worth (as per Ind AS which includes revaluation of land and other assets as on 31.3.2024. (Rs.82.70) Crore.		

*(*This amount includes an amount of Rs.18.05 Cr for VRS expenditure during the year.)*

8.13 During the year 2023-24, the company did not have any sales as the manufacturing activities have been stopped. The reduced turnover and increase in losses is due to the shutting down of plant/unit as per the CCEA decision dated 22.01.2020 for closure of the company as given in the following paragraphs.

Closure of HFL

8.14 HFL was earlier manufacturing CFM-22/HCFC-22 and sold most of it directly as refrigerant gas since its conversion to PTFE is not financially viable for the company due to uneconomic plant capacity and old technology. For the calendar year 2020, HCFC-22 production quota of only 283 MT was allotted by Minister of Environment, Forest & Climate Change (MoEFCC) as per the requirements of Montreal Protocol, with the reduced HCFC-22 quota in 2020, HFL's operations have become unsustainable and it was forced to shut down the plant after April-May, 2020.

8.15 In view of the poor financial situation and non-viability of HFL's existing operations, the CCEA at its meeting on 22.01.2020 approved this Department's proposal for shutting down the operations of the plant/unit of HFL and closure of the company.

8.16 After receipt of interest free loan of Rs.73.70 crore as advance from the Contingency Fund of India (CFI) sanctioned by the Ministry of Finance in May, 2020, and Rs. 2.17 crores in March 2022 for settlement of immediate closure related liabilities of HFL, necessary action was initiated for closing down the company's operations. As on 30.09.2022, all employees except 5 employees retained as skeletal staff have been relieved on VRS/VSS or have superannuated after payment of their terminal and outstanding dues. As per directions received the 5 regular employees have been transferred on the rolls of HOCL from 3rd September, 2022 and non-regular employees have been relieved on 23rd September, 2022 by paying VSS compensation. While regular plant operations have been stopped since July, 2020, final shut down was undertaken during December, 2020 and plant was cleaned and kept ready for disposal.

8.17 HFL is currently in the process of delisting of securities. HFL had applied to SEBI seeking relaxation from enforcement of regulation 35 (1) (a) & (b) and 35 (2) (d) of SEBI delisting of equity shares regulations 2021. SEBI vide letter dated 12.09.2023 had approved the exemptions. Accordingly, HFL Board in its meeting held on 9.10.2023 has approved the tender to be floated for appointment of Consultant to provide end-to-end support for proposed delisting of HFL and Merchant Banker (Manager to offer).

HIL (INDIA) LIMITED

8.18 HIL (India) Limited, formerly Hindustan Insecticides Limited, is a Central Public Sector Enterprise (CPSE) under the Department of Chemicals and Petrochemicals, Ministry of Chemicals & Fertilizers. Established in 1954 to supply DDT for the Government of India's malaria control program, DDT significantly contributed to eradicating malaria and kala-azar. Over time, HIL diversified into agrochemicals, seeds, and fertilizers, becoming a comprehensive provider of key agri-inputs with a state-of-the-art manufacturing facility in Rasayani, Maharashtra.

8.19 HIL operates through a robust marketing network comprising five regional sales offices, 15 state offices, and 1,500 active dealers across India, ensuring last-mile product

availability. It specializes in manufacturing a wide range of generic agrochemicals, including Malathion, to address critical needs like locust control. Its Rasayani unit produces Agrochemical Technicals and Formulations and collaborates with valued formulators to supply products under the HIL brand. The portfolio includes insecticides, herbicides/weedicides, fungicides, and more, with dedicated plants at its Rasayani facility.

S. No.	Manufacturing Plants at HIL's Rasayani Maharashtra	Plant Capacity per annum (MT/KL)
1	Malathion Technical	1000
2	Malathion Formulation	2000
3	Chlorpyriphos Technical	600
4	Chlorpyriphos Formulation	3000
5	Imidacloprid Technical	150
6	Imidacloprid Formulation	750
7	LLIN Master Batch	1200
8	Water Soluble Fertilizers	1500

8.20 HIL (India) Limited is the only CPSE engaged in the manufacturing and supply of plant protection chemicals in a highly competitive market dominated by over 15 MNCs and around 750 private manufacturers. As a price regulator, HIL ensures pesticide prices remain controlled, safeguarding farmers' interests and preventing cartelization and price hikes. Its strong brand image among farmers is built on quality products and affordable pricing.

8.21 In addition to agrochemicals, HIL is a significant player in the public health segment, working closely with the Ministry of Health & Family Welfare and State Governments to combat malaria, kala-azar, and other vector-borne diseases. The company produces key public health products, including Malathion 95% ULV and Long-Lasting Insecticidal Nets (LLINs), which serve as effective alternatives to DDT. With declining malaria cases and India's commitment to phasing out DDT under the Stockholm Convention, HIL has reduced its DDT production.

8.22 To meet increasing demand, HIL has established an LLIN manufacturing unit with an annual capacity of 5 million nets, which will double to 10 million by December 2024. These nets are effective for three years and up to 20 washes. HIL is also setting up bio-pesticide plants at its Rasayani unit, supported by UNIDO, to promote Integrated Pest Management (IPM) and natural farming practices. These facilities will produce bio-larvicides (Bti), neem-based formulations for public health, and bio-pesticides like Btk, Trichoderma, and neem-based products for agriculture by December 2025.

8.23 Recognized as a National Level Seed Production Agency (NLA) by the Ministry of Agriculture, HIL plays a key role in flagship programs like the National Food Security Mission and the National Mission on Edible Oils. It produces and distributes high-yielding seed varieties for oilseeds, pulses, millets, and more, including minikits for farmers across India, particularly in the Northeast.

8.24 HIL also exports DDT and agrochemicals for malaria control to African nations such as South Africa, Zimbabwe and Zambia, and to Latin America. It recently exported 40 MT of Malathion 95% Technical to Afghanistan and is exploring further exports of DDT to South Africa.

8.25 The company was instrumental in combating locust infestations in India during 2020-2022, a crisis not seen in over two decades. In partnership with the Directorate of Plant Protection and Quarantine, HIL supplied Malathion Technical for locust control, earning commendations from the Ministry of Agriculture.

8.26 Under its agriculture extension services, HIL conducts farmer training programs in collaboration with this Department. By 2023-24, 158 programs had trained 57,233 farmers on the safe and judicious use of pesticides and IPM practices. These trained farmers act as knowledge multipliers, potentially reaching 3–3.5 lakh additional farmers through peer-to-peer learning.

Financial Performance

The Audited Financial Position of HIL (India) Limited for last 5 Years:

Financial Year	Revenue	PBIDT	PBT	Net Profit	(In INR Cr.) Net Worth
2017-18	404.60	26.47	4.29	3.41	100.22
2018-19	456.47	29.53	4.65	3.62	103.84
2019-20	401.02	28.51	0.84	0.59	104.43
Financial Year	**Revenue**	**PBIDT**	**PBT**	**Net Profit**	**(In INR Cr.)** Net Worth
2020-21	387.90	29.17	1.15	1.15	105.58
2021-22	353.42	34.09	2.21	2.21	107.79
2022-23	199.89	(37.31)	(68.70)	(68.70)	39.09
2023-24	195.18	23.52	4.50	4.50	43.59

Closure of Bathinda, Punjab and Udyogamandal, Kerala Unit:

8.27 Of the two units of HIL (India) Ltd., the Udyogamandal (Kerala) and Bathinda (Punjab) units had been incurring losses for several years, rendering their operations completely unviable. Consequently, the Department of Investment and Public Asset Management (DIPAM) approved the closure of these units under the Alternative Mechanism (AM).

8.28 To address their liabilities up to March 31st , 2024, DIPAM sanctioned a fresh loan of ₹486.74 crore and approved the waiver of a ₹104.25 crore Government loan (Plan) along with the outstanding interest thereon. The Department of Expenditure and the Department of Economic Affairs also endorsed this financial support.

8.29 Of the approved ₹486.74 crore, ₹399.18 crore was disbursed on March 30st , 2024, during the financial year 2023-24. This amount was allocated to HIL (India) Ltd. to settle bank dues, statutory liabilities, and other obligations arising from the closure of the Udyogamandal and Bathinda units, including Voluntary Retirement Scheme (VRS) payouts and manpower-related dues, up to March 31st , 2024.

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Chapter -9

AUTONOMOUS INSTITUTIONS

Central Institute of Petrochemicals Engineering & Technology (CIPET)

9.1 The Central Institute of Petrochemicals Engineering & Technology (CIPET) is a Centrally funded technical higher education institution under the Department of Chemicals & Petrochemicals, Ministry of Chemicals & Fertilizers, Government of India, fully devoted to Skill development, Technology Support, Academic and Research (STAR) activities for the growth of the petrochemical and allied industries in the country. CIPET has 48 centers across the country, which includes 9 Institute of Petrochemicals Technology (IPTs), 32 Centers for Skilling and Technical Support (CSTS), 3 School for Advanced Research in Polymers (SARP), 4 sub-centers and 4 Plastics Waste Management Centres (PWMC). CIPET is also in the process of establishing 05 more Centers at Ayodhya, Bihta, Sanand, Nasik and Jammu & Kashmir.

9.2 Academics and Skill Development Programes

a. Long term Professional Skill development Programs

CIPET conducts various long term training programs (i.e., Diploma, Post Diploma, Post Graduate Diploma, Undergraduate and Post Graduate) with varying level of entry qualification and Ph.D. program in Material Science & Engineering, Polymer Science & Technology, Plastics Engineering, Physics & Chemistry; Polymer Nanotechnology; Bio Polymer Science; Applied Polymer Science etc. The undergraduate, postgraduate and doctoral programs are o□ered at CIPET: IPTs in affiliation with the respective State Technical Universities. Admission to UG/ PG/ Ph.D programs are carried out as per the norms and guidelines of the respective State affiliating university.

Diploma level programs are o□ered at CIPET: CSTSs and students for these programs are admitted through all India based CIPET Admission Test (CAT). The CAT 2024 was conducted on 9th June 2024 across the country, in which 4818 students appeared. The total number of students admitted in both Diploma Level and UG & PG level programmes is 4507 as on 31st October, 2024 for the academic session 2024-25 including ITI Programme at CSTS - Bhubaneswar and Lateral Entry Admission.

In the current academic ear 2024-25, long term programs commenced at the following new CIPET Centres:

1. CIPET: CSTS, Bhagalpur – Diploma level programs in Plastics Mould Technology and Plastics Technology.

2. CIPET: IPT, Bihta – Degree level programs in Chemical Engineering, Petrochemicals Engineering, Mechanical Engineering and Waste Management.

b. Short Term Vocational Skill Development Training Programs

The National Policy on Skill Development formulated by the Government of India aims to create a workforce empowered with improved skills, knowledge and internationally recognized

qualifications to gain access to decent employment and ensure India's competitiveness in the global labour market. Accordingly, CIPET conducts NSQF-aligned and National Skills Qualifications Committee (NSQC) approved skill development Training Programs (SDTP) in the field of Petrochemicals Engineering & Technology. The range of programs o□ered at CIPET includes employment-linked skill development training programs; up-skilling and re-skilling programs; short-term industry specific programs; tailor made training programs for industries; and in-plant training / internship training programs for students from various colleges and universities.

These short duration Skill Development Training Programs (SDTP)/ Skill Upgradation programs (SUP) are aimed at enhancing the skill and competency level of participants in the relevant domains of petrochemicals and plastics/ polymers.

Majority of the skill development training programs are supported by various Ministries/ State/ Central Government Departments/ agencies, with the main objective of uplifting the underprivileged/ unemployed youth through gainful employment in the plastics and allied industries. During the year 2024-25 (upto October, 2024), CIPET has trained 25,488 candidates through various short term skill training programs.

9.3 Technology support services

CIPET offers Technology Support Services (TSS) in the entire spectrum of petrochemical engineering and technology. TSS forms an integral part of CIPET's portfolio and highlights its technical competency by o□ering high-quality services to customers in the areas of design and manufacturing of moulds and dyes, tooling, plastics processing and testing, inspection and quality control. CIPET Centers have state-of-the- art infrastructural facilities in the areas of design, CAD/ CAM/ CAE, tooling and mould manufacturing, processing, testing and quality control, to cater to the needs of the polymer and allied industries.

During the year 2024-25 (up to October, 2024) CIPET has undertaken 59,756 Technology Support Service Assignments (TSS) in the area of plastics processing, design and tooling, testing, consultancy and inspection activities for the petrochemicals and allied industries. The domain-wise break up of the same is as follows:

No.	Domain	Achievedup to October2024
1.	No. of Job Orders in Processing	6198
2.	No. of Job / Mould orders in Tool Room	2329
3.	No. of Assignment in Testing & Quality Assurance	33186
4.	No. of Consultancy Assignments/ Inspection, Calibration, Application Development	18001
5.	Industry interaction meets	42
Total		**59756**

9.4 Research & development activities:

CIPET has well-established R&D wing in the form of Schools for Advanced Research in Petrochemicals (SARP), namely, (i) Advanced Research School for Technology & Product Simulation (ARSTPS), Chennai; (ii) Laboratory for Advanced Research in Polymeric Materials (LARPM), Bhubaneswar; and (iii) Advanced Polymer Design & Development Research Laboratory (APDDRL), Bengaluru.

The research activities undertaken by CIPET during 2024-25 (upto October, 2024) are summarized below:

No.	R&D Activities	Total Achieved
1.	Research Publication in Reputed International Journals(Q1 &Q2)	21
2.	Workshops for Industry areas for Research & Development	5
3.	No. of sponsored research projects	6
4.	Book/Chapter through International Publishers	9
5.	No. Research Scholars (Ph.D. Registration)	1
Total		**42**

Some of the key R&D projects undertaken during the year include:

No.	Title of the Project	Sponsoring Agency	Budget (Rs. lakhs)
1.	PLA Microplastics	M/s. Balarampur Chini Mills Ltd.	43.01
2.	Analysis of Chemicals in Paper - Straws	M/s. Balarampur Chini Mills Ltd	27.61
3.	Chemicals in Bagasse based Trays	M/s. Balarampur Chini Mills Ltd	17.05
4.	Analysis of Chemicals in Wood based Cutlery	M/s. Balarampur Chini Mills Ltd	10.45
5.	Development of High Energy Supercapacitors by Dry Coating Process for Smart Toys	Department of Science & Technology, Ministry of Science & Tech., Govt. of India DST	160.94
6.	Design of Cost-effective Floating System for Installation of Solar PV Panels in Water Bodies	HPCL – Mittal Energy Limited, NOIDA	40.00

9.5 Financial Performance:

During the financial year 2024-25 (upto October, 2024), CIPET has generated estimated revenue of Rs. 160.23 crores. CIPET has enriched its civil and technical infrastructure facilities, leading to consistent growth in all domains of petrochemicals engineering and technology including skill development, technology support, academic activities and R&D. The Institute has been operating on self-sustaining mode since 2008-09 onwards.

9.6 Milestones/ Achievements

- The PWMC and the Hostel building at CIPET, Varanasi were inaugurated virtually by Shri Narendra Modi, Hon'ble Prime Minister of India, on 20th October, 2024
- CIPET: CSTS at Gwalior, Baddi and Ranchi were inaugurated virtually by Dr. Mansukh Mandaviya, Hon'ble Minister of Health and Family Welfare and Chemicals & Fertilizers, Government of India, on 4 th March, 2024
- A Patent titled "Sharps Disposal Container with the Provision for Decontamination at Source" (Patent No.: 550118, Date of Grant: 12.09.2024) has been granted jointly to CIPET and Sri Ramachandra Hospital, Chennai, for an invention based on the DST Sponsored Project titled "Design & Development of Hospital Waste Management Technique for Safe Disposal of Biomedical Waste". This would help in the mutilation of needles, removal of needle from syringes and decontamination of mutilated needles at source.

9.7 Signing of MoU/ Contracts

- MoU signed with Indian Plastics Institute (IPI), Mumbai, for faculty exchange and organizing of seminars in order to strengthen academic and research cooperation in the petrochemicals and allied sector.
- MoU with the Foundation for Innovation & Research in Science & Technology (FIRST),

  IIT Kanpur, for promotion of incubation activities for startups.
- MoU with Hindustan Urvarak & Rasayan Limited (HURL) for undertaking Skill Development Training Programmes at the CIPET Centres at Lucknow, Varanasi, Ranchi and Hajipur.

9.8 Institute of Pesticide Formulation Technology (IPFT)

IPFT, Gurugram is an autonomous institute registered under the Societies Registration Act, 1860 under Department of Chemicals & Petrochemicals, Ministry of Chemicals & Fertilizers, Government of India.IPFT is the only institute of its kind devoted to the development of state-of-the-art user & environment friendly new generation pesticide formulation technologies and has emerged as a reputed institute in this sphere.

The primary objectives of IPFT include developing new generation pesticide formulation technologies promoting efficient and new application technologies, disseminating

information regarding safe manufacturing practices, providing analytical and consultancy services, and imparting specialized trainings to scientists, engineers, and students from agrochemical industries and academia.

The institute has established a healthy rapport with the agrochemical industries and has developed various types of formulation technologies which have been transferred to industry for commercialization. Institute is actively engaged in providing R&D support services, quality control and regulatory data generation for the agrochemical and allied r industries IPFT is NABL-accredited and GLP-certified to analyses test agrochemicals in various formulations and food commodities. It is also a recognized laboratory to generate data for pesticide registration as per the Central Insecticides Board & Registration Committee CIB&RC Guidelines. IPFT undertakes both in-house and externally funded R & D projects.

9.9 Functional Verticals

IPFT has formulation, Analytical and Bio-Science verticals. All these are actively engaged in R&D work to achieve the objectives of the Institute.

9.10 Formulation activities

The formulation vertical is engaged in development of user & environment friendly new generation pesticide formulations. So far, more than 85 formulation technologies, have been developed, most of which have been transferred to different pesticide industries in India and abroad for commercialization. Bio-botanical based formulations are also being developed as safer alternative to synthetic pesticides. Advanced and applied research is being carried on latest technologies and nano-technology based formulations. Lab-scale formulation technologies developed at IPFT are further scaled up in the Pilot Plant, which is actively involved in sponsored projects for the semi-commercial scale-up of bio-botanical and new -generation formulations.

9.11 Analytical activities

The analytical vertical is accredited by NABL as per ISO/IEC 17025:2017 for testing of 278 pesticides and 17 heavy metals in various food commodities including drinking water, 150 pesticide formulations and CWC related chemicals. The facility is also certified by National GLP compliance monitoring authority (NGCMA) as GLP facility for physical-chemical analysis including 5 batch analysis and residue studies of agrochemicals. The Department has state-of-art research laboratories and is fully equipped with sophisticated analytical instruments for analytical characterization, physical-chemical analysis and trace analysis of pesticides and their formulations. Further, IPFT has been recognised by the Central Insecticide Board and Registration Committee (CIB & RC) to generate data on pesticide registration. The department provides R&D support services, quality control and regulatory data generation for the agrochemical and other industries. The division also participate in OPCW proficiency testing for CWC related chemicals


Advanced Equipments in Analytical Lab

9.12 Bio-Sciences activities

The vertical is engaged in bio-efficacy, phytotoxicity studies on new formulations of various pesticides. The Division is recognized by CIB&RC for generation of data on bio-efficacy, phytotoxicity, compatibility, effect of pesticides on natural enemies and residual aspects of pesticides. The Division is also conducting field trials of different formulations applied by Drone spray in different agricultural crops.




Lab and field scale Bio-efficacy Studies

9.13 Major Achievements (Grant-In-Aid Projects)

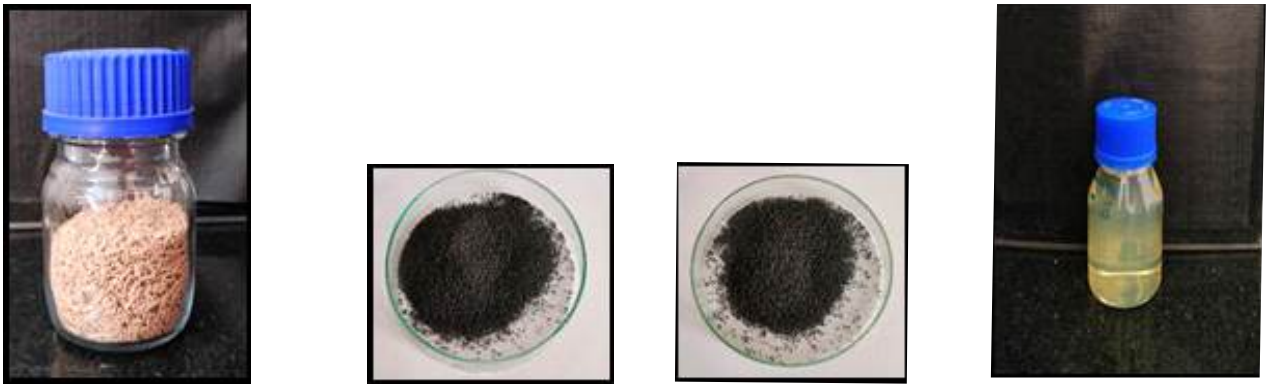
- **Monitoring of Pesticide Residues at National Level, sponsored by the Department of Agriculture and Farmers' Welfare (DA&FW), Ministry of Agriculture and Farmers' Welfare, Government of India**

As per the mandate of the project a total no. of 81 samples comprising of Cereals, Pulses, Vegetables, Fruits, and Milk are collected every month from two locations (Rohtak & Gurugram). The samples are analysed for the pesticide residue contamination and the reports are submitted at monthly frequency to the project coordinating centre.

Vegetables & Fruits Sample Collection from Market and Farmer's fields

- **Development, standardization and optimization of microbial and botanical pesticides and their formulations as efficient delivery systems for the management of agricultural, stored grain pests, nematodes and ticks parasites** (Sponsored by ICAR- National Agricultural Science Fund, , Duration: March 2024 to Feb 2027)

The project aims to develop bio-botanical formulations for control of Nematodes, insects in agriculture and ticks parasites in Neterinary sectors. Developed botanical based slow release granules formulations of Lemon grass, Citronella, Palmrosa for soil application. The bio-efficacy studies are in progress. The microbial *Trichoderma viride* based formulations for agricultural insects control and botanical *M. Datura* extract based formulations for ticks control in veterinary applications are under development.



Bio-botanical based Formulations developed

- **Deployment of genetic and chemical options for the management of major biotic (Orobanche and Alternaria) Stress in Indian mustard** (Sponsored by ICAR- National Agricultural Science Fund, , Duration: March 2024 to Feb 2027)

  The main objective of this project is to develop weedicide formulations for control of Orobanche parasitic weeds in Mustard crop. Developed Synthetic Weedicide Pendimethalin, Metsulfuron methyl and Neem based Suspo-emulsion, ZC formulations for management of orobanche weed in mustard and rapeseed crops. The bio-efficacy studies are in progress.

- **Deciphering Agricultural Soil Microbes for Sustainable Management of Lignocellulosic Wastes and Bioremediation of Chlorpyrifos (DT50) contaminated sites** (Sponsored by ICAR- National Agricultural Science Fund, Duration of Mar, 2024 – Feb, 2027)

  The project is aimed to address the issue of burning of crop residues in the field through the development of the ready-to-use and stable formulated products of the microbial consortia, capable of decomposition of cellulose as well as restoration of pesticide contaminated soils. Currently, the work is going on for determination of pesticide residue in soil samples from different regions, using LC-MS/MS and GC-MS/MS for screening & selection of soil to utilize in the development process of microbial consortium. In addition, experiments are being conducted to evaluate the degradation pattern of Chlorpyrifos and its reported metabolites in microbial consortium treated samples using GC-MS/MS.

9.14 Research & Development

- **Water Dispersible powder formulation of combination of herbicides**:

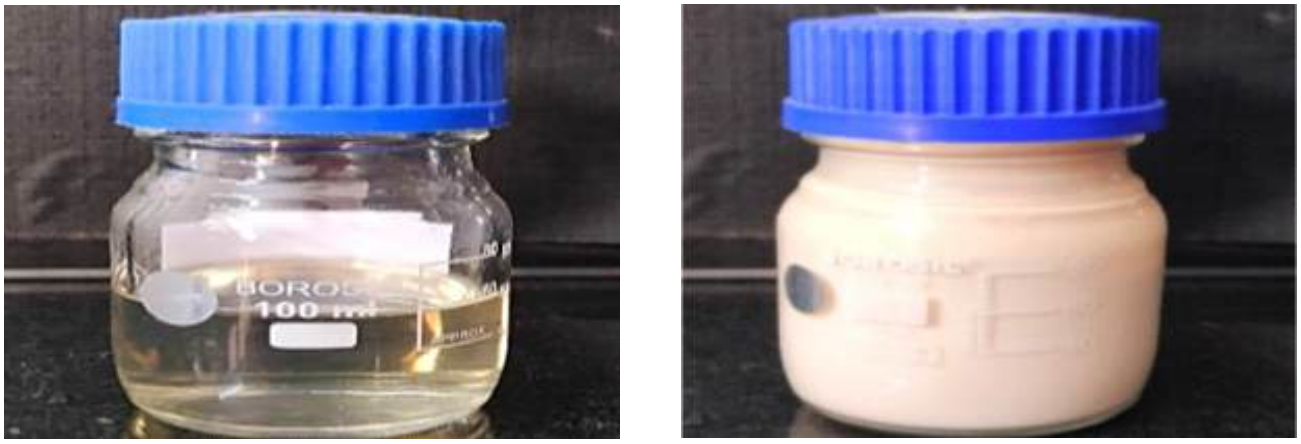
Water dispersible powder formulation of combination of three herbicides is being developed under project sponsored by industry Sumisho Agro India Pvt. Ltd. With the reduced sprays, the formulation provides efficacy against different parasitic weeds in various agricultural crops.

- **Nano Suspo-Emulsion Formulation**

  Developed Nano Suspo-Emulsion Formulation of fungicides Azoxystrobin and Propiconazole combination. The formulation will provide broad spectrum efficacy against wide range of fungal pathogens in different crops. Bio-efficacy studies are in progress.

- **Botanical based mosquito Repellent**

  Mosquitoes serve as vectors for diseases like Malaria, Dengue, Chikungunya etc.The synthetic mosquito repellents upon long term applications may produce health hazards like allergies, skin irritation and also lead to resistance development in mosquitoes the work is on progress for developing botanical based micro emulsion formulation of Gama Deca Lactone. The botanical based formulation may be safer alternative to synthetic products.



Mosquito Repellant and Suspo-Emulsion Formulations

9.15 R&D support services to agrochemical industry

- ***GLP Studies:***

  The following three residue study projects and a five batch analysis project have been sponsored by the industries. The studies were conducted as per the protocols of CIB&RC and OECD GLP requirements. The reports of the studies have been submitted to the sponsoring industry.

  1. Physical Chemical Analysis of Silver Nanoparticles- Five Batch Analysis.
  2. Residue Study of Hmb 01/1dd/21 17.5% ZC (Deltamethrin 2.5% + Dinotefuran 15 % ZC) In Seed Cotton and Soil.
  3. Residue Study of Fluxapyroxad 333 G/L FS In Soybean (Pods, Cake, Oil and Soil).
  4. Residue Study of Fluxapyroxad 333 G/L FS In Cotton Lint with Seed Oil, De-Oil Cake and Soil.

- ***Certificate of analysis and Sample analysis reports***

  Pesticide formulation samples are received on regular basis from various industries for their analysis and generation of COA (Certificate of Analysis). Samples have also been received from various academic institutions including the research students. During the period of report 990 samples have been analysed.

- **OPCW Proficiency Test**

  IPFT participated in the 56th Proficiency Test of the Organization for Prohibition of Chemical Weapons during 23 October till 6th November 2024.

- **Bio-efficacy field trials**

  The following industry-sponsored projects executed at the IPFT Experimental Research Farm. Some of the trials are ongoing while for others, reports have been completed and submitted to the sponsoring companies:

  - Bio-efficacy,Phytotoxicity& Effect on natural enemies Fusariumpseudoanthophilium 5% + Purpureocillium 5% SC againt two spotted Red Spider Mite on Brinjal Crop - for two season
  - Bio-efficacy and Phytotoxicity of Thiram 75 % WS against Flag smut and Karnal Bunt on Wheat crop – one season
  - Bio-efficacy and Phytotoxicity of Thiram 75 % WS against Leaf Stripe on Barley crop – one season
  - Bio-efficacy and Phytotoxicity of Thiram 75 % WS against Loose smut and seedling blight on Sorghum crop – one season
  - Bio-efficacy and Phytotoxicity of Thiram 75 % WS against Seed borne disease on Cotton crop – one season
  - Bio-efficacy and Phytotoxicity of Thiram 75 % WS against Seedling blight disease on Maize crop – one season
  - Bio-efficacy and Phytotoxicity of Thiram 75 % WS against Scab disease on Potato crop – one season
  - Bio- efficacy, Phytotoxicity& effect on natural enemies study of BAL 175 formulation against bollworm complex on cotton crop (II season)
  - Bio- efficacy,Phytotoxicity& effect on natural enemies study of BAL 2150 formulation against insect pests on cotton crop
  - Study of the Bio-efficacy and Phytotoxicity of Fluxametamide 3.0 % + Bifenthrin 4.5 % + Fenpyroximate 2 % EC (KREPL) on Chilli crop --- for two seasons

- Bio-efficacy of Chlorantraniliprole 12% + Cypermethrin 24% w/v OD against insect pests of pigeonpea --- for two seasons.
- Bio-efficacy of Chlorantraniliprole 12% + Cypermethrin 24% w/v OD against sucking pest and pink bollworm in cotton --- for two seasons
- Bio-efficacy, phytotoxicity& effect on natural enemies of Mortar (Cartap Hydrochloride 75% SG) against top borer (Scirpophagaexcerptalis) in Sugarcane --- for two seasons
- Bio-efficacy and phytotoxicity of an adjuvant for Topramazone herbicide against pests in Maize (Additional three treatments for one season)
- Evaluation of IZUKI against Early Blight and Bacterial canker in Tomato

9.16 Human Resource Development

IPFT conducts specialized training programs for Scientists and Engineers from different industries on Formulations, Analytical characterization and application techniques for enhancing their knowledge and efficiency. IPFT also conducts special training programs for students and imparts summer trainings for skill development.

9.17 Awareness and extension activities

One day workshop for farmers from Gurugram District was organized on Safe and Judicious use of pesticides and Drone spray for crop protection on 30th May, 2024 in IPFT farm. Around one hundred farmers attended the workshop.

One day workshop organized by IPFT for farmers from Gurugram District on Safe and Judicious use of pesticides and Drone spray for crop protection on 30th May, 2024

IPFT Foundation day celebration on 31st May, 2024

IPFT participated in Pratigya Exhibition organizes by Inspire foundation 2024 at Bhiwani during 22-24 August 2024.

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Chapter -10

GENERAL ADMINISTRATION

10.1 The Department is headed by a Secretary to the Government of India who is assisted by a Joint Secretary & Financial Adviser, three Joint Secretaries, One Economic Adviser, one Deputy Director General and one Chief Controller of Accounts (Organisation chart at Annexure V).

Employment of Scheduled Castes/ Scheduled Tribes/ Physically Handicapped in the Main Secretariat of the Department

10.2 The status of employment of Scheduled Castes/Scheduled Tribes/Physically handicapped in the main Secretariat of the Department, as on 31.12.2024 is as under:

Group	Total No. of posts	Scheduled Castes	Scheduled Tribes	Physically Handicapped
A	36	2	3	0
B	65	10	4	0
C	72	6	2	4
TOTAL	173	18	9	4

10.3 Officers in Group 'A' include officers on deputation from All India Services, Central Services, officers belonging to Central Secretariat Service and Technical posts of the Department. Placements in posts of Group B and C are done on the basis of nominations made by the Department of Personnel & Training, Department of Official Language and Ministry of Statistics & Programme Implementation.

RECORD MANAGEMENT

10.4 In terms of the Public Records Act, 1993" provisions contained in Section 6(1) of the Act, the Under Secretary in-charge of General Administration has been nominated as Records Officer in the Department. A modernized Record Room of the Department is located at Udyog Bhawan.

Ek Ped Maa ke Naam

10.5 #एक_पेड़_माँ_के_नाम# Plant4Mother a global campaign was launched by the Hon'ble Prime Minister exhorting people to plant trees as a mark of love and respect for one's own Mother and for protecting and preserving Mother Earth.

All stakeholders such as PSUs/ABs under the administrative control of the Department and the officers / officials of the Department were mobilized and encouraged to undertake the campaign.

International Day of Yoga:

10.6 The International Day of Yoga (IDY) was observed in the Department on 21st June, 2024 on the theme "Yoga for Self and Society" in collaboration with Indian Institute of Yoga and Management (IIYM).

Onboarding of Department on Cyber Swachhata Kendra:

10.7 With the rapid adoption of technology and the significant importance of data held by government entities, in view of the heightened risks of cyber-attacks, Indian Computer Emergency Response Team (CERT-In) under Ministry of Electronics and IT has set up Cyber Swachhata Kendra and deployed mechanisms, to detect IP addresses infected with botnet/malware or vulnerable services running within the IT infrastructure of

Department / Organizations and for sharing automated daily reports / feed with details of such events with respective Department/Organizations, to enable clean up actions. Department of Chemicals & Petrochemicals has been configured for on boarding on Cyber Swachata Kendra.

Protection and Maintenance of Cyber Assets:

10.8 For centralized management of endpoints, the installation of UEM (Unified Endpoint Management) tool on all endpoints is completed and simultaneously, the restriction of Admin privileges on all the endpoint was carried out.

EDR (Endpoint Detection Response) tool is installed on all the endpoints of the Department to remove the existing vulnerability. This is an endpoint security solution that continuously monitors end-user devices to detect and respond to cyber threats like ransomware and malware.

To monitor and secure in the future, Unified Endpoint Management (UEM), is installed on all the endpoints of the Department. This software enables IT and security teams to monitor, manage and secure all the organization's end-user devices, such as desktops and laptops, smartphones, tablets, wearables and more, in a consistent manner with a single tool, regardless of operating system or location.

To prevent any such vulnerabilities in future, the daily firewall log reports (indicating daily Intrusion, Security Intelligence, malware events) sent from NIC Network security team for the Endpoints related to the Department is analysed daily by NIC Shastri Bhawan Network centre and rectification action like patch updation/virus removal are taken on vulnerable endpoints as and when received.

For virtual air gap, network segmentation has been allocated from the NIC Network Division and 4 old switches in Shastri Bhavan and one in Udyog Bhavan have been replaced

With the rapid adoption of technology and the significant importance of data held by government entities, in view of the heightened risks of cyber-attacks Indian Computer Emergency Response Team (CERT-In) under Ministry of Electronics and IT has set up Cyber Swachhata Kendra and deployed mechanisms, to detect IP addresses infected with botnet/malware or vulnerable services running within the IT infrastructure of Department / Organizations and for sharing automated daily reports / feed with details of such events with respective Department/Organizations, to enable clean up actions. Department of Chemicals & Petrochemicals has been configured for on boarding on Cyber Swachata Kendra.

Observation of Swachhata Pakhwada:

10.9 The 9th Swachhata Pakhwada-2024 was observed from 1.9.2024 to 15.9.2024 in the Department of Chemicals & Petrochemicals and the PSUs/Autonomous Bodies under its administrative control undertook various swachhata activities like cleaning of office

complexes / factories / labs / toilets / premises. Banners and posters on cleanliness were displayed. Various competitions like Essay Writing, Poetry Recitation, and Drawing Competitions etc. were organized during the Pakhwada. The officers and staff members of the Department also carried out Shramdaan activity. The Physical files were reviewed / weeded out as per the Record Retention Schedule. E-files and e –receipts were also reviewed during the period.

Observance of Nasha Mukt Bharat Abhiyan:

10.10 Nasha Mukt Bharat Abhiyan was launched on 15th August 2020. On its 5th year, a mass pledge was organised on 12th August 2024. The theme of this year's Nasha Mukt Bharat Abhiyan is "Viksit Bharat Ka Mantra, Bharat ho Nashe se Swatantra".All officers of DCPC and its Autonomous Bodies/PSUs were administered the pledge on 12.08.2024.

Procurement through Government E-Market (GEM)

10.11 The Department made full utilization of the Government's E-procurement platform by procuring items it consumes through GeM. As a result, the value of goods procured through GeM for the period from 01.04.2024 till 20.11.2024 is Rs.306.09 Lakh against the procurement value of Rs.471.71 Lakh during the previous Financial Year.

Observation of Swachhata Hi Seva Campaign:

10.12 Swachhata Hi Seva campaign was observed from 14th September to 1st October with the theme of 'Swabhav Swachhata – Sanskaar Swachhata with swachh Bharat Diwas celebration on 2nd October. This campaign was jointly organized by SBM –Grameen & SBM-Urban under the Ministry of Housing and Urban Affairs (MoHUA).The following were the three main pillars of activities-

- Swachhata Ki Bhagidari - Public participation, Awareness & Advocacy
- Sampoorna Swachhata - including Swachhata Lakshit Ekayi
- SafaiMitra Suraksha Shivirs- Preventive Health checkups & Social security coverages

Department Secretariat as well as ABs/PSUs under the administrative control of the Department undertook various swachhata activities such as organising cleanliness drives, zero waste events, SafaiMitra Suraksha Shivir, installation of Selfi Points etc. during the campaign. There was special focus on transformation of identified Cleanliness Targets Units (CTUs) – areas which are generally neglected garbage points, difficult to clean, as part of regular cleaning operations and post environmental, health and hygiene risk. Swachhta Diwas was celebrated in a befitting manner on the auspicious day of the birth anniversary of our father of the Nation.

Observation of Special Campaign 4.0:

10.13 The Department of Chemicals and Petrochemicals along with its organizations participated in the Special Campaign 4.0 during 2.10.2024 to 31.10.2024 enthusiastically by focusing on mainstreaming of swachhta and minimizing pendency in offices. Towards mainstreaming of swachhta the Department set a target of reviewing all the 2443 physical files, lying in its record room. On completion of the review, a total of 1250 files have been weeded out during the campaign. The Department also reviewed all the 4656 e-files that had been opened in the Department since the adoption of the e-filing system and closed 880 e files during the campaign.

The swachhta campaign also yielded tangible results in the form of freeing 28,128 sq ft of space and earning Rs.15, 82,889/- as revenue from disposal of scrap by the Department and its organisations. During the campaign, the organizations of the Department such as CIPET, IPFT, HOCL and HIL have undertaken the task of spreading swachhta message at places outside office environment. Towards this, cleanliness campaigns were held at 153 locations in public places such as parks, railway and bus stations, historical sites, educational institutions, markets etc.

National Learning Week

10.14 National Learning Week was observed in the Department from 19.10.2024 to 25.10.2024. All the employees were directed to complete a minimum 4-Hour Learning

during the week. During this period the Dept, in consultation with iGOT organized two Webinars titled "the Hiring Essentials – competency based hiring, Diversity & Inclusion and Interviewing Skills" and "Motivating Bureaucracy for citizen centric services". Selective courses have been identified on IGOT and published as training plan and were being consumed regularly the Officers/Officials of the Department.

Observance of Vigilance Awareness Week:

10.15 The Vigilance Awareness Week was observed in the Department from 28th October to 3rd November 2024 with the following theme: **"Culture of Integrity for Nations Prosperity"** All the officers and the Employees of the Department were administered Integrity Pledge during the Week.

Rashtriya Ekta Diwas (National Unity Day)

10.16 Department of Chemical & Petrochemicals observed **Rashtriya Ekta Diwas (National Unity Day) on 30.10.2024** to commemorate the birth anniversary of Sardar Vallbhbhai Patel. All the officers/officials were administered Rashtriya Ekta Diwas pledge.

Har Ghar Tiranga Campaign:

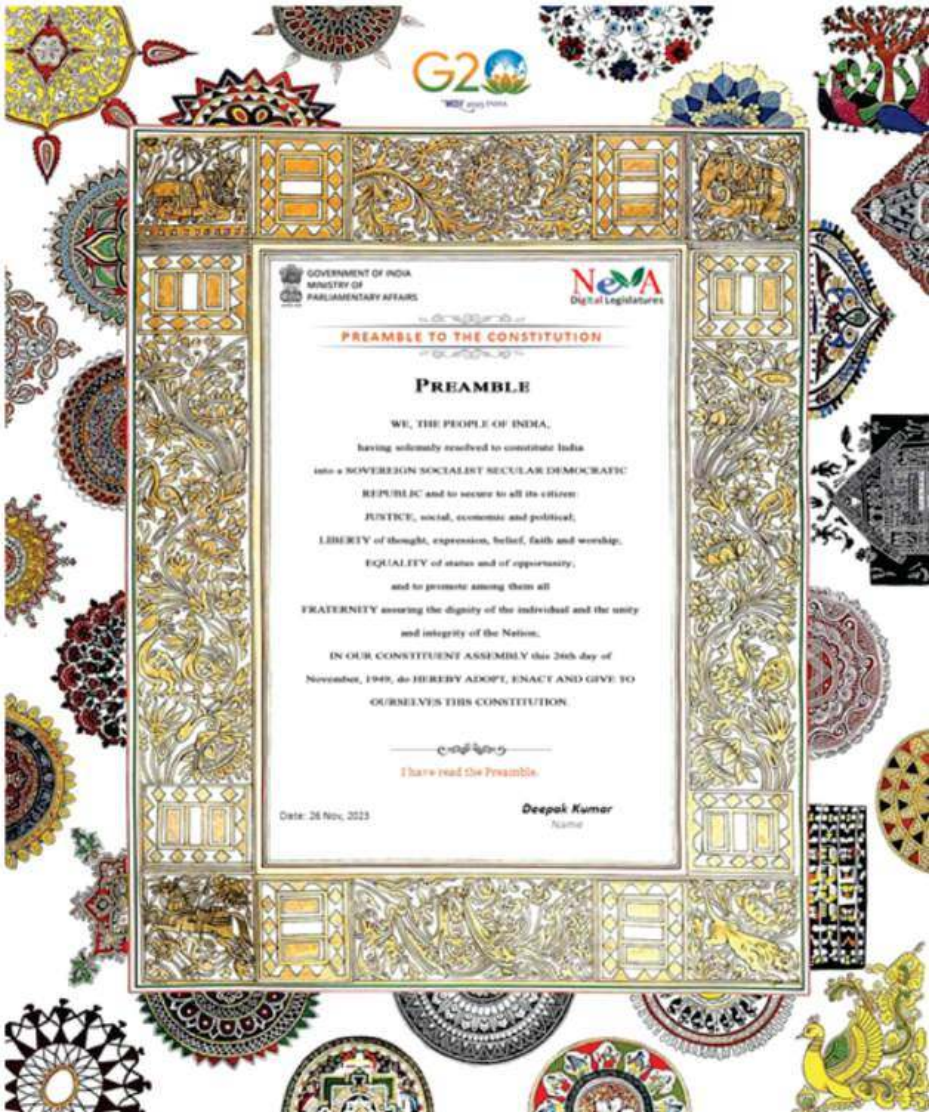
10.17 Har Ghar Tiranga campaign was organized from 9th – 15th August 2024 to celebrate India's Independence Day wherein people were encouraged to hoist flags in their premises. The officers uploaded selfies with Tiranga on the website *www.harghartiranga.com* and social media platform for making the Campaign a resounding success.

Redressal of Public Grievances

10.18 Internal grievances redressal machinery functioning under the Department, attends all the public grievances. The Economic Advisor has been nominated as Nodal officer of Public Grievances of the Department. The name, designation, room number, telephone number, etc. of the Nodal Officer in Public Grievances has been displayed on the website of the Department (http://chemicals/gov.in.). A Public Grievance Officer has been nominated in each Division as the Nodal Officer to monitor the Progress of the redressal of public grievances in respective Divisions.

Celebration of Constitution Day

10.19 As a part of the celebration of Constitution Day which falls on 26.11.2024 officers and staff were mobilised to read the preamble of the Constitution and thereby reaffirming our commitment to uphold its ideology.



Right to Information Act, 2005

10.20 Under the provisions of the Right to Information Act, 2005, a RTI Cell has been set up in the Department to coordinate the RTI-related work. This Section collects, transfers the application seeking information under the RTI Act, 2005 to the Central Public Information Officers / Public Authorities concerned with the subject matter and submits quarterly returns regarding receipt and disposal of the RTI applications/appeals to the Central Information Commission.

a) All Under Secretary/ Section Officer level officers have been designated as Central Public Information Officers (CPIOs) under section 5(1) of the Act, according to the subjects being handled by them.

b) All Director /Deputy Secretary level officers have been designated as Appellate Authorities in terms of section 19(1) of the Act, in respect of Under Secretaries/Section Officers working as CPIOs with them.

c) To facilitate the receipt of applications under the RTI Act, 2005, a provision has been made to receive the applications at the Reception Counter of the Department. The applications so received are further forwarded by the RTI Cell to the CPIOs/Public Authorities concerned.

d) As per para 1.4.1 of DoPT's guidelines issued vide their O.M. No. 1/5/2011-IR dated 15.4.2013, this Ministry has been disposing all RTI applications, appeals and replies of CPIOs and appellate authorities through the portal.

Use of Hindi in Official Work

10.21 Official Language Division, Department of Chemicals and Petrochemicals ensures compliance with the Statutory Provisions & Presidential Orders on the Official Language Policy of the Union Government in its Headquarter, PSUs and autonomous offices.

10.22 Hindi Pakhwada was organized in the Department from 14th to 28th September, 2024. During the Pakhwada, Hindi noting and drafting, Hindi essay writing, Hindi Ashu Bhashan, self-composed Hindi poem recitation, Hindi translation, and Vaad-Vivaad competitions were held. Also, a Hindi Workshop was organised on 30.08.2024 in CIPET:CSTS, Dehradun.

10.23 Official language related inspection of CIPET, Murthal on 09.01.2024, IPFT, Gurugram on 18.01.2024,CIPET (HQ), Chennai on 23.02.2024, CIPET:IPT, Chennai & CIPET:SARP-ARSTPS, Chennai on 24.02.2024 and CIPET, Madurai on 01.03.2024 were carried out by the division. Suggestions were given to the officers/officials present during the inspection for increasing and improving the use of Hindi.

10.24 Documents like Annual Report, Performance Budget, Demand-for-Grants, Parliament Questions & Assurances, Papers of Department related Parliamentary Standing Committee & Report of Comptroller and Auditor General, Cabinet notes, papers of updating the Departmental website etc. were issued in bilingual form as per the Section3(3) of the Official Language Act, 1963. All letters received in Hindi were replied to in Hindi as per the Rule 5 of the Official Language Rules, 1976. Efforts were made to progressively increase the use of Hindi in day-to-day official work as laid out in the Annual Programme of the Department of Official Language.

10.25 During the year, Quarterly Progress Reports of Hindi were compiled on the basis of the inputs received from different Sections of the Department & were sent to the Department of Official Language for inclusion in their database. Reports received from Attached and Subordinate offices were reviewed and shortcomings found therein were suggested for rectification.

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Annexure-I

PRODUCT-WISE INSTALLED CAPACITY & PRODUCTION OF MAJOR CHEMICALS									
(Figures in 000'MT)									
Major Groups / Products	**Installed Capacity**			**Production**					**CAGR**
	2021-2022	**2022-2023**	**2023-2024**	**2019-2020**	**2020-2021**	**2021-2022**	**2022-2023**	**2023-2024**	
1	2	3	4	5	6	7	8	9	10
1. Alkali Chemicals									
SODA ASH	3614.00	3714.00	3714.00	3069.43	2638.12	3078.90	3219.32	2975.78	-0.77
CAUSTIC SODA	4150.83	4227.40	4304.40	3136.94	2964.08	3462.77	3604.47	3617.99	3.63
LIQUID CHLORINE	3124.41	3158.15	3241.96	2250.43	2174.26	2499.33	2668.85	2640.41	4.08
Total	**10889.24**	**11099.55**	**11260.35**	**8456.80**	**7776.46**	**9041.00**	**9492.64**	**9234.18**	**2.22**
2. Inorganic Chemicals									
ALUMINIUM FLUORIDE	25.60	25.60	25.60	5.05	3.70	8.91	5.31	5.38	1.61
CALCIUM CARBIDE	112.00	112.00	112.00	81.34	86.78	98.62	83.44	80.13	-0.37
CARBON BLACK	696.00	696.00	771.00	500.15	384.78	456.49	447.00	484.38	-0.80
POTASSIUM CHLORATE	28.60	28.60	28.60	16.18	17.08	17.68	14.23	17.09	1.38
TITANIUM DIOXIDE	82.50	82.50	82.50	49.49	51.22	56.96	46.81	54.02	2.21
RED PHOSPHORUS	1.68	1.68	1.19	1.03	1.07	1.15	1.17	0.91	-3.08
HYDROGEN PEROXIDE	221.77	221.27	222.29	122.84	139.90	143.49	184.37	188.12	11.24
POTASSIUM IODATE	1.20	1.20	1.20	0.56	0.54	0.58	0.51	0.53	-1.73
CALCIUM CARBONATE	383.55	383.55	383.55	286.83	274.79	246.78	252.38	285.06	-0.16
Total	**1575.21**	**1574.71**	**1650.24**	**1063.47**	**977.78**	**1051.78**	**1058.43**	**1137.09**	**1.69**

PRODUCT-WISE INSTALLED CAPACITY & PRODUCTION OF MAJOR CHEMICALS									
(Figures in 000'MT)									
Major Groups / Products	**Installed Capacity**			**Production**					**CAGR**
	2021-2022	**2022-2023**	**2023-2024**	**2019-2020**	**2020-2021**	**2021-2022**	**2022-2023**	**2023-2024**	
1	2	3	4	5	6	7	8	9	10
3. Organic Chemicals									
ACETIC ACID	142.05	165.51	165.51	167.86	154.76	166.59	165.49	164.32	-0.53
ACETIC ANHYDRIDE	119.18	124.65	112.65	74.15	75.09	78.43	97.85	69.05	-1.76
ACETONE	47.14	47.14	47.14	36.27	39.03	36.12	33.99	29.61	-4.94
PHENOL	76.75	76.75	76.75	57.85	61.27	58.16	54.98	47.52	-4.80
METHANOL	474.30	474.30	660.30	176.05	234.03	167.71	69.27	183.16	1.00
FORMALDEHYDE	451.78	435.28	439.65	260.41	244.66	293.07	301.06	313.11	4.71
NITROBENZENE	126.45	126.45	129.45	61.14	76.09	82.85	64.47	79.02	6.63
MALEIC ANHYDRIDE	7.66	7.66	7.66	5.02	5.38	6.33	6.91	6.49	6.59
PENTAERYTHRITOL	17.40	17.40	17.40	15.21	11.65	16.33	15.59	14.39	-1.38
ANILINE	54.10	54.10	54.10	25.44	33.53	39.66	22.17	30.34	4.50
CHLORO METHANES	345.99	438.45	435.75	296.91	326.95	340.82	411.56	386.85	6.84
ISOBUTYLBENZENE	16.80	16.80	16.80	9.44	12.72	8.52	9.60	9.67	0.61
ONCB	30.00	30.00	30.00	19.84	23.27	26.69	27.08	25.43	6.41
PNCB	48.40	48.40	48.40	31.90	38.89	43.71	46.19	42.64	7.52
MEK	10.00	10.00	10.00	9.83	8.00	8.85	8.35	8.00	-5.03
ACETALDEHYDE	151.97	151.97	154.97	77.10	55.97	72.51	77.70	64.18	-4.48
ETHANOLAMINES	27.00	27.00	27.00	15.39	16.70	20.98	19.69	22.42	9.86
ETHYL ACETATE	575.06	575.06	564.26	473.39	453.13	445.43	438.34	439.64	-1.83
MENTHOL	33.65	33.65	33.65	7.44	7.48	10.30	6.36	6.65	-2.78
ORTHO NITRO TOLUENE	44.80	44.80	44.80	25.98	27.67	29.95	34.90	37.06	9.29
Total	**2800.47**	**2905.36**	**3076.24**	**1846.62**	**1906.27**	**1953.00**	**1911.52**	**1979.56**	**1.75**

PRODUCT-WISE INSTALLED CAPACITY & PRODUCTION OF MAJOR CHEMICALS									
(Figures in 000'MT)									
Major Groups / Products	**Installed Capacity**			**Production**					**CAGR**
	2021-2022	**2022-2023**	**2023-2024**	**2019-2020**	**2020-2021**	**2021-2022**	**2022-2023**	**2023-2024**	
1	2	3	4	5	6	7	8	9	10
4. Pesticides and Insecticides									
D.D.T.	6.34	6.34	5.00	1.10	0.57	0.66	0.28	0.01	-66.43
MALATHION	3.80	3.80	5.76	3.79	3.84	3.29	2.84	2.93	-6.24
DIMETHOATE	1.45	1.45	1.45	1.45	1.45	1.39	1.01	0.98	-9.24
D.D.V.P.	33.62	33.62	24.92	0.00	0.94	0.42	0.04	0.00	
QUINALPHOS	3.40	3.40	1.98	0.86	1.06	2.45	0.60	0.72	-4.10
MONOCROTOPHOS	13.94	13.94	21.21	5.82	7.92	7.49	5.10	11.88	19.53
ETHION	2.80	2.80	2.80	2.13	2.22	2.79	2.33	2.63	5.41
FENVALERATE	4.96	4.96	4.86	0.67	0.49	0.68	0.50	0.46	-8.87
CYPERMETHRIN	24.73	26.80	44.78	10.87	12.29	16.48	10.88	8.56	-5.78
ACEPHATE	20.50	20.50	51.28	21.08	29.59	29.56	33.39	37.36	15.38
CHLORPYRIPHOS	13.40	13.40	10.90	6.50	8.53	7.62	8.45	7.79	4.64
TEMEPHOS	0.25	0.25	0.50	0.15	0.15	0.00	0.06	0.13	-3.75
DELTAMETHRIN	0.85	1.02	1.07	0.69	0.59	0.71	0.74	0.63	-1.99
ALPHAMETHRIN	0.60	0.64	0.64	0.44	0.54	0.51	0.49	0.23	-15.15
PROFENOFOS TECHNICAL	17.30	17.40	19.64	12.36	16.08	16.25	16.10	15.14	5.21

PRODUCT-WISE INSTALLED CAPACITY & PRODUCTION OF MAJOR CHEMICALS									
(Figures in 000'MT)									
Major Groups / Products	**Installed Capacity**			**Production**					**CAGR**
	2021-2022	**2022-2023**	**2023-2024**	**2019-2020**	**2020-2021**	**2021-2022**	**2022-2023**	**2023-2024**	
1	2	3	4	5	6	7	8	9	10
PRETILACHLOR TECHNICAL	4.24	4.48	4.60	3.07	3.59	3.22	3.46	1.99	-10.20
LAMBDA CYHALOTHRIN	3.15	3.77	10.92	2.30	1.68	2.70	3.10	2.00	-3.45
PHENTHOATE	0.90	0.90	1.39	1.41	1.35	1.83	1.80	1.58	2.99
PERMETHRIN TECH	1.80	1.91	1.91	1.22	1.66	2.49	3.58	2.46	19.10
IMIDACALOPRID TECH	0.15	0.15	0.20	0.02	0.03	0.03	0.00	0.02	0.00
CAPTAN & CAPTAFOL	3.43	3.43	3.43	1.46	1.46	1.90	1.63	0.89	-11.67
ZIRAM(THIO BARBAMATE)	0.70	0.70	0.31	0.63	0.88	0.67	0.59	0.74	3.87
MANCOZAB	121.80	121.80	131.95	60.88	97.43	118.67	83.62	107.36	15.24
HEXACONAZOLE	2.82	3.46	3.46	0.75	0.81	1.28	0.61	0.84	2.77
METCONAZOLE	0.50	0.50	0.50	0.21	0.20	0.19	0.35	0.30	9.54
2, 4-D	30.00	30.00	32.00	22.56	27.05	40.00	41.96	35.13	11.72
ETHOFUMESATE TECHNICAL	1.65	1.95	2.01	0.79	0.43	0.73	0.89	0.79	-0.13
THIAMETHOXAM TECHNICAL	5.10	6.32	5.82	6.15	5.21	6.56	6.43	5.06	-4.78
PENDIMETHALIN	6.60	7.40	4.90	2.75	3.64	4.76	4.67	4.64	13.97

PRODUCT-WISE INSTALLED CAPACITY & PRODUCTION OF MAJOR CHEMICALS									
(Figures in 000'MT)									
Major Groups / Products	**Installed Capacity**			**Production**					**CAGR**
	2021-2022	**2022-2023**	**2023-2024**	**2019-2020**	**2020-2021**	**2021-2022**	**2022-2023**	**2023-2024**	
1	2	3	4	5	6	7	8	9	10
METRIBUZIN	2.87	3.84	3.84	2.65	3.19	2.00	2.34	2.04	-6.27
TRICLOPYR ACID TECH	0.30	0.30	0.30	0.13	0.00	0.38	0.17	0.21	12.71
GLYPHOSATE	12.92	12.92	9.60	5.91	6.13	5.72	4.70	4.93	-4.42
DIURON	6.00	6.00	6.00	3.40	3.42	2.33	3.50	4.38	6.57
ATRAZIN	1.20	2.40	3.00	1.73	1.61	1.69	3.06	5.22	31.82
ZINC PHOSPHIDE	1.92	1.92	2.54	1.32	1.47	2.02	1.49	2.05	11.69
ALUMINIUM PHOSPHIDE	4.74	4.74	11.04	4.91	7.61	9.90	7.37	8.02	13.01
Total	**380.11**	**388.60**	**443.70**	**192.15**	**255.09**	**299.34**	**258.13**	**280.11**	**9.88**
5. Dyes and Pigments									
AZO DYES	21.14	18.90	17.70	8.54	6.62	9.15	7.65	6.47	-6.70
ACID DIRECT DYES(OTHER THAN AZO)	40.90	46.00	46.00	22.75	20.22	23.97	21.16	24.84	2.22
DISPERSE DYES	77.93	92.27	90.38	61.94	51.79	65.94	60.43	65.37	1.36
OIL SOLUBLE (SOLVENT DYES)	3.60	1.20	1.20	2.41	0.44	0.67	0.47	0.55	-30.87
OPTICAL WHITENING AGENTS	67.68	67.68	65.28	20.74	18.18	22.54	16.77	19.68	-1.31

PRODUCT-WISE INSTALLED CAPACITY & PRODUCTION OF MAJOR CHEMICALS									
(Figures in 000'MT)									
Major Groups / Products	**Installed Capacity**			**Production**					**CAGR**
	2021-2022	**2022-2023**	**2023-2024**	**2019-2020**	**2020-2021**	**2021-2022**	**2022-2023**	**2023-2024**	
1	2	3	4	5	6	7	8	9	10
ORGANIC PIGMENT	88.36	89.02	102.69	75.08	67.27	74.34	55.60	53.93	-7.94
PIGMENT EMULSION	5.41	3.77	10.80	9.69	8.60	9.31	8.32	9.10	-1.54
REACTIVE DYES	197.53	216.53	221.15	156.71	132.13	161.94	117.21	136.59	-3.38
SULPHUR DYES (SULPHUR BLACK)	8.25	13.20	13.20	7.45	5.09	8.58	10.68	7.93	1.60
VAT DYES	2.86	3.34	3.34	2.13	1.99	2.32	2.44	1.73	-5.06
SOLUBILISED VAT DYES	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
FOOD COLOURS	0.00	0.00	0.00	0.67	0.49	0.71	0.92	0.78	3.77
NAPTHOLS	0.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
INORGANIC PIGMENTS	18.05	18.05	18.65	16.12	14.64	18.55	16.41	17.68	2.33
Total	**532.74**	**569.95**	**590.39**	**384.22**	**327.46**	**398.02**	**318.06**	**344.65**	**-2.68**
Total Chemicals (1+2+3+4+5)	**16177.76**	**16538.18**	**17020.92**	**11943.25**	**11243.05**	**12743.14**	**13038.76**	**12975.59**	**2.09**
Source: The source of Production and Installed Capacity of Chemicals and Petrochemicals products (which are being monitoring by Statistics & Monitoring Division (S&M) of DCPC) is MPRs received from manufacturers under large and medium scale units only.									
Note: Some Pesticides and Dyes manufacturing units supply combined Installed Capacity.									

Annexure-II

PRODUCT-WISE INSTALLED CAPACITY & PRODUCTION OF MAJOR PETROCHEMICALS									
(Figures in 000'MT)									
Major Groups / Products	**Installed Capacity**			**Production**					**CAGR**
	2021-2022	**2022-2023**	**2023-2024**	**2019-2020**	**2020-2021**	**2021-2022**	**2022-2023**	**2023-2024**	
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
A: Basic Major Petrochemicals									
1. SYNTHETIC FIBRES/YARN									
ACRYLIC FIBRE	107.00	108.00	108.00	102.90	77.02	66.68	96.15	76.21	**-7.23**
POLYESTER STAPLE FIBREFILL	69.00	69.00	69.00	49.89	40.30	39.04	34.13	34.95	**-8.51**
NYLON FILAMENT YARN	66.58	66.58	64.74	48.29	33.27	46.19	44.11	38.69	**-5.39**
NYLON INDUSTRIAL YARN/TYRE CORD	165.70	165.70	176.79	99.75	90.29	115.47	100.61	113.29	**3.23**
POLYESTER FILAMENT YARN	2661.15	2661.15	2655.27	2520.33	1997.93	2560.79	2486.48	2507.83	**-0.12**
POLYESTER STAPLE FIBRE	1350.46	1350.46	1340.71	1027.49	909.38	1160.48	1161.02	1025.29	**-0.05**
POLYPROPYLENE FILAMENT YARN	3.60	3.60	3.60	2.52	2.17	2.81	1.92	1.92	**-6.49**
POLYPROPYLENE STAPLE FIBRE	29.73	29.73	29.73	18.82	15.34	21.25	22.23	22.41	**4.47**
POLYSTER INDUSTRIAL YARN	21.50	21.50	21.50	14.73	12.36	14.39	13.56	14.63	**-0.17**
Elastomeric/Spandex Filament Yarn	8.50	20.00	28.50	8.06	6.60	12.90	12.33	17.31	**21.05**
Group Total	**4483.22**	**4495.72**	**4497.83**	**3892.78**	**3184.65**	**4040.01**	**3972.55**	**3852.54**	**-0.26**
2. POLYMERS									
LINEAR LOW DENSITY POLYETHYLENE (LLDPE)	No separate Capacity			2994.03	2958.92	2914.12	2424.42	2749.96	**-2.10**
HIGH DENSITY POLYETHYLENE (HDPE)	No separate Capacity			1897.57	1910.04	1915.77	1717.90	1961.46	**0.83**

PRODUCT-WISE INSTALLED CAPACITY & PRODUCTION OF MAJOR PETROCHEMICALS									
(Figures in 000'MT)									
Major Groups / Products	**Installed Capacity**			**Production**					**CAGR**
	2021-2022	**2022-2023**	**2023-2024**	**2019-2020**	**2020-2021**	**2021-2022**	**2022-2023**	**2023-2024**	
1	2	3	4	5	6	7	8	9	10
LLDPE/HDPE (Combined) *	**5158.10**	**5158.10**	**5158.10**	**4891.59**	**4868.96**	**4829.89**	**4142.32**	**4711.42**	**-0.93**
LOW DENSITY POLYETHYLENE	610.00	610.00	610.00	613.29	616.61	583.04	625.09	581.72	**-1.31**
POLYSTYRENE (PS)	471.00	499.00	499.00	291.72	217.45	247.94	271.68	292.91	**0.10**
POLYPROPYLENE(PP)	4933.80	4933.80	4933.80	4982.82	4919.10	5240.70	4773.51	5371.20	**1.89**
EXPANDABLE POLYSTYRENE	147.10	193.00	199.00	110.68	87.39	97.22	108.42	118.31	**1.68**
POLY VINYL CHLORIDE (PVC)	1500.00	1500.00	1550.00	1513.59	1434.12	1471.87	1565.59	1472.36	**-0.69**
Group Total	**12820.00**	**12893.90**	**12949.90**	**12403.69**	**12143.62**	**12470.65**	**11486.62**	**12547.93**	**0.29**
3. SYNETHETIC RUBBER									
STYRENE BUTADIENE RUBBER	271.00	271.00	271.00	227.83	212.91	237.47	205.39	245.50	**1.89**
POLY BUTADIENE RUBBER	100.00	100.00	100.00	130.25	128.55	132.82	126.11	134.69	**0.84**
NITRILE BUTADIENE RUBBER	13.70	15.50	17.40	0.00	11.88	12.34	13.36	14.45	**0.00**
GROUP TOTAL	**399.70**	**401.50**	**403.40**	**358.08**	**353.34**	**382.63**	**344.86**	**394.65**	**2.46**
4. SYNTH. DETERGENT INTERMEDIATE									
LINEAR ALKYL BENZENE (LAB)	544.79	544.79	586.79	413.50	457.07	462.30	413.16	478.98	**3.74**
ETHYLENE OXIDE (EO)	135.00	135.00	135.00	301.18	279.37	318.09	289.86	329.39	**2.26**
GROUP TOTAL	**679.79**	**679.79**	**721.79**	**714.68**	**736.44**	**780.39**	**703.02**	**808.37**	**6.01**

PRODUCT-WISE INSTALLED CAPACITY & PRODUCTION OF MAJOR PETROCHEMICALS									
(Figures in 000'MT)									
Major Groups / Products	**Installed Capacity**			**Production**					**CAGR**
	2021-2022	**2022-2023**	**2023-2024**	**2019-2020**	**2020-2021**	**2021-2022**	**2022-2023**	**2023-2024**	
1	2	3	4	5	6	7	8	9	10
5. PERFORMANCE PLASTICS									
NYLON-6	No separate Capacity			40.84	55.39	68.33	68.73	65.24	**12.42**
NYLON 6,6	No separate Capacity			0.73	0.00	0.00	0.00	0.00	**-100.00**
NYLON-6/ NYLON 6,6 (Combined) **	**83.50**	**83.50**	**83.50**	**41.57**	**55.39**	**68.33**	**68.73**	**65.24**	**11.93**
ABS RESINS	199.00	199.00	203.00	136.46	121.94	122.78	148.94	167.37	**5.24**
STYRENE ACRYLONITRILE (SAN)	167.00	167.00	167.00	133.79	118.61	121.75	139.07	128.86	**-0.93**
POLYESTER CHIPS/PET CHIPS	2558.55	2622.55	2586.30	1344.70	1208.99	1365.93	1254.30	1048.91	**-6.02**
POLYTETRAFLUOROETHYLENE(PTFE)	20.30	20.30	20.30	15.11	14.64	18.90	17.32	14.21	**-1.52**
GROUP TOTAL	**3032.25**	**3096.25**	**3060.10**	**1671.63**	**1519.57**	**1697.68**	**1628.37**	**1424.60**	**-3.92**
TOTAL BASIC MAJOR PETROCHEMICALS									
(1+2+3+4+5)	**21414.96**	**21567.16**	**21633.02**	**19040.86**	**17937.61**	**19371.36**	**18135.41**	**19028.08**	**-0.02**
B: INTERMEDIATES									
1. FIBRE INTERMEDIATES									
ACRYLONITRILE (ACN)	24.00	24.00	24.00	0.00	0.00	0.00	0.00	0.00	
CAPROLACTUM	120.00	120.00	120.00	84.06	80.41	108.17	129.64	114.62	**8.06**
MONO ETHYLENE GLYCOL (MEG)	2210.60	2210.60	2335.60	2007.78	1981.98	1990.16	1656.20	1683.67	**-4.31**

PRODUCT-WISE INSTALLED CAPACITY & PRODUCTION OF MAJOR PETROCHEMICALS									
(Figures in 000'MT)									
Major Groups / Products	**Installed Capacity**			**Production**					**CAGR**
	2021-2022	**2022-2023**	**2023-2024**	**2019-2020**	**2020-2021**	**2021-2022**	**2022-2023**	**2023-2024**	
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
PURIFIED TEREPHTHALIC ACID (PTA)	3873.00	3873.00	4020.00	3267.07	2996.76	3383.34	3202.20	3158.00	**-0.85**
GROUP TOTAL	**6227.60**	**6227.60**	**6499.60**	**5358.91**	**5059.15**	**5481.67**	**4988.03**	**4956.29**	**-1.93**
2. BUILDING BLOCKS									
OLEFINS									
BUTADIENE	552.00	552.00	552.00	481.01	458.80	477.40	429.43	509.02	**1.42**
ETHYLENE	7147.30	7147.30	7147.30	6466.75	6364.89	6414.52	5802.61	6057.97	**-1.62**
PROPYLENE	5190.38	5190.38	6180.70	4887.62	5215.76	5635.10	5064.00	5833.98	**4.52**
GROUP TOTAL	**12889.68**	**12889.68**	**13880.00**	**11835.39**	**12039.45**	**12527.02**	**11296.05**	**12400.96**	**1.17**
AROMATICS									
BENZENE	1884.35	1884.35	1943.02	1346.24	1407.87	1427.55	1156.60	1291.92	**-1.02**
MIXED XYLENE	898.33	898.33	898.33	269.63	146.68	160.87	45.43	53.04	**-33.40**
ORTHOXYLENE	511.00	511.00	511.00	386.39	522.12	511.15	408.37	343.19	**-2.92**
TOLUENE	288.27	288.27	288.27	140.16	113.99	115.66	112.50	131.73	**-1.54**
PARAXYLENE (PX)	3821.70	3821.70	3919.70	2782.33	2614.21	2461.94	1638.87	1417.33	**-15.52**
GROUP TOTAL	**7403.65**	**7403.65**	**7560.32**	**4924.74**	**4804.86**	**4677.17**	**3361.78**	**3237.21**	**-9.96**

PRODUCT-WISE INSTALLED CAPACITY & PRODUCTION OF MAJOR PETROCHEMICALS									
(Figures in 000'MT)									
Major Groups / Products	**Installed Capacity**			**Production**					**CAGR**
	2021-2022	**2022-2023**	**2023-2024**	**2019-2020**	**2020-2021**	**2021-2022**	**2022-2023**	**2023-2024**	
1	2	3	4	5	6	7	8	9	10
TOTAL INTERMEDIATES									
FIBRE INTERMEDIATES AND BUILDING BLOCKS (1+2)	**26520.93**	**26520.93**	**27939.92**	**22119.04**	**21903.46**	**22685.86**	**19645.85**	**20594.45**	**-1.77**
C: OTHER PETRO-BASED CHEMICALS									
DIETHYLENE GLYCOL	170.90	170.90	187.08	167.74	172.33	173.71	141.76	147.26	**-3.20**
DIACETONE ALCOHOL	9.50	9.50	9.50	6.04	2.93	5.66	3.17	0.01	**-82.25**
ETHYLENE DICHLORIDE	593.20	593.20	569.00	345.29	326.24	366.96	398.62	380.20	**2.44**
BUTANOL	176.00	176.00	176.00	16.44	20.29	38.29	42.43	41.87	**26.33**
2-ETHYL HEXANOL	110.20	110.20	110.20	48.75	49.67	91.26	90.22	101.52	**20.13**
VINYL CHLORIDE MONOMER	541.30	541.30	572.30	874.47	799.22	813.08	849.31	792.33	**-2.44**
PBT**	_	_	_	6.25	6.09	7.55	7.93	7.59	**4.98**
PROPYLENE OXIDE	51.00	51.00	51.00	34.56	44.42	49.92	49.23	45.22	**6.95**
PROPYLENE GLYCOL	22.00	22.00	22.00	19.51	19.71	20.54	21.32	21.20	**2.10**
UNSATURATED POLYSTER RESIN	34.00	34.00	34.00	16.44	12.88	16.55	19.01	24.97	**11.02**
METHYL METHACRYLATE	4.38	4.38	4.38	1.71	0.00	0.00	0.00	0.00	**-100.00**

PRODUCT-WISE INSTALLED CAPACITY & PRODUCTION OF MAJOR PETROCHEMICALS									
(Figures in 000'MT)									
Major Groups / Products	**Installed Capacity**			**Production**					**CAGR**
	2021-2022	**2022-2023**	**2023-2024**	**2019-2020**	**2020-2021**	**2021-2022**	**2022-2023**	**2023-2024**	
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
ISO-BUTANOL	9.80	9.80	9.80	1.71	2.07	3.97	5.78	5.82	**35.79**
C4-RAFFINATE	291.60	291.60	291.60	413.33	433.42	444.57	393.52	448.47	**2.06**
PHTHALIC ANHYDRIDE	401.91	401.91	401.91	269.64	292.96	339.62	330.16	342.35	**6.15**
ISOPROPANOL	70.20	70.20	70.20	60.51	55.31	65.13	48.78	60.49	**-0.01**
POLYOL	148.53	163.03	163.03	81.75	77.83	87.15	99.83	103.09	**5.97**
GROUP TOTAL	**2676.51**	**2691.01**	**2713.99**	**2364.23**	**2318.32**	**2531.29**	**2510.61**	**2538.00**	**1.79**
TOTAL PETROCHEMICALS (A+B+C)	**50612.40**	**50779.10**	**52286.93**	**43524.13**	**42159.38**	**44588.52**	**40291.87**	**42160.54**	**-0.79**

Source: The source of Production and Installed Capacity of Chemicals and Petrochemicals products (which are being monitoring by Statistics & Monitoring Division (S&M) of DCPC) is MPRs received from manufacturers under large and medium scale units only.

*Note: 1. * Combined Installed Capacity of both LLDPE & HDPE.*

*Note: 2 **Combined Installed Capacity of N-6, N6,6, PBT and Poly carbonate*

Annexure III

Location	Final Approval	Land area (Acre)	Total no. of plots	Total Project Cost (Rs. crore)	Approved grant-in-aid (Rs. crore)
Tamot, Madhya Pradesh	09.10.2013	122	172	108.00	40.00
Jagatsinghpur, Odisha	09.10.2013	120	80	106.78	40.00
Thiruvallur, Tamil Nadu	05.09.2019	240	65	216.92	40.00
Tinsukia, Assam	21.02.2014	173	104	93.65	40.00
Deoghar, Jharkhand	20.12.2018	93	102	67.33	33.67
Bilaua, Madhya Pradesh	20.12.2018	93	107	68.72	34.36
Sitarganj, Uttarakhand	03.12.2020	40	82	67.73	33.90
Sarora, Chhattisgarh	13.04.2021	47	48	42.09	21.04
Ganjimutt, Karnataka	21.01.2022	104	53	62.78	31.38
Gorakhpur, Uttar Pradesh	13.07.2022	88	92	69.58	34.79

Annexure IV

No.	Title of Centre ofExcellence	Name of Institute	Approval	Total Project Cost (Rs.crore)	Approved grant-in-aid (Rs. crore)
1.	Sustainable Polymer Industry to Research & Innovation (SPIRIT)	National Chemical Laboratory, Pune	2011	12.00	6.00
2.	Green Transport Network (GREET)	Central Institute of Plastics Engineering &Technology, Chennai	2011	18.98	6.00
3.	Sustainable Green Materials	Central Institute of Plastics Engineering & Technology, Bhubaneswar	2013	15.045	6.00
4.	Advanced Polymeric Materials	Indian Institute of Technology, Delhi	2013	12.00	6.00
5.	Sustainable Polymers (Sus-Pol)	Indian Institute of Technology, Guwahati	2013	14.74	6.00
6.	Process Development, Wastewater Management in Petrochemical Industries	Indian Institute of Technology, Roorkee	2019	13.16	4.40
7.	Bio-engineered Sustainable Polymeric System	Central Institute of Plastics Engineering & Technology, Bhubaneswar	2019	10.01	5.00
8.	Specialty Polymers for Customized Additive manufacturing	National Chemical Laboratory, Pune	2019	5.60	2.80

No.	Title of Centre ofExcellence	Name of Institute	Approval	Total Project Cost (Rs.crore)	Approved grant-in-aid (Rs. crore)
8.	Specialty Polymers for Customized Additive manufacturing	National Chemical Laboratory, Pune	2019	5.60	2.80
9.	Polymer Coatings for Decorative, Protective and Strategic Applications	CSIR-IICT, Hyderabad	2020	9.72	4.86
10.	Polymers their Composites and Polymeric Membranes for Sustainable Development of Petroleum Industries	CSIR–NEIST Jorhat- Assam	2020	24.75	4.99
11.	Manufacturing of Next Generation Bio-Medical Devices	Central Institute of Plastics Engineering &Technology, Bhubaneswar	2020	10	5
12.	Design and Development for Value added Toys of Rubber and Allied Finished Products	IRMRA, Thane	2022	9.86	4.93
13.	Sustainable & innovative design and Manufacturing of polymer toys	IIT, Guwahati	2022	10.59	5.00

No.	Title of Centre ofExcellence	Name of Institute	Approval	Total Project Cost (Rs.crore)	Approved grant-in-aid (Rs. crore)
14.	Coal to Acetylene and Fine Chemicals	Indian Institute of Technology (Indian School of Mines), Dhanbad	2024	5.61	2.61
15.	Biodegradable Packaging Materials (BioPack)	Indian Institute of Technology, Madras	2024	9.90	4.95
16.	Performance Chemicals and Sustainable Polymers for Industrial Applications	CSIR-National Institute for Interdisciplinary Science and Technology (CSIR - NIIST), Thiruvananthapuram	2024	15.51	5.00
17.	Specialty Chemicals	Indian Institute of Technology, Kanpur	2024	11.86	4.99
18.	Transparent and Biocompatible Metal- Polymer Composite Based X- ray, Gamma ray and Neutron Shields for Window and Personal Protecting Apparels	CSIR-Advanced Materials and Processes Research Institute (CSIR-AMPRI), Bhopal	2024	3.90	1.95

Annexure-V

S.No.	Indian Standard / HS Code	Name of Chemicals	Date of notifying the QCO	Date of enforcement of QCO
1.	IS 252:2013 (HS Code: 28151110, 28151190, 28151200)	Caustic Soda	03.04.2018	03.04.2018
2.	IS 695 : 1986 (HS Code 29152100)	Acetic Acid	05.08.2019	-
3.	IS 517 : 1986 (HS Code 29051100	Methanol	05.08.2019	-
4.	IS 2833:2019 (HS Code 29214110)	Aniline	05.08.2019	-
5.	IS 15573 : 2018 (HS Code 28273200)	Poly Aluminium Chloride	05.08.2019	02.02.2020
6.	IS 8058: 2018 (HS Code 29333100)	Pyridine	16.06.2020	-
7.	IS 16113: 2013, Reaffirmed 2018 (HS Code 29333913)	Gamma Picoline	16.06.2020	13.03.2024
8.	IS 16112: 2013 (HS Code: 29333916)	Beta Picoline	16.06.2020	-
9.	IS 12084: 2018 (HS Code 29333917)	Morpholine	16.06.2020	-
10.	IS 297: 2001, Reaffirmed 2017 (HS Code 28301000)	Sodium Sulphide	16.06.2020	14.12.2020
11.	IS 7129: 1992, Reaffirmed 2015 (HS Code 28364000)	Potassium Carbonate	16.06.2020	13.03.2024
12.	IS 170: 2004, Reaffirmed 2015 (HS Code 29141100)	Acetone	16.06.2020	13.03.2024

S.No.	Indian Standard / HS Code	Name of Chemicals	Date of notifying the QCO	Date of enforcement of QCO
13.	IS 4581: 1978 Reaffirmed 2015 (HS Code 28121300)	Phosphorus Trichloride	16.06.2020	14.12.2020
14.	IS 11744: 1986 Reaffirmed 2015 (HS Code 28121400)	Phosphorus Pentachloride	16.06.2020	14.12.2020
15.	IS 11657: 1986 Reaffirmed 2015 (HS Code 28121200)	Phosphorous Oxychloride	16.06.2020	14.12.2020
16.	IS 2080: 1980, (Reaffirmed 2016) (HS Code 28470000)	Hydrogen Peroxide	16.06.2020	22.11.2022
17.	IS 3205: 1984, (Reaffirmed 2015) IS 12928: 1990, (Reaffirmed 2017) (HS Code 28366000)	Precipitated Barium Carbonate	16.06.2020	14.12.2020
18.	IS 4505: 2015 (HS Code 28311020)	Sodium Formaldehyde Sulphoxylate	16.06.2020	14.12.2020
19.	IS 6100: 1984, Reaffirmed 2015 (HS Code 28353100)	Sodium Tripolyphosphate	16.06.2020	-
20.	IS 7686 : 2020 (HS code 2922 2914)	3 (N, N - Di Ethyl) Aminophenol	25.05.2021	24.11.2021
21.	IS 4566 : 2020 (HS code 29031200)	Methylene Chloride (Dichloromethane)	25.05.2021	20.11.2023
22.	IS 2012 : 2006, Reaffirmed 2016 (HS Code 2804 7020)	Red Phosphorus	25.05.2021	24.11.2021
23.	IS 798 : 2020 (HS Code 2809 2010)	Ortho Phosphoric Acid	15.06.2021	10.12.2022
24.	IS 17439 : 2020 (HS code 2809 2020)	Polyphosphoric Acid	24.12.2021	22.12.2022

S.No.	Indian Standard / HS Code	Name of Chemicals	Date of notifying the QCO	Date of enforcement of QCO
25.	IS 17412 : 2020	Trimethyl Phosphite	05.04.2022	02.10.2022
26.	IS 17450 : 2020	1, 3 Phenylenediamine	27.04.2022	24.10.2022
27.	IS 10931:1984	Lauric Acid	27.04.2022	-
28.	IS 12029:1986	Acid Oil	27.04.2022	-
29.	IS 12067:1987	Palm Fatty Acids	27.04.2022	-
30.	IS 12068:1987	Rice Bran Fatty Acids	27.04.2022	-
31.	IS 12069:1987	Coconut Fatty Acids	27.04.2022	-
32.	IS 12124:1987	Rubberseed Fatty Acids	27.04.2022	24.10.2022
33.	IS 12361: 1988	Hydrogenated Rice Bran Fatty Acids	27.04.2022	-
34.	IS 8637 : 2020	H Acid	14.11.2024	-
35.	IS 11557: 1986	K Acid	14.11.2024	-
36.	IS 18340 : 2023	Vinyl Sulphone	14.11.2024	-
37	IS 14887: 2014 (HS code 39232100/ 39232990)	High Density Polyethylene (HDPE)/ Polypropylene (PP) Woven Sacks for packaging of 50kg. Foodgrains	23rd April, 2020	**23.10.2020**
38	IS 16208:2015 (HS code 39232100/ 39232990)	High Density Polyethylene (HDPE)/ Polypropylene (PP) Woven Sacks for packaging 10kg., 15kg., 20kg., 25kg., and 30kg. Foodgrains		

S.No.	Indian Standard /HS Code	Name of Chemicals/Petrochemicals	Date of notifying the QCO	Date of Enforcement of QCO
39	IS 14968:2015 (HS code 39232100/ 39232990)	High Density Polyethylene (HDPE)/ Polypropylene (PP) Woven Sacks for packaging 50kg. /25kg Sugar	23rd April, 2020	**23.10.2020**
40	IS 14252:2015 (HS code 39232100/ 39232990)	High Density Polyethylene (HDPE)/ Polypropylene (PP) Woven Sacks for filling Sand		
41	IS 11356: 2020 HS 40021100	**Styrene Butadiene Rubber Latex**	15th April, 2021	**15.10.2021**
42	IS 336:1973 (HS code 39072010)	**Ether**	29th June, 2020	**25.12.2021**
43	IS 12795:2020 HS 38170011	**Linear Alkyl Benzene**	5th April, 2022	**03.04.2023**
44	IS 17263:2019 HS: 55032000	**Polyester Staple Fibres (PSF)**	5th April, 2022	**03.04.2023 (In force)** **"Provided that nothing in this Order shall apply to Low Melt Polyester Fibres".**
45	IS 16481:2016 HS: 55032000	**Synthetic micro-fibres for use in cement based matrix**	5th April, 2022	**03.04.2023**

S.No.	Indian Standard / HS Code	Name of Chemicals	Date of notifying the QCO	Date of enforcement of QCO
46	IS 17077:2019 HS 39033000	**Acrylonitrile Butadiene Styrene (ABS)**	13th September, 2021	**12.06.2023** **"Provided that nothing in this Order shall apply to Acrylonitrile-Butadiene Styrene (ABS) Moulding and Extrusion Materials used for production of toco transducers."**
47	IS 5158: 1987 HS 29173500	**Phthalic Anhydride**	24th December,2021	**22.06.2023**
48	IS 15030:2001 HS 29173600	**Terephthalic Acid**	24th December, 2021	**22.06.2023**
49	IS 5295:1985 HS 29053100	**Ethylene Glycol**	24th December, 2021	**28.06.2023**
50	IS 17264:2019 HS 54023300	**Polyester Industrial Yarn (IDY)**	5th April,2022	**03.07.2023** **"Provided that nothing in this Order shall apply to less than 500 (five hundred) deniers"**
51	IS 17261:2019 HS 54024700	**Polyester Continuous Filament Fully Drawn Yarn (FDY)**	5th April, 2022	**05.10.2023** "Provided that nothing in this Order shall apply to Low Melt Polyester Yarn."
52	IS 17262:2019 HS 54024600	**Polyester Partially Oriented Yarns (POY)**	5th April, 2022	**05.10.2023**

S.No.	Indian Standard / HS Code	Name of Chemicals	Date of notifying the QCO	Date of enforcement of QCO
53	IS 17265:2019 HS 55092100	**100 percent Polyester Spun Grey and White Yarn (PSY)**	5th April, 2022	**05.10.2023**
54	IS 7328:2020 HS 39011010 IS 7328:2020 (HS code 39011090) IS 7328:2020 (HS code 39012000) IS 7328:2020 HS 39019090	**Linear Low Density Polyethylene (LLDPE)** Polyethylene Material for Moulding and Extrusion (Quality Control)	5th April, 2022	**05.01.2024**
		OTHR POLYETHYLENE HVNG A SPFC GRVTY < 0.94 (PC) 19 Polyethylene Material for Moulding and Extrusion (Quality Control)		
		POLYETHYLENE HVNG A SPCFC GRVTY 0.94 /MORE (PC) 20 (HDPE) Polyethylene Material for Moulding and Extrusion (Quality Control)		
		*OTHR POLYMERSOF ETHYLINE IN PRIMARY FORMS (PC) 22 Polyethylene Material for Moulding and Extrusion (Quality Control		

S.No.	Indian Standard / HS Code	Name of Chemicals	Date of notifying the QCO	Date of enforcement of QCO
		"Provided that, nothing in this Order shall apply to the following classes of polyethylene material for moulding and extrusion, namely:- a) Low Density Polyethylene Extrusion (LDPE) Coating; b) Low Density Polyethylene (LDPE) Film Grades (Blown/ Cast) or Pharma; c) Linear Low Density Polyethylene (LLDPE) Butene Grades; d) Linear Low Density Polyethylene (LLDPE) Hexene/ Octene Grades; e) Metallocene Polyethylene Grades; f) Base Resins of Power Cable, Jacketing and other applications; and g) compounds for Cable Jacketing/ Sheathing/ Polyethylene-80 and Polyethylene-100 (Black and Pigmented)/ Reinforcement Fillers".		
55	IS 14709:1999 HS 29161210	**n- Butyl Acrylate**	24th December, 2021	**22.12.2023**
56	IS 16703:2017 HS 39269090	**Textiles — High Density Polyethylene (HDPE) Polypropylene (PP) Woven Sacks for Packaging of 25 kg Polymer Materials**	6th December, 2023	**6th June, 2024**
57	IS 17042 (Part-I): 2020/ ISO 22241-1:2019)	**Diesel Engines – NOx Reduction Agent AUS 32**	26th February, 2024	**26th August, 2024**
58	IS 9755: 2021 HS 39239090	**Textiles—High Density Polyethylene (HDPE) /Polypropylene (PP) Woven Sacks for Packaging Fertilizers**	6th December, 2023	**6th September, 2024**
59	IS 537:2011 HS 29023000	**Toluene**	24th December, 2021	**22.12.2025**

S.No.	Indian Standard /HS Code	Name of Chemicals	Date of notifying the QCO	Date of enforcement of QCO
60	IS 4105:2020 HS 29025000	**Styrene (Vinyl Benzene)**	5th April, 2022	**24.10.2025**
61	IS 12345:1988 HS 29153200	**Vinyl Acetate Monomer**	22nd December, 2021	**31.03.2025**
62	IS 12540:1988 HS 29261000	**Acrylonitrile**	5th April, 2022	**24.10.2025**
63	IS 14707:1999, IS 14708:1999	**Methyl Acrylate, Ethyl Acrylate**	22nd December, 2021	**31.03.2025**
64	IS 5149:2020 HS 29171400	**Maleic Anhydride**	5th April, 2022	**24.10.2025**
65	IS 13601: 1993 HS 39013000	**Ethylene Vinyl Acetate (EVA) Copolymers**	5th April, 2022	**03.10.2025**
66	IS 869:2020 HS 29031500	**Ethylene Dichloride**	13th September, 2021	**12.03.2025**
67	IS 17370:2020 HS 29024300	**p-Xylene**	13th September, 2021	**19.03.2025**
68	IS 14434:1998 HS 39074000	**Polycarbonate**	13th September, 2021	**12.03.2025**
69	IS 17397 (part 1) : 2020 HS 39095000	**Polyurethanes**	13th September, 2021	**19.03.2025**
70	17442:2020 29032100	**Vinyl Chloride Monomer**	13th September, 2021	**12.03.2025**

S.No.	Indian Standard / HS Code	Name of Chemicals	Date of notifying the QCO	Date of enforcement of QCO
71	IS 17658:2021	**Poly Vinyl Chloride (PVC) Homopolymers**	26th February, 2024	**24.06.2025**
72	IS 11652:2017 HS 39269090	**Textiles — High Density Polyethylene (HDPE)/ Polypropylene (PP) Woven Sacks for Packaging of 50 kg Cement**	6th December, 2023	**6th June, 2025**
73	HS 39269090 IS 16709:2017	**Textiles — Polypropylene (PP) Woven, Laminated, Block Bottom Valve Sacks for Packaging of 50 kg Cement**	6th December, 2023	**6th June, 2025**
74	IS 17399:2020 HS 39269090	**Textiles — Polypropylene (PP)/ High Density Polyethylene (HDPE) Laminated Woven Sacks for Mail Sorting, Storage, Transport and Distribution**	6th December, 2023	**6th June, 2025**
75	IS 10951: 2020	**Polypropylene (PP) Materials for Moulding and Extrusion**	26th February, 2024	**24.06.2025**

Scheme wise Outlay

Annexure VI

(Rs. In crore)

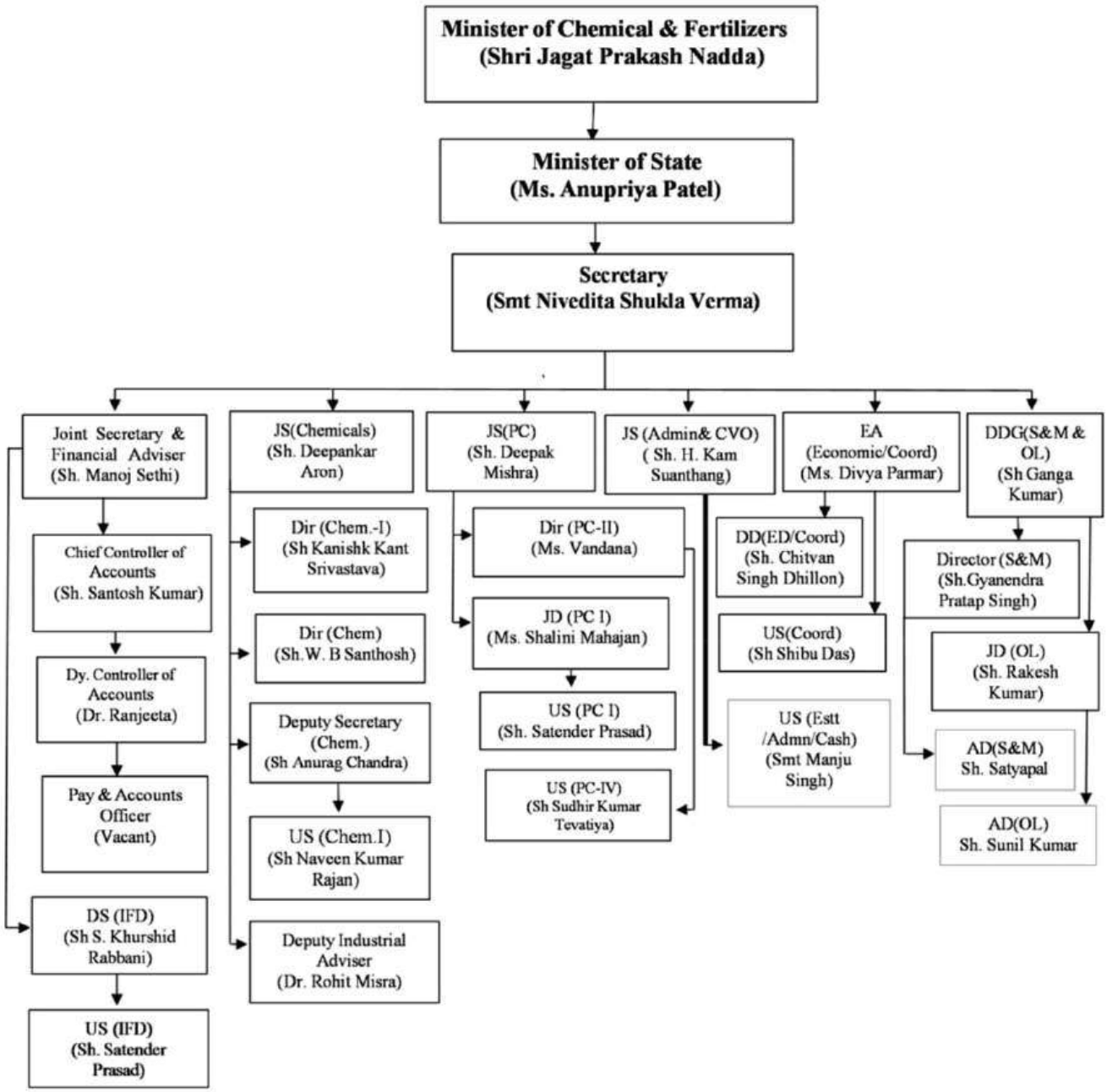
Sr.No.	Name of the Scheme	BE 2024-25	RE 2024-25
1	**Central Sector Schemes**		
1.1	New Schemes of Petrochemicals	25.00	33.50
2	**Other Central Expenditure(Sectt/BGLD/ABs/PSUs)**		
2.1	Secretariat-Economic-Services	31.68	29.61
2.2	Central Institute of Petrochemicals Engineering & Technology (CIPET)	36.37	44.20
2.3	Institute of Pesticides Formulation Technology (IPFT)	20.65	17.15
2.1	Secretariat-Economic-Services	31.68	29.61
2.4	HIL (India) Ltd.	120.06	120.06
2.5	Bhopal Gas Leak Disaster (BGLD)	25.35	17.47
	Total	**259.11**	**261.99**

Expenditure 2023-24 & 2024-25

(₹ in crore)

Sr. No.	Schemes	BE 2023-24	RE 2023-24	Exp 2023-24	% of Exp w.r.t. RE (2023-24)	BE 2024-25	RE 2024-25	Exp as on 31.12.2024	% of Exp w.r.t. RE (2024-25)
I	**Central Sector Schemes**								
1	New Schemes of Petrochemicals	22.00	18.00	18.00	100%	25.00	33.50	14.86	44.36%
	Total of I	**22.00**	**18.00**	**18.00**	**100%**	**25.00**	**33.50**	**14.86**	**44.36%**
II	**Other Central Expenditure (Sectt. /BGLD/ ABs/PSUs)**								
1	Secretariat (Revenue+ Capital)	22.55	28.18	26.89	95.42%	31.68	29.61	20.17	68.12%
2	Bhopal Gas Lead Disaster (BGLD) (Revenue+ Capital)	23.40	18.31	16.41	89.62%	25.35	17.47	12.51	71.61%
3	Central Institute of Plastic Engineering & Technology (CIPET)	92.88	7.28	0.00	0.00	36.37	44.20	27.28	61.72%
4	Institute of Pesticides Formulation Technology (IPFT)	12.62	14.12	14.12	100%	20.65	17.15	8.44	49.21%
	Total of II	**151.45**	**67.89**	**57.42**	**84.58%**	**114.05**	**108.43**	**68.40**	**63.08%**
	TOTAL (I + II)	**173.45**	**85.89**	**75.42**	**87.81%**	**139.05**	**141.93**	**83.26**	**58.66%**
III	**Loan to PSUs**								
1.	Hindustan Insecticides Ltd. (HIL)	0.00	486.74	399.18	82.01%	120.06	120.06	120.06	100%
	Grand Total (I+II+III)	**173.45**	**572.63**	**474.60**	**82.88%**	**259.11**	**261.99**	**203.32**	**77.61%**

ORGANISATIONAL CHART OF DEPARTMENT OF CHEMICALS & PETROCHEMICALS (As on 17.12.2024)



Chem: Chemicals PC:
Petrochemicals Vig: Vigilance
O.L: Official Language Coord :
Coordination
S&M : Statistics & monitoring ED: Economic
Admn : Administration