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ANNEXURES

Chapter - I

INTRODUCTION

1.0 Introduction

1.1 Department of Chemicals and Petrochemicals (DCPC) aims:

i. To formulate and implement policy and Programmes for achieving growth and development of the chemical and the petrochemical sectors in the country; and

ii. To foster the spirit of public-private partnership for overall development of above-mentioned sectors of industry.

1.2 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. Molasses;

iii. Alcohol - Industrial and Potable from the molasses route;

iv. Dyestuffs and Dye Intermediates;

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

vi. Planning, Development and control of, and assistance to, all industries being dealt with by the Department;

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

viii. Petrochemicals;

ix. Industries relating to production of non-Cellulose Synthetic Fibers (Nylons, Polyesters, Acrylic etc.);

x. Synthetic Rubber; and

xi. Plastics including fabrications of plastic and moulded goods.

1.3 The Department has four major divisions viz. Chemicals, Petrochemicals, Planning & Evaluation (P&E) and Statistics & Monitoring (S&M). The Internal Finance Division is common to the three Departments in the Ministry of Chemicals and Fertilizers

There are three PSUs in the chemical sector namely Hindustan Organic Chemicals Limited (HOCL), Hindustan Insecticides Ltd. (HIL) and Hindustan Fluorocarbons Limited (HFL), which is a subsidiary of HOCL, and one PSU in the petrochemical sector namely Brahmaputra Cracker and Polymer Limited (BCPL). The autonomous institutes under this Department are Central Institute of Plastics Engineering and Technology (CIPET) and Institute of Pesticides Formulation Technology (IPFT).

1.4 Shri Srikant Kumar Jena was the Minister of State (Independent Charge) Chemicals and Fertilizers in the year 2013-14. Shri Indrajit Pal is the Secretary of the Department.

1.5 The Department of Chemicals & Petrochemicals continued to identify its objectives and monitor its performance through the Results Framework Document (RFD). The RFD for the year 2012-13 was finalised after detailed deliberations both within the Department and with the Ad-hoc Task Force set up by the Performance Management Division, Cabinet Secretariat and uploaded on the website. Achievements of RFD 2012-13 and composite score is given in Annexure - III. RFD for the year 2013-14 has also been uploaded on the website of the Department. The significant objectives/actions pursued and monitored through the RFD 2012-13 included formulation of a National Policy on Chemicals, oranisation of India Chem Gujarat, approval and promotion of PCPIRs, implementation of the Assam Gas Cracker Project, development of the plastic sector through Central Institute of Plastics Engineering Technology (CIPET), implementation of the National Policy on Petrochemicals, coordination of relief and rehabilitation measures for the Bhopal Gas victims, besides certain mandatory indicators such as improving the service delivery of the Department, ensuring compliance with the financial accountability framework etc.

1.6 The Department's performance was reviewed by the High Power Committee on Government Performance and a composite score of 80.95 was conferred.

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Chapter - II

AN OVERVIEW OF CHEMICAL AND PETROCHEMICAL INDUSTRY

Chemical and Petrochemical Industry:

2.1 The chemical industry is an integral part of the growing Indian industry. It includes basic chemicals and their products, petrochemicals, fertilizers and agrochemicals, paints, varnishes, gases, soaps, perfumes & toiletries and pharmaceuticals. It is one of the most diversified of all industrial sectors, covering thousands of commercial products. This industry occupies a pivotal position in meeting basic needs and improving quality of life. The industry is the mainstay of industrial and agricultural development of the country and provides raw materials, intermediates and process chemicals for several downstream industries such as textiles, paper, paints and varnish, soaps, detergents, pharmaceuticals, agrochemicals etc.

2.2 As per National Industrial Classification (NIC) 2004, chemicals & chemical products are covered under the Industry Division 24. The description of product groups under this Division is given below:

Table I : Description of product groups

Class	Description
2411	Manufacture of basic chemicals except fertilizers and nitrogen compounds
2412	Manufacture of fertilizers and nitrogen compounds
2413	Manufacture of plastics in primary forms and of synthetic rubber
2421	Manufacture of pesticides and other agro chemical products
2422	Manufacture of paints, varnishes and similar coatings, printing ink and mastics
2423	Manufacture of pharmaceuticals, medicinal chemicals and botanical products
2424	Manufacture of soap and detergents, cleaning and polishing preparations, perfumes and toilet preparations
2429	Manufacture of other chemical product not elsewhere classified
2430	Manufacture of man-made fibers [This class includes manufacture of artificial or synthetic filament and non-filament fibers

2.3 According to estimates of the Central Statistical Office (CSO), chemicals and chemical products (Industry Division 24 of NIC 2004) accounted for 2.51% of the GDP (at 2004-05 prices) in 2012-13, compared to 2.53% in 2011-12. The share of this sector in the GDP from manufacturing sector at 2004-05 prices was 15.95% during 2012-13, compared to 15.55% in 2011-12. The annual average Indices of Industrial Production (compiled by the CSO) for chemicals and chemical products (Industry Division 24 of NIC 2004) for 2013-14 stands at 138.6 as compared to 127.3 for 2012-13, implying a growth rate of 8.9%. As per the estimates of the CSO, the size of the Indian Chemical industry in terms of value of output in the year 2012-13 was ₹ 7,82,949 crore.

2.4 The production of selected major chemicals and petrochemicals during the years 2008-09 to 2013-14 is shown in Table-II. The production of major chemicals and petrochemicals in 2013-14 was 19308 thousand MT, compared to 18822 thousand MT in 2012-13, implying a growth of 2.6%.

Table II : Production of selected major chemicals and petrochemicals

{Figures in Thousand Metric Tonnes (MT)}

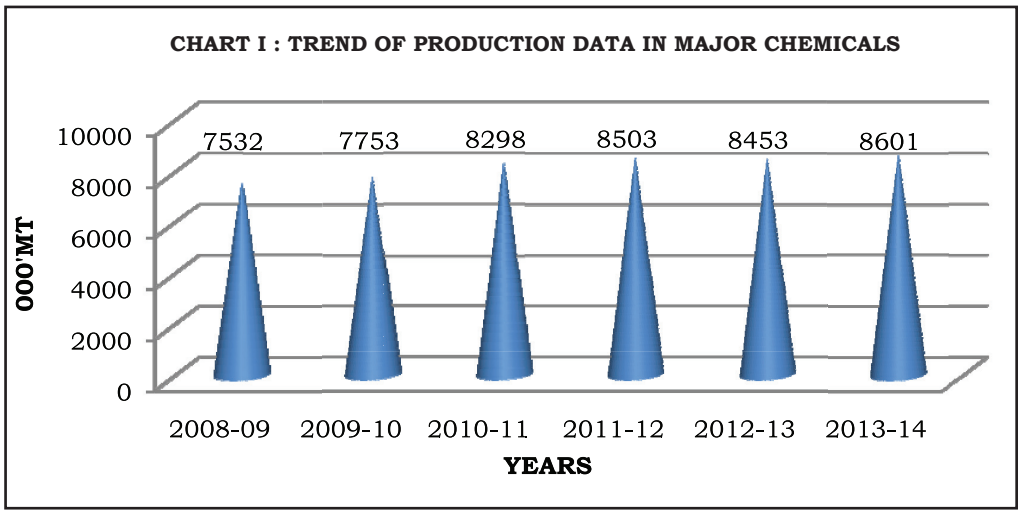
Group	Production	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
Alkali Chemicals	Production	5442	5602	5981	6113	6081	6074
	Growth Rate%	0.0	2.9	6.8	2.2	-0.5	-0.1
Inorganic Chemicals	Production	513	518	572	574	533	545
	Growth Rate%	-15.8	1.0	10.5	0.4	-7.2	2.2
Organic Chemicals	Production	1338	1353	1437	1490	1513	1615
	Growth Rate%	-17.5	1.1	6.2	3.7	1.6	6.7
Pesticides	Production	121	124	133	146	147	167
	Growth Rate%	3.3	1.7	7.7	9.9	0.5	13.7
Dyes & Dyestuffs	Production	117	157	174	180	179	201
	Growth Rate%	-5.9	33.9	11.0	3.5	-0.8	12.0
Total Major Chemicals	Production	7532	7753	8298	8503	8453	8601
	Growth Rate%	-4.9	2.9	7.0	2.5	-0.6	1.7
Synthetic Fibers	Production	2469	2819	3083	3042	3040	3025
	Growth Rate%	-6.8	14.2	9.4	-1.3	-0.1	-0.5
Polymers	Production	5060	4791	5292	6211	6424	6784
	Growth Rate%	-4.6	-5.3	0.5	17.4	3.4	5.6
Elastomers (S.Rubber)	Production	96	106	95	88	86	88
	Growth Rate%	-8.5	10.0	-10.5	-7.0	-2.8	3.4

Group	Production	2008-09	2010-11	2011-12	2011-12	2012-13	2009-10
Synth. Detergen	Production	552	618	638	623	627	597
Intermediates	Growth Rate%	-5.7	12.0	3.3	-2.4	0.7	-4.8
Performance	Production	145	176	196	188	193	213
Plastics	Growth Rate%	9.4	21.5	11.4	-4.2	2.6	10.5
Total Major	Production	8322	8509	9304	10151	10368	10707
Petrochemicals	Growth Rate%	-5.4	2.3	9.3	9.1	2.1	3.3
Total Major	Production	15853	16262	17602	18655	18822	19308
Chemicals and	Growth Rate%	-5.2	2.6	8.2	6.0	0.9	2.6
Petrochemicals							

Note: Production is aggregated based on Monthly Production Returns from manufacturers under large and medium scale. Product- wise and Group-wise details of installed capacity and production of major chemicals and major petrochemicals are given in Annexure-I and Annexure-II respectively.

Chemical Sector- Production Trends

2.5 From Table II, it may be seen that the production of Alkali Chemicals accounts for more than 70% of the total production of major chemicals. The production of major chemicals in 2013-14 was 8601 thousand MT, compared to 8453 thousand MT in 2012-13 implying a growth of 1.7%. The trend in the production of selected major chemicals is depicted in Chart-I.



Petrochemical Sector- Production Trends

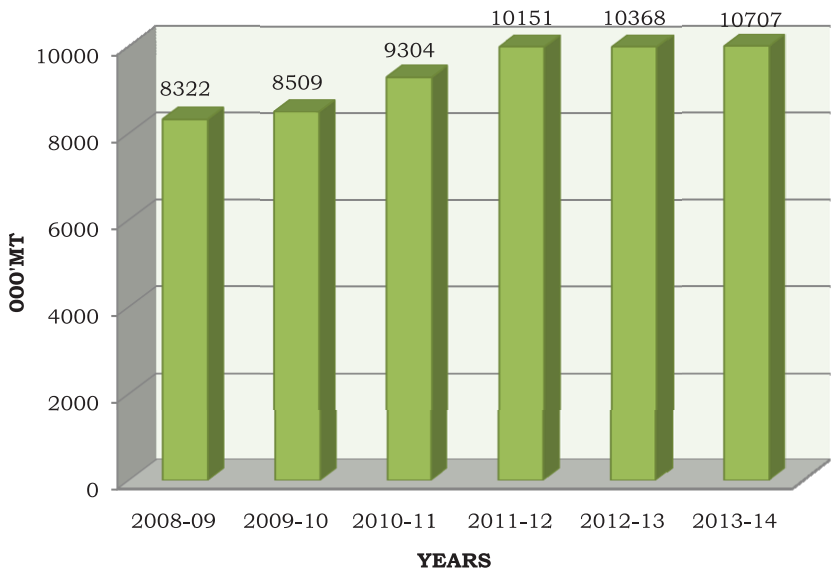
2.6 Petrochemicals, which comprise plastics and a host of other chemicals, are downstream hydrocarbons derived from crude oil

and natural gas. These hydrocarbons are valuable resources and constitute vital raw materials for industries. The downstream petrochemical products permeate our daily lives in almost every aspect. The value additions in the petrochemicals chain offer immense possibilities and cater to the need of textiles and clothing, agriculture, packaging, infrastructure, healthcare, furniture, automobiles, information technology, power, electronics and telecommunication, irrigation, drinking water, construction and a host of other articles of daily and specialised usage.

2.7 There are four naphtha based and three gas based cracker complexes in the country with a combined annual ethylene capacity of 3.85 million MT. In addition, there are five aromatic complexes also with a combined Xylene capacity of 3.5 million MT.

2.8 From Table II, it may be seen that the production of polymers accounts for more than 60% of the total production of major petrochemicals. The production of major petrochemicals in 2013-14 was 10707 thousand MT, compared to 10368 thousand MT in 2012-13, implying growth of 3.3%. The trend in the production of selected major petrochemicals is depicted in Chart-II.

CHART II : TREND OF PRODUCTION DATA IN MAJOR PETROCHEMICALS



Index of Industrial Production (IIP)

2.9 In the compilation of IIP (base 2004-05 =100) in overall weight of 1000, chemical and chemical products(industry division 24 of NIC 2004) contribute 100.59. The General Index for the month of March 2014 stands at 193.2, which is 0.5% lower as compared to the level in the month of March 2013. The cumulative growth for the period April-March 2013-14 over the corresponding period of the previous year stands at (-) 0.1%. IIP for the Manufacturing sector for the month of March 2014 stands at 204.8, which is 1.2% lower as compared to the level in the month of March 2013. The IIP for the Chemicals and Chemical products for the month of March 2014 stands at 134.0, which is 2.4% higher as compared to the level in the month of March 2013. The overall growth in manufacturing sector during April-March 2013-14 over the corresponding period of 2012-13 has been (-) 0.8%, as against the growth of 8.9% in respect of Chemical & Chemical products. The month-wise IIP during 2012-13 and 2013-14 is given in Table III.

Table III : Index of Industrial Production

(Base: 2004-05=100)

Period	Chemicals and Chemical products	Manufacturing	General
Apr-12	122.0	173.0	164.1
May-12	124.6	179.0	170.3
Jun-12	121.3	178.1	168.0
Jul-12	131.9	177.4	167.1
Aug-12	135.1	175.8	164.7
Sep-12	126.0	174.6	163.1
Oct-12	129.6	182.4	171.6
Nov-12	118.9	176.4	165.8
Dec-12	131.3	191.1	179.3
Jan-13	132.2	193.6	182.0
Feb-13	123.9	190.8	176.2
Mar-13	130.9	207.3	194.2
Apr-13	134.1	176.1	166.5
May-13	134.8	173.3	166.0

Period	Chemicals and Chemical products	Manufacturing	General
Jun-13	136.8	175.0	164.9
Jul-13	137.8	182.7	171.4
Aug-13	145.1	175.4	165.4
Sep-13	141.0	177.1	167.5
Oct-13	139.0	180.1	169.6
Nov-13	140.0	171.8	163.6
Dec-13	148.2	189.0	179.5
Jan-14	143.7	193.6	183.4
Feb-14	128.1	183.9	173.1
Mar-14	134.0	204.8	193.2

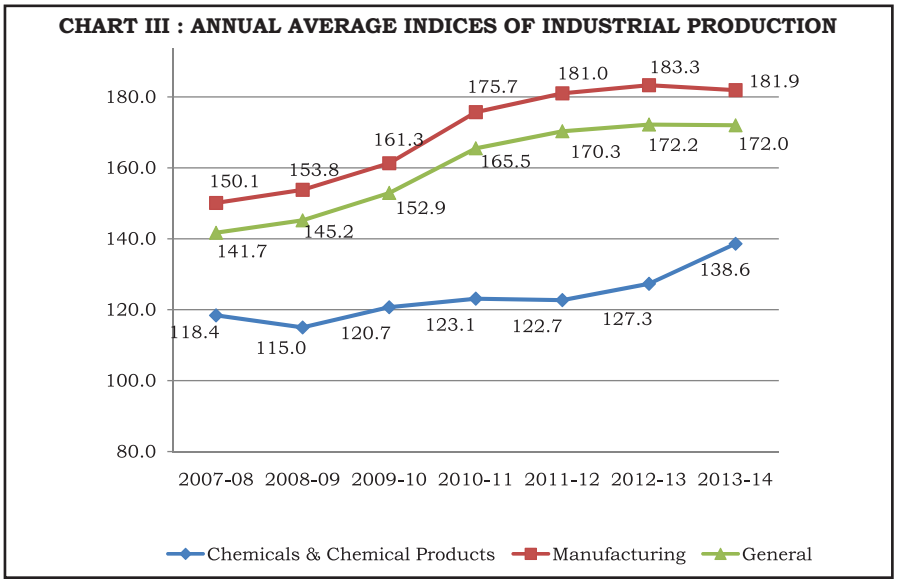
Source: Ministry of Statistics and Programme Implementation

2.10 The behavior of IIP of chemicals and chemical products vis-à-vis General IIP and IIP in respect of manufacturing during 2007-08 to 2013-14 is depicted in Table IV and Chart III.

Table IV : Annual Average (April - March) Indices of Industrial Production

(Base : 2004-05=100)

Particulars	Weight	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
Chemicals & Chemical Products	100.59	118.4	115.0	120.7	123.1	122.7	127.3	138.6
Manufacturing	755.27	150.1	153.8	161.3	175.7	181.0	183.3	181.9
General	1000.00	141.7	145.2	152.9	165.5	170.3	172.2	172.0



Wholesale Price Index (WPI)

2.11 The annual rate of inflation based on monthly WPI (Base Year: 2004-05) released by the Office of the Economic Adviser, for 'all commodities' stood at 5.70% for the month of March, 2014 over March, 2013. The index for 'Food Articles' group rose by 9.90%, for 'Manufactured Products' by 3.23% and for 'Chemicals & Chemical products' by 3.56% during the same period. The weight of Chemicals & Chemical products in the WPI is 12.02 out of all commodities weight of 100. The month-wise Index of WPI during 2012-13 and 2013-14 is given in Table V.

Table V : Wholesale Price Index

(Base Year: 2004-05 =100)

Month	All commodities	Food Articles	Manufactured Products	Chemicals & Chemical products
Apr-2012	163.5	207.2	143.8	140.3
May-2012	163.9	206.1	144.6	141.4
June-2012	164.7	209.4	145.3	141.9
July-2012	165.8	212.4	146.1	142.6
Aug-2012	167.3	211.8	147.2	143.4
Sep-2012	168.8	213.1	148.0	144.0
Oct-2012	168.5	212.7	147.9	144.2
Nov-2012	168.8	213.8	148.0	144.1
Dec-2012	168.8	211.2	148.0	144.5
Jan-2013	170.3	214.7	148.5	145.6
Feb-2013	170.9	215.4	148.6	145.8
Mar-2013	170.1	214.1	148.7	145.9
Apr-2013	171.3	219.8	149.1	146.2
May-2013	171.4	223.1	149.3	145.9
Jun-2013	173.2	230.9	149.5	146.2
Jul--2013	175.5	238.5	149.9	147.4
Aug-2013	179.0	252.4	150.6	148.1
Sep-2013	180.7	252.9	151.5	149.0
Oct-2013	180.7	251.7	152.1	149.1
Nov-2013	181.5	255.9	152.3	149.2
Dec-2013	179.6	240.2	152.5	149.9
Jan-2014	179.1	233.7	152.9	150.9
Feb-2014	178.9	232.9	152.7	150.8
Mar-2014	179.8	235.3	153.5	151.1

Source: Office of Economic Adviser, DIPP

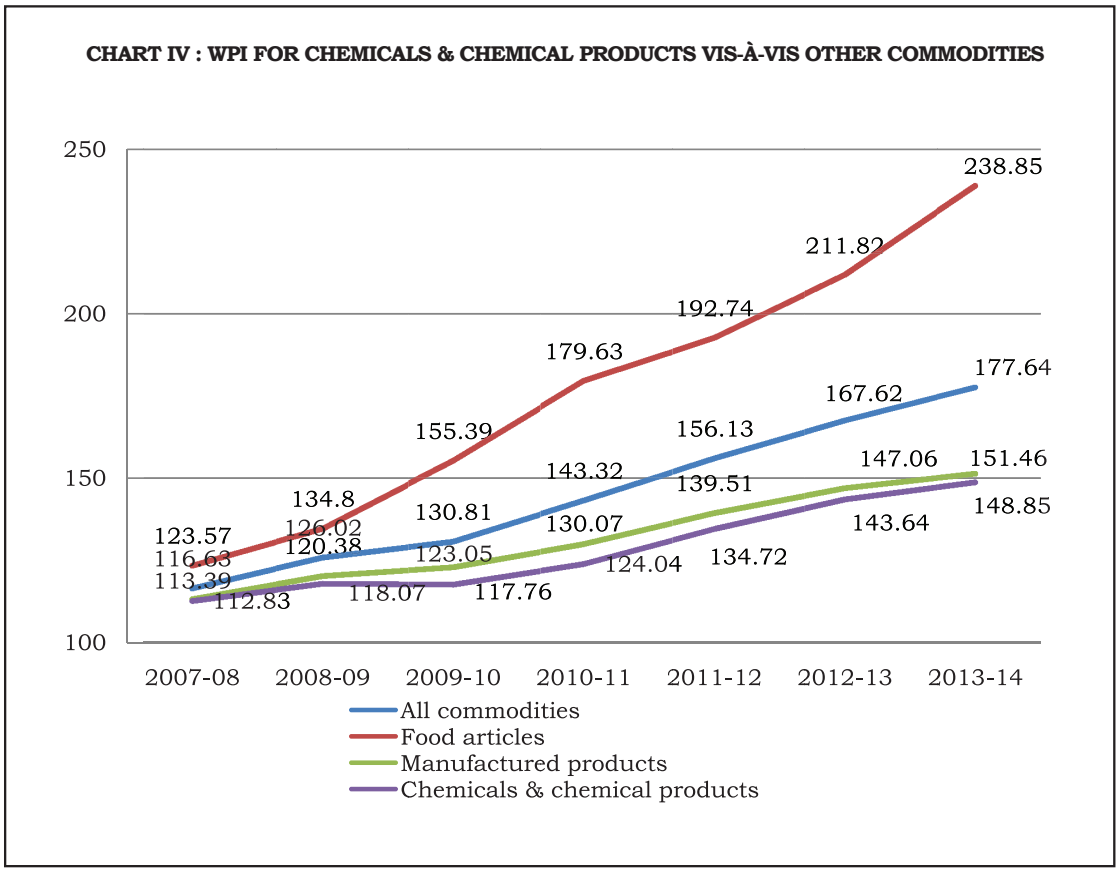
2.12 Table-VI and Chart IV below show the WPI for chemicals & chemical products vis-à-vis all commodities, food articles and manufactured products during the years 2007-08 to 2013-14.

Table - VI : Annual Average (April - March) Indices of Wholesale Prices

(Base Year: 2004-05 =100)

Description	Weight	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
All commodities	100.00	116.63	126.02	130.81	143.32	156.13	167.62	177.64
Food articles	14.34	123.57	134.8	155.39	179.63	192.74	211.82	238.85
Manufactured products	64.97	113.39	120.38	123.05	130.07	139.51	147.06	151.46
Chemicals & chemical products	12.02	112.83	118.07	117.76	124.04	134.72	143.64	148.85

Source: Office of Economic Adviser, DIPP



2.13 Table VII shows WPI of different commodity groups within chemicals & chemical products group during the years 2007-08 to 2013-14:

Table VII : WPI of Chemicals & Chemical products

Description	Weight	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
Chemicals & chemical products	12.02	112.8	118.1	117.8	124.0	134.7	143.6	148.9
Basic inorganic chemicals	1.19	117.1	126.2	125.0	126.3	138.2	147.8	150.6
Basic organic chemicals	1.95	112.0	118.0	115.7	124.4	135.0	140.3	147.5
Fertilizers	2.66	106.3	106.8	108.2	116.8	132.6	149.0	152.3
Pesticides	0.48	106.7	110.5	110.6	113.6	114.9	121.2	125.9
Paints, varnishes & lacquers	0.53	110.6	117.6	117.5	122.6	128.5	143.6	147.6
Dyestuffs & indigo	0.56	115.0	115.5	111.9	116.3	122.5	126.9	132.6
Drugs & medicines	0.46	108.1	111.4	112.7	115.4	119.6	124.2	126.8
Perfumes, cosmetics, toiletries etc	1.13	119.1	129.2	134.8	138.5	145.3	151.9	157.3
Turpentine, plastic chemicals	0.59	115.3	116.9	117.4	123.4	136.1	140.0	147.6
Polymers including synthetic rubber	0.97	115.5	119.6	116.3	123.4	130.4	135.3	142.8
Petrochemical intermediates	0.87	121.0	133.5	127.7	137.4	156.2	164.2	170.4
Matches, explosives & other chemicals	0.63	114.4	121.6	123.8	128.7	135.5	142.6	149.8

International Trade

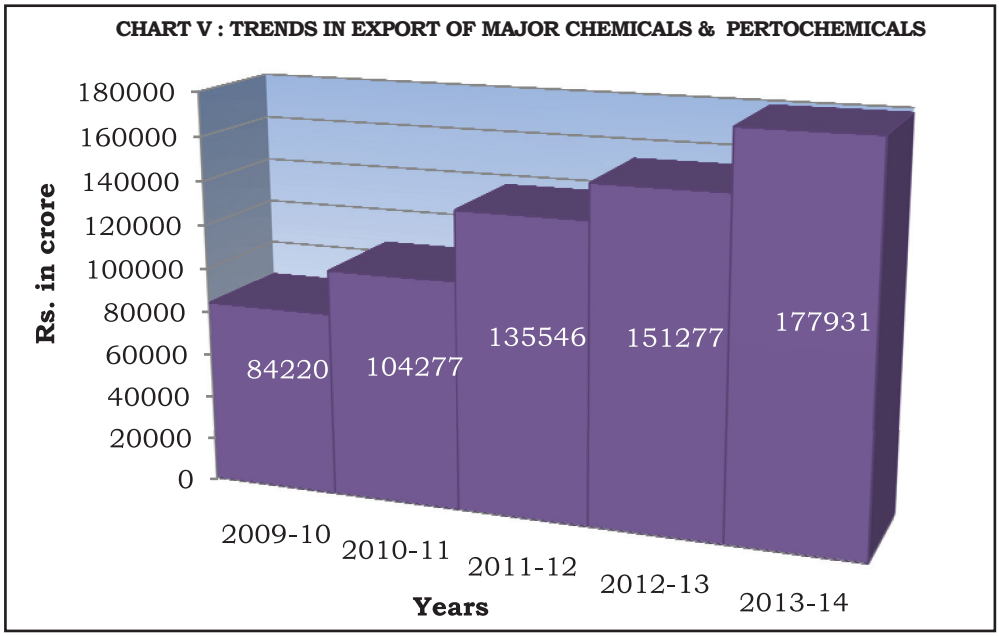
2.14 Trends in exports and imports of major chemicals and major petrochemicals during 2009-10 to 2013-14 are shown in Table VIII, Chart V and Chart VI.

Table VIII : Exports and Imports–Major Chemicals and Major Petrochemicals

A. Exports

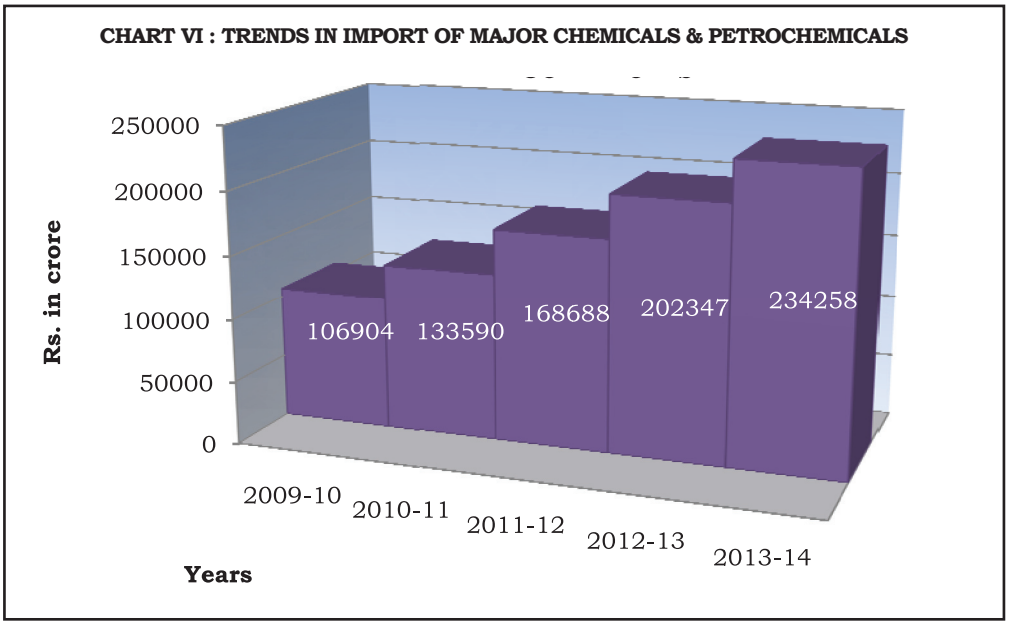
(Figures in ₹ crore)

HS Code	Commodity	2009-10	2010-11	2011-12	2012-13	2013-14
	Total National Exports	**845534**	**1136964**	**1465959**	**1634319**	**1884912**
28	Inorganic chemicals	4540	8564	8689	7176	8179
29	Organic chemicals	35241	41709	56659	66485	73582
32	Tanning or dyeing	6556	7720	9336	11372	15433
38	Miscellaneous chemical products	8611	9409	12485	15545	18597
39	Plastic and articles thereof	13012	18150	25312	28021	34058
54	Man-made filaments	9541	10469	12466	12112	15547
55	Man-made staple fibres	6719	8256	10599	10565	12535
Total major chemicals and major petrochemicals		**84220**	**104277**	**135546**	**151277**	**177931**
% share in total export		**10.0**	**9.2**	**9.2**	**9.3**	**9.4**



B. Imports

HS Code	Commodity	2009-10	2010-11	2011-12	2012-13	2013-14
	Total National Imports	**1364477**	**1683467**	**2345463**	**2669162**	**2714230**
28	Inorganic chemicals	16270	17236	27792	28770	29411
29	Organic chemicals	44505	57550	69144	85439	103043
32	Tanning or dyeing	4328	5434	7097	8004	9256
38	Miscellaneous chemical products	11579	13935	17855	20650	23093
39	Plastic and articles thereof	26129	34477	40578	52283	61114
54	Man-made filaments	2638	3024	3725	4149	4599
55	Man-made staple fibres	1454	1935	2498	3052	3741
Total major chemicals and major petrochemicals		**106904**	**133590**	**168688**	**202347**	**234258**
% share in total import		**7.8**	**7.9**	**7.2**	**7.6**	**8.6**
C: Trade Balance: A-B		**-22683**	**-29313**	**-33142**	**-51070**	**-56326**



Classification:

Chapter 28: Inorganic Chemicals; Organic or Inorganic Compounds of Precious Metals, of Rare-Earth Metals, of Radioactive Elements or of Isotopes; Chapter 29: Organic Chemicals; Chapter 32: Tanning or Dyeing Extracts; Tannins and their Derivatives; Dyes, Pigments and Other Colouring Matter; Paints and Varnishes; Putty and other Mastics; Inks; Chapter 38: Miscellaneous Chemical Products; Chapter 39: Plastics and articles thereof; Chapter 54: Man-made Filaments and Chapter 55: Man-made staple fibers (Source: Directorate General of Commercial Intelligence & Statistics (DGCIS), Kolkata)

2.15 The import of major chemical and petrochemical products contributed 8.6% of total imports in 2013-14, compared to 7.6% in 2012-13 whereas exports of major chemical and petrochemical products contributed 9.4% of total exports in 2013-14, compared to 9.3% in 2012-13.

Plan Schemes

2.16 In view of the delicensed and deregulated nature of the chemical and petrochemical sectors, public sector investment through Plan schemes is limited. The major Plan scheme being implemented, besides the releases made to PSUs and autonomous institutions, is the Assam Gas Cracker Project. The revised cost of the project is ₹ 8,920 crore, comprising capital subsidy of ₹ 4,690 crore, debt of ₹ 2,961 crore and equity of ₹ 1,269 crore. The project is nearing completion. The Board of BCPL has approved to submit a proposal for enhancement of the capital cost to ₹ 9,586.25 crore and commissioning in September, 2014. They have also sought Feedstock Subsidy of ₹ 8,965 crore over first 12½ years and ₹ 3,668 crore Revenue Subsidy over 10½ years. The project is expected to lead to substantial employment generation, as a result of investments in downstream plastic processing industries and allied activities. The project is of economic significance for the State of Assam and North Eastern Region.

2.17 Scheme-wise Plan Outlay (BE/ RE for 2013-14 and BE for 2014-15), Expenditure for 2012-13, and 2013-14 (Plan) and Expenditure for 2012-13, 2013-14 and BE for 2014-15 (Non-Plan) are given in Tables- IX, X and XI respectively below:

(₹ crore)

Table IX : Scheme-wise Plan Outlay of the Department

S.No.	Name of the Schemes	2013-14 (BE)	2013-14 (RE)	2014-15 (BE)
I	**Project Based Support to PSUs**	**10.00**	**8.04**	**35.51**
1.1	Hindustan Organic Chemicals Ltd (HOCL)	10.00	8.04	0.01
1.2	Hindustan Insecticides Ltd (HIL)	0.00	0.00	15.00
1.3	Hindustan Fluorocarbons Ltd (HFL)	0.00	0.00	20.50

S.No.	Name of the Schemes	2013-14 (BE)	2013-14 (RE)	2014-15 (BE)
II	**Support to Autonomous Bodies**	**145.30**	**145.30**	**107.98**
2.1	Central Institute of Plastic Engineering & Technology (CIPET)	140.96	140.96	102.98
2.2	Institute of Pesticides Formulation Technology (IPFT)	4.34	4.34	5.00
III	**Other Ongoing Schemes**	**1044.70**	**1021.66**	**63.51**
3.1	Assam gas Cracker Project	1000.00	976.96	0.01
3.2	Chemical Promotion & Development Scheme (CPDS)	3.00	3.00	4.30
3.3	Chemical Weapons Convention (CWC)	1.50	1.50	1.20
3.4	IT/Sectt.	0.70	0.70	0.50
3.5	Other New Schemes of Petrochemicals	39.50	39.50	57.50
	Total	**1200.00**	**1175.00**	**207.00**

Table X : Expenditure 2012-13 and 2013-14 (Plan)

(₹ crore)

S. No.	Name of the Schemes	Exp. 2012-13	% of Exp. w.r.t. RE	Exp. 2013-14	% of Exp. w.r.t. RE
1.	Secretariat	**0.30**	**100.00**	**0.70**	**100.00**
2.	New Schemes of Petrochemicals	8.63	100.00	31.34	79.34
3.	Assam Gas Cracker Project	1552.00	100.00	976.96	100.00
4.	CPDS	1.12	56.00	2.86	95.33
5.	CWC	0.89	89.00	0.96	64.00
6.	IPFT	0.19	4.38	4.34	100.00
7.	CIPET	21.70	54.25	140.96	100.00
8.	HIL	4.10	100.00	0.00	0.00
9.	HOCL	17.60	71.45	0.00	0.00
	Total	**1606.53**	**98.14**	**1158.12**	**98.56**

Table XI : Expenditure 2012-13, RE and Exp. 2013-14 & BE 2014-15 (Non-Plan)

(₹ crore)

S. No.	Name of the Schemes	Exp. 2012-13	RE 2013-14	Exp. 2013-14	% of Exp. w.r.t. RE 2013-14	BE 2014-15
1	Secretariat	12.18	15.87	13.91	87.65	15.80
2	CIPET	0.00	0.00	0.00	0.00	0.00
3	Assam Gas Cracker Project	0.00	0.01	0.00	0.00	0.01
4	Bhopal Gas Leak Disaster	60.55	46.59	33.51	71.93	43.55
5	CWC	0.00	0.01	0.00	0.00	0.01
6	IPFT	3.10	3.80	3.08	81.05	4.30
7	PCL	0.00	0.00	0.00	0.00	0.00
8	HIL	0.00	0.00	0.00	0.00	0.00
9	HOCL	0.00	0.00	0.00	0.00	0.01
	Total	**75.83**	**66.28**	**50.50**	**76.19**	**63.68**

BE: Budget Estimates
RE: Revised Estimates

Petroleum, Chemicals and Petrochemical Investment Regions (PCPIRs)

Background

2.18 The concept of Petroleum, Chemicals and Petrochemical Investment Regions (PCPIRs) is a cluster approach to promote the 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. This policy was an initiative to cater to the evolving needs of the industry. Such integrated PCPIRs were envisioned to reap the benefits of co-siting, networking and greater efficiencies through use of common infrastructure and support services.

2.19 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.

2.20 The policy requires compliance with environmental laws. The proposals to set up PCPIR include a preliminary Environmental Assessment. 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 and Forests (MoEF). Environmental Clearance (EC) is granted after appraisal by an Expert Appraisal Committee of the MoEF.

2.21 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.

2.22 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 may be selected through a transparent mechanism to develop the PCPIR.

2.23 At present, PCPIRs are being set up in the four coastal States of Gujarat, Andhra Pradesh, Odisha and Tamil Nadu. PCPIR proposals of Andhra Pradesh and Gujarat were approved in February 2009, while proposals of Odisha and Tamil Nadu were

approved in December 2010 and July 2012 respectively. The latest Memorandum of Agreement (MoA) has been signed with the Government of Tamil Nadu on 20th February, 2014.

2.24 There is a monitoring mechanism in place at the State and Central Government levels to keep track of and expedite the implementation of PCPIRs. A Monitoring Committee chaired by Secretary, Department of Chemicals and Petrochemicals and a High Power Committee chaired by Cabinet Secretary review the progress of these projects.

2.25 The PCPIRs have been promoted both at the domestic and international levels along with the State Governments, Anchor Tenants and committed investors through industry interactions, road shows, exhibitions, seminars, conferences etc. Once fully established, these PCPIRs are expected to attract investment of ₹ 7,62,894 crore approximately. As on 31.03.2014, investments worth ₹1,47,967 crore approximately have been made in these regions. Infrastructure with investment of ₹ 53468.7 crore approximately is expected to be created in the PCPIRs, out of which the contribution of Government of India would be ₹ 4646.30 crore. The PCPIR wise details of investment are given below in Table- XII. The four PCPIRs are expected to generate employment for around 33.96 lakh persons. As on 31.03.2014, around 2.22 lakh persons have been employed in direct and indirect activities related to PCPIRs.

Table XII : PCPIR Snapshot

Indicator	Gujarat	Andhra Pradesh	Odisha	Tamil Nadu
Location/ Region	Dahej, Bharuch	Vishakhapatnam – Kakinada	Paradeep	Cuddalore-Nagapattinam
Date of Approval	Feb, 2009	Feb, 2009	Dec, 2010	July, 2012
Date of MoA	07.01.2010	01.10.2009	03.11.2011	20.02.2014
Total Area (sq. km.)	453.00	603.58	284.15	256.83
Processing Area (sq.km.)	248	270	123	104

Indicator	Gujarat	Andhra Pradesh	Odisha	Tamil Nadu
Anchor Tenant	ONGC Petro additions Limited (OPaL)	Hindustan Petroleum Corporation Ltd. (HPCL)	Indian Oil Corporation Ltd. (IOCL)	Nagarjuna Oil Corporation Ltd. (NOCL)
Refinery / Cracker capacity in MMTPA	Cracker: Ethylene: 1.1 Propylene: 0.6	9.3 to 15 (expansion of existing refinery), 15 (greenfield)	15 (greenfield refinery)	12 (refinery)
Total amount of infrastructure projects approved (₹ crore)*	7749.70	19031.00	13634.00	13354.00
GoI share in form of VGF (₹ crore)*	80.50	1206.80	716.00	1143.00 1500 .00 (budgetary support)
Proposed Investment (₹ crore)*	50,000	3,43,000	2,77,734	92,160
Investment made (₹ crore)	69,621	36,186	34,730	7,430
Projected employment (number)*	8,00,000	11,98,000	6,48,000	7,50,000
Employment generated (number)	78,000	92,000	38,000	13,950

*At approval stage of the Projects.

2.26 Status of Implementation of PCPIRs as of 31.03.2014

2.26.1 Gujarat PCPIR:

- Draft Development Plan / Master Plan has been sanctioned by the State Government in 2012 and at present 2 Town Planning (TP) schemes are under implementation.
- A PCPIR Regional Development Authority was constituted under the Special Industrial Regions Act.
- The Gujarat Infrastructure Development Corporation (GIDC) has spent ₹ 10,994 crore for provision of infrastructure in the PCPIR.
- Additional expenditure of ₹ 12,000 crore by State Government is under way on infrastructure development like road, ports, water supply etc.
- Dahej-Bharuch State Highway to be connected to Delhi-Mumbai National Highway and National Expressway. Extension of

Ahmedabad–Vadodara National Expressway to Mumbai is also proposed.

- Rail connectivity and cargo transportation is available with Delhi-Mumbai Dedicated Freight Corridor (DFC).
- The Anchor Tenant viz. OPaL, has invested ₹ 18,837 crore out of the total proposed investment of ₹ 21,396 crore.
- EIA process is at advanced stage as per final Terms of Reference approved by Expert Appraisal Committee (EAC) of MoEF. It is expected to be completed by end of 2014-15.
- An independent evaluation of the implementation of Gujarat PCPIR has been carried out in order to review the progress of these projects and draw future course of action.

2.26.2 Andhra Pradesh PCPIR

- Detailed Master Planning has been published in August 2013 and the objections received were being addressed.
- Draft Final EIA with Marine Ecology study and Coastal Regulatory Zone (CRZ) study is expected to be submitted by January, 2015.
- AP PCPIR covers 6 existing SEZs. The units have already made investments of ₹ 34,336 crore. ₹ 1850 crore have been invested on infrastructure development.
- In 2009, Government of India had approved financial support (Viability Gap Funding or VGF) of ₹ 1206.80 crore for infrastructure projects in PPP mode, which is being revised based on the latest assessments of project requirements. The State Government has initiated the work on preparation of Detailed Project Reports (DPRs) for approval of Government of India on revised funding requirements.
- Hindustan Petroleum Corporation Limited (HPCL), the Anchor Tenant, has proposed an investment of about ₹ 50,000 crore in VK PCPIR for expansion of existing refinery from 9.3 MMTPA to 15 MMTPA and setting up a greenfield refinery of 15 MMPTA capacity. The expansion project was delayed due to moratorium on expansion of refining activities in Vishakhapatnam bowl area, which has now been lifted.
- An LNG terminal is proposed near Gangavaram port by Petronet and at Kakinada port by GAIL and Shell.

- Road, rail link, water supply, effluent treatment and marine outfall are under study.

2.26.3 Odisha PCPIR

- A Special Purpose Vehicle named the Paradeep Investment Region Development Ltd has been formed to implement the project.
- Master Plan is under preparation. It is expected that the Final Master Plan will be prepared by July, 2015.
- Preparation of Detailed Project Report (DPR) is underway for development of road infrastructure, and will be finalised after Master Plan.
- Anchor Tenant viz. Indian Oil Corporation Limited (IOCL) has invested ₹ 32,018 crore (including contract awarded and committed) to set up 15 MMTPA refinery and a Polypropylene Unit. The refinery project is expected to be completed by end of 2014-15.
- A 1320 MW thermal power plant by SPI Ports (P) Ltd is approved by High Level Clearing Authority (HLCA). Surat – Paradeep Gas Transmission Pipeline, an inter-State Gas transmission pipeline, is being implemented by GAIL and LNG terminal by IOCL.
- IDCO is in discussion with National Environmental Engineering Research Institute (NEERI), Nagpur and Environmental Protection Training and Research Institute (EPTRI), Hyderabad, for conducting Environmental Impact Assessment (EIA) and preparation of Environmental Management Plan. ToR preparation and approval is expected by September 2014.
- IDCO is developing a Plastic Park at Paradeep under the Plastic Parks scheme of Department of Chemicals & Petrochemicals, Government of India. Final approval of Government of India has been conveyed.
- Bidding process is in progress for contracting out Solid Waste Treatment & Disposal functions.

2.26.4 Tamil Nadu PCPIR

- MoA has been signed on 20th February, 2014. State Government has taken up the activities of notification of PCPIR formation of

the PCPIR Management Board. Thereafter, Master Planning and EIA activities will be taken up.

- The Anchor Tenant, Nagarjuna Oil Corporation Limited (NOCL), has already invested ₹ 7,430 crore in its refinery project.
- The date of commissioning of the first phase of the project is now extended, mainly due to financial constraints. The capacity of the project has been increased from 6 MMTPA to 12 MMTPA with a corresponding increase in cost to ₹ 18,503 crore.
- A product jetty for evacuation of petroleum fuels and a Single Point Mooring system for receiving crude are under construction and 51% overall progress has been achieved.

Assam Gas Cracker Project

2.27 The Assam Gas Cracker Project was initiated in pursuance of the Memorandum of Settlement signed between Central Government, All Assam Students Union (AASU) and All Assam Gana Parishad (AAGP) on 15th August 1985. This project is of economic significance for the State of Assam and the North East Region. Cabinet Committee on Economic Affairs (CCEA), in its meeting held on 18th April, 2006, approved the setting up of the Assam Gas Cracker Project at a Project cost of ₹ 5460.61 crore. A joint venture company namely Brahamaputra Cracker & Polymer Limited (BCPL), is implementing the project. Owing to various reasons, the project has witnessed cost and time overruns. The revised cost estimate of ₹ 8920 crore (on "as built basis") was approved by the CCEA on 16th November, 2011 with revised mechanical completion by July, 2013 and commissioning by December, 2013.

2.27.1 As on 15th March, 2014, the overall physical progress was 96.3% and the cumulative capital expenditure incurred, was ₹ 7,233 crore i.e. 81.10%. The Department has released Capital Subsidy amounting to ₹ 4,690 crore to BPCL. The pre-commissioning activities in several units are in progress.

NEW SCHEMES OF PETROCHEMICALS

National Awards for Technology Innovation in Petrochemical and downstream Plastic Processing Industry:

2.28 The scheme aims at incentivizing meritorious innovations and institutions in various fields of petrochemicals and downstream plastics processing industry. Central Institute of Plastic Engineering Technology (CIPET) was entrusted the task of seeking and short listing nominations for the scheme and an amount of ₹0.63 crore was released to CIPET in the year 2012-13, for the 3rd National Awards for 2012-13. 306 nominations were received in eight categories and three subcategories of the scheme. After an intensive process of screening and evaluation, 11 'Winners' were selected for the National Awards for Technology Innovation 2012-13. In addition, 08 nominations were selected as 'Runners up' and 6 nominations were recommended for 'Commendation Certificate' for the year. The function to facilitate the awardees was held on May 07, 2013 at New Delhi.

2.29 An outlay of ₹1 crore was provided to CIPET for the Awards of the year 2013-14. 313 nominations were received. Based on the recommendations of the 'Prize Award Committee', 17 'Winners' and 6 'Runners-up' have been selected for 2013-14. The function to felicitate the awardees will be held shortly. Year-wise numbers of awardees are indicated below in Table- XIII:

Table XIII: Numbers of National Awards

Sl No	Year	Winners	Runners-Up
1	2010-11	09	NIL
2	2011-12	15	10
3	2012-13	11	08
4	2013-14	17	06

Minister of State (Ind. Charge), C&F presenting 3rd National Awards for Technology Innovation in Petrochemical and downstream plastic processing industry for 2012-13 on 7th May, 2013 at New Delhi.

Setting up Centres of Excellence (CoE)

2.30 The scheme aims at improving the existing petrochemicals technology and research in the country and to promote development of new applications of polymers and plastics.

2.30.1 During the 11th Five Year Plan, the following two CoEs were approved: (i) National Chemicals Laboratory (NCL), Pune - Centre of Excellence for Sustainable Polymer Industry through Research Innovation & Training (CoE-SPIRIT) and (ii) Central Institute of Plastics Engineering & Technology (CIPET), Chennai- Centre of Excellence for Green Transportation Network (GREET). The assets created under CoE-SPIRIT have not only resulted in a boost to contemporary research in Polymer science, but also contributed to training of several members of polymer industry and academia. In case of CoE- GREET at CIPET Chennai, the outputs are in terms of promoting academic, research and educational excellence through partnership between CIPET, India and University of Toronto and Ford Motors, Canada. 20 research scholars have been recruited and registered for their Ph.D. Programme, out of which 5 research scholars have been registered and deputed to University of Toronto and 15 research scholars have registered under different Indian Universities.

Based on the recommendation of the Expert Group, set up for assessment of performance of the selected CoEs during the 11th Plan, the 3rd and final installment of ₹ 2 crore each was released to National Chemical Laboratory, Pune and CIPET, Chennai in March, 2013.

2.30.2 Under the 12th Five Year Plan, setting up 3 more Centres of Excellence has been approved, one each at IIT, Delhi; CIPET, Bhubaneswar and IIT, Guwahati. An amount of ₹ 8 crore was provided for the scheme in the year 2012-13. The first installment of ₹ 2 crore each was released to IIT, Delhi and CIPET, Bhubaneswar on 26.03.2013.

2.30.3 An outlay of ₹ 6 crore was provided for the scheme in the year 2013-14, of which the first installment of ₹ 2 crore was released to IIT, Guwahati in July, 2013. An Expert Group to review the physical and financial performance of the selected CoEs, as in the previous years, was constituted. The review of the progress of CoEs being set up at CIPET, Bhubaneswar and IIT Delhi was undertaken during December, 2013- January, 2014. Based on the review and recommendations of the Expert Group, the 2nd installment of funds amounting to ₹ 2 crore each has been released to IIT, Delhi on 20.02.2014 and CIPET, Bhubaneswar on 31.01.2014.

2.30.4 The brief objectives and components of the Centres of Excellence (CoE) sanctioned in the 11th and 12th Plans are as follows:

Table XIV : Objectives & Components of CoEs

Centre of Excellence (CoE)	Objectives/Components
XI Plan	
CoE for Green Transportation Network (GREET) at CIPET, Chennai in collaboration with University of Toronto(UoT), Canada	a) Design and engineering of lightweight and sustainable hybrid green composite auto parts; b) Development of dimensionally and thermally stable green composites; c) Fundamentals of rheology, inter phase, functional components and surface engineering; and d) Performance evaluation, life cycle analysis, recyclability and prototyping. 20 Ph.D. students (5 at UoT and 15 at CIPET) are working on the research activities of the centre.

Centre of Excellence (CoE)	Objectives/Components
CoE for Sustainable Polymer Industry through Research Innovation & Training (CoE-SPIRIT) at National Chemicals Laboratory (NCL), Pune	(i) Research and Scientific Services Programme (RSSP) – fundamental research on Reactor-Structure-Property Relationship (RSPR) (this includes reactor modeling, processing simulator and structure development); and (ii) Learning and Sharing Programme (LSP).
XII Plan	
CoE for Advanced Polymeric Materials at IIT, Delhi	(a) Fabrication, characterisation of polymer nano composites and their performance assessment to enable new application development; (b) Synthesis and characterisation of polymer based composites and other materials for EMI shielding applications; and (c) Synthesis and characterisation of semi-conducting polymers and their filled composites for various electronic applications.
CoE on Sustainable Green Materials at CIPET, Bhubaneswar in collaboration with Michigan State University (MSU), USA	Phase I: Bio-resins from vegetable / plant oils (non-edible); Phase II: Bio-based adhesives / coating materials with enhanced curing mechanism from renewable resources; Phase III: Blends and composites from bio-resin / recycled plastics 15 Ph. D. students (2 at MSU and 13 at CIPET) and 1 Post Doctoral are working on the research activities of the centre.
CoE for Sustainable Polymers at IIT, Guwahati	To develop cost-effective and scalable technologies for the production of biodegradable polymer based end products using both petrochemical and renewable bio-feedstock. 13 Ph.D. students are working on the research activities of the centre.

Setting up Plastic Parks

2.31 The scheme aims at setting up Plastic Parks, which are manufacturing clusters with state of the art infrastructure and enabling common facilities to assist the sector to move up the value chain and contribute to the economy more effectively. Under the scheme, Government of India provides grant funding up to 50% of the project cost subject to a ceiling of ₹ 40 crore per project. The remaining project cost is funded by the State Government or State Industrial Development Corporation or similar agencies of State Government, beneficiary industries and loan from financial institutions.

2.32 The Scheme Steering Committee (SSC) had earlier granted 'in principle' approval to the 4 proposals from Tamil Nadu, Madhya

Pradesh, Assam and Odisha. In view of the delays in preparation of Detailed Project Reports (DPR) and consequent delay in final approval, the funds earmarked for 2012-13 could not be utilised and timeline for submission of DPR for final approval was extended.

MoU signing for Odisha Plastic Park on 19.10.2013 at New Delhi

2.33 Following the submission of DPR, the proposals from Odisha, Madhya Pradesh and Assam have received final approval. The Department has released the first installment of ₹ 8 crore of the Grant-in-Aid each to Madhya Pradesh Plastic Park Development Corporation Ltd (MPPPDCL), Paradeep Plastic Park Limited (PPPL) and Assam Industrial Development Corporation (AIDC), for setting up of plastic parks at Madhya Pradesh, Odisha and Assam in the year 2013-14.

Seminars/Conferences

2.34 The Department, in association with Federation of Indian Chambers of Commerce and Industry (FICCI) and CIPET organised PolyIndia 2013 – an international exhibition and conference on advanced application of Polymers and Plastics during April 25-27, 2013 at Chennai Trade and Convention Centre, Chennai. The Department in association with CIPET oranised six technical seminars in various cities in 2013-14 on Plastic Waste Management including various technological options

for recycling of post consumer plastic waste. The Department has also supported Plastivision 2013, an international plastic exhibition and conference held at Mumbai in December, 2013 and various other seminars organised by Industry Associations for the growth of the Petrochemical Sector.

India Chem Gujarat-2013

2.35 To promote the Indian Chemical Industry, Department of Chemicals and Petrochemicals and Government of Gujarat, in association with the Federation of Indian Chambers of Commerce and Industry (FICCI) have been organising the "India Chem Gujarat" event. The event comprises an International Exhibition and Conference.

2.36 India Chem-Gujarat 2013, the 3rd edition of this event, was held on October 24th - 26th at Mahatma Mandir, Gandhinagar, Gujarat on the theme "Gujarat: A New Gateway to International Possibilities". The event was inaugurated by the Hon'ble Chief Minister of Gujarat on October 24th, 2013.

Shri Narendra Modi, the then Chief Minister of Gujarat (now Prime Minister of India) inaugurating INDIA CHEM GUJARAT 2013, 3rd International Exhibition & Conference, held at Gandhinagar, Gujarat from 24th to 26th October, 2013.

2.37 The international exhibition was a success with participation of over 122 exhibitors. The exhibition received 6235 business visitors, which is an indication of the interest generated by the event.

2.38 In the Conference, 8 technical sessions were held to discuss topics relevant to the growth and development of areas such as agrochemicals, chemical plant safety, innovations, new developments and green chemistry, colorants, specialty chemicals, etc. A Knowledge and Strategy Paper on "Specialty, Fine, Agrochemicals, Personal Care Chemicals, Dyes" was released. A seminar on Pumps, Valves & Process Equipment was held on 24th October, 2013 highlighting the latest technological developments in the sector.

2.39 A CEOs' Forum, oranised as part of the event, was chaired by Shri Indrajit Pal, Secretary, Chemicals and Petrochemicals, and 40 CEOs from prominent companies of the chemical sector participated. The Forum provided a platform to bring top decision makers of this sector to a discussion.

2.40 On the sidelines of the event, CHEMEXCIL arranged a Reverse Buyer Seller Meet (RBSM) which was attended by 35 international participants from 14 countries viz. Jordan, Egypt, Israel, Lebanon, Kyrgyzstan, Ethiopia, Kenya, Nigeria, Ghana, Uganda, Tanzania, Indonesia, Malaysia and Vietnam; which are important from trade and business point of view for India. About 714 buyers participated in this meet.

Chemical Weapons Convention (CWC)

2.41 The Chemical Weapons Convention (CWC) is a universal non-discriminatory, multilateral, Disarmament Treaty, which bans the development, production, acquisition, transfer, use and stockpile of all chemical weapons. The Organisation for the Prohibition of Chemical Weapons (OPCW) at The Hague, The Netherlands, is implementing the provisions of the Convention. It has 190 States as its Members as on 31.03. 2014. India, with a well developed chemical industry, is also a party to this treaty. Department of Chemicals & Petrochemicals is the administrative Department for the CWC Act, 2000, which is in force in the country. DCPC is responsible for chemical industry related matters and more specifically preparation of declarations and facilitation of inspections of chemical plant sites by OPCW teams.

2.42 Each State Party is required to make annual declarations as per CWC. India has been making declarations within the prescribed time frame. In view of the growing number of Annual Declarations, on-line declarations have been invited from industries. India is the second state party in the world, after USA, to collect online declarations. This is an important step in promoting e-governance. A total of 599 declarations were made during the calendar year 2013.

2.43 Inspections of chemical plant sites covered under the Convention are routinely conducted by the OPCW to ensure that the activities in scheduled and unscheduled chemicals are in accordance with the provisions of the Convention. India has so far received a total 165 industry inspections as on 31.03.2014. During the calendar year 2013, a total of 26 industry inspections were hosted successfully by DCPC. DCPC has been given responsibility for declarations and inspections under CWC. The Department deputes officers for OPCW onsite industrial inspections to rule out chemical weapons.

CWC Help Desks

2.44 The Department has also set up Help Desks in PPP mode in association with the Indian Chemical Council (ICC) at various places with concentration of chemical industry of relevance to CWC, for facilitating compliance by the chemical industry in its obligation under CWC. These Help Desks have the following locations and coverage:

Table XV : Location and coverage of CWC Help Desks

Location	Area covered
Hyderabad	Andhra Pradesh, Odisha, Chattisgarh.
Kolkata	West Bengal, Bihar, Jharkhand and North Eastern Region.
Delhi	Uttar Pradesh, Himachal Pradesh, Haryana, Punjab, Chandigarh, Uttarakhand and Jammu and Kashmir.
Mumbai	Maharashtra, Goa.
Chennai	Tamil Nadu, Kerala and Karnataka.
Vadodara	Gujarat, Rajasthan, Madhya Pradesh.

The Help Desks undertake the following activities:

i. Disseminate information on CWC and the obligations of the chemical industry, under the CWC Act.
ii. Identification of new units, which are potential declarants, through industry surveys and facilitate their filing declarations.
iii. Assist the industrial units covered under the Convention in filing declarations as stipulated under the CWC Act.
iv. Conducting awareness Programmes. 15 Awareness Programmes have been conducted during 2013-14.

Annual Declarations of Anticipated Activities (ADAA) and Annual Declarations of Past Activities (ADPA)

2.45 In the past, Annual Declarations of Anticipated Activities (ADAA) and Annual Declarations of Past Activities (ADPA) were submitted by the facilities manually. In view of the growing number of declarations and in order to improve the quality of declarations, DCPC has been inviting declarations from industry on-line. The ADAA-2014 has been forwarded to NACWC electronically in October, 2013 and ADPA 2013 has been sent to NACWC on 20th February, 2014. All declarations are being submitted well before stipulated deadlines.

Rotterdam Convention

2.46 Rotterdam Convention on Prior Informed Consent Procedures (PIC) that came into force on 24th February, 2004, is a legally binding instrument, which was adopted on 10th September 1998 by a Conference of Plenipotentiaries in Rotterdam. India acceded to the Convention on 24.05.2006.

2.47 The Convention seeks to promote shared responsibility and cooperative efforts among Parties in the international trade of certain hazardous chemicals in order to protect human health and the environment from potential harm. It also seeks to contribute to the environmentally sound use of these hazardous chemicals by facilitating information exchange about their characteristics,

providing for a national decision making process on their import and export, and by disseminating these decisions to the Parties.

2.48 Each Party is required to designate a National Authority for performing the administrative functions required under the Convention. Department of Chemicals and Petrochemicals is the Designated National Authority (DNA) for industrial chemicals and Department of Agriculture and Co-operation is the DNA for pesticides.

2.49 There are 47 chemicals listed in Annex III of the Convention and subject to the PIC procedure, which include 33 pesticides, of which 4 are severely hazardous pesticide formulations, and 14 industrial chemicals. The Parties are required to communicate their import policy for these chemicals to the PIC Secretariat. The exporting Party has to provide the export notification to the importing Party in respect of banned or severely restricted chemicals in the importing country. The export notifications received from other Parties for industrial chemicals are examined by Department of Chemicals and Petrochemicals, being the DNA for chemicals, and acknowledgement/reply is sent to the DNA of the exporting country.

2.50 During 2013-14, the Department organised 2 workshops to sensitise the industry about their obligations under the Rotterdam Convention.

Stockholm Convention

2.51 The Stockholm Convention, ratified by India on 13.01.2006, is a global treaty to protect human health and environment from Persistent Organic Pollutants (POPs). POPs are chemicals that remain intact in the environment for long periods, become widely distributed geographically, accumulate in the fatty tissue of living organisms and are toxic to human beings and wildlife. POPs travel globally and can cause damage wherever they travel. The Convention that came into force on 17th May, 2004, lays down that in its implementation, Governments will take measures to

eliminate or reduce the release of POPs into the environment.

2.52 The Stockholm Convention seeks the elimination or restriction of production and use of all intentionally produced POPs (industrial chemicals and pesticides). The Convention also seeks the continuing minimisation and wherever feasible, ultimate elimination of the releases of unintentionally produced POPs such as dioxins and furans. At present, twenty one chemicals are covered under the Stockholm Convention, of which use of DDT is restricted in India. Use of DDT is banned for agricultural purposes; it is produced in a restricted manner for use in vector control only, as India has obtained exemption for use of DDT for vector control. Further, the chemical Dieldrin, which is also listed under the Stockholm Convention, is used in a restricted manner for locust control.

2.53 Stockpiles and wastes containing POPs must be managed and disposed of in a safe, efficient and environmentally sound manner, taking into account international rules, standards and guidelines. Each country is required to develop a plan for implementing its obligations under the Convention. A Global Environment Facility (GEF) has been set up as an interim financial mechanism, to assist the developing countries in implementation of the Convention.

2.54 During 2013-14, the Department organised 2 workshops to sensitise industry about their obligations under the Stockholm Convention.

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Chapter- III

BHOPAL GAS LEAK DISASTER

3.1 The Bhopal Gas Leak Disaster occurred in the intervening night of 2nd/3rd December,1984 when Methyl Iso-cyanate (MIC), a lethal gas stored in two tanks at the pesticide plant site of Union Carbide India Limited (UCIL) at Bhopal, leaked into the atmosphere causing thousands of deaths and injuring a large number of people. Various relief and rehabilitation measures initiated immediately after the disaster are still continuing.

Compensation

3.2 The Hon'ble Supreme Court vide orders dated 14th and 15th February, 1989 had directed the Union Carbide Corporation to pay a compensation of US$ 470 million, which was deposited by the company with the Registrar of Supreme Court of India in February, 1989. The Government of India had earlier enacted the Bhopal Gas Leak Disaster (Processing of Claims) Act, 1985 and a Scheme thereunder for ensuring proper legal representation of the victims and settlement of their claims. 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.

3.3 The actual disbursement of the compensation started from 1992 and the office of Welfare Commissioner has awarded / disbursed ₹ 1548.59 crore as compensation in settled cases of 5,74,386 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.

3.4 The Supreme Court vide order dated 19th July, 2004 had directed the Welfare Commissioner to disburse the balance amount of approximately ₹ 1500 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. A sum of ₹ 1511.41 crore as pro-rata compensation has been awarded in 5,62,950 cases till 31.03.2014. The work of disbursal of pro-rata compensation is continuing. The Welfare Commissioner has sought the directions of the Supreme Court on the issue of closure of cases of absentee claimants for pro-rata compensation.

Ex-gratia

3.5 After the reconstitution of the Group of Ministers (GoM) on Bhopal Gas Leak Disaster on 26.05.2010, the Government took certain decisions to provide further relief and rehabilitation to the gas victims. One major decision taken by the Government was to pay ex-gratia to the following categories of gas victims:

Table XVI : Scale of Ex-gratia

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

3.6 An amount of ₹ 874.28 crore has been approved by the Government for making payment of ex-gratia by the Welfare Commissioner to an estimated 62,448 Gas Victims falling in the above mentioned categories. The disbursement of Ex-gratia commenced on 19.12.2010 and till 31.03.2014, 54,606 cases have been decided and a sum of ₹ 731.83 crore has been sanctioned/ disbursed in these cases.

Action plan for the Rehabilitation Measures of Bhopal Gas Victims

3.7 Immediately after the disaster, the Central Government provided financial assistance of ₹ 102 crore over a period of 4 years starting from 1985, for carrying out rehabilitation related work. Subsequently, the Central Government also approved an Action Plan with an outlay of ₹ 163.10 crore, later revised to ₹ 258 crore, for medical, economic, social and environmental rehabilitation of the gas victims, to be shared between the Central Government and State Government of Madhya Pradesh (GoMP) in the ratio of 75:25. The Central Government had released ₹ 193.50 crore as its 75% share. The major rehabilitation activities undertaken under the Action Plan were establishment of six full-fledged Gas Relief hospitals and also dispensaries for free treatment of gas victims, construction of houses for the families of deceased gas victims, setting up an Industrial Training Institute for imparting training to gas affected children, training and skill upgradation of gas victims in traditional crafts, construction of drains, planting trees etc. Further, ₹ 14.18 crore was provided by Government of India under Jawaharlal Nehru National Urban Renewal Mission (JNNURM), in April, 2006 for supply of piped drinking water to 14 localities around UCIL plant site where the ground water is not potable.

3.8 Based on a new Memorandum on Plan of Action with an outlay of ₹ 982.75 crore for various rehabilitation measures to be taken for Bhopal Gas Victims submitted by the Government of M. P. in 2008, the Government of India, on the recommendations of the GoM, sanctioned a plan totaling ₹ 272.75 crore on 75:25 basis to the State Government for various rehabilitation measures to be taken by the GoMP, covering medical rehabilitation, economic rehabilitation, social rehabilitation and provision for safe drinking water. An amount of ₹ 204.56 crore, being the grant component of Additional Central Assistance, was sanctioned on 08.07.2010.

3.9 The Government of Madhya Pradesh is in the process of implementation of various rehabilitation schemes as approved in the New Plan of Action. The State Government has apprised that

till March, 2014, an amount of ₹ 128.44 crore has been spent out of allocated sum of ₹ 272.75 crore for various rehabilitation activities.

3.10 Under social rehabilitation, an estimated 5000 Widows of Gas Victims are to be paid pension of ₹ 1000 p.m. for a period of five years, for which ₹ 30 crore has been allocated. Till March, 2014, pension has been released to 4,377 widows. The State Government has acquired 4 acres of land and is processing for allotment of another 10 acres of land for construction of houses for 2500 families of gas victims residing around the UCIL plant site. Subsequently, the State Government has conveyed requirement of houses for 10,048 families.

3.11 Under medical rehabilitation, construction of new buildings/ renovations of the six Gas Relief Hospitals, earlier set up under the First Plan of Action for free treatment of gas victims, has been undertaken. New equipments for these hospitals are being purchased.

3.12 Under economic rehabilitation, for ensuring employment of gas victims, the State Government has launched an entrepreneurship training Programme scheme with built-in employment opportunity. The State Government has selected 21 institutions for providing training in different trades to the gas victims.

3.13 Out of an amount of ₹ 50 crore allocated under the New Plan of Action for providing clean drinking water to the gas victims, the Government of M.P. has utilised ₹ 33.34 crore till March, 2014 for creation of facilities for provision of clean drinking water.

Bhopal Memorial Hospital and Research Centre (BMHRC)

3.14 Under the directions of the Hon'ble Supreme Court, a Specialty Hospital named Bhopal Memorial Hospital and Research Centre (BMHRC) was established at Bhopal with super speciality facilities, with money provided by Union Carbide Company, for free treatment of gas victims. Initially, a Trust named the Bhopal

Memorial Hospital Trust (BMHT) under the Chairmanship of retired Chief Justice of India Shri A. M. Ahmadi was set up in 1998 to oversee the construction and management of the Specialty Hospital. The Hospital started functioning in July, 2000. The Hospital has 330 beds with facilities in 12 disciplines like Cardio Thoracic Surgery, Nephrology, Urology, Neurology, Neuro Surgery, Opthalmology, Pulmonary Medicine, Psychiatry etc,. 8 mini units of the Hospital have been set up in various gas-affected wards in Bhopal for the gas victims.

3.15 On the recommendations of the GoM and as decided by the Government, the administration of BMHRC has been taken over by the Government of India in the year 2010 and the Hospital is now being administered by the Department of Health Research, Ministry of Health and Family Welfare.

ICMR- 31st Research Center

3.16 After the gas leak, Indian Council Medical Research (ICMR) had established a research center in Bhopal in 1984, and conducted epidemiological research and clinical studies. After publication of research papers in 1987 and 1994, ICMR stopped its research work on 31.12.1994 and handed over the research center (Center for Rehabilitation Studies) to the GoMP. The Government, based on recommendation of the GoM, decided that ICMR may resume its research on gas victims by establishing a full-fledged Research Centre in Bhopal. Accordingly, ICMR has established its 31st Research Center namely "National Institute for Research in Environmental Health (NIREH)" at Bhopal, on 11th October, 2010, for conducting research studies in identified areas including respiratory diseases, cancer, total renal failure, genetic disorders, second generation children related medical issues.

Environmental Remediation of the UCIL Plant site

3.17 As per the decision of the Government, on the basis of recommendations of the GoM, an Oversight Committee has been constituted under the Chairmanship of Minister of State (I/c)

Ministry of Environment and Forests and co-chairmanship of Minister-in-charge of BGTR&R Department, Government of M.P. with members of concerned Departments/ Agencies to provide oversight and support to remediation actions relating to UCIL plant site to be taken by Government of M.P. The Government has also decided to bear the cost of remediation, presently estimated at ₹ 310 crore, pending restitution claim from the persons/ companies found to be polluter. The matter with regard to fixing of the liability on the polluter is pending in the High Court of M.P.

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Chapter-IV

PUBLIC SECTOR UNDERTAKINGS

Hindustan Organic Chemicals Limited

4.1 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 which are required for production of dyes, dye-intermediates, rubber chemicals, pesticides, drugs and pharmaceuticals, laminates etc. The products manufactured by HOCL include phenol, acetone, formaldehyde, nitrobenzene, aniline, nitro-toluene, nitric acid, di-nitrogen tetra-oxide (N_2O_4) and hydrogen peroxide. The raw materials used by HOCL are benzene, toluene, LPG, methanol, CNG and sulphur, most of which come from petroleum refineries. HOCL is the only manufacturer of liquid rocket propellant N_2O_4 in the country, supplying to ISRO. HOCL now has 58.78% Government shareholding.

4.2 HOCL has two units, located at Rasayani (Maharashtra) and Kochi (Kerala). It also has a subsidiary company, viz. Hindustan Fluorocarbons Limited (HFL), located at Rudraram, Medak (Andhra Pradesh) which manufactures Poly-Tetra-Fluoro-Ethylene (PTFE), a high- technology engineering plastic.

4.3 The company was referred to Board for Industrial and Financial Reconstruction (BIFR) in February, 2005 and based on the recommendations of Board for Reconstruction of Public Sector Enterprises (BRPSE), Government approved a Revival Package on 09.03.2006, providing cash infusion of ₹ 250 crore in the form of 8% Redeemable Non-Cumulative Preference Shares for repayment of high cost overdue Bonds for payment of VRS and waiver of penal interest and interest on interest up to 31.03.2005 and continuation of Government of India Guarantee of ₹ 100 crore for full term of 10 years to be utilised to liquidate high cost debt. With this financial restructuring, the net-worth of the company

became positive and BIFR discharged the company from the purview of Sick Industrial Companies (Special Provisions) Act, 1985 in 2008.

4.4 During the past few years, the company started making losses again and considering the precarious financial position of HOCL, the Cabinet Committee on Economic Affairs (CCEA) in August 2013 approved to postpone the redemption of ₹ 250 crore Preference Shares, which was due from 2011-12, by another 4 years (i.e. to begin from 2015-16), and to renew the Government Guarantee of ₹100 crore up to August 2017. Subsequently, as the net worth of the company became negative due to continuous losses, HOCL filed application to BIFR on 27 November, 2013.

4.5 The physical and financial performance of the Company during the last five years has been as follows:

Table XVII : Performance of HOCL

Year	Sales /Turnover (₹ crore)	Net Profit / Loss (₹ crore)
2009-10	520.71	(-) 83.07
2010-11	738.04	(+)25.71
2011-12	606.36	(-)78.07
2012-13	624.19	(-)137.99
2013-14	237.20	(-)176.85

4.6 The Kochi Unit has been achieving high capacity utilisation throughout due to the measures taken for continuous supply of raw materials through pipeline network established between BPCL-KR and HOCL Plant, which has helped the company to streamline the production performance without any interruption. It also helped the Company to reduce overhead expenditure for sampling and eliminated the handling losses, thus improving the efficiency of operations and safety of the unit.

4.7 HOCL has been making efforts to reduce the cost of production and generate revenue. At Rasayani, retrofitting of Nitric Acid plant, where di-nitrogen tetra-oxide (N_2O_4) is produced, has

been completed. Disposal of the Non Performing Assets (NPAs) has been undertaken to generate funds to the tune of ₹ 12.58 crore. Similarly, at Kochi unit, burner and other accessories in boiler, hot oil unit etc. have been modified to suit Low Sulphur Furnace Oil (LSFO) and Re-Liquefied Natural Gas (RLNG), i.e. dual fired, which will bring down the cost of production of Phenol and Acetone. The debottlenecking of Hydrogen Peroxide plant has also been completed. Further, in order to put HOCL back on a sustained growth path, the possibility of utilisation of vacant land available at Rasayani is being explored through various options like leasing out to other government companies, merger and/ or joint venture etc.

Hindustan Fluorocarbons Limited

4.8 Hindustan Fluorocarbons Limited (HFL), a subsidiary company of Hindustan Organic Chemicals Limited (HOCL), was incorporated on 14.07.1983. The company is engaged in the manufacture of Poly Tetra Fluoro Ethylene (PTFE) and 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 sector. The factory is located at Rudraram, District Medak, in Andhra Pradesh.

4.9 The company was earlier under BIFR. The Rehabilitation package under the operating agency M/s. IDBI was approved by BIFR on 03.12.2007 and implementation has been completed. The company has diversified into profitable business of fluoro specialty chemicals and also developed fluoro specialty chemicals like TFE-Ether for the first time in India and has been successfully selling them. The quality of all products of the company continues to be well accepted by customers

4.10 The physical and financial performance of the Company over the last five years has been as follows:

Table XVIII : Performance of HFL

Year	Turn Over (₹ in crore)	Net Profit (₹ in crore)
2009-10	20.23	3.06
2010-11	33.52	2.23
2011-12	50.33	2.52
2012-13	44.48	0.95
2013-14	31.34	(-)24.82

4.11 HFL has undertaken the development of specialised PTFE, i.e. modified PTFE and the company proposes to manufacture this product in the existing system with some modifications. At present modified PTFE is being imported, but it has wide market potential owing to its versatile applications. The company has plans to take up the following projects:

Table XIX : Proposed projects of HFL

A	Refurbishment Plans
1	Refrigeration System
2	Furnace with Pyrolysis Coil
3	Fluid Energy Grinding Mill
4	TFE Compressor and Vacuum/Jet pump
5	CFM Compressor & Air Compressor
6	Instrumentation
B	**New Schemes/Projects**
1	Hexa Fluoro Propene (HFP) and Fluorinated Ethylene Propylene (FEP) related investments
2	New Reactor Set
3	Debottlenecking of the Monomer Plant
4	Pilot Plant for Product Development

Hindustan Insecticides Limited

4.12 Hindustan Insecticides Limited (HIL) was incorporated in March, 1954 for manufacture and supply of DDT. In 1957, the company set up a factory at Udyogamandal near Kochi for manufacture of DDT and in 1977 at Rasayani, Maharashtra for manufacture

of Malathion, an insecticide. Today, HIL has three units located at Udyogamandal in Kerala, Rasayani in Maharashtra and at Bathinda in Punjab.

4.13 DDT accounts for almost 47%-48% of turnover of the company and is supplied only to the National Vector Borne Disease Control Programme in India. The Company has now emerged as the leading supplier of DDT globally.

4.14 HIL diversified into agro-chemicals in the late seventies to ensure supply of quality pesticides at reasonable prices to the agriculture sector. To further consolidate its position, one new thrust area recently identified is the seed business. Ministry of Agriculture, Government of India, has given recognition to HIL as a nodal agency for production and marketing of certified seeds for crops and vegetables. The groundwork has already been done to transform HIL into a one stop shop to the farmer i.e. providing two critical agricultural inputs-seeds and pesticide. The performance of the company over the last 5 years is as follows:

Table XX : Performance of HIL

Year	Sales Turnover (₹ in crore)	Net Profit (₹ in crore)
2009-10	243.88	3.06
2010-11	271.04	1.58
2011-12	279.82	1.60
2012-13	301.11	2.92
2013-14	317.00*	2.50*

*Un-audited results

4.15 HIL has commissioned Buprofezin (Tech) manufacturing facility. Trial production of Imidacloprid is currently going on in the Multi-product plant, which has facilities to manufacture Chlorpyriphos, Acetmaprid and Traizophos as well at Rasayani unit. At Kochi unit, the capacity enhancement of the Mancozeb facility from 1000 to 2000 MT is underway.

4.16 New initiatives, projects and proposals of HIL:

4.16.1 HIL has taken an initiative to develop a new product to be used as an Indoor Residual Spray, as an alternative for DDT. The new molecule is expected to be a major breakthrough in vector control. Work is being carried out at a renowned University, which is regularly being monitored by a team of scientists and engineers.

4.16.2 HIL has planned to put up a facility for manufacturing Glyphosate (Tech), a broad-spectrum systemic herbicide which is used to kill weeds, by retrofitting its Endosulfan plant at Kochi unit. The company also plans to manufacture high purity Dicofol at Kochi unit in its existing plant. Dicofol is a miticide that is very effective against red spider mite.

4.16.3 At Bathinda unit, the company proposes to put up a Suspension Concentrate (SC) Formulation Plant as Buprofezin (T) plant has been commissioned.

4.16.4 At the Rasayani unit, there is a plan to replace the existing Induced Draft Cooling Tower, which is not in good condition, with a new one of same capacity having multiple cell arrangement so that it can be operated based on the load, to economise on the running cost.

4.16.5 The company has plans to manufacture Pendimethalin, a herbicide used mainly as pre-mergence with post-mergence applications, to control annual grasses and certain broadleaf weeds which interfere with growth, development, yield and quality of agricultural and horticultural crops by competing on nutrients, water and light. As the demand for the herbicide is growing in India, this diversification will enable the company to move with the emerging trend.

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Chapter - V

AUTONOMOUS INSTITUTIONS

Central Institute of Plastics Engineering & Technology (CIPET)

5.1 CIPET is a premier institution devoted to Academic, Technology Support and Research (ATR) activities for the growth of Polymer & allied industries in the country. It is an ISO 9001:2008 QMS, NABL, ISO/IEC 17020 accredited national Institution. CIPET has 16 Centers at 23 locations across the country with its Head Office at Chennai. The Centres are:

Table XXI : Centres of CIPET

5 High Learning Centres (HLC):* Chennai, Ahmedabad, Bhubaneswar, Lucknow, Kochi	**11 Conventional Learning Centres:*** Amritsar, Aurangabad, Bhopal, Guwahati, Hyderabad, Hajipur, Haldia, Jaipur, Imphal, Mysore, Panipat
2 R&D wings: Advanced Research School for Technology Product Simulation (ARSTPS) at Chennai. Laboratory for Advanced Research in Polymeric Materials (LARPM) at Bhubaneswar.	**1 Plastic Waste Management Centre:** Guwahati
2 specialised units* Advanced Tooling and Plastics Product Development Centre (ATPDC), Madurai. Advanced Plastics Processing Technology Centre (APPTC), Balasore.	**1 Vocational Training Centre** MCTI, Bhubaneswar
	1 Polymer Data Services (PDS); Gurgaon

* All the CIPET Learning and Specialised Centres have state-of-the-art infrastructural facilities in the areas of Design, CAD/CAM/CAE, Tooling & Mould Manufacturing, Plastics Processing, Testing and Quality Control to cater to the needs of Plastics and allied industries.

Academic Programmes

5.2 Long-term Programmes

5.2.1 CIPET conducts 12 different long-term training Programmes viz. Diploma, Post Diploma, Post Graduate Diploma, Undergraduate, Post Graduate and Ph.D, as detailed below.

5.2.2 The long-term Programmes offered by CIPET are as follows:

- Three Year full time Diploma in Plastics Technology (DPT)
- Three Year full time Diploma in Plastics Mould Technology (DPMT)
- One and a half year full time Post Diploma in Plastics Mould Design with CAD/CAM
- One and a half year full time Post Graduate Diploma in Plastics Processing & Testing (PGD-PPT)
- Four Year Full Time B.Tech. (Plastics Engineering/Technology)
- Four Year Full Time B.E./B.Tech. (Manufacturing Engineering/ Technology)
- Two Year Full Time M.Tech. (Plastics Engineering/Technology)
- Two Year Full Time M.Tech. (Polymer Nanotechnology)
- Two Year Full Time M.E. (CAD/CAM)
- Two Year Full Time M.Sc.(Bio Polymer Science)
- Two Full Time M.Sc.(Polymer Science)
- Five Year Full Time M.Sc. (Tech.) in Material Science Engineering

5.3 The Undergraduate, Postgraduate & Doctoral programs are offered at the five HLCs in affiliation/collaboration with the respective reputed State Universities.

5.4 In the year 2012-13, the number of students enrolled for the long term programs was 10,542 which has gone up to 11494 students in the year 2013-14, with an increase of around 9% over the previous year.

5.5 Short-Term Programmes

5.5.1 CIPET also offers highly specialised and customised Short-Term

Training Programmes in the field of Polymer Science & Technology to improve the skills of technical manpower to suit the changing industry requirements. The number of participants trained under various Skill Development Programmes during the year 2013-14 has gone up to 27000 from 26277 in the year 2012 – 13. Thus there is a growth of 5.0%.

5.6 Entry level Vocational Training Programmes

5.6.1 CIPET regularly conducts various skill development training Programmes sponsored by Government Departments / agencies such as Ministry of DONER, Ministry of Social Justice & Empowerment, State SC/ST Welfare Department, Minorities Department etc. in the areas of Polymer Science & Technology, for the benefits of unemployed / under-employed youth. Customised Programmes are also conducted for sponsoring industries.

5.6.2 In order to fulfill the requirements of skilled manpower for the plastics industry in the country, CIPET has a target to train around 6.20 lakh persons during the period 2011-22, as part of the Prime Minister's National Skill Development initiative. During 2013-14, 39992 students have been trained by the CIPET against a target of 39,000 students.

5.7 Conferences/Seminars

5.7.1 The Conference 'Advancements in Polymeric Materials (APM)' is oranised every year as APM series, and is one of the mega events oranised by the two R&D wings of CIPET - LARPM and ARSTPS. The 5th in the series of the International Conference on "Advancements in Polymeric Materials" (APM 2014) was hosted by Laboratory for Advanced Research in Polymeric Materials (LARPM), with the theme "Exploring the hidden potential of polymeric materials," during February 14-16, 2014, at CIPET Bhubaneswar. This event was attended by more than 350 participants, including Plenary Invitees, Invited Speakers, budding researchers, young entrepreneurs and Industrial sponsors from India and abroad.

5.7.2 APM 2014, focused on the following major themes:

- Smart Materials (Embracing Unseen Technologies)
- Recycling Technology (Waste to Wealth)
- Biopolymers (Nature's Way)
- Nanotechnology (Peering into the Nanoworld)
- Functional Materials (Reinforcing the Existent)
- Product Design (Beyond the Trends)
- Synthesis (Science to Applications)

5.7.3 There were participations from more than 97 universities, Academic Institutions, R&D laboratories from India and overseas. Also 08 foreign universities from USA, Australia, Brazil, Malaysia, Canada, Belgium, Italy and New Zealand shared their research expertise during the conference.

Inauguration (Left) and Plenary Session (Right) of APM 2014 during February 14-16, 2014 at Bhubaneswar

5.8 CIPET, with the support of Department of Chemicals and Petrochemicals, has been creating awareness on Plastic Waste Management by organizing Technical Conferences/Workshops/ Seminars for Government Officials, NGOs and other stakeholders During 2013-14, CIPET oranised six seminars in different cities on Plastic Waste Management and propagated the best technological solutions for recycling of both industrial and post consumer plastic waste.

5.9 CIPET, in association with FICCI, oranised Poly India 2013 Exhibition during April, 25-27, 2013 at Chennai Trade Centre, Chennai.

5.10 CIPET participated in the 4th IPLEX – International Plastics

Exposition, jointly oranised by the Southern India Plastics Manufacturers' Association at Chennai Trade Centre, Chennai during June 27-30, 2013.

5.11 National Seminar on Biopolymers & Green Composites (BPGC 2013) was organised by CBPST, Kochi on 27th September, 2013.

Faculty Development Programmes

5.12 CIPET has been constantly interacting and collaborating with leading educational / academic institutions and universities of the world so as to strengthen and enhance the academic excellence and professional efficiency of the oranisation through Faculty Exchange Programmes.

5.13 During 2013-14, CIPET deputed 380 officials for participation in various seminars, conferences, exhibitions and equipments training Programmes as part of Faculty Development Programme. This includes 04 CIPET officials deputed to visit China Plas 2013, held at Guangzhou, PR China during May 20-23, 2013 and 10 member delegation led by Director (PC) , Department of C&PC, Government of India to International Trade Fair on Plastics and Rubber "K - Fair 2013" at Dusseldrof, Germany held during October 16-23, 2013. About 3350 exhibitors from 59 countries participated in that event.

Technology Support Services

5.14 CIPET plays a vital role in augmenting the growth of use of plastics in key sectors of Indian economy which include Aerospace, Automobiles, Agriculture, Fast Moving Consumer Goods, Building & Construction, Electronics, Information Technology, Bio-medical etc. through Technology Support Services to Industry.

5.15 Since 2008-09, the performance of CIPET in the area of Technology Support Services (TSS) to industries has witnessed a healthy improvement trend. TSS covers several activities viz. designing, tooling plastics processing and testing, inspection &

quality control etc. The number of TSS assignments undertaken during 2013-14 has increased to 41000 from 40396 in 2012-13. The important assignments have been:

5.15.1 Contract for Testing & Evaluation of Contraceptive Devices – Condoms, Copper-T and Tubal rings from 13.09.2011 to 12.09.2013 - Ministry of Health & Family Welfare, Government of India.

5.15.2 Design and development of Hot Runner Moulds for 20 Round Magazine Assembly - Ordnance Factory, Dum Dum, Kolkata.

5.15.3 Manufacture and supply of precision components for space applications - Indian Space Research Oranisation (ISRO), Bangalore.

5.15.4 Design and development of Solar-LED Light for R&D Centre - Indian Oil Corporation Ltd., Faridabad. The product developed by CIPET jointly with IOCL won the CII-National Award for "Innovative Energy Saving Product".

5.15.5 Die Steeling Machining Jobs of Press Tool for Tool Room Department and Copper Resistance Ring for Traction Motor. Development of Geneva Wheel Component - BHEL.

5.15.6 Developed Plastic Container for Fuse - Ordnance Factory, Dum Dum (OFDC), Kolkata.

5.15.7 Development of Body Cover - State Forensic Laboratory, Uttar Pradesh.

5.15.8 Undertaking 524 Pre-delivery Inspection (PDI) assignments from reputed industries across the country and on behalf of Government oranisations.

5.15.9 Testing & Consultancy assignments pertaining to Quality assessment of Mixies, Fan and Grinder for Tamil Nadu Civil Supplies Corporation (TNCSC), Government of Tamil Nadu.

5.16 CIPET has prepared a Quality Manual as per the latest version of ISO/IEC: 17020 -2012 (General criteria for the operation of various types of bodies performing inspection) as a TYPE – A Inspection body with the scope of around 30 products. New Products included are FRP Pipe, Double Wall Corrugated Pipe, Plastics Sleeves, Conduit pipe and fittings.

5.17 An MoU was signed between CBPST, Kochi and Sophisticated Test & Instrumentation Centre (STIC)- a joint venture of Kochi University of Science and Technology (CUSAT) and Kerala State Council for Science, Technology and Environment (KSCSTE), Government of Kerala, on 23.08.2013, for utilisation of Plastic Testing Facility available at STIC for testing & consultancy works.

Polymer Data Services – A New Initiative of CIPET

5.18 CIPET has set up a "Polymer Data Service (PDS)" with the objective of enhancing the growth of polymer industry through creation and management of industry database. The services of PDS include creation of database, Techno-Economic Feasibility Report (TEFR), Entrepreneurship Development Programme (EDP) Faculty Development Programme (FDP) training activities, National / International Conferences- Advancement in Polymeric Materials (APM), Seminars, Workshops, National Awards and support of R&D activity, etc. The PDS Centre at Gurgaon and its branch at Chennai will act as a nucleus for providing required inputs which will ultimately ensure sustainable development of petrochemical downstream, polymer processing and its allied industries. In order to promote the activities of PDS, a dedicated web portal has been developed. The portal was launched by Shri Srikant Kumar Jena, Minister of State (Independent Charge) for Chemicals & Fertilizers; Statistics and Programme Implementation, Government of India, on July 26, 2013.

Research & Development Activities

5.19 The two specialised R&D wings of CIPET i.e. (i) Advanced Research School for Technology & Product Simulation (ARSTPS) at CIPET,

Chennai and (ii) Laboratory for Advanced Research in Polymeric Materials(LARPM) at CIPET, Bhubaneswar, established to strengthen the R&D activities of the Institute, have successfully established CIPET's global recognition in terms of intellectual property, sponsored research projects, international publications in peer reviewed journals, textbooks and articles and international consultancies.

5.20 The two R&D wings have been working in the areas of polymeric material development such as biopolymers, fuel cells, e-waste recycling, nanocomposites, polymer blends and alloys, polymer synthesis etc. as wall as product design and development.

5.21 LARPM has contributed in 30 research papers in high impact factor journals and has presented more than 50 research papers in international conferences. This laboratory has also successfully completed 06 Research Projects, sponsored by various public and private agencies like DeitY, DST, DBT, CSIR, ISTP – GITA, DCPC, no, after Boeing (USA), Petromexs Resources Ltd. (Malaysia), SABIC (Bangalore) etc. Also, one Patent application has been filed by CIPET through LARPM in this year.

5.22 ARSTPS has contributed in publishing 7 research papers and has presented 10 research papers in international conferences. This laboratory has filed one patent application and also successfully completed 03 research projects sponsored by DST, 3BRD-Chandigarh, IGCAR and also executed various design & development projects for public and private sectors

Financial Performance

5.23 During the financial year 2013-14, CIPET has generated revenue of ₹ 140.46 crore against the budgeted income of ₹ 125.00 crore. The expenditure during the corresponding period has been ₹ 119.00 crore without depreciation and ₹ 135.61 crore with depreciation against the expected expenditure of ₹ 102.16 crore without depreciation and ₹ 124.68 crore with depreciation.

Interaction with International Institutions

5.24 Review of Centres of Excellence (CoEs) set up through CIPET in collaboration with Michigan State University, USA and University of Toronto, Canada was undertaken in 2013 during the visits of Secretary (C&PC) Government of India and Director General, CIPET to these institutions in September, 2013. An Articulation Agreement for graduate scholars Programme between CIPET, India & Michigan State University, USA was signed as part of the Centre of Excellence project - II on "Sustainable Green Materials." The on-going CoE project - I on "Green Transportation Network (GREET)" at University of Toronto, Canada was also reviewed.

Signing of Articulation Agreement for Graduate Scholars' Programme with Dr. Lou Anna K. Simon, President, Michigan State University, USA by Shri Indrajit Pal, Secretary (C&PC), Government of India in September 2013, at East Lansing, Michigan, USA.

Major Events

Inauguration of CIPET Centre, Murthal, Haryana

5.25 The construction of full-fledged New Building Complex for CIPET Centre in the State of Haryana on 10 acre of land allotted by the State Government at Deenbandhu Chottu Ram University of Science & Technology (DCRUST), Murthal, Sonepat District has been completed successfully. The building complex was jointly

inaugurated by the Minister of State (Independent Charge) for Chemicals & Fertilizers; Statistics & Programme Implementation, Government of India and the Chief Minister of Haryana on May 11, 2013.

Minister of State (Independent Charge) for Chemicals & Fertilizers, Statistics & Programme Implementation, Government of India and Chief Minister of Haryana inaugurating the newly constructed building of CIPET - Murthal on May 11, 2013 (Left). The building of CIPET, Murthal (Right).

Inauguration of Advanced Plastics Processing Technology Centre (APPTC), Balasore, Odisha

5.26 The construction of new building complex for Advanced Plastics Processing Technology Centre (APPTC), Balasore - a unit of CIPET, Bhubaneswar, with a total project outlay of ₹ 15.00 crore, has been completed. The building complex was inaugurated by Minister of State (Independent Charge) for Chemicals & Fertilizers; Statistics & Programme Implementation, Government of India on July 26, 2013.

Minister of State (Independent Charge) for Chemicals & Fertilizers; Statistics & Programme Implementation, Government of India inaugurating the newly constructed building of CIPET – APPTC, Balasore on July 26, 2013.

Institute of Pesticides Formulation Technology (IPFT)

Aims and Objectives

5.27 The institute was established in May, 1991 under the aegis of Department of Chemicals & Petrochemicals, Ministry of Chemicals & Fertilizers, as an autonomous institution for fulfilling the following objectives:

5.27.1 To develop and produce new pesticide formulation technology that is environment friendly.

5.27.2 To promote efficient application technologies for newer formulations.

5.27.3 To disseminate information on safe manufacturing practices, quality assurances, raw material specifications and sources.

5.27.4 To undertake consultancy services and offer analytical solutions for agrochemicals manufacturers and users.

5.27.5 To nurture talent in pesticide scientists by enhancing their skills through specialised training and continuing education.

5.28 Since its inception, the Institute has established a healthy rapport with the pesticides industry and has contributed to the enhancement of indigenous pesticide technologies by formulating some of the most efficient, economical and environment friendly solutions in the country. Some of its formulations have seen successful technology transfers for production of next generation pesticides.

Major Activities During the Year

5.29 IPFT Laboratory continues to be accredited by National Accreditation Board for Testing & Calibration Laboratories (NABL) as per ISO – 17025 (2005) for the analysis of Pesticides and CWC related chemicals.

5.30 IPFT has been awarded BIS Certification in June, 2011, which is renewed every year. It is recognition that laboratories of the institute are considered reliable for conducting various tests on

a wide range of chemicals including agricultural products and pesticide formulations. This has resulted in increased revenue generation as IPFT is receiving samples for testing from BIS.

5.31 IPFT was granted a Plan Budget of ₹ 434.00 lakh for the year 2013–14 for Capital support and for the projects sanctioned for the XII Five Year Plan.

5.32 A Memorandum of Understanding (MoU) has been signed with Sher–e–Kashmir University of Agriculture Sciences & Technology, Jammu, for collaborative R & D Work. Confidentiality Agreements have been signed with Reckitt Benkinser for long term testing of Household Products and Lamberti Hydrocolloids.

5.33 32 new projects have been sponsored by Indian agrochemical industries to IPFT for the data generation on Bioefficacy, Phytotoxicity, Residue Analysis and Stability Studies.

5.34 During the year, the Institute continued to work on the following projects sanctioned by the Department of Chemicals and Petrochemicals during the 11th Five Year Plan:

5.34.1 Studies on pesticide formulations from Basil and Turmeric Oil for Household and Agriculture Purposes: Development of Formulations, their Stabilisation and Bio-evaluation Studies on Selected Species/Crops.

5.34.2 Isolation, Formulation Development and Application of Suitable Mycoherbicide against Trianthema portulacastrum L. weed in Kharif Crop.

5.35 The Institute is working on the following projects sanctioned for 12th Five Year Plan:

5.35.1 Development of User and Environment Friendly Water Dispersible Granule Formulations of Highly Toxic, Broad Spectrum and effective Pesticides to reduce their Toxicity for Continuation of Use and Prevention from Ban.

5.35.2 Development of Mass Production Technique and Formulation for Baculoviruses.

5.35.3 Management of Termite by Integrated Approach and Indigenous Technologies.

5.35.4 Magnetic core-shell nano particles based extraction coupled with Gas/Liquid Chromatography – Tandem Mass Spectrometry for trace level analysis of pesticides.

5.35.5 Pesticide formulation from Plant Extract and their Bio-efficacy studies.

Academic, Research and Training Outputs

5.36 IPFT published 15 papers in national /international journals. Papers were presented in 18 different conferences across the country. IPFT scientists were invited to deliver lectures on various topics. 25 talks and lectures were attended by the IPFT scientists during the year. IPFT scientists also attended 5 training courses as part of continuous up-gradation of skills. Similarly the Institute oranised 05 specialised training Programmes, out of which one Programme each was specially designed for participants from Australia and Egypt. During summer vacations, M.Sc. students had the opportunity of availing themselves of the specialised training offered by the Institute. 15 students were selected for this purpose.

Revenue Generation

5.37 IPFT generated a revenue of ₹ 104.00 lakh from the industry sponsored projects and testing of pesticide samples during 2013-14.

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Chapter-VI

GENERAL ADMINISTRATION

Organisational Set up of the Department

6.1 The main activities of the Department are policy making, sectoral planning, promotion and development of chemical and petrochemical industries. The administrative and managerial control of Public Sector Undertakings engaged in the manufacture of various chemicals and petrochemical items, as well as Autonomous Bodies engaged in this area are some of the other major functions of the Department.

6.2 The Department is headed by a Secretary to the Government of India who is assisted by an Additional Secretary & Financial Adviser, two Joint Secretaries, one Economic Adviser and two Deputy Directors General. The Oranisational Chart (as of 31st May, 2014) is at Annexure-IV.

Employment of Scheduled Castes/Scheduled Tribes / Physically Handicapped in the main Secretariat of the Department of Chemicals and Petrochemicals

6.3 The status of employment of Scheduled Castes/Scheduled Tribes/Physically handicapped in the main Secretariat of the Department of Chemicals & Petrochemicals, as on 31.03.2014 is as under:

Table XXII: Reservations in Employment

Group	Total No. of posts	Scheduled Castes	Scheduled Tribes	Physically Handicapped
A	34	4	-	-
B	70	6	-	2
C	78	20	3	1
TOTAL	**182**	**30**	**3**	**3**

6.4 Officers in Group 'A' include officers belonging to Central Secretariat Service, officers on deputation from the All India Services, Central Services and Technical Cadre of the Department. Appointment to posts in Group 'B' and 'C' is mostly done on the basis of nominations by the Department of Personnel & Training and the Department of Official Language.

Record Management

6.5 Parliament has enacted "The Public Records Act, 1993" to regulate the management, administration and preservation of public records of the Central Government. The Central Government has also made rules to carry out the provisions of the Act. In terms of the 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 modernised Record Room has been set up in the Department, located in Udyog Bhawan.

Use of Hindi in official work

6.6 To ensure compliance with the statutory provisions and Presidential Orders on the Official Language Policy of the Government in the Department and also in its attached and subordinate offices, there is a Hindi Section. The work of the Hindi Section is supervised by Assistant Director (OL) and Joint Director (OL) under the overall guidance of Economic Adviser.

6.7 Hindi Fortnight was oranised in the Department from 15th to 30th September, 2013. During this period, five competitions in Hindi Essay Writing, Noting & Drafting, Translation, Stenography and Typing were held. A noting-drafting competition exclusively for Group 'D' employees was also held. Separate prizes were earmarked for non-Hindi speaking officers and staff. A total of 19 prizes amounting to ₹ 18,600 were distributed by Economic Adviser in a prize distribution function organised in the department.

6.8 Four meetings of the Departmental Official Language Implementation Committee (OLIC) under the chairpersonship of

Economic Adviser were held on 9th July, 2013, 29th August, 2013, 29th November, 2013 & 6th March, 2014. The progress made in the use of Hindi was reviewed in these meetings and suggestions for further improvement were adopted.

6.9 During the year 2013-14, the First Sub-Committee of Parliament on Official Languages inspected the following Institutes and offices of the Department:

1. IPFT, Gurgaon	-	10.04.2013
2. HOCL, Mumbai	-	15.04.2013
3. CIPET, Ahmedabad	-	25.06.2013
4. CIPET, Hyderabad	-	25.09.2013
5. HIL, New Delhi	-	17.10.2013
6. CIPET, Chennai	-	25.11.2013
7. CIPET, Bhubaneswar	-	15.01.2014

Meeting of the First Sub-Committee of Parliament on Official Language at Hyderabad on 25.09.2013.

6.10 Most documents like Annual Report, Performance Budget, Demand-for-Grants, Parliament Questions & Assurances etc. and documents falling under Section 3 (3) of the Official Language Act, 1963 were issued in bilingual form. All letters received in Hindi were replied to in Hindi as per 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 set out in the Annual Programme of the Department of Official Language.

6.11 Quarterly progress Reports for each quarter during the year were compiled on the basis of inputs received from different sections of the Department and sent to the Department of Official language for inclusion in their database online.

6.12 A workshop on the 'Policy of Official Language of the Union' and how to fill the Questionnaire of the Parliamentary Committee on Official Language was also organised in the department on 20.12.2013.

Activities of the Vigilance Set Up

6.13 The Department has a Chief Vigilance Officer (CVO) of the rank of Joint Secretary to look into complaints against the employees of the Department as well as Board Level Officers of the Public Sector Undertakings and oranisations under its administrative control. The CVO is assisted by a Director and an Under Secretary and a Vigilance Section. Complaints received during the year 2013-14 were investigated and appropriate action was taken thereon.

6.14 'Vigilance Awareness Week' was oranised during the period 28th October to 2nd November, 2013. All the PSUs and autonomous bodies under the administrative control of the Department of Chemicals and Petrochemicals were also advised to oranise 'Vigilance Awareness Week' as per guidelines of CVC. A pledge was administered to the staff and officers of the Department.

6.15 Chief Vigilance Officer, Department of C&PC, held meetings with officers of the department and CVOs of the PSUs/Institutes under the administrative control of the Department wherein issues relating to Preventive Vigilance Measures including strategies for mitigating the risk of corruption, as recommended by the Central Vigilance Commission, were discussed and instructions issued to all the Chief Vigilance Officers of HOCL, HFL, HIL, CIPET and IPFT for compliance.

Grievance Cell

6.16 A Grievance Cell is established in the Department of Chemicals and Petrochemicals. This Cell is monitoring all grievances related to this Department.

6.17 The online Grievance Redressal Mechanism, Public Grievance Redressal and Monitoring System (PGRAMS) is in operation w.e.f. 1st August 2005. A link has been provided on the home page of Department of Chemicals and Petrochemicals website, to access PGRAMS as well as on the websites of the Institutions/ Oranisations under Department of Chemicals & Petrochemicals. The Grievance Cell plays a vital role in the redressal of grievances of the common citizen. Information is regularly uploaded on the website of Department of Chemicals & Petrochemicals and also on the websites of the Institution/Oranisations under the purview of Department of Chemicals & Petrochemicals.

Gender Equality

6.18 In compliance with the Supreme Court judgment laying down certain guidelines to be followed for prevention of sexual harassment of female employees at work places, the Department has been constituting Complaints Committee for redressal of complaints since June 2002. The present Committee is headed by Economic Adviser.

Rights of Persons with Disabilities

6.19 Department of Chemicals & Petrochemicals follows the guidelines issued by Government of India from time to time regarding rights of the persons with disabilities. Posts suitable for the persons with disabilities have been identified as per the guidelines of Ministry of Social Justice & Empowerment.

6.20 Department of Chemicals & Petrochemicals is the cadre controlling authority in respect of 06 technical posts in Group 'A', 5 posts of Staff Car Drivers, 2 posts of Sr. Gestetner Operators, 1 post of

Dispatch Rider and 48 Multi Tasking Staff (MTS) posts in Group 'C'.

6.21 It is ensured that persons with disabilities have easy access to the physical environment and other facilities and services. The Information and Facilitation Centre of the Department has been set up specifically on the ground floor in Shastri Bhawan enabling easy and obstacle free accessibility for such persons. Senior officers of this Department are always available to listen to the problems, if any, of persons with disabilities.

Right to Information

6.22 As per the provisions of the Right to Information Act, 2005, all relevant information relating to the Department has been made available on the website and it is being updated regularly, to keep it easily accessible and comprehensible to the public. Central Public Information Officers (CPIOs) have been nominated in the Department to provide information to the public and information seekers In addition, officers of the rank of Joint Secretary and above have been designated as first Appellate Authority for the subjects they are concerned with. The online RTI portal is functional in the Department to facilitate information seekers to file RTI applications online.

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Annexure – I

PRODUCT-WISE INSTALLED CAPACITY & PRODUCTION OF MAJOR CHEMICALS

(In thousand MT)

Major Groups / Products	Installed Capacity			Production							Percentage growth	
	2011-12	2012-13	2013-14	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-14	2012-13	2013-14
1	2	3	4	5	6	7	8	9	10	11	12	13
ALKALI CHEMICALS												
Soda Ash	2951.00	2951.00	2951.00	2005.51	1989.05	2058.34	2298.76	2410.82	2437.79	2392.17	1.1	-1.9
Caustic Soda	2745.25	2778.25	2809.50	2050.69	2050.03	2103.75	2178.45	2215.66	2161.66	2175.50	-2.4	0.6
Liquid Chlorine	2052.40	2016.94	2017.94	1387.13	1402.85	1439.92	1503.99	1486.10	1481.17	1506.08	-0.3	1.7
Total	**7748.65**	**7746.18**	**7778.43**	**5443.32**	**5441.92**	**5602.00**	**5981.20**	**6112.58**	**6080.63**	**6073.75**	**-0.5**	**-0.1**
INORGANIC CHEMICALS												
Aluminium Flouride	18.16	18.16	18.16	19.43	15.07	11.55	9.80	7.31	6.70	5.40	-8.3	-19.5
Calcium Carbide	112.00	112.00	112.00	97.41	66.55	22.02	44.70	66.39	70.98	78.78	6.9	11.0
Carbon Black	607.00	607.00	607.00	426.96	371.40	419.43	452.44	447.67	404.02	406.41	-9.8	0.6
Potassium Chlorate	3.00	3.00	3.00	5.36	5.79	2.60	0.61	0.34	0.59	0.68	70.9	15.0
Titanium Dioxide	76.05	76.05	76.05	59.15	53.28	61.32	64.02	52.14	50.14	52.78	-3.8	5.3
Red Phosphorus	1.68	1.68	1.68	0.54	0.46	0.58	0.48	0.56	0.69	0.75	23.4	8.7
Total	**817.89**	**817.89**	**817.89**	**608.86**	**512.55**	**517.51**	**572.05**	**574.41**	**533.13**	**544.79**	**-7.2**	**2.2**
ORGANIC CHEMICALS												
Acetic Acid	387.38	272.58	272.58	341.81	214.04	146.44	156.48	160.73	160.56	158.44	-0.1	-1.3
Acetic Anhydride	85.32	85.32	132.70	40.92	47.24	56.92	52.91	53.28	87.15	80.85	63.6	-7.2
Acetone	47.82	47.82	47.82	47.19	46.83	44.25	50.54	42.80	37.05	28.58	-13.4	-22.9
Phenol	77.13	77.13	77.13	74.94	75.75	71.59	79.81	65.93	59.92	46.39	-9.1	-22.6
Methanol	496.41	496.41	496.41	351.73	237.12	330.83	374.53	359.93	254.91	307.26	-29.2	20.5
Formaldehyde	423.29	448.79	437.04	242.76	231.84	261.29	266.61	263.80	275.36	268.29	4.4	-2.6
Nitrobenzene	48.00	48.00	48.00	13.11	13.93	12.34	9.95	13.97	18.31	2.35	31.1	-87.2
Maleic Anhydride	23.15	23.15	24.15	4.25	2.97	2.55	2.76	2.63	2.48	2.92	-5.7	17.5
Penta-Erithritol	21.70	22.00	22.00	14.95	13.82	11.21	11.73	11.40	11.49	12.18	0.8	6.0
Aniline	60.10	60.10	60.10	44.98	34.67	39.39	41.05	40.09	48.23	40.62	20.3	-15.8
Chloro Methanes	94.70	98.60	98.60	85.86	96.22	91.12	110.78	98.57	90.06	109.46	-8.6	21.5
Isobutyle	3.75	12.75	12.75	3.33	3.34	4.07	2.27	1.94	6.63	6.08	241.8	-8.3
ONCB	30.00	30.00	30.00	13.81	15.71	15.44	16.69	13.74	15.41	16.82	12.2	9.1
PNCB	30.00	30.00	30.00	20.92	25.25	23.57	24.87	22.14	24.40	27.06	10.2	10.9
MEK	5.00	5.00	5.00	0.00	0.00	0.00	0.00	2.19	2.49	3.72	13.7	49.4

Major Groups / Products	Installed Capacity			Production							Percentage growth	
	2011-12	2012-13	2013-14	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-14	2012-13	2013-14
1	2	3	4	5	6	7	8	9	10	11	12	13
Acetaldehyde	183.51	183.51	183.51	203.37	117.62	59.82	32.26	65.39	76.27	79.66	16.6	4.4
Ethanolamines	10.00	10.00	12.00	9.86	12.31	7.00	3.45	8.73	7.05	11.20	-19.2	58.8
Ethyl Acetate	439.63	439.63	494.32	90.84	128.10	147.20	170.48	235.36	305.26	382.39	29.7	25.3
Menthol	31.70	33.65	33.65	11.15	13.65	14.41	15.74	15.80	19.70	18.34	24.7	-6.9
Ortho Nitro Toluene	16.40	16.40	16.40	5.72	8.10	13.80	14.20	11.14	10.68	12.31	-4.1	15.3
Total	**2514.99**	**2440.84**	**2534.15**	**1621.48**	**1338.50**	**1353.22**	**1437.09**	**1489.55**	**1513.42**	**1614.88**	**1.6**	**6.7**
PESTICIDES AND INSECTICIDES												
D.D.T.	6.34	6.34	6.34	3.44	3.31	3.61	3.09	3.62	3.83	2.75	5.8	-28.2
Malathion	4.80	4.80	4.80	6.30	3.38	1.67	3.05	2.55	1.71	2.04	-32.9	19.3
Dimethoate	6.37	6.37	6.37	0.89	0.57	0.98	1.17	0.73	0.81	1.36	11.0	67.9
D.D.V.P.	3.68	3.68	10.98	3.48	3.01	3.87	3.48	4.64	4.41	5.52	-5.0	25.1
Quinalphos	2.20	2.80	2.80	0.52	0.84	0.99	1.01	1.00	1.35	1.74	35.0	29.0
Monocrotophos	12.84	12.84	12.24	5.12	4.57	5.74	9.93	9.59	8.25	4.27	-14.0	-48.3
Phosphamidon	3.20	3.20	0.00	0.71	0.85	1.00	0.29	0.06	0.02	0.05	-66.7	125.0
Phorate	7.10	7.10	8.10	7.80	6.12	7.12	7.67	7.01	5.75	6.85	-18.0	19.1
Ethion	4.02	4.02	4.02	2.20	1.41	1.50	1.92	1.33	0.94	1.51	-29.3	61.1
Endosulphan	12.79	12.79	12.79	10.54	11.35	9.90	11.49	1.35	0.00	0.00		
Fenvalerate	2.10	2.10	2.10	0.72	0.49	0.53	0.81	0.55	0.48	0.75	-12.7	56.5
Cypermethrin	10.16	10.16	12.62	4.66	4.03	6.23	4.95	8.79	5.68	6.46	-35.4	13.6
Acephate	11.86	11.86	18.90	10.73	10.25	11.55	14.28	15.97	15.76	14.51	-1.3	-7.9
Chlorpyriphos	34.30	34.30	34.40	6.55	6.55	6.12	6.41	5.16	6.97	8.81	35.1	26.3
Triazophos	1.50	1.50	1.50	1.84	2.06	0.88	1.58	0.72	0.93	0.99	29.2	6.9
Temephos	0.50	0.50	0.50	0.23	0.27	0.08	0.12	0.13	0.20	0.25	53.8	25.0
Deltamethrin	0.28	0.49	0.54	0.26	0.03	0.02	0.52	0.33	0.42	0.38	27.3	-9.5
Alphamethrin	0.33	0.33	0.35	0.21	0.02	0.00	0.31	0.32	0.32	0.31	0.0	-3.1
Profenofos Technical	10.85	11.85	11.85	2.35	2.58	3.03	4.16	6.13	4.89	6.86	-20.2	40.3
Pretilachlor Technical	1.40	1.40	2.84	1.27	1.30	1.17	1.18	1.65	1.93	2.22	17.0	14.8
Lambdacyhalothrin				0.00	0.13	0.12	0.19	0.25	0.43	0.50	72.0	15.6
Phenthoate	0.90	0.90	0.90	0.00	0.00	0.06	0.59	0.59	0.96	1.24	62.7	29.2
Captan & Captafol	1.80	1.80	1.80	0.00	0.00	0.00	0.72	0.92	0.56	1.12	-39.1	100.0
Ziram(Thio Barbamate)	0.45	0.45	0.45	0.17	0.11	0.14	0.66	0.73	0.55	0.60	-24.7	8.5

Major Groups / Products	Installed Capacity			Production							Percentage growth	
	2011-12	2012-13	2013-14	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-14	2012-13	2013-14
1	2	3	4	5	6	7	8	9	10	11	12	13
Carbendzim(Bavistin)	1.41	1.12	1.12	0.07	0.20	0.38	0.59	0.43	0.34	0.31	-20.9	-9.7
Mancozab	42.76	69.76	72.46	27.12	35.34	31.49	26.05	43.46	45.30	57.82	4.2	27.6
2, 4-D	17.00	17.00	17.00	8.90	9.57	10.64	11.52	12.37	12.95	14.21	4.7	9.7
Butachlor	0.50	0.50	0.50	0.03	0.12	0.24	0.29	0.20	0.18	0.04	-10.0	-77.8
Ethofumesate Technical			1.65	0.00	0.00	0.56	0.82	1.14	1.22	0.72	7.0	-41.0
Thiamethoxam Technical	3.00	3.00	3.00	1.54	1.81	1.82	1.49	1.63	2.80	3.08	71.8	9.9
Pendimethalin	2.00	2.00	2.00	0.00	0.00	0.00	0.00	0.00	1.03	1.71		65.7
Metribuzin			0.25	0.00	0.00	0.00	0.00	0.00	0.24	0.74		208.3
Isoproturon	6.25	6.25	6.25	2.96	2.98	2.91	3.68	2.53	4.05	2.35	60.1	-42.1
Glyphosate	9.26	9.26	9.26	2.58	4.39	4.66	4.86	5.25	6.12	8.48	16.6	38.5
Diuron	0.05	0.05	0.05	0.08	0.01	0.13	0.23	0.31	0.14	0.07	-54.8	-50.0
Atrazin	0.50	0.50	0.50	0.22	0.26	0.26	0.25	0.66	0.65	1.24	-1.5	90.3
Zinc Phosphide	1.10	1.10	1.32	0.95	0.91	0.92	0.86	0.89	0.60	0.65	-32.6	7.8
Aluminium Phosphide	3.90	3.90	3.90	2.53	2.58	3.25	2.82	3.14	4.16	4.47	32.5	7.4
Dicofol	0.15	0.15	0.15	0.09	0.09	0.02	0.05	0.08	0.05	0.07	-37.5	48.0
Total	**227.65**	**256.17**	**276.60**	**117.62**	**121.47**	**123.58**	**133.06**	**146.21**	**146.95**	**167.01**	**0.5**	**13.7**
DYES AND DYESTUFFS												
Azo Dyes	8.13	8.12	8.12	6.38	3.94	3.84	4.10	3.46	3.03	2.33	-12.4	-23.1
Acid Direct Dyes(Other than Azo)	33.08	33.08	33.08	9.51	10.78	15.17	20.16	18.19	17.33	18.84	-4.7	8.7
Disperse Dyes	55.21	55.21	55.21	21.82	23.26	25.09	28.58	29.29	28.09	29.03	-4.1	3.3
Ingrain Dyes	1.61	1.61	1.61	1.20	1.09	0.93	0.69	0.98	0.58	0.51	-40.8	-12.1
Oil Soluble (Solvent Dyes)	3.77	3.77	3.77	1.23	2.15	2.25	2.02	2.64	2.31	2.26	-12.5	-2.2
Optical Whitening Agents	22.30	37.30	37.30	9.31	9.82	12.36	15.02	14.14	18.17	23.74	28.5	30.7
Organic Pigment Colours	22.59	22.59	24.38	25.66	13.97	18.24	21.58	20.24	19.65	26.10	-2.9	32.8
Pigment Emulsion	4.81	4.81	4.81	1.90	3.39	4.79	5.63	4.96	6.17	7.01	24.4	13.6
Reactive Dyes	102.06	102.06	102.06	41.39	41.46	63.64	65.57	77.39	75.45	80.89	-2.5	7.2
Sulphur Dyes (Sulphur Black)	3.00	3.00	3.00	4.24	5.64	8.69	8.58	7.02	6.58	7.57	-6.3	15.0
Vat Dyes	2.98	2.98	2.98	1.60	1.46	1.70	1.94	1.69	1.38	1.60	-18.3	15.9
Other dyes	2.65	2.65	2.65	0.45	0.42	0.44	0.55	0.47	0.30	0.66	-36.2	120.0

Major Groups / Products	Installed Capacity			Production							Percentage growth	
	2011-12	2012-13	2013-14	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-14	2012-13	2013-14
1	2	3	4	5	6	7	8	9	10	11	12	13
Total	262.19	277.18	278.97	124.69	117.38	157.14	174.42	180.47	179.04	200.54	-0.8	12.0
TOTAL MAJOR CHEMICALS (I TO V)	8238.49	8279.53	8334.00	7915.97	7531.82	7753.45	8297.82	8503.22	8453.17	8600.98	-0.6	1.7

Annexure – II

PRODUCT-WISE INSTALLED CAPACITY & PRODUCTION OF MAJOR PETROCHEMICALS

(In thousand MT)

Major Groups / Products	Installed Capacity			Production							Percentage growth	
	2011-12	2012-13	2013-14	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2012-13	2013-14
1	2	3	4	5	6	7	8	9	10	11	12	13
A : BASIC MAJOR PETROCHEMICALS												
I : SYNTHETIC FIBRES / YARN												
1. Polyester Filament Yarn (PFY) **($)**	2252	2363	2354	1474	1387	1562	1789	1834	1833	1776	-0.04	-3.11
2. Nylon Filament Yarn (NFY) **($$)**	20	20	20	28	28	30	33	30	22	24	-27.79	10.85
3. Nylon Industrial Yarn (NIY) **($$)**	48	48	48	84	69	88	86	88	86	93	-2.60	8.68
4. Polypropylene Filament Yarn (PPFY)**($$)**	8	8	8	10	9	9	6	7	6	6	-7.80	-8.15
Sub Total Yarn (1+2+3+4)	**2328**	**2439**	**2430**	**1595**	**1493**	**1689**	**1914**	**1960**	**1948**	**1900**	**-0.61**	**-2.45**
5. Acrylic Fibre (Inc. Dry Spun) (AF)	95	107	107	85	78	91	76	76	75	94	-1.88	25.89
6. Polyester Staple Fibre (PSF)	1174	1174	1135	919	843	980	1037	953	962	970	0.91	0.85
7. Polypropylene Staple Fibre (PPSF)	5	8	8	3	3	3	4	4	4	4	4.51	-11.29
8. Polyester Staple Fibrefil (PSFF)	72	72	81	45	51	54	53	49	51	56	5.30	10.50
Total Synth. Fibre / Yarn	**3674**	**3800**	**3761**	**2648**	**2469**	**2819**	**3083**	**3042**	**3040**	**3025**	**-0.07**	**-0.50**
II : POLYMERS												
1. Linear Low Density Polyethylene (LLDPE)	No separate Capacity			837	817	683	897	1033	1012	1037	-2.05	2.45
2. High Density Polyethylene (HDPE)	No separate Capacity			974	942	856	887	1119	1177	1195	5.18	1.54
LLDPE/HDPE (Combined) ($$$)	**2735**	**2735**	**2735**	**1811**	**1758**	**1539**	**1784**	**2152**	**2189**	**2232**	**1.71**	**1.96**
3. Low Density Polyethylene (LDPE)	160	160	160	198	191	193	179	194	187	190	-3.94	1.84
4. Polyestyrene (PS)	462	462	462	274	240	270	296	288	290	270	0.51	-6.73
5. Polypropylene (PP)	2676	3116	3116	1978	1771	1617	1684	2209	2421	2648	9.61	9.37
6. Poly Vinyl Chloride (PVC)	1279	1279	1423	998	1051	1110	1278	1296	1257	1367	-3.02	8.78
7. Expandable Polystyrene (EX-PS)	138	108	108	44	49	63	71	72	81	77	12.20	-4.27

Major Groups / Products	Installed Capacity			Production							Percentage growth	
	2011-12	2012-13	2013-14	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2012-13	2013-14
1	2	3	4	5	6	7	8	9	10	11	12	13
Total Polymers	**7450**	**7860**	**8004**	**5304**	**5060**	**4791**	**5292**	**6211**	**6424**	**6784**	**3.42**	**5.61**
III : SYNTHETIC RUBBER												
1. Styrene Butadiene Rubber (SBR)	14	10	10	17	13	19	12	9	8	7	-9.55	-13.92
2. Poly Butadiene Rubber (PBR)	74	74	74	74	72	73	76	79	77	81	-2.12	4.68
3. Nitrile Butadiene Rubber (NBR)	25	25	25	13	11	13	6	0	0	1	35.14	415.00
Total Synthetic Rubber	**113**	**109**	**109**	**105**	**96**	**106**	**95**	**88**	**86**	**88**	**-2.85**	**3.38**
IV : SYNTHETIC DETERGENT INTERMEDIATES												
1. Linear Alkyl Benzene (LAB)	532	547	547	471	434	464	475	454	455	406	0.27	-10.83
2. Ethylene Oxide (EO)	124	124	124	114	117	154	164	169	172	191	1.68	11.08
Total Synth. Detergent Intermediates	**656**	**671**	**671**	**585**	**552**	**618**	**638**	**623**	**627**	**597**	**0.65**	**-4.82**
V : PERFORMANCE PLASTICS												
1. ABS Resin	128	128	128	78	68	84	90	89	91	102	1.76	12.88
2. Nylon-6 & Nylon 66	20	20	23	17	16	18	21	18	19	20	4.91	5.72
3. Polymethyl Methacrylate (PMMA)	4	4	4	3	2	3	3	3	3	2	-13.07	-2.32
4. Styrene Acrylonitrile (SAN)	96	96	96	61	58	72	82	77	80	88	3.58	9.31
Total Performance Plastics	**248**	**248**	**251**	**160**	**145**	**176**	**196**	**188**	**193**	**213**	**2.59**	**10.47**
TOTAL BASIC MAJOR PETROCHEMICALS												
(I+II+III+IV+V)	**12141**	**12688**	**12796**	**8801**	**8322**	**8509**	**9304**	**10151**	**10368**	**10707**	**2.14**	**3.26**
B : INTERMEDIATES												
I : FIBRE INTERMEDIATES												
1. Acrylonitrile (ACN)	41	41	41	39	30	39	38	38	33	37	-13.01	12.25
2. Caprolactum	120	120	120	86	84	123	123	118	99	85	-16.59	-14.05

Major Groups / Products	Installed Capacity			Production							Percentage growth	
	2011-12	2012-13	2013-14	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2012-13	2013-14
1	2	3	4	5	6	7	8	9	10	11	12	13
3. Mono Ethylene Glycol (MEG)	1040	1040	1073	923	783	738	746	997	1061	1069	6.49	0.76
4. Purified Terephthalic Acid (PTA)	3753	3753	3753	2059	2154	2985	3191	3308	3494	3477	5.63	-0.50
Total Fibre Intermediates	**4954**	**4954**	**4987**	**3107**	**3052**	**3886**	**4097**	**4461**	**4687**	**4668**	**5.07**	**-0.41**
II : BUILDING BLOCKS												
OLEFINS												
1. Ethylene	3783	3783	3783	2810	2639	2515	2665	3320	3315	3346	-0.15	0.96
2. Propylene	2886	3326	3368	2157	1887	1859	1930	2528	2655	2897	5.04	9.08
3. Butadiene	295	295	433	244	214	205	242	250	235	236	-5.78	0.16
Total Olefins	**6964**	**7404**	**7584**	**5211**	**4740**	**4580**	**4837**	**6097**	**6205**	**6478**	**1.77**	**4.41**
AROMATICS												
1. Benzene	1282	1283	1283	867	880	823	945	1002	1048	1031	6.06	-1.68
2. Toluene	258	258	258	142	139	137	128	132	108	120	-17.94	11.09
3. Mixed Xylene	891	891	898	210	135	176	125	207	200	248	-3.30	23.79
4. Ortho-xylene	420	420	420	269	224	358	400	390	444	412	14.08	-7.21
5. Paraxylene	2218	2218	2218	2137	2155	2223	2137	2394	2360	2264	-1.44	-4.07
Total Aromatics	**5069**	**5070**	**5077**	**3624**	**3533**	**3716**	**3736**	**4125**	**4161**	**4075**	**0.87**	**-2.07**
C : Other Petro-based Chemicals												
1. Butanol	**	26	26	14	11	8	18	22	14	5	-35.05	-61.94
2. C4-Raffinate	262	262	262	77	55	65	71	209	395	393	88.72	-0.64
3. Di-Ethylene Glycol	72	72	76	68	58	69	73	99	103	107	4.40	3.66
4. Diacetone Alcohol	9	9	9	9	8	9	4	5	3	0	-41.62	-100.00
5. Ethylene Dichloride (By Product)	593	593	593	267	277	445	454	435	316	278	-27.28	-12.14
6. 2-Ethyl Hexanol**	25	55	55	27	23	16	29	49	50	20	1.65	-59.44

Major Groups / Products	Installed Capacity			Production							Percentage growth	
	2011-12	2012-13	2013-14	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2012-13	2013-14
1	2	3	4	5	6	7	8	9	10	11	12	13
7. Epichlorohydrine	10	10	0	9	8	7	8	9	11	0	24.75	-100.00
8. Iso-Butanol	**	3	3	3	3	3	3	2	2	1	-2.54	-67.02
9. Isopropanol (IPA)	70	70	70	49	51	62	67	71	70	76	-1.05	7.93
10. Methyl Methacrylate (MMA)	4	4	4	4	3	5	5	4	3	3	-27.32	3.63
11. Phthalic Anhydride (PAN)	309	309	362	244	207	232	253	250	254	264	1.96	3.65
12. Propylene Oxide (PO)	27	27	27	28	29	32	32	35	30	33	-14.41	12.05
13. Propylene Glycol (PG)	15	15	15	17	16	19	17	19	15	14	-22.37	-7.10
14. Polyvinyl Acetate Resin	0	0	0	11	10	4	2	0	0	0	-	-
15. Vinyl Acetate Monomer (VAM)	0	0	0	23	24	0	0	0	0	0	-	-
16. Vinyl Chloride Monomer (VCM) (By Product)	541	541	541	289	303	674	672	689	669	735	-2.95	9.95

($) : Includes capacity of all the units producing PFY, NFY, NIY and PPFY under broadbanding as Synthetic Filament Yarn.

($$) : Independent capacity of units producing only NFY, NIY and PPFY.

As the capacities of these products are also included in Synthetic Filament yarn, capacity utilisation can not be worked out.

($$$) : Combined capacity to produce both LLDPE and HDPE and hence capacity utilisation can not be worked out. However production is independent.

(** : Combined capacity of 2-EH, Butanol & Iso Butanol is given under 2 - EH).

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Annexure – III

Performance Evaluation Report (2012-13)

Objective	Weight	Action	Success Indicator	Unit	Weight	Target / Criteria Value					Achiev-ement	Performance		As Approved by HPC
						Excellent	Very Good	Good	Fair	Poor		Raw Score	Weigh-ted Score	
						100%	90%	80%	70%	60%				
1 Facilitate the growth and development of the chemical sector	17.00	Finalization and release of the National Policy on Chemicals	Completion of the consultation with stakeholders	Date	0.76	30/06/2012	31/07/2012	31/08/2012	30/09/2012	31/10/2012	16/07/2012	94.84	0.72	16/07/2012
			Preparation of the revised draft policy	Date	1.26	31/08/2012	30/09/2012	31/10/2012	30/11/2012	31/12/2012	29/08/2012	100.0	1.26	29/08/2012
			Sending the draft policy to the Cabinet for approval	Date	1.00	31/10/2012	30/11/2012	31/12/2012	31/01/2013	28/02/2013		N/A	N/A	
		Formulation of proposal for setting up Technology Upgradation Fund for Chemical Industries (subject to approval of the same in the NPC)	Formulation of draft proposal for discussion with stakeholders	Date	1.00	31/08/2012	30/09/2012	31/10/2012	30/11/2012	31/12/2012	30/04/2012	100.0	1.0	30/04/2012
			Consultation with stakeholders	Date	1.00	15/11/2012	15/12/2012	15/01/2013	15/02/2013	31/03/2013	16/07/2012	100.0	1.0	16/07/2012
			Finalisation of the recommendations	Date	1.00	15/01/2013	01/02/2013	15/02/2013	01/03/2013	15/03/2013	29/08/2012	100.0	1.0	29/08/2012
		Action for Developing a framework for addressing safety management issues in the chemical industry	Identification of venue, resource persons and training modules for holding a short term course	Date	0.49	31/07/2012	31/08/2012	30/09/2012	31/10/2012	30/11/2012	24/07/2012	100.0	0.49	24/07/2012
			Organising a short term courses for middle level executives	Date	0.49	30/11/2012	31/12/2012	31/01/2013	28/02/2013	31/03/2013	09/11/2012	100.0	0.49	09/11/2012
			Setting up a Committee under Joint Secretary (Chemicals)for deciding content, programme duration etc., for a structured training module, based on the feedback of the conducted training programme	Date	0.49	31/01/2013	15/02/2013	28/02/2013	15/03/2013	31/03/2013	30/01/2013	100.0	0.49	30/01/2013

Performance Evaluation Report (2012-13)

Objective	Weight	Action	Success Indicator	Unit	Weight	Target / Criteria Value					Achiev-ement	Performance		
						Excellent	Very Good	Good	Fair	Poor		Raw Score	Weigh-ted Score	As Approved by HPC
						100%	90%	80%	70%	60%				
			Formulation of a draft Concept Paper for setting up NISCM or suggesting alternatives	Date	1.00	01/03/2013	10/03/2013	15/03/2013	22/03/2013	31/03/2013	28/02/2013	100.0	1.0	28/02/2013
		Arrangements for India Chem 2012	Domestic Road shows	Number	0.75	3	2	1		0	3	100.0	0.75	3
			International Roadshows	Number	0.75	2	1			0	5	100.0	0.75	5
			Participation by companies	Number	1.00	270	260	250	240	230	275	100.0	1.0	275
			Participation by countries	Number	0.49	20	18	16	14	12	50	100.0	0.49	50
			Hosting of country pavillions	Number	0.49	10	8	6	5	4	13	100.0	0.49	13
			Holding of international events in close partnership with stakeholders in industry relevant themes	Number	1.00	8	6	5	4	3	8	100.0	1.0	9
			collection of feedback from the participants(Compo-site mean opinion score)	% (>)	0.49	90	80	70	60	50	72.42	82.42	0.4	72.42
		Study on alternatives to DDT	Submission of interim report on the Study	Date	0.49	31/01/2013	15/02/2013	28/02/2013	15/03/2013	31/03/2013	30/01/2013	100.0	0.49	30/01/2013
		Holding International Conferences in India	Holding International Conferences	Number	1.00	4	3	2	1	0	4	100.0	1.0	4
		Taking up of matters of commercial importance such as imposition of anti-dumping and safeguard duties with other related Ministries	Prompt handling and follow up	Days since receipt of proposal	1.00	15	21	28	35	42	40	62.86	0.63	40

Performance Evaluation Report (2012-13)

Objective	Weight	Action	Success Indicator	Unit	Weight	Target / Criteria Value					Achiev-ement	Performance		As Approved by HPC
						Excellent	Very Good	Good	Fair	Poor		Raw Score	Weigh-ted Score	
						100%	90%	80%	70%	60%				
		Preparation of a Draft Report on skill develeopment in the Chemical sector through FICCI	Preparation of the Draft Report	Date	1.00	31/07/2012	15/08/2012	31/08/2012	15/09/2012	30/09/2012	30/04/2012	100.0	1.0	30/04/2012
2 Implementation of the Assam Gas Cracker Project	12.00	Progress of implementation of project	Financial progress in terms of cumulative capital expenditure, as a percentage of the business plan	%	4.00	90	85	80	70	60	82	84.0	3.36	82
			Overall physical progress of the project	%	4.00	90	86	82	78	75	90.6	100.0	4.0	90.6
		Ensuring timely financial releases	Release of capital subsidy under BE	Date	0.50	30/09/2012	15/10/2012	31/10/2012	15/11/2012	30/11/2012	26/07/2012	100.0	0.5	26/07/2012
			Release of capital subsidy under RE	Date	0.50	28/02/2013	10/03/2013	15/03/2013	20/03/2013	31/03/2013	26/07/2012	100.0	0.5	26/07/2012
		Effective Project Monitoring as per schedule	Placement of orders for machinery against the committed number of orders	%	1.50	100	90	80	60	50	100	100.0	1.5	100
			Meetings to Monitor & review project implementation	Number	1.50	8	7	6	5	4	8	100.0	1.5	8
3 Promoting investment and growth in the petrochemical sector	10.00	Monitoring of the PCPIRs	Signing of MoA with Govt. of Tamil Nadu after approval by CCEA	No of months	2.00	3	4	5	6	7		N/A	N/A	
			Constitution of Management Board by Govt. of Tamil Nadu after signing of MoA	No of months after signing	2.00	6	7	8	9	10		N/A	N/A	
		Promotion of PCPIRs	Road shows to promote PCPIRs	Number	2.00	4	3	2	1	0	4	100.0	2.0	2
		Taking up matters such as imposition of anti-dumping and safeguard duties with other related	Prompt handling and follow up	Days since receipt of	1.00	15	21	28	35	42	14	100.0	1.0	14

Performance Evaluation Report (2012-13)

Objective	Weight	Action	Success Indicator	Unit	Weight	Target / Criteria Value					Achiev-ement	Performance		As Approved by HPC
						Excellent	Very Good	Good	Fair	Poor		Raw Score	Weigh-ted Score	
						100%	90%	80%	70%	60%				
		Ministries.		proposal										
		Arrangements for Poly India - 2013	Constitution of Steering Committee	Date	1.00	30/06/2012	15/07/2012	31/07/2012	15/08/2012	31/08/2012	11/05/2012	100.0	1.0	11/05/2012
			Preparation of Media Plan / advertising	Date	1.00	31/01/2013	15/02/2013	28/02/2013	15/03/2013	31/03/2013	20/11/2012	100.0	1.0	20/11/2012
			Promotional Road Shows-Domestic and International	Number	1.00	3	2	1		0	4	100.0	1.0	1
4 Effective Coordination for implementation of rehabilitation measures for Bhopal Gas Leak Disaster Victims	10.00	Disbursal of ex-gratia	Disbursement of ex-gratia to 95% of eligible victims.	Date	4.00	15/02/2013	28/02/2013	10/03/2013	20/03/2013	31/03/2013	15/09/2012	100.0	4.0	15/09/2012
			Disbursement of ex-gratia to eligible cases of 'Cancer' including the new cases recommended by GoM on 13.1.2012	Number of cases	2.00	4000	3500	3000	2500	2000	4874	100.0	2.0	4874
			Disbursement of ex-gratia to eligible cases of 'Total Renal Failure ' including the new cases recommended by GoM on 13.1.2012	Number of cases	2.00	2000	1500	1200	1000	800	3075	100.0	2.0	3075
			Holding of review meetings with O/o Welfare Commissioner and Govt. of Madhya Pradesh	Number of meetings	2.00	4	3	2	1	0	4	100.0	2.0	4
5 Comp-liance of Chemical Weapons Convention (CWC)	10.00	Timely submission of Declaration to National Authority-CWC	Electronic Submission of Annual Declaration of Anticipated Activities	Date	1.50	10/10/2012	15/10/2012	20/10/2012	25/10/2012	28/10/2012	24/08/2012	100.0	1.5	24/08/2012
			Electronic Submission of Annual Declaration of Past Activities (ADPA)	Date	1.50	25/02/2013	15/03/2013	20/03/2013	25/03/2013	28/03/2013	25/02/2013	100.0	1.5	25/02/2013

Performance Evaluation Report (2012-13)

Objective	Weight	Action	Success Indicator	Unit	Weight	Target / Criteria Value					Achiev-ement	Performance		As Approved by HPC
						Excellent	Very Good	Good	Fair	Poor		Raw Score	Weigh-ted Score	
						100%	90%	80%	70%	60%				
		Spreading awareness on CWC	Holding awareness programs on CWC for industry	Number	0.75	15	12	10	08	06	14	96.67	0.73	14
			Conducting a survey to gauge the level of awareness on awareness programmes on CWC for industry	Date	0.75	31/10/2012	15/11/2012	30/11/2012	15/12/2012	31/12/2012	31/10/2012	100.0	0.75	31/10/2012
		Assist industry in compliance of CWC	Review of CWC Help Desks	Number	0.75	6	5	4	3	2	6	100.0	0.75	6
			Disposal of queries by the industry within 10 days by the Help Desks	%	0.75	90	80	70	60	50	100	100.0	0.75	100
		Amendment to the CWC Act	Introduction of Notice in Parliament for moving Official Amendments to CWC (Amendment) Bill	Date	1.50	23/05/2012	08/09/2012	16/12/2012			17/04/2012	100.0	1.5	17/04/2012
		Test check of online declarations with physical declarations	Checking of the online data	Date	1.50	05/07/2012	17/07/2012	26/07/2012	08/08/2012	31/08/2012	30/06/2012	100.0	1.5	30/06/2012
		Ensuring submission of ADAA for 2013 and ADPA for 2012 to National Authority in EDNA format	Accuracy of submission of declarations in soft format	%	1.00	90	85	80	75	70	99	100.0	1.0	99
6 Facilitate human resource development in downstream industries through CIPET	9.00	Expansion of Services of CIPET over corresponding period of the last year	% Increase in number of students over previous year	%	1.49	10	8	6	4	2	12	100.0	1.49	12
			% Increase in revenue from technology support services over previous year.	%	2.00	15	12	10	8	5	18	100.0	2.0	18
			% Increase in output of ARSTP and LARPM over	%	1.50	20	15	12	10	5	184	100.0	1.5	184

Performance Evaluation Report (2012-13)

Objective	Weight	Action	Success Indicator	Unit	Weight	Target / Criteria Value					Achiev-ement	Performance		As Approved by HPC
						Excellent	Very Good	Good	Fair	Poor		Raw Score	Weigh-ted Score	
						100%	90%	80%	70%	60%				
			previous year.											
		Human Resource Development in CIPET	% Increase in Faculty training	%	2.00	20	15	12	10	5	6	62.0	1.24	-8
		Conferring of status of Institute of National Importance to CIPET	Preparation of Report	Date	1.01	15/08/2012	31/08/2012	15/09/2012	30/09/2012	15/10/2012	12/08/2012	100.0	1.01	12/08/2012
			In principle approval by competent authority	Date	1.00	31/01/2013	15/02/2013	28/02/2013	15/03/2013	31/03/2013	22/11/2012	100.0	1.0	22/11/2012
7 Operationalising the National Policy on Petrochemicals	8.00	Implementation of new schemes of Petrochemicals	Selection of recipients of National awards for 2012-13	Date	2.00	15/12/2012	31/12/2012	15/01/2013	31/01/2013	15/02/2013	12/02/2013	62.0	1.24	12/02/2013
			Release of 3rd Installment for Centres of Excellence	Date	1.50	15/02/2013	28/02/2013	10/03/2013	20/03/2013	31/03/2013	11/03/2013	79.0	1.18	11/03/2013
			Release of 1st Installment of two Plastic Parks	Date	1.50	15/02/2013	28/02/2013	10/03/2013	20/03/2013	31/03/2013		N/A	N/A	
			Restructuring and approval for continuation of schemes of (i) National Awards & (ii) Centres of Excellence in 12th Plan	Date	1.00	30/11/2012	15/12/2012	31/12/2012	15/01/2013	31/01/2013	29/10/2012	100.0	1.0	29/10/2012
			Restructuring and approval of SFC/EFC for continuation of schemes of Setting up of Plastic Parks in 12th Plan	Date	1.00	31/12/2012	15/01/2013	31/01/2013	15/02/2013	28/02/2013	10/04/2013	0.0	0.0	10/04/2013
			Formulation of new scheme for 12th Plan for Quality Testing Facilities (New / Up- gradation of existing testing facilities)	Date	1.00	31/01/2013	15/02/2013	28/02/2013	15/03/2013	31/03/2013		N/A	N/A	

Performance Evaluation Report (2012-13)

Objective	Weight	Action	Success Indicator	Unit	Weight	Target / Criteria Value					Achiev-ement	Performance		As Approved by HPC
						Excellent	Very Good	Good	Fair	Poor		Raw Score	Weigh-ted Score	
						100%	90%	80%	70%	60%				
8 Improving Performance of Hindustan Organic Chemicals Ltd. (HOCL)	2.50	Review of Implementation of Action Plan and progress under MOU	Overseeing and monitoring of PSU's targets wrt MoU targets	Mou Comp score as per DPE (>)	2.50	1	1.50	2.50	3.50	4.50	3.08	74.2	1.86	3.08
9 Addressing Environmental Concerns in Plastics	2.00	Awareness programme on Plastic Waste Management and Recycling Technology	Awareness workshops, conferences/ programmes supported by DCPC	Number	1.00	4	3	2	1	0	4	100.0	1.0	4
			Preparation & distribution of publicity material and media campaign	Date	1.00	15/02/2013	28/02/2013	15/03/2013	22/03/2013	31/03/2013	12/02/2013	100.0	1.0	12/02/2013
10 Improving Performance of Hindustan Insectides Limited (HIL)	1.50	Oversee implementation of Projects	Buprofezin commercial production	Date	0.50	31/03/2013						N/A	N/A	
			Commissioning of Gas pipeline at Rasayani unit	Date	0.50	31/12/2012	31/01/2013	28/02/2013	15/03/2013	31/03/2013	31/10/2012	100.0	0.5	31/10/2012
			ERP implementation	Date	0.50	31/08/2012	30/09/2012	31/10/2012	30/11/2012	31/12/2012	30/04/2012	100.0	0.5	30/04/2012
11 Improving performance of Hindustan Fluorocarbons Limited (HFL)	1.50	Oversee implementation of New Project(s) on Fluorinated Ethelene Propelene (FEP) resin	Date of commencement of the project	Date	0.75	31/01/2013	15/02/2013	28/02/2013	15/03/2013	31/03/2013		N/A	N/A	
		Revenue growth through carbon credit	Revenue generated	Rupees (in crore)	0.75	20	18	16	14	12	5.68	0.0	0.0	5.68
12 Enhancing effectiveness of Institute of Pesticide Formulation Technology	1.00	Strengthening and Expansion of services	% Increase in Revenue as compared to previous year	%	1.00	20	18	15	10	5	30.31	100.0	1.0	30.31
13 Streamlining the strategic plan and strategy plan of the Department	0.50	Modifying Strategy Document and submission of Strategic Plan	On time submission of modified Strategy Document	Date	0.50	30/04/2012	15/05/2012	25/05/2012	10/06/2012	20/06/2012	24/05/2012	81.0	0.4	24/05/2012

Performance Evaluation Report (2012-13)

Objective	Weight	Action	Success Indicator	Unit	Weight	Target / Criteria Value					Achiev-ement	Performance		
						Excellent	Very Good	Good	Fair	Poor		Raw Score	Weigh-ted Score	As Approved by HPC
						100%	90%	80%	70%	60%				
* Efficient Functioning of the RFD System	3.00	Timely submission of Draft for Approval	On-time submission	Date	2.0	05/03/2012	06/03/2012	07/03/2012	08/03/2012	09/03/2012	05/03/2012	100.0	2.0	05/03/2012
		Timely submission of Results	On- time submission	Date	1.0	01/05/2012	03/05/2012	04/05/2012	05/05/2012	06/05/2012	01/05/2012	100.0	1.0	01/05/2013
* Administrative Reforms	6.00	Implement mitigating strategies for reducing potential risk of corruption	% of implementation	%	2.0	100	95	90	85	80	0	0.0	0.0	0
		Implement ISO 9001 as per the approved action plan	Area of operations covered	%	2.0	100	95	90	85	80	100	100.0	2.0	100
		Timely preparation of departmental Innovation Action Plan (IAP)	On-time submission	Date	2.0	01/05/2013	02/05/2013	03/05/2013	06/05/2013	07/05/2013		N/A	N/A	
* Improving Internal Efficiency / responsiveness / service delivery of Ministry / Department	4.00	Implementation of Sevottam	Independent Audit of Implementation of Citizen's Charter	%	2.0	100	90	80	70	60	89	89.0	1.78	89
			Independent Audit of implementation of public grievance redressal system	%	2.0	100	90	80	70	60	70.30	70.3	1.41	70.30
* Ensuring compliance to the Financial Accountability Framework	2.00	Timely submission of ATNs on Audit paras of C&AG	Percentage of ATNs submitted within due date (4 months) from date of presentation of Report to Parliament by CAG during the year.	%	0.5	100	90	80	70	60	100	100.0	0.5	100
		Timely submission of ATRs to the PAC Sectt. on PAC Reports.	Percentage of ATRS submitted within due date (6 months) from date of presentation of Report to Parliament by PAC during the year.	%	0.5	100	90	80	70	60	100	100.0	0.5	100

* Mandatory Objective(s)

Performance Evaluation Report (2012-13)

Objective	Weight	Action	Success Indicator	Unit	Weight	Target / Criteria Value					Achiev-ement	Performance		As Approved by HPC
						Excellent	Very Good	Good	Fair	Poor		Raw Score	Weigh-ted Score	
						100%	90%	80%	70%	60%				
		Early disposal of pending ATNs on Audit Paras of C&AG Reports presented to Parliament before 31.3.2012.	Percentage of outstanding ATNs disposed off during the year.	%	0.5	100	90	80	70	60	100	100.0	0.5	100
		Early disposal of pending ATRs on PAC Reports presented to Parliament before 31.3.2012	Percentage of outstanding ATRS disposed off during the year.	%	0.5	100	90	80	70	60	100	100.0	0.5	100

* Mandatory Objective(s)

Total Composite Score : 80.95

PMD Composite 78.1

Annexure-IV

Organisation Chart (As of 31.05.2014)