सत्यमेव जयते

ANNUAL REPORT
2020-21

✦ HEAVY ENGINEERING ✦ MACHINE TOOLS ✦ HEAVY ELECTRICALS

✦ AUTOMOBILES ✦ PUBLIC SECTOR ENTERPRISES

Government of India
Ministry of Heavy Industries and Public Enterprises

Annual Report
2020-21

Ministry of Heavy Industries and Public Enterprises

Government of India

Udyog Bhawan, New Delhi-110 011

Website : dhi.nic.in / dpe.nic.in

Content

Abbreviations

AAIFR	Appellate Authority of Industrial & Financial Reconstruction
ACMA	Auto Components Manufacturers Association
ARAI	Automotive Research Association of India
AYCL	Andrew Yule & Company
BBJ	Braithwaite, Burn & Jessop Construction Company Limited
BBUNL	Bharat Bhari Udyog Nigam Limited
BEML	BHEL Electrical Machines Ltd.
BHEL	Bharat Heavy Electricals Limited
BHPV	Bharat Heavy Plate & Vessels Limited
BIFR	Board of Industrial & Finance Reconstruction
BLC	Bharat Leather Corporation Limited
BOGL	Bharat Ophthalmic Glass Limited
BPCL	Bharat Pumps & CompressorsLimited
BPME	Bharat Process & Mechanical Engineers Limited
BCL	Braithwaite & Company Limited
BWEL	Bharat Wagon & Engineering Company Limited
BYNL	Bharat Yantra Nigam Limited
BRPSE	Board for Reconstruction of PublicSector Enterprises
CCI	Cement Corporation of India Limited
CCIL	Cycle Corporation of India Limited
CEA	Central Electricity Authority
CCEA	Cabinet Committee on Economic Affairs
CIRP	Corporate Insolvency Resolution Process
CNC	Computer Numerically Controlled
CPSE	Central Public Sector Enterprise
EFV	Environmentally Friendly Vehicle
EOT	Electrically Operated Trolley
EPC	Engineering Procurement and Construction
EPI	Engineering Projects (India) Limited
FCRI	Fluid Control Research Institute
FFP	Foundry Forge Plant
HCL	Hindustan Cables Limited
HMBP	Heavy Machine Building Plant
HMT(I)	HMT (International) Limited
HMTP	Heavy Machine Tools Plant
HPC	Hindustan Paper Corporation Limited
HNL	Hindustan Newsprint Limited
HPF	Hindustan Photo Films Manufacturing Company Limited
HSL	Hindustan Salts Limited
IBC	Insolvency and Bankruptcy Code

IL	Instrumentation Limited
ICGCC	Integrated Coal Gasification Combined Cycle
ICEMA	Indian Construction Equipment Manufacturers Association
IMTMA	India Machine Tools Manufacturers Association
JPML	Jagdishpur Paper Mills Limited
JVC	Joint Venture Company
JESSOP	Jessop Company Limited
KV	Kilo Volt
KW	Kilo Watt
LAGAN JUTE	Lagan Jute Machinery Company Limited
OA	Operating Agency
MAMC	Mining & Allied Machinery Corporation Limited
MAX	Main Automatic Exchange
MoU	Memorandum of Understanding
MoHI&PE	Minister of Heavy Industries & Public Enterprises
MT	Metric Tonne
MUL	Maruti Udyog Limited
MVA	Mega Volt Amperes
MW	Mega Watt
NBCIL	National Bicycle Corporation of India Limited
NCLT	National Company Law Tribunal
NEPA	NEPA Limited
NPCIL	Nuclear PowerCorporation of India Limited
NIDC	National Industrial Development Corporation Limited
NATRIP	National Automotive Testing and Research & Development Infrastructure Project
NAB	National Automotive Board
PAT	Profit After Tax
PBT	Profit Before Tax
PSE	Public Sector Enterprise
PMMAI	Plastic Machinery Manufacturers Association of India
PPMAI	Process Plant and Machinery Association of India
PTL	Praga Tools Limited
R&C	Richardson & Cruddas (1972) Limited
RIC	Rehabilitation Industries Corporation Limited
RTI	Right to Information Act
SIL	Scooters India Limited
SSL	Sambhar Salts Limited
TAFCO	Tannery & Footwear Corporation ofIndia Limited
TAGMA	Tools and Gauge Manufacturers Association of India
TCIL	Tyre Corporation of India Limited
TMMA	Textile Machinery ManufacturersAssociation
TSL	Triveni Structural Limited
TSPL	Tungabhadra Steel Products Limited
VRDE	Vehicle Research Development Establishment
WIL	Weighbird (India) Limited

Overview of the Ministry of Heavy Industries and Public Enterprises

1.1 The Ministry of Heavy Industries and Public Enterprises, comprising the Department of Heavy Industry and the Department of Public Enterprises, functions under the charge of Cabinet Minister (Heavy Industries and Public Enterprises). There is a Minister of State for Heavy Industries and Public Enterprises also. The Ministry promotes the development and growth of three sectors i.e. Capital Goods, Automobile and Heavy Electrical Equipment in the country; administers 29 Central Public Sector Enterprises (CPSEs); 5 Autonomous Organizations and frames policy guidelines for Central Public Sector Enterprises (CPSEs) and overall administration of CPSEs.

The allocation of work of the Department of Heavy Industry entails promoting engineering industry, viz-

- **Machine Tools,**
- **Heavy electrical,**
- **Industrial machinery and**
- **Auto industry,**
- **Administration of 29 CPSEs and 5 autonomous organizations**

A. Department of Heavy Industry (DHI)

The list of CPSEs and their current status is given in the **Annexure-I(A).** The CPSEs under the Department are engaged in manufacturing, consultancy and contracting services. The CPSEs under the Department manufacture a wide range of products viz. Boilers, Gas/Steam/Hydro Turbines, Industrial Machinery, Machine Tools, Turbo Generators, Three Wheelers and Consumer Products such as Paper and Salt. The Ministry also looks after the Machine Building Industry and caters to the requirements of equipment for Basic Industry such as Steel, Mining, Non-Ferrous Metals, Power, Fertilizers, Refineries, Chemicals and Petrochemicals, Paper, Cement, Sugar, etc. The Department supports the development of a range of Intermediate Engineering Industry such as Castings, Forgings, Diesel Engines, Tools and Dies, Industrial Gears and Gear-Boxes. The Department provides oversight to the following autonomous organisations:

i. Automotive Research Association of India (ARAI), was set up in 1966, and the Forging Industry Division (ARAI-FID) was set up in 2006 in Pune, Maharashtra.

ii. Fluid Control Research Institute (FCRI), Palakkad, Kerala was set up in July 1987, to cater to the needs of the flow Industry for calibration.

iii. NATRIP Implementation Society (NATIS), was set up in July 2005

for guiding implementation of the National Automotive Testing and R & D Infrastructure Project (NATRIP).

iv. National Automotive Board (NAB) set up in 2012 to steer, coordinate and synergize all efforts of the government in the automotive sector.

v. Central Manufacturing Technology Institute (CMTI) is an R&D organization with focus on the development of manufacturing technology and assisting technological growth in the country.

The Allocation of Business for the Department of Heavy Industry is given at **Annexure-I.**

1.2 The Department maintains a constant dialogue with various Industry Associations in the Capital Goods, Automobile and Heavy Electrical Equipment Sector and encourages initiatives for the growth of industry in these areas. The Department also assists the industries in achieving their growth plans through policy support, and other interventions such as advocating rationalization of tariff, promoting technological collaboration & investment, research & development activities, etc.

1.3 The Department of Heavy Industry is headed by a Secretary to the Government of India, who is assisted by a team of officers and staff with an overall sanctioned strength of 233 as on 01.12.2020 (excluding Minister's staff). The Department is also supported by an Integrated Finance Wing, headed by an Additional Secretary & Financial Adviser (AS&FA). The Organogram Chart of the Department of Heavy Industry is at **Annexure III.**

B Department of Public Enterprises (DPE)

1.4 In their 52nd Report, the Estimates Committee of 3rd Lok Sabha (1962-67) stressed the need for setting up a centralized coordinating unit, which could also make continuous appraisal of the performance of public enterprises. This led to the setting up of the Bureau of Public Enterprises (BPE) in 1965 in the Ministry of Finance. Subsequently, as a result of the reorganization of the Ministries/ Departments of the Union Government in September, 1985, BPE was made part of the Ministry of Industry. In May, 1990, BPE was made a full-fledged Department known as the Department of Public Enterprises (DPE). Presently, it is part of the Ministry of Heavy Industries & Public Enterprises.

1.5 The Department of Public Enterprises is the nodal department for all the Central Public Sector Enterprises (CPSEs) and formulates policy pertaining to CPSEs. It lays down, in particular, policy guidelines on performance improvement and evaluation, autonomy and financial delegation and personnel management in CPSEs. It furthermore collects and maintains information in the form of a Public Enterprises Survey on several areas in respect of CPSEs.

1.6 In fulfilling its role, the Department coordinates with other Ministries, CPSEs and concerned organisations. As per the Allocation of Business Rules of the Government, the following subjects have been allocated to the DPE:

- Coordination of matters of general policy affecting all Public Sector Enterprises.

- Residual work relating to erstwhile Bureau of Public Enterprises including Industrial Management Pool.
- Evaluation and monitoring the performance of Public Sector Enterprises, including the Memorandum of Understanding mechanism.
- Matters relating to Permanent Machinery of Arbitration for the Public Sector Enterprises.
- Counselling, training and rehabilitation of employees in Central Public Sector Undertakings under Voluntary Retirement Scheme.
- Review of capital projects and expenditure in Central Public Sector Enterprises.
- Measures aimed at improving performance of Central Public Sector Enterprises and other capacity building initiatives of Public Sector Enterprises.
- Rendering advice relating to revival, restructuring or closure of Public Sector Enterprises including the mechanisms therefor.
- Matters relating to the Standing Conference of Public Enterprises.
- Matters relating to the International Center for Public Enterprises.
- Categorisation of Central Public Sector Enterprises including conferring 'Ratna' status.
- Survey of Public Enterprises.

1.7 Department of Public Enterprises is headed by Secretary to the Government of India who is assisted by an establishment with an overall sanctioned strength of 118 officers/personnel. The organizational structure of DPE is at **Annexure-1.**

Department of Heavy Industry (DHI)

VISION

To have a globally competitive, green & technology-driven heavy industry manufacturing sector, including automotive and capital goods sectors, which propels growth and job creation.

MISSION

To facilitate Auto, Heavy Electrical & Capital Goods Sectors to be globally competitive, growth oriented and profitable and to provide all necessary support to CPSEs to improve their overall performance.

CHAPTER 1

Introduction

1.1 Performance of Industry

1.1.1 The Index of Industrial Production (IIP), one of the core economic indicators, is a short-term indicator for measuring growth of industrial production in the country. Industrial performance measured in terms of Index of Industrial Production (IIP), with base year 2011-12, registered -growth of (-) 15.5 per cent in the first eight months of the current Financial year i.e April-November, 2020-21. During this period the Manufacturing, Mining and Electricity sector declined by (-) 17.3 per cent, (-) 12.5 per cent and (-) 4.6 percent respectively.

1.1.2 As per the Use-based classification, Primary goods, Capital goods, Intermediate goods, Infrastructure/construction goods, Consumer durables & Consumer non-durables registered negative growth of (-) 11.3 per cent, (-) 31.1 per cent, (-)17.2 per cent, (-) 17.7 per cent, (-) 28.1 percent & (-) 5.4 per cent respectively during April November, 2020-21.(Table–1).

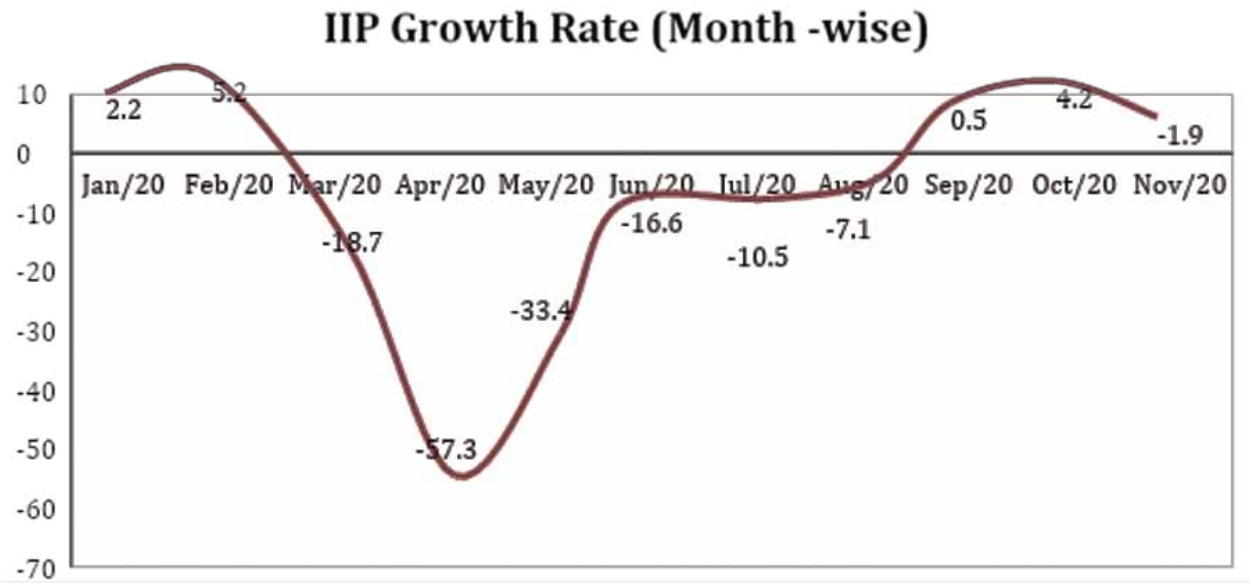
Table 1: Growth Rate of Industrial production (Base:2011-12) (in percent)

Sl. No.	Sector/Groups	Weight	2018-19	2019-20	2019-20 (Apr-Nov)	2020-21* (Apr-Nov)
	1	2	3	4	5	6
	Sectoral classification					
1	Mining	14.3725	2.9	1.6	-0.1	-12.5
2	Manufacturing	77.6332	3.9	-1.4	0.4	-17.3
3	Electricity	7.9943	5.2	1.0	0.8	-4.6
	Overall IIP	100.00	3.8	-0.8	0.3	-15.5
	Use Based classification					
1	Primary goods	34.0486	3.5	0.7	0.1	-11.3
2	Capital goods	8.2230	2.7	-13.9	-11.7	-31.1
3	Intermediate goods	17.2215	0.9	9.1	10.3	-17.2
4	Infrastructure/construction goods	12.3384	7.3	-3.6	-2.4	-17.7
5	Consumer durables	12.8393	5.5	-8.7	-6.6	-28.1
6	Consumer non-durables	15.3292	4.0	-0.1	3.5	-5.4
	Overall IIP	100.00	3.8	-0.8	0.3	-15.5

*Source: NSO. * provisional*

1.1.3 With an objective to break the chain of the Covid-19 pandemic, the Government declared nation-wide lockdown on 24th March 2020 which was continued till 31st May 2020 with some relaxation in the month of May. Industrial production dropped sharply in March 2020 and plunged further in April 2020. With gradual unlocking of the economy since June 2020, supportive policy initiatives towards industries, and steady revival in consumer's demand with constant falling cases of COVID-19 cases, industrial growth started to recover consistently and recorded average growth of 2.8 percent from Sep-20 to Nov-20 (provisional) as depicted in the Graph.

Graph: IIP growth (in percent) since lockdown due to COVID-19 in the year 2020



Source: National Statistical Office

1.1.4 Performance of Eight Core Industries

The Index of Eight Core Industries (ICI) monitors monthly growth of production of eight core industries i.e. Coal, Crude Oil, Natural Gas, Refinery Products, Fertilizers, Steel, Cement and Electricity. These eight industries have a combined weight of around 40.27 per cent in Index of Industrial Production (IIP). ICI is released 12 days prior to the release of IIP. The growth rates for Eight Core Industries since 2012-13 are given in Table 2.

During the year 2019-20, the Index of Eight Core Industries registered growth of 0.4 per cent. The production of Refinery Products, Fertilizers, Steel, Electricity registered positive growth whereas, Coal, Crude Oil, Natural Gas & Cement sector witnessed negative growth of production.

In the current financial year 2020-21 (Apr-Nov), Index of Eight Core Industries registered a decline of (-) 11.4 per cent. Except Fertilizers, all Core sectors showed decline in production growth. Deceleration is attributed to spread of COVID-19 pandemic and preventive measures (nation-wide lockdown) to contain the disease earlier. However, a supportive policy environment towards industry & revived consumer demand has given a gentle push to these affected industries.

Table 2 : Growth of Index of Eight Core Industries (in per cent)

Sector	Weight	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	Apr- Nov 2020-21*
Coal	10.3335	3.2	1.0	8.0	4.8	3.2	2.6	7.4	-0.4	-2.6
Crude Oil	8.9833	-0.6	-0.2	-0.9	-1.4	-2.5	-0.9	-4.1	-5.9	-6.0
Natural Gas	6.8768	-14.4	-12.9	-5.3	-4.7	-1.0	2.9	0.8	-5.6	-12.1
Refinery Products	28.0376	7.2	1.4	0.2	4.9	4.9	4.6	3.1	0.2	-14.9
Fertilizers	2.6276	-3.3	1.5	1.3	7.0	0.2	0.03	0.3	2.7	3.8
Steel	17.9166	7.9	7.3	5.1	-1.3	10.7	5.6	5.1	3.4	-19.4
Cement	5.3720	7.5	3.7	5.9	4.6	-1.2	6.3	13.3	-0.9	-19.5
Electricity	19.8530	4.0	6.1	14.8	5.7	5.8	5.3	5.2	0.9	-4.7
Overall Index	100.0000	3.8	2.6	4.9	3.0	4.8	4.3	4.4	0.4	-11.4

*Source: Office of the Economic Adviser, DPIIT * provisional*

1.2 The Department of Heavy Industry has been allocated the following subjects/ Industrial Sectors:

(a) Heavy Engineering Equipment for all Industries
(b) Heavy Electrical Engineering Industries
(c) Machinery Industries including Machine Tools and Steel Manufacturers
(d) Automotive Sector, including Tractors and Earth Moving Equipment.

1.3 20 Sub-sectors under the 3 broad sectors are as under:-

(i) Boilers
(ii) Cement Machinery
(iii) Dairy Machinery
(iv) Electrical Furnace
(v) Diesel Engines
(vi) Material Handling Equipment
(vii) Metallurgical Machinery including Steel Plant Equipment
(viii) Earthmoving and Mining Machinery
(ix) Machine Tools
(x) Oil Field Equipment
(xi) Printing Machinery
(xii) Pulp and Paper Machinery
(xiii) Rubber Machinery
(xiv) Switchgear and Control Gear
(xv) Plastic Processing Machinery
(xvi) Sugar Machinery
(xvii) Turbines & Generator Set
(xviii) Transformers
(xix) Textile Machinery
(xx) Food Processing Machinery

1.4 CPSEs under the Department of Heavy Industry:

1.4.1 There are 29 Central Public Sector Enterprises (CPSEs) under the administrative control of the Department of Heavy Industry (DHI), out of which 6 CPSEs are profit making, 11 CPSEs are loss making and 5 are non-operational CPSEs. Remaining 7 CPSEs (and one Division of a CPSE) are under closure. Besides these, there are 14 CPSEs under liquidation, which are within

the purview of the Official Liquidator. The list of all the CPSEs under administrative control of DHI is annexed at Annexure-II.

1.4.2 The total investment (Gross Block) in the 17 operating CPSEs out of 29 under the administrative oversight of the Department was ₹ 9075.22 crore as on 31.3.2020. Details given at Annexure-IV. The total number of employees in the roll of these CPSEs is 54373. The number of SC employees are: 9339, ST: 6967, OBC: 20720 and PWDs employees are 974. (Annexure-V).

1.4.3 Out of the 17 operating CPSEs, 6 are making profit and the remaining 11 are incurring losses. Details of actual and target production and profit is given below:

Table No –3 :Production/Profits of operating CPSEs

(₹ in crore)

	2018-19 (Actual)	2019-20 (Actual)	2020-21 (Anticipated)	2021-22 (Tentative)
Production	36071.77	26448.12	24138.09	33330.74
Profit (+)/ Loss(-)	1844.83	-1052.62	-2736.98	-1022.66

(CPSE-wise details of production, profit/loss are in Annexure-VI & VII respectively).

1.4.4 The loss making enterprises suffer from a number of factors including poor order book, shortage of working capital, surplus manpower, obsolete plant and machinery, difficulty in adjusting to changing market conditions, products profile/ technology and fierce competition etc. Several of these loss making CPSEs have problems of large work force and huge overheads, far above the industry norms. In this context, salary/wage bill and social overheads as a percentage of turnover are given in Annexure-VIII.

1.4.5 The order book of CPSEs under the Department, as on 01.10.2020, stands at ₹ 125,344.82 crore (Annexure-IX). Details of export performance of CPSEs under DHI are given in Annexure-X. Details of Government equity, net worth and accumulated profit/loss of these CPSEs are given in Annexure-XI.

1.5 Steps taken by DHI for revival/ restructuring / disinvestment / closure of CPSEs:

DHI has been undertaking regular appraisal of each loss making CPSE to assess the prospects of revival. As a part of this exercise, the loss making CPSEs having the potential of turnaround are considered for revival/ restructuring. Those found chronically sick are disinvested or closed down after payment of compensation to employees. Steps taken by DHI so far in this regard are as follows:

a. The Government approved on 22.12.2015 closure of Tungabhadra Steel Products Ltd., Hospet, Karnataka by offering an attractive VRS/VSS for their employees and disposal of movable & immovable assets and liquidation of outstanding liabilities. All its employees have availed VRS and were relieved. Most of the activities for striking-off the name of the company from the register of companies are completed and the Ministry of Corporate Affairs was requested to initiate action under Sec 248(1) of the Companies Act as approved by the Union Cabinet.

b. The Government, on 6th January, 2016, approved closure of HMT Watches Ltd., HMT Chinar Watches Ltd., and HMT Bearing Ltd. by offering an attractive VRS/VSS package to their employees and disposal of their movable and immovable properties as per

the Govt. Policy. Accordingly, the action for closure of these companies is in progress.

c. The Government, on 27th October, 2016, approved closure of Tractor Unit of HMT Ltd. at Pinjore by offering an attractive VRS/ VSS package to their employees.

d. The Government, on 28.09.2016, approved closure of Hindustan Cables Ltd. by offering an attractive VRS/VSS package to their employees and disposal of their movable and immovable properties as per the Government Policy. Accordingly, the action for closure of the company is in progress.

e. The Government, on 30.11.2016, approved closure of Kota Unit of Instrumentation Ltd. and the transfer of Palakkad Unit of Instrumentation Ltd. to the Government of Kerala. In this connection, the Government has approved an attractive VRS/VSS package at 2007 notional pay scale to employees of Kota Unit of Instrumentation Ltd.

f. The Government, on 21st September, 2016 has approved the financial restructuring of Richardson & Cruddas (1972) Limited, by way of conversion into equity of the Government of India loan of ₹ 101.78 crore given to the company, along with the waiver of interest accrued thereon, amounting to ₹ 424.81 crore. Government also approved the constitution of an IMG for undertaking the task of putting to the best/optimal use of Mumbai land of R&C.

g. The Government, on 27th October, 2016, approved the following:

- 100% disinvestment of Bridge & Roof Co. Ltd., Scooters India Ltd. and Bharat Pumps & Compressors Ltd.
- Disinvestment of 100% shareholding of the concerned CPSE in Hindustan Newsprints Ltd. to strategic buyer through a two stage auction process.
- Units of Cement Corporation of India to be disinvested where it is legally permissible to strategic buyer through a two stage auction process.
- Merger of Engineering Projects (India) Ltd. with similarly placed CPSEs.
- Necessary action(s) for implementation of this decision is underway in the Department.

h. The Government on 09.12.2020, approved closure of Bharat Pumps and Compressors Limited (BPCL) by offering VRS/VSS package to their employees and disposal of its assets. Accordingly, the action for closure of the company is in progress.

i. The Government on 20.01.2020, approved closure of Scooters India Limited (SIL) by offering VRS/VSS package to their employees and disposal of its assets. Accordingly, the action for closure of the company is in progress.

1.6 Autonomy to CPSEs/Navratnas and Miniratnas

Maharatna CPSEs compared to others are given greater autonomy for flexibility in respect of capital expenditure, formation of strategic alliance, formulation of HR policies etc. BHEL is a Maharatna CPSE. Some other CPSEs under DHI namely B&R, EPI, HMT (I) and REIL are categorized as Miniratnas. Miniratna CPSEs have also been empowered and given more delegated powers for better operational functioning.

1.7 Memorandum of Understanding (MOU)

Greater autonomy is being given to the public sector enterprises but mechanisms are put in place to make them accountable for achieving their objectives. All the CPSEs under the Department have been signing MOUs.

1.8 National Automotive Testing and R&D Infrastructure Project (NATRIP)

National Automotive Testing and R&D Infrastructure Project (NATRIP) is fully Government of India funded project for setting up state of the art automotive testing, homologation and R&D infrastructure facilities in India. The project aims at putting in place automotive testing infrastructure that will meet safety and emission regulation standard and also extend India's automotive R&D capabilities with the following objectives:

a) Creating critically needed automotive testing infrastructure to enable the Government to usher in global vehicular safety, emission and performance standards;

b) Deepening manufacturing in India, promoting larger value addition leading to significantly enhancing the employment potential/opportunities and facilitating convergence of India's strengths in IT and electronics with state-of-art automotive engineering;

c) Enhancing India's low global outreach in this sector by de-bottlenecking exports; and

d) Removing the absence of basic product testing, validation and development infrastructure for the automotive industry.

1.8.1 Scheme for North Eastern Region (NPPC, CCI & AYCL)

Under the Department of Heavy Industry, the following CPSEs/Units are situated in the North Eastern Region:-

(i) Hindustan Paper Corporation Ltd. (HPC) (Nagaon & Cachar Paper Mills), Assam. The company is presently undergoing liquidation as per the directions of National Company Law Tribunal (NCLT), New Delhi orders dated 02.05.2019 and the orders of the National Company Law Appellate Tribunal (NCLAT) dated 29.05.2019.

(ii) Nagaland Pulp & Paper Company Ltd. (NPPC), Nagaland. This company is not operational.

(iii) Cement Corporation of India Ltd. (CCI), (Bokajan Unit), Assam.

(iv) Andrew Yule & Company Ltd. (AYCL), (Tea Gardens), Assam.

While HPC and NPPC were set up for manufacture of paper, CCI and AYCL are in the manufacture of Cement and Tea.

1.9 Audit observations of Comptroller & Auditor General of India (CAG)

There are no CAG audit paras pending against the Department of Heavy Industry for the year ending March 2019.

2.0 Details of Budget Estimates

Details of Budget Estimates (BE), Revised Estimates (RE) and Actual Expenditure for 3 years of the Department is at **Annexure-XIII.**

3.0 Major Events in DHI

Review Meetings by Hon'ble Minister HI&PE Sh. Prakash Javadekar and Hon'ble MOS Sh. Arjun Ram Meghwal with Secretary, DHI Sh. Arun Goel and other DHI officials

Pledge taking by DHI officials during Swachhata Pakhwada (16th August to 31st August 2020)

Hon'ble Minister (HI&PE) chairing the Consultative Committee on Capital Goods Sector on 05.01.2021 in Parliament House Annexe

CHAPTER 2

CPSEs under DHI

The Department administers 29 Central Public Sector Enterprises (CPSEs). These CPSEs have played a vital role in the industrial development of the country. Ranging from heavy electrical engineering equipment, the CPSEs cater to diverse sectors of the economy including civil construction, heavy machinery, precision tools, consultancy, tea plantation etc. A brief write up on the performance of CPSEs during 2019-20 under the Department is given below:

2.1 Andrew Yule & Co Ltd. (AYCL)

Andrew Yule & Co. Ltd. (AYCL) has achieved production worth ₹ 174.45 crore against the MoU Target of ₹ 311.40 crore, Sales worth ₹ 162.58 crore against the Target of ₹ 153.01 crore and Net Profit (PBT) of ₹ 30.48 crore against the MoU target of ₹ 30.54 crore up to September, 2020. AYCL has achieved 55.94% of the Production Target and 106.25% of Sales Target up to the month of September, 2020. The order book position is ₹ 18.92 crore up to the month of September, 2020 against the target of ₹ 23.38 crore. The CPSE has registered a negative growth in production but a positive growth in PBT over the corresponding period in the previous year.

2.2 Hooghly Printing Company Ltd.

Hooghly Printing Company Ltd. (HPCL) is a wholly-owned subsidiary of Andrew Yule & Co. Ltd (AYCL). The Committee of Secretaries (CoS) has recommended the merger of HPCL with its holding company AYCL. Its operations have been closed. The process of the merger is underway.

2.3 Bharat Heavy Electricals Limited (BHEL)

BHEL is India's largest engineering and manufacturing enterprise in the energy and infrastructure sectors and a leading power equipment manufacturer globally serving its customers with a comprehensive portfolio of products, systems and services in the areas of power-thermal, hydro, gas, nuclear & solar PV, energy storage system, transmission, transportation, e-mobility, defence & aerospace, oil & gas, and water.

BHEL's pan-India presence includes a network of 16 manufacturing facilities, 2 repair units, 4 regional offices, 8 service centres, 1 subsidiary, 3 active joint ventures, 15 regional marketing centres, 4 overseas offices and current project execution at more than 150 project sites across India and abroad.

The worldwide installed base of power generating equipment supplied by BHEL exceeds 190 GW, making it the undisputed leader amongst Indian power plant equipment manufacturers. BHEL has installed more than 1000 thermal, hydro, nuclear, gas and solar PV based power generating sets in the country.

Contribution to the economy

POWER SECTOR

BHEL is one of the few companies in the world having the capability to manufacture the entire range of power plant equipment. Offerings include:

- Steam turbines, generators, boilers and matching auxiliaries for fossil-fuel applications upto 1000 MW unit size

A typical supercritical power plant under erection

- Emission control equipment including Flue Gas Desulphurisation systems for SOx emission control, high efficiency Electrostatic Precipitators for particulate emission control, and Boiler modification and Selective Catalytic Reduction systems for NOx emission control.
- Gas turbines and generators upto 299 MW unit size.
- Hydro turbines and generators up to 400 MW unit size.
- 220/235/500/540/700MWe nuclear turbine generator sets.

INDUSTRY SECTOR

BHEL is a leading manufacturer of a variety of Industrial systems & products. BHEL's major offerings include:

- **Transportation:** IGBT based propulsion equipment (traction converter/auxiliary converter/Vehicle Control Unit), traction transformers for electric Locos and ACEMUs/ MEMUs, EMU coaches.
- **Renewables:** EPC solutions from concept to commissioning for grid connected and standalone solar PV applications ranging from KW to MW sized plants.

BHEL provides complete solutions for all solar power needs, with proven expertise of over three decades

- **Energy Storage Solutions:** Electric vehicle chargers, electric powertrain, lithium ion battery packs, electric vehicles.
- **Defence & Aerospace:** Strategic equipment for Indian defence forces including Super Rapid Gun Mount & Integrated Platform Management System for naval ships, propellant tanks and its parts for launch vehicles of ISRO.
- **Transmission:** EHV & UHV substations ranging from 132 KV to 765 KV & HVDC converter stations up to ±800KV, power transformers, etc.
- **Water:** Complete water management solutions for power plants, industries and municipal applications.
- **Industrial products:** Oil rigs, wellheads & Xmas tree valves, mechanical packages, fabricated equipment & boiler feed pumps, compressors & AC machines.
- **Captive Power projects:** Steam and gas turbine based.

BHEL has a widespread footprint in all the inhabited continents of the world. Till date, BHEL has installed around 11 GW power generating capacity in overseas markets.

An additional 6 GW is under execution, including the 2x660 MW Maitree Super thermal power project in Bangladesh and 4x225 MW Arun-3 Hydroelectric project in Nepal.

PERFORMANCE HIGHLIGHTS

The revenue for FY 2019-20 was mainly impacted due to Covid-19 pandemic in the last quarter of the year, which eventually led to a nationwide lockdown from 25th March 2020. The impact of the pandemic on company's operations was being felt much earlier, on account of disruptions in material supplies from China, Italy, etc., which started from January 2020 and significantly affected the performance during the entire quarter.

The company incurred a loss of ₹ 662 Crore in FY 2019-20 as against a profit of ₹ 2048 Crore in FY 2018-19, mainly due to lower revenue and higher material cost.

Loss after tax for the FY 2019-20 is ₹ 1473 crore as against profit of ₹ 1209 Crore in 2018-19.

The Company secured orders worth ₹ 23547 crore in FY 2019-20 comprising orders worth ₹ 13784 crore in the Power segment, ₹ 8757 crore in the Industry segment and ₹ 1006 crore in International operations. The order book outstanding at the end of March 31, 2020 was around ₹ 108443 crore (executable order of ₹ 88284 crore) against ₹ 108680 crore (executable order of ₹ 86953 crore) as on March 31, 2019.

Due to the unprecedented situation arising due to COVID-19, the Board of Directors of BHEL, in its meeting held on June 13, 2020, decided not to give any dividend for the year 2019-20.

Details are given at Annexure-XII.

2.4 BHEL-EML

BHEL-EML is a Joint Venture Company between BHEL and Government of Kerala, categorized as schedule 'C' company. In this company, BHEL holds 51% of the paid up equity capital and the balance 49% is held by the Government of Kerala/ KEL. BHEL-EML has acquired the Kasargod Unit of Kerala Electrical & Allied Engineering Company Ltd(KEL) with effect from 28.03.2011 along with the premises, infrastructure, human resources, and product portfolio including intellectual property rights. This JVC was envisaged to take up manufacture of alternators and other rotating machines. BHEL-EML commenced its operations on 28.03.2011. BHEL-EML is presently incipient sick.

2.5 Braithwaite, Burn & Jessop Construction Company Limited (BBJ)

The Braithwaite Burn and Jessop Construction Co., Ltd. (BBJ) was incorporated on 26.01.1935 under the Companies Act by contributing share investment of three major engineering companies of Eastern India namely, Braithwaite & Co. Ltd. (40%), Burn & Co. Ltd. (30%) and Jessop & Co. Ltd. (30%). The company became a 'Government company' consequent upon transfer of its entire shares to its erstwhile holding company viz. Bharat Bhari Udyog Nigam Ltd. (BBUNL), under the Companies Act, 1956 and became a wholly owned subsidiary of BBUNL w.e.f. 14.08.1987.

Consequent to the order of the Government of India that The Company (BBJ), as the transferor company, was merged with its holding company Bharat Bhari Udyog Nigam Ltd.(BBUNL), as the transferee company, w.e.f. 01.04.2015. Further, BBUNL was renamed as "The Braithwaite Burn and Jessop Construction Company Limited" (BBJ) w.e.f. 18.11.2015.

BBJ was not referred to BIFR. However, to make the company a viable enterprise on a sustainable basis, the financial restructuring proposal of BBJ was approved by the Government of India in July 2005. Since then, the company is continuously achieving Net Profit & positive Net Worth. From financial year 2009-10, BBJ wiped out its accumulated losses completely and paid a dividend to its promoter viz. Govt. of India. BBJ has marked as "Dividend paying CPSE" by consistently paying Dividend to Govt. of India. Recently, BBJ has paid a dividend of ₹10.33 crore @8.54% (approx.) of its equity share capital of ₹120.86 crore as on 31.03.2020.

2.6 Richardson & Cruddas (1972) Limited (R&C)

Richardson & Cruddas (1972) Ltd. (R&C) was acquired by the Government of India by an Act of Parliament in 1973. The Company is a schedule - C company and fully owned by the GOI. It has four operating units: two at Byculla and Mulund in Mumbai, one each at Nagpur and Chennai, and is engaged in the field of Fabrication & Erection of Steel Structures, Fabrication of Pressure Vessels, Boiler Drums, Hot Pressed Dished Ends, Transmission line towers, providing environmental engineering laboratory services and maintaining townships. Union Cabinet approved the financial restructuring of the company on 21.09.2016. The implementation of the Cabinet decision is underway.

2.7 Bridge & Roof Company (India) Limited (B&R)

Bridge & Roof Co. (India) Ltd. (B&R) was set up in 1920 as a subsidiary of Balmer Lawrie & Company Limited. Subsequently, it became a Government Company in 1972 under the Ministry of Petroleum & Natural Gas. In June, 1986, the administrative control of B&R was transferred to the Ministry of Heavy Industries and Public Enterprises and it was subsequently brought under the fold of the holding company, M/s. Bharat Yantra Nigam Limited (BYNL), Allahabad, in 1987. Consequent to the decision taken by Government of India, BYNL ceased to be the Holding Company of B&R from 06.05.2008 and B&R came directly under DHI. The Company capital restructuring and strengthening proposal was approved by GOI on 02.09.2005.

Construction of 98 Nos. Multipurpose Cyclone Shelters under National Cyclone Risk Mitigation Project in Sunderbans areas in West Bengal

Manufacture, supply, erection and commissioning of 1400ft. (10x140') long Bailey Bridge of carriage way of 4.25m on Darbuk Shyok-Daulat Begh Oldie Road in Leh, for the Border Road Organisation

B&R is a premier construction and engineering company in the field of Civil and Mechanical Construction and Turnkey Projects in various sectors such as hydrocarbon, power, aluminum, steel, railways, etc.

Bridge & Roof Co. was awarded 'Miniratna' Category-I status on 21st September 2010 by the Government of India.

2.8 Bharat Pumps & Compressors Limited (BPCL)

Bharat Pumps & Compressors Ltd. (BPCL) was incorporated in 1970 with a manufacturing facility at Naini, Allahabad in U.P. The company is engaged in the manufacture and supply of heavy duty pumps & compressors and high pressure seamless and CNG gas cylinder/cascades to cater to the needs of sectors like oil exploration & exploitation, refineries, petro-chemicals, chemicals, fertilizer and downstream industries.

Cabinet Committee on Economic Affairs, in its meeting held on 27th October, 2016 gave 'in-principle' approval for strategic disinvestment in respect of BPCL. However, the disinvestment process was not successful.

The Government on 09.12.2020, approved closure of Bharat Pumps and Compressors Limited (BPCL) by offering VRS/VSS package to their employees and disposal of its assets. Accordingly, the action for closure of the company is in progress.

2.9 Triveni Structurals Limited

Triveni Structurals Ltd. (TSL) (under liquidation), located at Naini, U.P. was incorporated in 1965. The company manufactured heavy steel structural products such as tall towers and masts for power transmission, communication and T.V broadcasting, hydro-mechanical equipment, pressure vessels etc. Pursuant to the Allahabad High Court order dated 08.10.2013, the company is under liquidation by Official Liquidator.

2.10 Tungabhadra Steel Products Ltd. (TSPL)

The company was established at Hospet (Karnataka) in 1960 as a joint enterprise of the Government of India with Governments of Karnataka and Andhra Pradesh. The company was engaged in designing, manufacturing and erection of hydraulic structures, penstocks, building structures, transmission line towers, EOT & gantry cranes etc.

CCEA approved closure on 22.12.2015 and subsequently 18.01.2018 accorded approval for relieving of employees on VRS, disposal of movable and immovable assets and settlement with regard to all debtors and creditors of the company. The closure of TSPL is at advanced stage and most of the regulatory requirements are already complied with. All movable assets have been disposed-off. Department of Heavy

Industry has recently released ₹ 53.92 crore to settle all the claims /liabilities of the company.

2.11 Hindustan Cables Ltd.

HCL was set up in 1952 at Rupnarainpur for the manufacture of underground telephone cables (Polythene Insulated Jelly Filled Cable and Optical Fibre Cable). Due to the introduction of wireless technology, there was a sharp reduction of business of the company. HCL Started making losses from 1995-96. As net worth of the company eroded, HCL was referred to BIFR in Nov. 2002. There was a complete stoppage of production and internal generation of funds since 2005-06. BIFR in its hearing on 22.06.2010 directed to close the Company offering of VRS/VSS at 2007 notional pay scales. Union Cabinet in their meeting dated 28.09.2016 directed to close the Company. Actions are being taken for disposal of immovable assets to implement the decision of the Cabinet.

2.12 Heavy Engineering Corporation Limited

HEC Ltd., Ranchi was incorporated on 31st December, 1958 with the primary objective of achieving self-sufficiency and self-reliance in the field of design and manufacture of equipment and machinery for iron and steel industry and other core sector industries like Mining, Metallurgical and Engineering Industries. It has three manufacturing units and one turnkey project division viz.:

- **Heavy Machine Building Plant (HMBP)**

  This unit manufactures wide range of equipment for Steel Plants like Blast Furnaces and Rolling Mills etc., Material Handling Equipment like EOT Cranes and Wagon Tipplers, etc, equipment for Mining industries like 5 & 10 Cum Excavators, Crushers, Drag Lines and Mine Winders etc. In addition, it also executes order of technological structurals from various sectors

- **Heavy Machine Tools Plant (HMTP)**

  It manufactures a complete range of Heavy Machine Tools including CNC Heavy Duty Machine Tools and Special Purpose Machine Tools required for Railways, Defence, Power and other sectors.

- **Foundry Forge Plant (FFP)**

  It manufactures various types of Heavy & Medium Castings, Forging and Rolls for Power, Nuclear and other sectors besides B.G. Crank Shaft for Railways. This unit also acts as a feeder unit for HMBP and HMTP.

- **Turnkey Project Division**

  It undertakes turnkey projects in the areas of Low Temperature Carbonisation Plants, Coal Handling Plants, Coal Washeries, Sintering Plants, Continuous Casting Plants and Raw Material Handling System etc.

Deteriorating health of equipment/facilities coupled with acute shortage of working capital has been badly affecting the performance since 2013-14. In addition, execution of old orders further affected the cost and the company started incurring operating loss. Efforts like outsourcing also did not help due to issues of timely payment to vendors. Due to decrease in turnover there has been an increase in operating loss during 2019-20 as compared to 2018-19. Production and Turnover during the year 2019-20 had been ₹158.29 crore and ₹132.68 crore respectively against ₹340.22 crore and ₹356.21 crore respectively during 2018-19. Operating loss during 2019-20 has been ₹405.37 crore against ₹ 256.24 crore during 2018-19.

2.13 HMT Limited

HMT Limited, one of India's premier Engineering conglomerates was incorporated by the Government of India in the year 1953, with the objective of producing machine tools required for building an industrial edifice for the country and a manufacturing unit was established at Bengaluru in collaboration with M/s Oerlikon of Switzerland. Over the years the Company diversified into manufacture of various products like Watches, Tractors, Printing Machines, Food Processing Machinery, Presses, Bearings etc and established manufacturing facilities for these products across the country, in places like Bengaluru, Hyderabad, Ajmer, Kalamassery near Cochin, Pinjore near Chandigarh, Tumakuru near Bengaluru, Ranibagh near Nainital and Srinagar in Kashmir.

To meet the challenges of globalisation consequent to the initiation of New Economic Policies of the Indian Government and in keeping with contemporary business models, the Company was restructured in the year 2000 with the formation of subsidiaries based on its various business portfolios under the ambit of a holding company. HMT Limited (HMTL) became a Holding Company having six subsidiaries viz HMT Machine Tools Limited (HMTMTL), HMT Watches Limited (HMTWL), HMT Chinar Watches Limited (HMTCWL), HMT Bearings Limited (HMTBL), HMT (International) Limited (HMTI) and Praga Tools Limited, while the Tractors Business and Food Processing Machinery business were managed directly. Subsequently, Praga Tools Limited was merged with HMT Machine Tools Limited.

CCEA approved closure of HMTWL, HMTCWL and HMTBL in its meeting on 6th January 2016. During October 2016, the Union Cabinet also approved closure of the HMT Tractor Division (Closure process of these entities is in progress). Consequent to the above closure decisions, the Holding Company – HMT Limited now directly manages the Food Processing Machinery Division at Aurangabad and Auxiliary Business Division at Bengaluru while HMT (International) Limited and HMT Machine Tools Limited are its two operational subsidiaries.

HMT Watches being displayed at Samaya Bharati-2020 Bengaluru

The Floral Clock at the HMT Heritage Centre & Museum Jalahalli

A brief profile of the Company & its operational subsidiaries is as below:

HMT Limited (HMTL)

HMT Limited, the Holding Company manages the Food Processing Machinery Business and Auxiliary Business Division directly. The Food Processing Machinery Division is located at Aurangabad in Maharashtra and the unit manufactures a variety of machinery for Milk Processing and other food processing applications. In order to encash the brand equity of HMT Watches, the Company has now taken up assembly and sale of Watches and Clocks at the Auxiliary Business Division, Bengaluru, by outsourcing of components.

2.14 HMT Machine Tools Limited (HMTMTL)

HMT Machine Tools Limited, a Technology-Driven Company, comprises six manufacturing units and a centralised Marketing Division with corporate headquarters at Bengaluru. The six manufacturing units are located at Bengaluru (Karnataka), Pinjore (Haryana), Kalamassery (Kerala), Hyderabad (2 Nos.) (Telangana) and Ajmer (Rajasthan) and the Marketing Division has a countrywide marketing and sales network to cater to the sales & service needs of the customers. HMTMTL manufactures metal cutting & metal forming machines including printing machines and Die-casting & Molding machines, catering to both domestic and export markets. The Company also provides services for reconditioning and refurbishing of machines of HMT as well as other makes. The Company has the distinction of supplying machines and equipment for special applications in Space, Atomic Energy & Defence Sectors, Railways, etc.

2.15 HMT (International) Limited (HMTI)

Incorporated in 1974 as a wholly owned subsidiary of HMT Limited, HMT(I), a Mini-Ratna Company, is the export arm of HMT Group and also caters to import requirements of the Group. HMT (I) is regarded as one of the best export houses in the country with a global network of over 38 countries and it also sells products of other Indian Manufacturers, undertakes turnkey engineering projects and has made a niche for itself in the setting up of Vocational Training Centres, IT training Centres, SME Development Centres, Industrial Training Centres, Entrepreneur Training and Development Centres etc in various countries. Major thrust is given for implementation of Turnkey projects in the area of Tool Rooms and Training Centers.

2.16 Instrumentation Limited, Kota (ILK)

Instrumentation Limited (IL) Kota was set up in 1964 as a 100% government owned CPSE to cater to the growring Control & Instrumentation (C&I) needs of the Core Industrial Sectors viz. Power, Steel, Oil Refinery etc. and help achieve self reliance in this field. The company has its Registered Office & Headquarters at Kota, Rajasthan and manufacturing plants at Kota and Palakkad, Kerala. The Palakkad Unit is manufacturing control valves, butterfly valves, power cylinders, actuators etc. for process industries and is accredited with ISO 9001:2015, ISO 14001:2015 and ISO 45001:2018 certifications.

The Instrumentation Limited was a sick unit and referred to BIFR in 1994. Looking into all the aspects (including revival and merger), the Union Cabinet on 30.11.2016 approved the closure of the Kota Unit of Instrumentation Limited and gave 'in-principle approval for the transfer of Palakkad Unit of Instrumentation Limited to the Government of Kerala (GoK).

The Kota unit of Instrumentation Limited closed on 18.4.2017 and the payment of salary, wages, VRS/ VSS and other admitted dues of employees has been completed. After closure of Kota Unit, the Registered Office & Headquarters has been shifted to Jaipur, Rajasthan.

2.17 Rajasthan Electronics & Instruments Ltd. (REIL)

Rajasthan Electronics & Instruments Limited (REIL), Jaipur is Schedule 'C', "Mini-Ratna" and ISO 9001 & ISO 14001 certified Central Public Sector Enterprise. It was set up in 1981 as a Joint Venture of Government of India through Instrumentation Limited, Kota (ILK) and Government of Rajasthan through Rajasthan State Industrial Development and Investment Corporation Limited (RIICO) with 51% and 49% ownership respectively. The company has diversified its product range to Solar Photo-Voltaic modules/systems, Industrial Electronics, Security Surveillance system and Information Technology.

Pursuant to the approval of the Government of India in February, 2016, REIL has been delinked from ILK

by transferring the entire shareholding to the President of India, thus making it an independent Central Public Sector Enterprise.

REIL addresses the needs of the rural sector through Solar Photo-Voltaic, milk testing and quality related needs to the milk cooperative and dairy industry and automation solution and Information Technology & Communication application for e-governance, dairy vertical, small business and Government Sectors. The focus is on supporting rural India through electronics, renewal energy and IT solutions. The recent addition is to set up infrastructure to promote e-mobility under the FAME scheme of Government of India.

The company has aligned its business activities towards the National missions of the Government such as National Solar Mission, National Dairy Plan, Make in India, Skill India, FAME India and Digital India, etc.

2.18 Scooters India Limited (SIL)

Scooters India Limited, Lucknow, set up in 1972 with a second hand plant bought from M/s. Innocenti of Italy, is engaged in manufacturing and marketing of three wheelers.

SIL was declared as a sick company on 11th August, 1992 and came under the purview of Board for Industrial and Financial Reconstruction (BIFR). A revival proposal was approved by the Cabinet in their meeting held on 31.01.2013.

The Cabinet Committee on Economic Affairs in their meeting held on 27.10.2016 approved the disinvestment of 100% shareholding of Government of India in Scooter India Limited (SIL). Accordingly, the process of strategic disinvestment was carried out as per guidelines of DIPAM. However, the disinvestment process became unsuccessful due to non-availability of bidders. Subsequently, the CGD in its meeting held 28.11.2019 recommended that the proposal of DIPAM for closure of SIL may be processed for the approval of appropriate authority.

The Government on 20.01.2020, approved closure of Scooters India Limited (SIL) by offering VRS/VSS package to their employees and disposal of its assets. Accordingly, the action for closure of the company is in progress.

2.19 Cement Corporation of India Ltd. (CCIL)

Cement Corporation of India Ltd. (CCI) was established in 1965 with the principal objective of setting up cement factories in the public sector to achieve self-sufficiency in cement production and to remove regional imbalances. It had units spread over 7 States/ Union Territories, located at Mandhar and Akaltara in Chhattisgarh; Nayagaon in Madhya Pradesh; Kurkunta in Karnataka; Bokajan in Assam; Rajban in Himachal Pradesh; Adilabad and Tandur in Telangana; Charkhi Dadri in Haryana. The Company became sick and was referred and registered with BIFR as a sick company in 1996. A revival package for CCI was approved in 2006 with expansion/ upgradation and modernization of three operating plants i.e. Rajban in Himachal Pradesh, Bokajan in Assam and Tandur in Telangana and closure/sale of 7 non-operating plants. As approved by the Government, the disinvestment process has been initiated for the Nayagaon unit of CCI.

During the period, the laying of Railway-siding inside the Bokajan unit has been completed for enabling easy movement and minimizing the losses in transportation and handling of coal and other raw material. The Railway siding up-gradation work in Tandur unit is in advanced stage of completion. Installation of truck loaders of Bokajan and Rajban Unit is in progress. Replacement of mechanical packers by Electronic packers has been initiated in Tandur, Bokajan and Rajban units. Installation of a truck tippler at Tandur and Rajban units is in process.

2.20 NEPA Ltd.

NEPA Limited, Nepanagar, Madhya Pradesh was incorporated as a private enterprise on 26th January

1947 by M/s Nair Press Syndicate Limited under the name of "The National Newsprint and Paper Mills Limited" for production of newsprint. The Government of India (GoI) took over the controlling interest of the company in 1958. GoI holds 97.82% equity shares in the capital of Nepa Limited. The name of the company was subsequently changed to Nepa Limited in February 1989. The company holds a license for the production of newsprint and writing & printing paper. The Nepa Limited has an installed capacity of 88,000 tonnes per annum (TPA).

The company was referred to the Board for Industrial and Financial Reconstruction (BIFR) in 1998 as its net worth had been completely eroded by accumulated losses as per annual results of 31st March, 1997. The production of the company has been suspended since July, 2016. The Company is currently undergoing a Revival and Mill Development Plan (RMDP) approved by the Cabinet.

2.21 Hindustan Paper Corporation Ltd. (HPC)

HPC was incorporated on 29.05.1970 as a wholly owned Govt. of India enterprise with an objective to establish new pulp & paper and newsprint mills in India. HPC has three subsidiaries and two major integrated pulp and paper mills under its management and control in Assam. These are (i) Hindustan Newsprint Limited, (ii) Nagaland Pulp and Paper Co. Ltd (NPPC Ltd), Nagaland and (iii) Jagdishpur Paper Mills Ltd. HPC has two units namely Nagaon Paper Mills (NPM) and Cachar Paper Mills (CPM).

Hindustan Paper Corporation Limited (HPC) is presently undergoing liquidation as per the directions of National Company Law Tribunal (NCLT), New Delhi orders dated 02.05.2019 and the orders of the National Company Law Appellate Tribunal (NCLAT) dated 29.05.2019.

2.22 Hindustan Newsprint Ltd. (HNL)

Hindustan Newsprint Limited (HNL), a wholly owned subsidiary of Hindustan Paper Corporation Limited (HPC) was incorporated on June 7, 1983 with the main objective of taking over the business of the erstwhile Kerala Newsprint Project (KNP), a unit of HPC. The Registered Office of HNL is at Newsprint Nagar, District Kottayam, Kerala. It is located at Newsprint Nagar, Dist. Kottayam, Kerala and has an installed capacity of 1,00,000 tonnes per annum (TPA) of newsprint. HNL was producing standard Newsprint grades of 42GSM, 45 GSM and 48.8 GSM of quality, which was at par with the best available in the market. The operations of HNL stand suspended since 01.01.2019 due to various reasons. The NCLT Kochi Bench, on 28.11.2019 directed initiation of Corporate Insolvency Resolution Process (CIRP) against HNL under the Insolvency and Bankruptcy Code, 2016 and appointed a Resolution Professional for HNL.

2.23 Hindustan Photo Films Manufacturing Co. Limited (HPF)

Hindustan Photo Films Manufacturing Co. Limited (HPF) was incorporated on 30th November, 1960 with the aim to make the company self-reliant in the field of photo sensitive products. The company commenced commercial production in 1967. The company started incurring continuous losses since 1992-93 and operations of the company came to standstill from April, 2013.

On its Net Worth, becoming negative on 31.03.1994, the company was referred to BIFR in 1995. BIFR vide order dated 30.01.2013 ordered for winding up of the Company. The CCEA in its decision dated 28.02.2014, inter-alia, decided for VRS at 2007 notional scale for all the employees and taking action for closure of the Company. All the employees have left the Company.

The Hon'ble High Court of Madras vide its order dated 29.08.2016 has accepted the BIFR order of winding up of the company, however the Official Liquidator has not take over the charge of the Company.

In the meantime, Debenture Trustee Canara Bank has filed an application in the Hon'ble Madras High Court in CP 114/2003 with a request to transfer the present Company Petition to the NCLT, Chennai for speedy disposal of the Company Petition. The winding up proceedings now stand transferred to NCLT, Chennai vide Madras High Court order dated 18.05.2020.

2.24 Hindustan Salts Limited (HSL)

Hindustan Salts Limited (HSL) was incorporated on 12th of April, 1958 under the Companies Act, 1956 with 100% shareholding of the Government of India. The Authorised Capital of HSL is ₹ 60.00 cr and paid-up Capital is ₹ 52.05 cr. Company is presently engaged in production of Salt, Bromine and Magnesium Chloride.

It has two units one at Kharaghoda, Gujarat wherein Company has one plant for manufacture of Bromine from waste of Common Salt of 450 MT capacity and two plants for production of Magnesium Chloride of combined capacity 7500 MT, however one of these plants of capacity 2500 MT is currently non-operational. The other unit is at Mandi, Himachal Pradesh wherein Company has engaged in mining of rock salt at Darang, which is used as animal lick.

2.25 Sambhar Salts Limited (SSL)

Sambhar Salts Limited (SSL) is a subsidiary of Hindustan Salts Limited, which was incorporated on 30.09.1964 under the Companies Act, 1956 wherein Govt. of India holds 60% shareholding through HSL and 40% by the Govt. of Rajasthan. The Authorized Capital of SSL is ₹ 2.00 cr and paid-up Capital is ₹ 1.00 cr. The SSL is engaged in production of salt and has about 90 Sq. Miles of production area spread over three Districts of Rajasthan i.e. Jaipur, Ajmer and Nagaur.

2.26 Engineering Projects (India) Limited. (EPIL)

Engineering Projects (India) Ltd. (EPI) was incorporated in the year 1970 with the main objective to undertake turnkey projects and consultancy services in India and abroad. EPI is the first Indian Company to undertake large civil and industrial projects abroad. EPIL is a profit making, Mini Ratna Category-II Central Public Sector Enterprise in the Contract & Construction and Technical Consultancy Services sector under the administrative control of the Ministry of Heavy Industries & Public Enterprises with 100% shareholding by the Government of India and PSUs. EPI has a pan-India presence having its Regional/ Zonal Offices at different geographical locations viz. New Delhi, Mumbai, Kolkata, Chennai, Guwahati, Hyderabad, Bhubaneswar and Vishakhapatnam to undertake its operations across India besides project sites spread all over the country as well as in Oman and Myanmar.

As on 31.12.2020, EPI has completed 580 projects in India and 33 projects abroad.

Major achievements

- EPI has achieved a turnover of ₹1336.59 crore (Audited) during the financial year 2019-20.

Project inaugurated/completed

The Company has completed following major projects during the year:

i. Project Management Consultancy for Development of Campus of Central University of Jammu at Village Bagla, District Samba valuing ₹314.64 crores.

ii. Construction of Intake Well, Water Treatment Plant, Distribution Pipelines, Overhead Tank and Providing Household Connections at Singrauli, M.P. valuing ₹113.46 crores.

iii. Construction of Diversion Weir from Hodirayanahalla to Jambadahalla and appurtenant works under the Hodirayanahalla Diversion Scheme, Karnataka valuing ₹56.57 crores.

iv. Construction of HIG, MIG and LIG Flats and related works for Tamilnadu Housing Board at Sholinganallur and Moggappair East in Chennai valuing ₹50.87 crores.

v. Supply & Laying of DI, HDPE, PVC Pipes, Specials, fitting and valves for the Transmission Main and Distribution system in Vavuniya WSS (Sri Lanka) valuing ₹40.98 crores/ USD-7.371.

vi. Interiors of Office Space for STPI Head Quarter at East Kidwai Nagar, New Delhi valuing ₹8.61 crores.

vii. Construction of Roads, Buildings, Hospitals including various Infrastructure Development Projects for Assam Rifles valuing ₹9.50 crores.

viii. Architect Engineering Services for Coal Handling and Ash Handling System for Feroz Gandhi Unchahar Thermal Power Project Stage – IV (I*500 MW) at Unchahar, Rae Bareli District, UP valuing ₹2.29 crores.

ix. Construction of One Additional Floor (3rd), over and above the existing Academic Building, IDRBT, Hyderabad valuing ₹8.11 crores.

CHAPTER 3

Heavy Electrical Engineering, Heavy Engineering and Machine Tool Industries

3.1 Heavy Engineering and Machine Tool Industries

3.1.1 Background

3.1.1.1 The Heavy Engineering and Machine Tool sector is a part of the Capital Goods sector. The sector comprises of plant and machinery, equipment / accessories required for manufacture / production, either directly or indirectly, of goods or rendering services required for replacement, modernization, technological upgradation and expansion. It also includes packaging machinery and refrigeration equipment.

3.1.2 The Heavy Engineering and Machine Tool sector consists of the following major sub-sectors:

i. Machine Tools
ii. Dies, Moulds and Press Tools
iii. Plastic Machinery
iv. Earthmoving and Mining Machinery
v. Metallurgical Machinery
vi. Textile Machinery
vii. Process Plant Equipment
viii. Printing Machinery
ix. Food Processing Machinery

3.1.3 As per the present estimates, the Capital Goods industry contributes about 12% to the total manufacturing activity in India which translates to about 1.5% of GDP. This sector is crucial for the development of the country's economy for the following reasons:

a. Capital Goods are considered essential for the development of domestic manufacturing capabilities from a national self-reliance perspective
b. Capital Goods sector through a multiplier effect has a strong bearing on the growth and employment in the user industries as it provides critical inputs, i.e. machinery and equipment for the entire manufacturing sector and other related sectors.

3.1.4 The policy environment for the heavy engineering and machine tool sector is briefly detailed as under:

a. No industrial license is required for the sector;
b. FDI up to 100% permitted on automatic route (through RBI) except from the countries having land borders with India;
c. Quantum of payment for technology transfer, design and drawing, royalty, etc. to the foreign collaborator is not restricted
d. There is no restriction on imports and exports

3.2. Overview of the Sub-Sectors

A brief status of the sub-sectors is detailed below:

3.2.1 Machine Tools

The Machine Tool industry is considered as the mother industry as it supplies machinery for the entire manufacturing sector. The manufacturers of machine tools are mostly SMEs, few of them are mid-sized manufacturers which have an annual turnover varying between ₹ 300-500 crore. The types of machine tools currently manufactured are general/special purpose machines, standard Computer Numerical Control (CNC) machines, gear cutting, grinding, medium size machines, electrical discharge machining (EDM), presses, press brakes, pipe bending, rolling, bending machines, etc.

3.2.2 Dies, Moulds and Press tools

The Indian tool room industry consists of commercial tool makers engaged in design, development and manufacturing of tooling in the country. In addition to commercial tool makers, several Government tool rooms –cum-training centers are also operating. The key tool room locations are Mumbai, Bengaluru, Chennai, Pune, Hyderabad and Delhi NCR.

3.2.3 Plastic Processing Machinery

The plastic machines being manufactured are injection moulding machines, blow moulding machines and extrusion moulding machines, etc. Product technologies are at par with the leading brands of the developed world. The global leading manufacturers/ technologies have manufacturing presence in India through their wholly owned subsidiaries or through technology license arrangements.

3.2.4 Earthmoving, Construction and Mining Machinery

The Indian Earthmoving, Construction and Mining Machinery produces backhoe loaders, compactors, mobile cranes, pavers, batching plants, crawler crane, transit mixer, concrete pump, tower cranes, hydraulic excavators, dumpers, mining shovel, walking draglines, dozers, wheel loaders, graders, drilling equipment, tunneling machine, etc. The global leading manufacturers/technologies have manufacturing presence in India through their wholly owned subsidiaries or through technology license arrangements.

3.2.5 Textile Machinery

A majority of the units engaged in the manufacture of textile machinery in the country are small and medium manufacturers. Major textile machineries include weaving machines, spinning machines, winding machines, processing machines, synthetic fiber machines, etc. High end technology machines other than in the spinning segment are mostly being imported.

3. 2.6 Printing Machinery

A majority of the units engaged in the manufacturer of printing machinery are small and medium manufacturers. Major printing machines manufactured locally are web offset printing machines, UV coating curing machine, flexographic printing machine, screen printing machines, wire stitching machine, lamination machine, etc.

3.2.7 Food Processing Machinery

A majority of the units engaged in the manufacture of food processing machinery are small and medium manufacturers. Major food processing machinery manufactured in India are peelers, sorters, graders, pulpers, grinders, mixers, cookers, fryers, dryers, pulverizers, soya milk machines, food grain and coffee millers, bakery machinery, forming-filling- sealing machine, milking and dairy machines, juicing line, etc.

3.3 Production, Import and Export Statistics

The production, import and export data for the sub-sectors is detailed as under:

a) Production data *(₹ in crore)*

S. No.	Sub sector	2015-16	2016-17	2017-18	2018-19	2019-20	CAGR (4 Year) (Base Year 2015-16)
1.	Machine Tools	4726	5803	7294	9612	6152	6.81%
2.	Dies, Moulds and Press Tools	15000	14750	16068	13600	13682	-3.27%
3.	Textile Machinery	6580	6650	6900	6865	5980	-3.36%
4.	Printing Machinery	16916	16424	15016	12390	12673	-7.97%
5.	Earthmoving and Mining Machinery	18500	25000	31800	38900	31020	13.79%
6.	Plastic Processing Machinery	2700	3000	3375	3780	3440	6.24%
7.	Food Processing Machinery	13206	15246	15600	8750	na	-
8.	Process Plant Equipment	19000	19500	18400	27400	29250	11.39%

Source: *Capital Goods Industry Associations viz. (i) IMTMA (ii) TAGMA (iii) TMMA (iv) IPAMA (v) ICEMA(vi) PMMAI (vii) AFTPAI.*
Note: *The base year for CAGR is 2015-16.*
na: *data not available / not received from Capital Goods Industry Associations.*

b) Import data *(₹ in crore)*

S. No.	Sub sector	2015-16	2016-17	2017-18	2018-19	2019-20	CAGR (4 Year) (Base Year 2015-16)
1.	Machine Tools	5946	6173	7759	12390	10288	14.69%
2.	Dies, Moulds and Press Tools	2800	1200	1350	5500	6356	22.75%
3.	Textile Machinery	10305	10098	10687	10834	10190	-1.28%
4.	Printing Machinery	7051	7035	8322	8922	9012	6.33%
5.	Earthmoving And Mining Machinery	3600	4200	5500	5600	4812	7.52%
6.	Plastic Processing Machinery	2000	2300	2600	2750	2480	5.53%
7.	Food Processing Machinery	3777	3686	3900	7272	na	-
8.	Process Plant Equipment	13360	11925	10600	4200	4650	-24.19%

Source: *Capital Goods Industry Associations viz. (i) IMTMA (ii) TAGMA (iii) TMMA (iv) IPAMA (v) PMMAI (vi) ICEMA (vii) AFTPAI*
Note: *The base year for CAGR is 2015-16.*
na: *data not available / not received from Capital Goods Industry Associations*

c) Export data *(₹ in crore)*

S. No.	Sub sector	2015-16	2016-17	2017-18	2018-19	2019-20	CAGR (4 Year) (Base Year 2015-16)
1.	Machine Tools	296	361	354	673	768	26.92%
2.	Dies, Moulds and Press Tools	2300	1700	1600	1100	1138	-17.13%
3.	Textile Machinery	2351	2438	2939	3665	3025	6.50%
4.	Printing Machinery	1366	1332	1235	1180	1367	0.02%
5.	Earthmoving and Mining Machinery	3400	3700	4800	5300	3583	1.32%
6.	Plastic Processing Machinery	700	900	1100	1185	1240	15.37%
7.	Food Processing Machinery	2201	2178	2560	4263	na	-
8.	Process Plant Equipment	8956	9291	8950	7450	8330	-2.80%

Source: *Capital Goods Industry Associations viz. (i) IMTMA (ii) TAGMA (iii) TMMA (iv) IPAMA (v) PMMAI (vi) (vi) ICEMA (vii) AFTPAI.*
Note: *The base year for CAGR is 2015-16.*
na: *data not available / not received from Capital Goods Industry Associations*

3.4 Schemes and Policy Interventions

3.4.1 Scheme for Enhancement of Competitiveness in the Indian Capital Goods Sector

The Government of India through the Department of Heavy Industry has launched a scheme for "Enhancement of Competitiveness in the Indian Capital Goods Sector" in November 2014. The objective of the Scheme is to address the various constraints faced by the sector. Under the Scheme financial assistance is provided for setting up of Centres of Excellence (CoE) for research and development at reputed universities / R&D Institutes by collaborating with industry, research institutes and the Government. The scheme also provides financial assistance for technology transfer under Technology Acquisition Fund Program (TAFP) to capital goods manufacturing units. Besides, the scheme also provides financial assistance for creating common Industrial Integrated Infrastructure Facility (IIIF) such as machine tool industrial parks and Common Engineering Facility Centres (CEFC) and Test & Certification Centres (T&CC) for earthmoving, construction and mining machinery.

3.4.2 Centres of Excellence (CoE) for Technology Development

3.4.2.1 Under the Scheme, grants are given for setting up Centres of Excellence (CoE) for technology development at reputed academic and research institutions. Central assistance is given by way of one-time grant-in-aid not exceeding 80% of the project cost subject to a maximum of ₹ 100 crores for each CoE. The balance 20% is required to be invested by the Industry and participating organizations.

3.4.2.2 Eight CoEs have been established which have successfully developed 25 new indigenous technologies in the fields of machine tools, textile machinery, earth moving machinery, nano and sensor technologies, through Industry-Academia cooperation. These prototypes are being prepared for commercialization. The details of the technologies developed are given in Table below. These technologies

once commercialized will reduce import dependence and will enhance the technology generating capacity of India's capital goods sector. These CoEs are being developed in collaboration with industry partners at:

(i) Central Manufacturing Technology Institute (CMTI), Bengaluru

(ii) IIT Madras / Advanced Manufacturing Technology Development Centre (AMTDC)

(iii) PSG College of Technology, Coimbatore

(iv) Si'Tarc, Coimbatore

(v) IIT Kharagpur

(vi) M/s Heavy Engineering Corporation (HEC), Ranchi

(vii) IISc Bengaluru

(viii) IIT Delhi.

Additive Manufacturing for High Performance Metallic Alloys developed by Centre of Excellence at IISc Bengaluru

Welding Technologies developed by Centre of Excellence at PSG College of Technology, Coimbatore

5 Cubic Meter Hydraulic Excavator - HEX 400 developed by Centre of Excellence at HEC Ranchi

5-axis Multi Tasking machine developed by Centre of Excellence at IIT, Madras

Orbital Motion Abrasive Cutting Machine developed by Centre of Excellence at IIT, Madras

Thermal Compensation System for CNC Turning Centre developed by Centre of Excellence at IIT, Madras

Table: Details of the Technologies Developed in Phase-I of the Scheme

S. No.	Project Title	Technology	USP/ Novelty	Project Authority
1.	CoE at CMTI, Bangalore by TMMA for development of shuttle less rapiers looms of 450 RPM	Development of shuttle less rapiers looms of 450 RPM and 550 RPM	a) Innovate & Make in India: 1st high speed Shuttleless rapier loom (450rpm) to be successfully designed & developed in India. b) Enabling Indian Textile Machinery Manufacturers to compete in the local & global market with indigenously developed, state of the art technology in High speed shuttleless looms. c) Saving of foreign exchange: As per the data published by TMMA, an annual foreign exchange outflow of Rs 600 crores is incurred towards import of this machine.	CMTI, Bangalore

S. No.	Project Title	Technology	USP/ Novelty	Project Authority
2.	CoE at IIT, Madras for development of 11 advanced technologies for Machine Tools & Production Technology	a. Development of 5-axis Multi-tasking Machine	Multi-tasking machine capable of performing multiple machining operations like turning, milling, grooving, gear cutting / hobbing, boring, drilling, reaming, grinding, fly cutting, threading, etc. in a single setup. The technology is not available in India and is imported at huge cost. The development of the machine caters to a wide sectors such as automotive, oil and gas, power generation equipment manufacturers, defence and aerospace, railways, textiles and will ensure import substitution.	IIT Madras
		b. Development of 5-axis Universal Machining Center	Technology developed is a Mother Machine with rotary hydrostatic table and 5-axis simultaneous machining capability to machine in a single setup. These machines include technologies that are first in class indigenous development which cater to wide sectors such as automotive, oil and gas, power generation equipment manufacturers, defence and aerospace, railways, die and mould making industries.	
		c. Development of Orbital Motion Mechanism for Abrasive Cutting	Technology for cutting of materials for metallographic inspection without thermal damage and cutting induced stresses. Smooth cut surface generation for easy post processing. Technology is a substitute for import variants.	
		d. Development of Direct Drive Abrasive Cutting Machine	Technology for cutting of materials for metallographic inspection with smooth cut surface, free of vibration effects for easy post processing. Technology is a substitute for import variants.	
		e. Development of Automated Multi-station Grinding Polishing Machine	Technology for automated polishing of specimen to be subjected for metallographic inspection. Technology to replace manual machines widely used in the Indian Industry sector and increase quality, consistency and productivity of the inspection process. Technology is not available in India and will create a niche sector for these class of machines.	
		f. Development of 5 kW axis drives and 25 kW spindle drives for machine tool applications	Machine Tool drives being developed in this project is not indigenously developed in India till date, due to lack of know-how. The developed know how includes (1) Drive architecture for synchronous and asynchronous motors (2) Communication interface between drive / controller and motor and, (3) Control algorithm for current / voltage / position control. The drive developed has a large market in India, since it is a vital component in all CNC Machine tools. The technology developed will reduce import content, drain of foreign exchange and improve the capability of indigenous manufactures.	

S. No.	Project Title	Technology	USP/ Novelty	Project Authority
		g. Development of Hydrostatic Systems (Guideways and Spindles) for Machine Tools	**Import Substitute**: Hydrostatic Guideways and spindles developed in this project are currently not being manufactured in India due to the lack of manufacturing know-how. Most of them are imported from Germany, USA and Japan. The completion of this project would fill the gap and make the technology available to the Indian Machine Tool Industry. The developed technology is a critical sub-system for the development of high precision machines and will enable the indigenous development of ultra-precision and ultra-high precision machine tools. **Low cost**: Another USP is the low cost of the product which will be as low as one third of the import cost of the product from international market.	
		h. Automation of Grinding Process Intelligence	1. **Entry into Industry 4.0:** Current trend in Manufacturing is implementation of Smart Manufacturing and Industry 4.0. This project aims to uncover the technology behind smart manufacturing and automation for Grinding Process enabling Indian Machine Tool Industry to foray into Industry 4.0 and equip themselves with the Smart Manufacturing techniques being used internationally. 2. **Process Intelligence**: Current technologies available commercially are only with respect to the machine and factory intelligence. Process intelligence is not being developed due to the lack of knowledge of process science. This project will fill the gap by incorporating the process science into automation software.	
		i. Thermal Compensation Strategy in CNC lathes	Thermal error contributes to more than 70% of the errors (about 40μm) originating in a machine tool. The developed technology provides a thermal compensation algorithm to predict and compensate the thermal error of a CNC machine tool, i.e. from 40μm to 5μm. The developed technology will improve the consistency of the machining quality of machine by 90% thereby reducing the correction and rejection costs. The technology enables the machine to be "Smart Machine" tool and is one. The developed algorithm provides a framework to (1) map thermal errors, (2) develop prediction algorithm for thermal error compensation, (3) an implementation methodology and hardware for integration with machine tool. Currently the technology has been exclusive to imported machine tools and comes packaged as part of a machine tool. The developed framework enables the technology to be implemented in a wide variety of machine tools at a low cost.	

S. No.	Project Title	Technology	USP/ Novelty	Project Authority
		j. Development of Low Cost Machine Tending Robot 6 Kg & 10 Kg Capacity	Machine Tending Robots developed in this project will have high business potential as the cost will be lower than imported, increases the productivity due to unattended operation. Helps proliferation of robotics in Indian manufacturing sectors and technical universities at affordable cost, generates foreign exchange savings and improve the capability of indigenous manufacturers.	
		k. Development of Ultra Precision Micromachining Center	Ultra-Precision Micro machining centre developed in this project is a high precision machine with niche application areas including health care - dental implants, jewellery, watch components, aerospace - micro dies and moulds. These machines are currently not being manufactured in India due to the lack of manufacturing know-how. Most of them are imported from Germany, Swiss and Japan. The developed knowhow will provide a platform for development of ultra-precision and ultra-high precision machines. The completion of this project would fill the gap and make the technology available to the Indian Machine Tool Industry.	
3.	CoE at PSG College of Technology for development of three Welding Technologies	1. Automated Welding Systems for Specific Industrial Application;	Special purpose automated welding system has been developed for fabrication of Submersible Pumps and Motors, Six-Axis and five axis Articulated Robots for Low cost welding automation applications and for cladding applications.	Coimbatore
		2. Intelligent Welding Power Supply System with waveform shaping Techniques;	Wave form controlled gas tungsten arc welding (GTAW) power source has been developed for low cost multi material welding capability.	
		3. Alloy design for Welding Simulation & Analysis for Development of New Welding Electrodes & Filler Metals.	Duplex stainless steel electrodes (E2209), Nickel alloy welding electrodes (ENicrMo-3), Martensitic stainless steel electrodes (E410Mo), Hard facing electrodes and High strength Low alloy steel electrodes have been developed for offshore and marine applications, Power plant, heat exchanger and valves welding applications, making hydro turbine runners and impeller components, enhancing the wear life of earthmoving applications etc.	
4.	COE at Coimbatore by Si'tarc on Smart Submersible (6 inch) Pumping Solutions for Industrial and Water Supply Applications	Development of Smart Submersible (6 inch) Pumping Solutions for Industrial and Water Supply Applications	Technology to operate submersible motor at higher speed, 4000 rpm and above using BLDC technology. With this advanced technology Indian Pumps can compete in the world market on better technology rather than on price alone.	Coimbatore

S. No.	Project Title	Technology	USP/ Novelty	Project Authority
5.	COE at HEC Ranchi Development of 5 Cubic Meter Hydraulic Excavator - HEX 400	Development of 5CuM Hydraulic Excavator - HEX 400	Electronically controlled hydraulic system. External pilot line is eliminated for controlling the main control system. Precise controls of system.	HEC, Ranchi
6.	COE at IIScBangalore by SID for Additive Manufacturing for High Performance Metallic Alloys	Development of additive manufacturing machines based on electron beam/plasma/ laser technologies	Additive Manufacturing Technologies for a) High performance super metallic alloys b) Metal powdering technologies c) Mass production for CG industry d) Medical grade materials	IISc, Bangalore
7.	COE at IIT-Kharagpur along with a common facility namely Innovation Lab at IIT-Kharagpur, West Bengal	(1) Non-metallic Inclusions (NMI) and its control, new steel products through energy efficient EAF;	It is a process technology and not much research on "inclusion" exists.	IIT, Kharagpur
		(2) Multi- sensor integrated robotic system for hazardous jobs in manufacturing industry-	The equipment targeted would help in improving consistency and reliability of sampling and measurement along with enhancing worker's safety.	
		(3) Exploring solutions for various technological challenges in metal additive manufacturing technology and sharing the relevant know how with the Indian heavy engineering industries-	The projects are about exploring solutions for various technical challenges in metal additive manufacturing technology and sharing the relevant knowhow with Indian heavy industry.	
		(4) (a) Selection of raw materials for additive manufacturing applications in relation to the design requirements; (b) Life cycle analysis of additive manufacturing process for different materials-	Both the projects are related to additive manufacturing. The projects are about exploring solutions for various technical challenges in metal additive manufacturing technology and sharing the relevant knowhow with Indian heavy industry.	

S. No.	Project Title	Technology	USP/ Novelty	Project Authority
		(5) Remote monitoring and real time control of defects in friction stir welding process and preventive health monitoring of friction stir welding machine	It is a sensor based process helping in online inspection, correction of defects etc.	
		(6) Digital manufacturing and industrial internet of things for enhanced supply chain co-ordination, quality and maintenance-	Under the project, a small digital manufacturing lab will be set up, which would help the MSMEs to experience and understand the advantages of this set up.	
8.	Centre of Excellence for Automated Guided Vehicle in Textiles by IIT Delhi	Design and development of robot for sliver can transfer from one machine to designated machine	The objective of the project is to automate the can transfer process in the textile industry.	IIT Delhi
9.	TAFP by HMT MTL on Development of Four Guideway CNC Lathe	Development of Four Guide way CNC Lathe	Analysis of Head stock for Heavy Duty CNC four Guideway Lathe with weight carrying capacity 20Ton, 75 kW spindle power and more with Admit between centre 6000mm confirming ISO test standards. Developed as “Make In India” initiatives. Indigenously developed in INDIA in association of Fraunhofer, Germany for analysis of Head stock for load carrying capacity of 20 Ton.	HMT, Bangalore
10.	TAFP by HMT MTL on Develop Turn Mill Centre with Y axis SB CNC30TMY and integrate high precision C axis on the Main Spindle	Development of a Turn Mill Centre with Y axis SB CNC30TMY and integrate high precision C axis on the Main Spindle	The Machine has been developed under “Make In India” first Turn Mill Centre with C-Axis produced in India by HMT with Design & Development for C-axis by Fraunhofer, Germany .	HMT, Bangalore
11.	TAFP by Allied Engineering Pvt. Ltd on Manufacturing of Heavy Duty High Reliability Electrical Specialised Power Cables	Manufacture of heavy duty electrical specialised power cables	The objective of the project was to set up a flexible manufacturing system for specialized heavy duty electrical power cables. AEW had major interventions in Cable design & Material selection, Conductor processing technology and Insulation technology which are the critical parameters required for speciality power cable technology. It shall have the following techno-socio-economic benefits–employment generation, skill development of manpower, and overallup-liftment in quality of life by using better technologies, additional tax generation, saving in forex and enhancing nation’s global competitiveness by exports.	Allied Engineering Pvt. Ltd, Delhi

S. No.	Project Title	Technology	USP/ Novelty	Project Authority
12.	TAFP by PTC Industries Ltd on development & commercialization of Titanium Casting with Ceramic Shelling Technology	Development of the first ever titanium casting facility in India	The objective of this project is to set up the first ever Titanium Casting manufacturing facility in India. Titanium Castings have wide applications in Heavy Industries like Energy & Nuclear Power, Oil, Gas & Petrochemical, Marine & Shipping, Aerospace & Defence. This is the latest and most advanced technology for producing Titanium cast components in the world available with very few companies worldwide	PTC Industries Ltd., Lucknow
13.	TAFP by IPM Pvt. Ltd on Robotic Laser Cladding Technology for Hydro Turbines using Tungsten Carbide Powder	Development of Robotic Laser Cladding Technology for hydro turbines using tungsten carbide powder	The proposed technology shall provide a cutting-edge solution to erosion faced by the underwater hydro turbine components, thereby saving the annual loss to Indian hydro power industry due to outage and the amount spent annually on new imported hydro turbine components. The USP of the new technology in comparison to conventional technology include: 3X life; Faster turnaround time; Faster repair Speed; Highly Energy Efficient ; Coating Possible In Difficult to Reach Areas; Higher Erosion & Wear Resistance; Environment Friendly Technology.	IPM Pvt. Ltd., Delhi

3.4.3 Common Engineering Facility Centre (CEFC)

3.4.3.1 Common Engineering Facility Centres (CEFC) under the scheme would enable Machinery manufacturers to create infrastructure facilities such as common precision machining, heat treatment, quality control, skill infrastructure design and other such common facilities required of industrial clusters level in the region. Central assistance is given by way of a one-time grant-in-aid not exceeding 80% of the project cost for setting up of Common Engineering Facility Centres and balance 20% is required to be invested by the Special Purpose Vehicle.

3.4.3.2 **Nine such CEFCs have been established as detailed below:**

(i) Training & Skill Development Centre at HMT Machine Tool, Bengaluru

(ii) CEFC by HEC, Ranchi

(iii) CEFC at Bardoli, Surat for Textile Engineering by Science and Engineering Technology Upliftment (SETU) Foundation

(iv) Industry 4.0 Demo-cum-Experience Centre at Pune by Samarth Udyog Technology Forum (SUTF)

(v) Industry 4.0 Demo-cum-Experience Centre at IIT Delhi by IITD-AIA Foundation for Smart Manufacturing (IAFSM)

(vi) Industry 4.0 Demo-cum-Experience Centre at IISc Bengaluru

(vii) Industry 4.0 Demo-cum-Experience Centre at CMTI, Bengaluru

(viii) Design and Training Centre for Steel Plant Equipment at Bahadurgarh (Haryana) by Korus

(ix) Modernization of Precision Metrology Lab at CMTI, Bengaluru.

3.4.4 Integrated Industrial Infrastructure Facility (IIIF)

3.4.4.1 Under the Integrated Industrial Infrastructure Facility (IIIF) component, the Tumakuru Machine Tool Park (TMTP) with an area of about 540 acres is being set up in Karnataka. The park is being established by an SPV formed by the Karnataka Industrial Areas Development Board (KIADB), Govt. of Karnataka and the Department of Heavy Industry, Government of India at an estimated cost of approximately ₹ 421 crores. This machine tool park shall provide the infrastructure for setting up about 150 machine tool manufacturing units and shall facilitate locating the component and machinery manufacturers at one place. This park thus aims to make the sector cost effective, encourage the manufacture of hi-tech machine tools, enhance export capability and attract more investment. TMTP has about 343 acres of allotable land and so far 33 plots with 118 acres of land have been allotted to eligible investors.

Aerial view of Tumakuru Machine Tool Park, Karnataka

Integrated Machine Tools Park near Tumakuru, Karnataka

3.4.5 Technology Acquisition Fund Programme (TAFP)

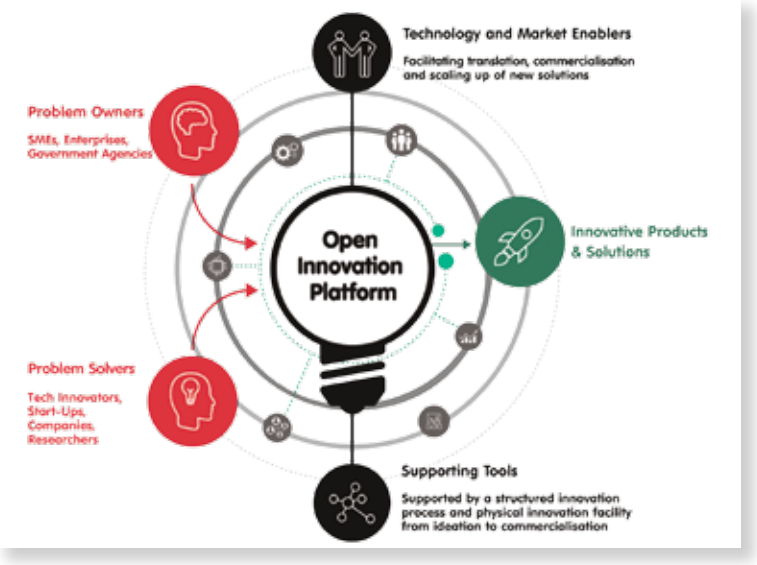
The Technology Acquisition Fund Programme (TAFP) helps the capital goods industry to acquire and assimilate specific technologies readily available for acquisition. Under TAFP capital goods sector units are supported by way of a grant of up to 25% of the cost of technology acquisition of each technology with a ceiling of ₹10 crore. Under TAFP, five foreign manufacturing technologies have been acquired pertaining to CNC Lathe technologies, CNC Turn Mill Centre, Titanium Castings, High Voltage Cables and Laser Cladding of hydro-turbine blades.

3.4.6 Development of web based open manufacturing technology innovation platforms

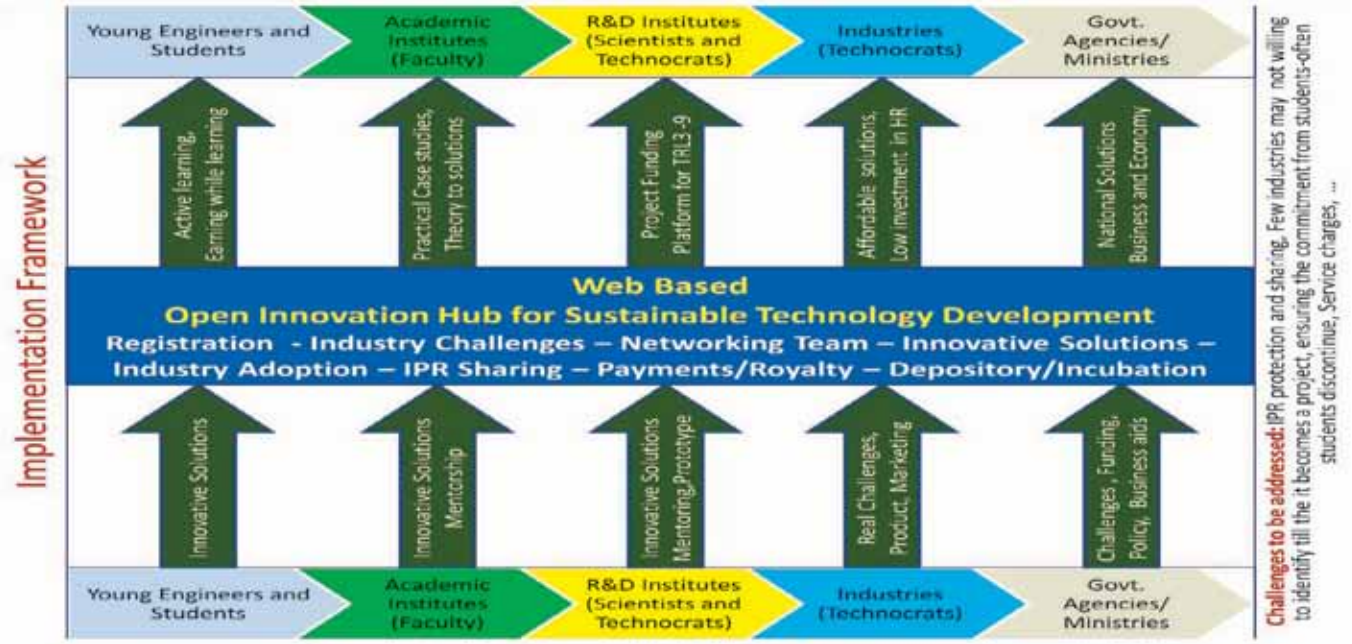
The Department of Heavy Industry has been continuously working towards making the Capital Goods sector in India globally competitive and more 'Aatmanirbhar' by augmenting 'Make in India' efforts of the Government. Since the domestic industry does not presently have robust technology capabilities to manufacture high end machines, technology driven innovations are urgently required. Based on the consultations held with stakeholders and experts and the experience gained from implementing the Scheme, it was decided to develop web-based open manufacturing technology innovation platforms to kick-start and create an environment for R&D and innovation and facilitate identification of technology problems faced by Industry and crowd source solutions for the same in a systematic manner. These virtual networks shall enable India's young and talented engineers to join hands with the manufacturing professionals, engineering experts, Academics, Researchers, entrepreneurs and the Industry to find innovative solutions to India's manufacturing technology needs. Besides facilitating the development of advanced technology solutions, these platforms will provide win-

win opportunities for the solution providers and also facilitate start-ups and angel funding of the innovations. In addition, the Department proposes to throw 'Grand Challenges' for the indigenous development of 'mother' manufacturing technologies through these Platforms in order to build robust technologies and help achieve the vision of a globally competitive manufacturing sector in India.

Six Technology Platforms have been developed by IIT Madras, the Central Manufacturing Technology Institute (CMTI), the International Centre for Automotive Technology (iCAT), Automotive Research Association of India (ARAI), BHEL and HMT. These platforms will focus on development of manufacturing technologies that are urgently required in India. Over 38,000 students, experts, Academic Institutes, Industries and labs have already registered on these platforms to work together.



Web based open manufacturing Technology Innovation Platforms



3.4.7 Third Party evaluation of the Scheme

The midterm third party evaluation of the Scheme was carried out by four eminent experts under the chairmanship of Director, IIT Jodhpur. The report of the Evaluation Committee inter alia recommends that, *"the present scheme has paved the way towards fulfilling the technological and infrastructural requirements of the Capital Goods sector in a limited way. However, to cater to the needs of the entire Capital Goods industry across the country, the up- scaling of the present scheme by at least 10 times in physical as well as financial terms would lead to creation of the desired impact on Make in India initiative of the Govt. of India."*

CHAPTER 4

Automotive Industry

4.1. Overview of the Automotive Industry:

4.1.1 Auto Sector:

The automobile industry is one of the key drivers of the Indian economy. Since the liberalization of the sector in 1991 and allowing 100 percent FDI through automatic route, Indian automobile sector has come a long way. Today, there is a presence of almost every global auto manufacturer in the country. All categories of vehicles like two-wheeler, three wheelers, passenger cars, light commercial vehicles, Trucks, Buses, Tractors, heavy Commercial vehicles *etc.* are produced in India. India is the largest manufacturer of 2W and 3W and 4th largest manufacturers of passenger cars in the world. The manufacturing of automobiles including trucks, buses, cars, three wheeler/two wheelers etc. in India has risen at a very high pace. The industry produced about 26 million vehicles including Passenger Vehicles, Commercial Vehicles, Three Wheelers, Two Wheelers and Quadricycles in the financial year 2019-20.

4.1.2 Agricultural Tractors Sector:

Agricultural Machinery mainly consists of Agricultural Tractors, Power Tillers, Combine Harvesters and other Agriculture Machineries & Implements. Due to negligible production of Power Tillers, Combine Harvesters and other Agricultural Machineries, this sector is mainly dominated by Agricultural Tractors. Indian Tractor Industry is the largest in the world (excluding sub 20 HP belt driven tractors used in China), accounting for one third of the global production. The other tractor markets in the world are China and the United States.

Indian Tractors were exported to the US and other countries like Malaysia, Turkey, etc. Indian players have aggressively started exporting to African countries by bidding for government tender requirements. As such, Indian tractors are gaining acceptance in international markets. As the cost of tractors in India is the cheapest in the world, there is tremendous scope for improvement of export of tractors in future.

4.2. Role of DHI in development of Automobile Sector:

DHI is not the custodian of any Act/ Rules related to the Automobile sector. However, Automobile sector is governed and impacted by various rules and regulations enacted by different departments *viz*

i. MORTH: CMVR
ii. MOEFCC: Emission regulations
iii. MOPNG: Regulations related to Fuel Efficiency and Fuel used for vehicles (BS VI)
iv. MOP: Energy Efficiency requirement through BEE
v. MOF: Taxation structure
vi. DOC: Foreign Trade Agreements
vii. DPIIT: Internal Trade and Make in India

DHI is mainly engaged in policy advocacy for promotion of Automobile industries. In addition, DHI works towards achieving the target set under the Automotive Mission Plan and for promotion of Electric Mobility.

4.3. Important initiatives taken in respect of auto sector by the Department of Heavy Industry (DHI):

DHI being the nodal Department for automobile and auto component industry, takes up an array of issues relating to the automobile sector at various platforms for its growth. In this regard, DHI has taken various important initiatives, as outlined below:

4. 3.1 Development Council for Automotive and Allied Industries (DCAAI):

The Development Council constituted under the chairmanship of Secretary, Heavy Industry is focused upon the issues relating to the growth of the sector. This forum provides an opportunity to identify key areas of concern for which appropriate policy modulations and other identified areas of action can be taken up by various Ministries/Departments of the Government of India. According to the Industries (Development and Regulations) Act, 1951, "*A Development Council shall perform such functions of a kind specified in the Second Schedule as may be assigned to it by the Central Government and for whose exercise by the Development Council it appears to the Central Government expedient to provide in order to increase the efficiency or productivity in the scheduled industry or group of industries renders or could render to the community or to enable such industry or group of industries to render such service more economically*".

The funds allocated under DCAAI to the Department are utilised for supporting R&D & study projects received from Industry in Collaboration with IITs/NITs, ARAI and such like Institutions through Expression of Interest (EoI) issued by Department. The proposals sent are evaluated by a Screening Committee (headed by Joint Secretary) and Main Committee (Apex Committee – headed by Secretary, DHI) considers the projects and accords them final administrative and financial approval. During the last financial year 2019-20, ₹ 8.8 crore was released for funding various projects.

4.3.2 UNIDO-ACMA-DHI Cluster Development Project:

The project aims to provide practical services to Small and Medium Enterprises (SMEs) for enhancing the performance of domestic SMEs in the automotive component industry to facilitate their inclusion into national, regional and global supply chain requirements (quality, cost and delivery), to upgrade and enhance the competitiveness of an increasing number of target companies along the supply chain in India, including lower tier suppliers. The 1st Phase this project was completed in June, 2018 and 2nd Phase commenced from 1st January, 2019 for a period of three years.

4.3.3 Indo-German Joint Working Group (JWG) on Automotive Sector:

Indo-German Joint Working Group (JWG) on automotive sector was established under the aegis of Indo-German Joint Commission on Industrial and Economic Cooperation (JCM). This is the fifth JWG; the other four groups are in the areas of Agriculture, Coal Infrastructure and Tourism. The first meeting of the JWG was held on 6.2.2009 in New Delhi with three sub-working groups i.e. (i) Sub-working Group on Technology (ii) Sub-working Group on Commercialization & Framework Development and (iii) Sub-working Group on Institutional Cooperation, Training & Skill Development. The last meeting (12th meeting) of this Joint Working Group was held in Feb, 2020 in India. JS (Auto) co-chaired the aforesaid meeting as a representative of DHI.

4.3.4 Automotive Skill Development Council (ASDC):

The Department of Heavy Industry has taken an initiative for "*Formulation of Skill Development Plan*" with a view to make available adequate, trained manpower for sectors like machine tools, heavy electrical, auto industry etc. so as to ensure proper streamlined and high growth rate during the current fiscal and in future.

As far as the auto sector is concerned, the task of identifying the skill gaps in the industry was undertaken through the specialized group formed during the framing of AMP 2006-16, whereby the industry was expected to require an additional 25 million workforces by 2016. Based on the deliberations held in the Department on various occasions, the Society of Indian Automobile Manufacturers (SIAM) prepared a Detailed Project Report (DPR). Accordingly, an Automotive Skill Development Council (ASDC) has been set up under the oversight of NSDC. ASDC was incorporated as a society under the Societies Registration Act, 1860 in March 2011.

The Indian Automotive Industry that plays a major role in the country's manufacturing and employment sector to emerge as one of the most important driving forces in the opening up of the economy and its growth. To achieve this, the industry will need adequate policy support from the government and skill support from its employees. While the policy matters will be taken up at requisite levels the skilling part is being taken care of by ASDC through different programs. These programs have an extensive digital outreach and are targeted to re-skill the workforce at various levels. This endeavor of ASDC is rooted in its belief that training people and skilling them with state of the art technologies is not just about giving jobs but it is about keeping the workforce employable for tomorrow. Today ASDC has 474 training partners and 815 training centres to accommodate the same.

Recently ASDC has collaborated with Google and SpeakIn to provide Digital Marketing Training for the automotive dealers to enhance skill development initiatives keeping in pace with the rapidly changing technology trends and emerging industry needs. ASDC has certified almost 350,000 people in various job categories starting from the manufacturing process and after sales and so on in the last two years. ASDC started training people in two domains: sales consultants for passenger cars and service technicians for passenger cars, as the largest volume of manpower requirement came from these two segments. ASDC has successfully enrolled 24,608 candidates and 7,771 candidates have completed their training in various states.

ASDC ACTIVITIES

Delivery Mechanism:

1. Scemes and initiatives

- Recognize Skills Training Acquired through Informal channels
- completed a total of 1,09,702 enrolments with 38 employers
- successfully completed 67,419 candidates' assessments
- Recognition of Roadside Technicians
- Best in Class Employers (BICE)

2. National Apprenticeship Promotion Scheme (NAPS)

The activities during the year are:

- 26 apprenticeship curriculums were approved and made available on the apprenticeship portal in FY 19-20
- ASDC is interfacing with SIAM, ACMA, FADA members for propagation and awareness about NAPS amongst all OEMs / Suppliers/ Dealerships in Manufacturing, Sales, Service and allied/support services
- ACMA HR Cluster Meet and SIAM Human Capital Group meeting and briefed the group about recent reform in NAPS
- 4,000+ contracts generated, and 205 establishments are engaged under NAPS in FY19-20

3. Recruitment and Placement

ASDC participated in 31 Recruitment Drives Pan India and have placed 20,000+ candidates.

4.3.5 End of Life of Vehicle (ELV) Policy:

While MoRTH is reported to be engaged in preparing draft legislation for End of Life of Vehicle Policy in consultation with all stakeholders, the main role of DHI in the matter is to provide/create a proper roadmap, considering all related aspects before such a policy is laid out. There is a need for creating infrastructure for dismantling vehicles in a scientific and environment friendly manner. There is an immediate need for generating awareness and public opinion for voluntarily giving the old vehicles for dismantling, for which incentives or some policy structures are to be created. There are other issues related to working out compensation structure for vehicle owners, setting environment/public health/ safety parameters for scrapping, system for collection of vehicles to scrapping/dismantling centers, linkage between recycling or raw materials and location of scrapping centers etc.

4.3.6 Voluntary Vehicle Recall Information:

The vehicle recall is as per SIAM's guidelines "*Voluntary Code on Vehicle Recall*" announced in July 2012. This guideline addresses the potential issues that exist in a motor vehicle that do not meet safety requirements due to a manufacturing defect and subsequent remedial actions. A vehicle is covered under safety recall for seven years and targets the first buyer. The decision on recall takes into account the degree of seriousness or severity of any possible hazard involved. This data is maintained by SIAM with a link on the DHI website which is updated on a regular basis.

4.3.7 Automotive Mission Plan 2016-26:

4.3.7.1 Vision Statement: Based on the envisaged future scenario, the Vision Statement for the Indian Automotive industry under AMP2026 is as follows:

Vision 3/12/65

"By 2026, the Indian Automotive industry will be among the top three of the world in engineering, manufacture and export of vehicles and components, and will encompass safe, efficient and environment friendly conditions for affordable mobility of people and transportation of goods in India comparable with global standards, growing in value to over 12% of India's GDP, and generating an additional 65 million jobs"

4.3.7.2 The Objectives of Automotive Mission Plan, 2026:

'Automotive Mission Plan' for the period of 2006-2016 was a step further from Auto Policy 2002. It set growth targets for the automotive industry and recommended interventions to make India a global automotive hub. The Mission Plan envisaged to make India emerge as the destination of choice in the world for design and manufacture of automobiles and auto components, with output reaching a level of US$ 145 billion (accounting for more than 10% of the GDP) and providing additional employment to 25 million people by 2016. It envisaged increase in automotive industry from the level of ₹ 169000 crore to reach ₹ 5,61,200 – 7,31,400 crores by 2016.

The success of the Automotive Mission Plan 2006-16 gave a definite boost to the industry and Government of India who have jointly worked on the next collective vision for the Indian automotive industry, AMP 2016-26 aims to deliver on three critical aspects also known as "Vision 3/12/65". The idea is to bring Indian automotive industry among the top three of the world in engineering, manufacturing and export of vehicles and auto components. Second part of the vision is to ensure that the automotive industry contributes to over 12% of the Indian GDP and generates an additional 65 million jobs to fulfil a major part of its responsibility, thus 3/12/65.

AMP 2026 also seeks to define the trajectory of evolution of the automotive ecosystem in India including the specific regulations and policies that govern research, design, technology, testing, manufacturing,

import/ export, sale, use, repair, and recycling of automotive vehicles, components and services. In terms of production and basic numbers, under the AMP 2016–26 vehicle sales are expected to touch 66 million units by 2026 with additional investment of ₹ 4.5 trillion-5.5 trillion. A large share of the production is expected to be exported globally. This growth is expected to directly impact the auto component sector, providing it huge opportunities. Indian automotive industry has evolved very significantly and we are now the 4th largest market for passenger vehicles.

Department of Heavy Industry has been working for formulation of National Automotive Policy for Holistic development of the Automobile sector in India. After series of one to one stakeholder consultation, Department has finalized the draft Automotive policy, which inter alia proposed to:

- Adopt a long-term road map for emission standards beyond BSVI and harmonize the same with global standards by 2028
- Roll out CAFE norms till 2025 and beyond ands setup incentives/ penalties and introduce banking, trading
- Adopt a composite criterion based on length and CO_2 emissions to classify vehicles for differential taxation purposes
- Harmonize automotive standards over the next 5 years in line with WP-29
- Improve the skill development and training eco-system, increase accountability of ASDC and implement a Labor Market Information System
- Retain tax exemption on different levels of R&D expenditure with strong audit control
- Scale-up of indigenous R&D with commercially viable innovations
- Harmonize AIS and BIS standards on safety critical parts over next 3 years
- Fast track adoption of Bharat New Vehicle Safety Assessment Program

4.3.7.3 The core objectives of AMP2026 can be summarised under five themes as follows:

- AMP 2026 aims to propel the **Indian Automotive industry to be the engine of the "Make in India" programme**, as it is amongst the foremost drivers of the Manufacturing sector: Over the next decade, the Indian Automotive sector is likely to contribute in excess of 12% of the country's GDP and comprise more than 40% of its manufacturing sector. Around 13% of the GST collection of the Government can be attributed to the Indian Automotive industry. The Automotive industry can be termed as the mother of the manufacturing sector in an economy, as its fortunes directly impact the fortunes of several related manufacturing industries (*e.g.* Iron & Steel, Aluminium, Lead, Rubber, Plastics, Glass, Machine tools, Moulds & dies, Chemicals, and Capital Goods) and several in the Services sector (*e.g.* Logistics, Banking, Insurance, Sales & distribution, Service & repair, and Fuels). The rapid growth of the Indian Automotive industry will provide a strong fillip to the Micro, Small and Medium industries of the country across multiple sectors, the development of which is one of Government's principal objectives.

Electric 3 wheeler

- AMP 2026 aims to make the **Indian Automotive Industry a significant contributor to the "Skill India" programme** and make it one of the largest job creating engines in the Indian economy: The incremental number of jobs to be created by the Indian Automotive industry over the next decade is 65 million. This is over and above the 25 million jobs created in the previous decade. The automotive industry has numerous backward and forward linkages with over two dozen industries across manufacturing and service sectors, across rural and urban India, and across the formal and informal sectors of the economy. Most of the jobs in the Indian Automotive industry involve acquiring specialist skills, and confer sufficient technical and soft skills to progress professionally within and outside the automotive sector. In addition to creating high skilled jobs, the industry also provides employment opportunities to a large number of semi-skilled and low skilled workers.

- **AMP 2026 seeks enhancing mobility:** The focus of AMP 2026 is to promote safe, efficient and comfortable mobility for every person in the country, with an eye on environmental protection and affordability through both public and personal transport options. The objective is to provide a choice to the consumer to access multiple options for mobility. AMP 2026 aims to enhance mobility in the country while also addressing the need to minimize the negative externalities arising from the use of automobiles, such as, congestion, air pollution, global warming, and road accidents. AMP 2026 seeks to achieve a healthy balance between the human aspiration of personal transport and efficiency of public transport in India.

- **AMP 2026 seeks to increase net exports of the Indian Automotive industry several fold:** AMP 2026 recognises that the Indian Automotive industry (both vehicles and auto components) has the potential to scale up exports to the extent of 35-40% of its overall output over the next ten years and become one of the major automotive export hubs of the world. In line with this, AMP 2026 makes several prescriptions to improve competitiveness, technological advancement, infrastructure investment, and branding. On the flip side, the import intensity of automobiles is likely to increase in the coming years on account of the increasing use of electronics and the enhancement in the value of design and engineering in making vehicles and components. At present, India is deficient in skills and capabilities in both these areas, namely auto-electronics and design/ engineering. AMP 2026 seeks to increase the share of local manufacture of vehicles and components, in particular, automotive electronics, light-weighting materials, moulds & dies, and machinery, which will save the country substantial foreign exchange and be a shot in the arm for the "Make in India" programme as well. AMP 2026 also aims to increase the quantum of indigenously carried out research, design, engineering and manufacturing in both automotive vehicles and components. Developing a robust ecosystem for design and development of automobiles in India is an important pillar that will determine the industry's success. This will also go a long way in building Brand India from current Low Cost Manufacturer tag to something more aspirational.

- **Comprehensive and stable policy dispensation required:** Given the distinctive contributions of the Indian Automotive Industry to the socio-economic development of the country, it is imperative that the industry is subjected to a comprehensive and predictable policy regime that governs it in a stable and sustainable manner. World over, every economically advanced nation has succeeded in attaining its developed status with Government's support and nurturing of its automotive industry. Given the widespread and differential impact of the Automotive sector on different stakeholders and the vibrancy of India's democracy, regulations and policies that govern the Auto sector are subject to pulls and pressures of several lobbies. Therefore, to ensure a fair and predictable governing environment for the Indian Automotive industry, AMP 2026 spells out the Government's views on the path of evolution of key policies for the Auto sector, so that all regulations impacting the industry are formulated comprehensively in scope and scale to be implemented harmoniously across the nation and both at the centre and the states.

4.3.8 FAME India Scheme:

National Electric Mobility Mission Plan (NEMMP) 2020: Unveiled in 2013 aimed at 6-7 million electric/ hybrid Vehicles by 2020. As part of the mission, the Department of Heavy Industry formulated a scheme, namely, FAME – India [Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles in India} to promote hybrid/electric technology in transportation so as to reduce dependence on fossil fuels. The overall scheme was proposed to be implemented over a period of 6 years, till 2020, wherein it was intended to support the hybrid/ electric vehicles market development and its

manufacturing eco-system to achieve self-sustenance at the end of the stipulated period. The scheme is one of the most important green initiatives of the Government of India, which will be one of the biggest contributors to reduction of pollution from the road transport sector. Phase-1 of the scheme was approved initially for a period of 2 years, commencing from 1st **April 2015 *i.e.* FY 2015-16 and FY 2016-17, with an outlay of ₹ 795 crore**. The duration of Phase-1 of the scheme was extended from time to time and the last extension was allowed upto 31st March 2019, with enhancement of total outlay to ₹ 895 crore.

The scheme had four focus areas *i.e.* Technology Development, Demand Creation, Pilot Project and Charging Infrastructure.

Charging Infrastructure

Market creation through demand incentives is aimed at incentivizing all vehicle segments i.e. 2-Wheelers, 3-Wheelers Auto, Passenger 4-Wheeler vehicles, Light Commercial Vehicles and Buses. The scheme lays greater emphasis on providing affordable and environmental friendly public and private transportation/vehicular mobility for the masses. The demand incentive is available to buyers (end users/ consumers) in the form of an upfront reduced purchase price to enable wider adoption. The demand incentive amount has been determined for each category (vehicle - technology - battery type), taking into account the principles of Total Cost of Ownership (TCO), Pay-back Period on account of fuel savings, cost of maintenance etc.

Specific projects under Pilot Projects, R&D / Technology Development and Public Charging Infrastructure components are approved by the Project Implementation & Sanctioning Committee (PISC), under the chairmanship of Secretary (Heavy Industry), for extending grant under focus areas of the scheme.

4.3.8.1 Achievement of Phase-1 of FAME India Scheme:

- In this Phase of the Scheme about 2.8 lakh hybrid and electric vehicles are supported by way of demand incentive amounting to about Rs 359 crore resulting in saving of about *78 million liters of fuel and reduction of about 194 million Kg of CO_2 as on 19th Jan,2021.*
- Projects worth about ₹ 158 Crores are sanctioned for the technology development projects like establishment of testing Infrastructure, setting up of 'Centre of Excellence' for Advanced Research in electrified transportation, Battery Engineering etc. to various organisations/ institutions like Automotive Research Association of India (ARAI), IIT Madras, IIT Kanpur, Non Ferrous Material Technology Development Centre (NFTDC), Aligarh Muslim University (AMU) etc.
- Under this scheme, DHI has sanctioned 425 electric and hybrid buses to various cities in the country with a total cost of about 280 Crores. These 425 buses are deployed in various cities such as Indore, Lucknow, Guwahati, J&K, Kolkata, Hyderabad, Shimla, Mumbai etc.
- Under charging infrastructure, Government of India has sanctioned 520 charging stations / infrastructure in cities like Bangalore, Chandigarh, Jaipur and NCR of Delhi. The

Department of Heavy Industry also entrusted the task of making three expressways fully E-vehicle friendly by way of establishment of charging infrastructure at regular intervals to its public sector undertakings like BHEL and REIL. These highways are Delhi-Chandigarh, Delhi-Jaipur and Mumbai-Pune Expressways. Out of these recently Delhi – Chandigarh highway is declared as the first expressway of the country which is E-vehicle friendly expressway.

4.3.8.2 Phase-II of FAME India Scheme:

Based on the experience gained during Phase 1 of FAME Scheme and suggestions of various stakeholders, the Department of Heavy Industry notified Phase-II of the Scheme, vide S.O. 1300 dated 8th March 2019, with the approval of Cabinet. Phase-II of the scheme is for a period of 3 years, commencing from 1st April 2019, with an outlay of ₹ 10,000 crore. The main objective of the scheme is to encourage faster adoption of Electric and hybrid vehicles by way of offering upfront Incentive on purchase of Electric vehicles and also by establishing the necessary charging Infrastructure for electric vehicles. The scheme will help in addressing the issues of environmental pollution and fuel security.

In this phase of the scheme, more emphasis is given on electrification of public transportation, that includes shared transport. Demand Incentives on operational expenditure model for electric buses will be delivered through State/city transport corporation (STUs). In 3W and 4W segments, incentives will be applicable mainly to vehicles used for public transport or registered for commercial purposes. In the e-2Ws segment, focus will be on private vehicles. The Scheme aims to create demand by way of supporting 7090 e-Buses, 5 lakh e-3 Wheelers, 55000 e-4 Wheeler Passenger Cars and 10 lakh e-2 Wheelers. Creation of charging infrastructure will be supported in selected cities and along major highways to address range anxiety among users of electric vehicles under the Scheme.

4.3.8.3 Salient features of FAME India Scheme Phase II:

a. This phase aims to generate demand by way of supporting 7090 e-Buses, 5 lakh e-3 Wheelers, 55000 e-4 Wheeler Passenger Cars (including Strong Hybrid) and 10 lakh e-2 Wheelers.

b. With greater emphasis on providing affordable & environment friendly public transportation options for the masses, the scheme will be applicable mainly to vehicles used for public transport or those registered for commercial purposes for all segments of vehicles.

c. For the e-2W segment, this scheme is also applicable to privately owned registered e-2W also.

d. Depending upon the offtake of different categories of e- Vehicles, the provision has been made in the scheme for inter as well as intra segment wise fungibility.

e. Scheme is applicable to only those xEVs, which are fitted with advanced chemistry batteries.

f. Scheme is applicable to only those vehicles, which is defined as Motor Vehicle as per CMVR and eligible to be registered with the Road Transport Authority.

g. In this phase, the demand incentive is linked to battery capacity i.e. ₹ 10,000/ KWh for all eligible Vehicles except e-Buses (for which the incentive is ₹ 20,000/KWh), subject to capping at certain percentage of cost of eligible Vehicles [i.e. 40% for e-Bus and at 20% for all other categories of eligible Vehicle].

h. Demand incentive is extended to only those vehicles having ex-factory prices less than the threshold value.

i. Further, keeping in view market and technology trends in batteries, a provision has been made for revision of demand incentives from time to time under the scheme.

4.3.8.4 Achievement (as on 15th Jan,2021) under FAME India Scheme Phase II:

a. **OEMs and Vehicle Models:** So far, 31 OEMs have registered their 92 EV Models for availing benefit of demand incentives under Phase-II of FAME Scheme. About 44000 EVs have been incentivised to the eligible user of the electric vehicle under the Scheme.

b. **Sanction of Electric Buses:** In order to promote electric mobility in public transport, the Department has invited the proposal from cities and state transport corporations through an Expression of Interest for deployment of Electric Buses under Operation cost model basis. After examining the proposal, the department sanctioned 6265 no of e-buses to 65 cities for intra-city and intercity operations across 24 states/ UT under the Scheme. These buses will run about 4.5 billion Kilometer distance during their contract period and are expected to save cumulatively about 1.5 billion liters of fuel over the contract period, which will result in avoidance of 3.4 million tonnes of CO_2 emission.

c. **Sanction of Charging Infrastructure:** To address the issue of range anxiety, Department of Heavy Industry issued an Expression of Interest (EoI) inviting Proposals from Urban Local Bodies (ULBs)/municipal corporations, PSUs (State/Central) and public/private entities desirous for deployment of EV charging infrastructure in different states/ cities for availing incentives under Fame India Scheme Phase II. Thereafter, the Department sanctioned 2877 Electric Vehicle Charging Stations amounting to ₹ 500 Crore (Approx.) in 68 cities across 25 States/UTs under FAME India (Faster Adoption and Manufacturing of Hybrid & Electric Vehicles in India) scheme phase II.

d. **Publicity:** DHI conducted publicity activity of EVs in a few colleges/universities across the country.

CHAPTER 5

Technology Up-gradation and R&D

5.1 India has established a strong and diversified manufacturing base for the production of a wide variety of basic and capital goods to meet the requirements of various sectors including heavy electrical, power generation and transmission industries, process equipment, automobiles, ships, aircrafts, mining, chemicals, petroleum, etc. However, the share of the manufacturing sector in India's economy is still quite low. There is a considerable potential for growth which, in a globalised world economy, has to be based on improving productivity and competitiveness. Innovation and adoption of new technologies are the key factors in competitiveness. In the Indian context, opening of the economy and consequently the entry of international players has substantially enhanced the need for production of goods and services matching international standards. Indian Industry has undertaken a number of steps to meet the needs of the customers in a fast changing environment. CPSEs under the Department are also pursuing their plans to adopt and adapt new technologies through collaboration and in-house R&D efforts. Some of the initiatives in this regard are described below:

5.2 National Automotive Testing and R&D Infrastructure Project (NATRIP)

1. National Automotive Testing and R&D Infrastructure Project (NATRIP) is the largest and one of the most significant initiative of the Government of India in the Automotive sector so far and represents a unique joining of hands between the Government of India in Dept. of Heavy Industries, a number of State Governments and Indian Automotive Industry to create a *state-of-the-art* Testing, Validation and R&D infrastructure in the country. The project envisaged upgrading two centres at ARAI, Pune and VRDE, Ahmednagar and setting up of 4 Centres of state-of-the-art testing and homologation at ICAT/Manesar, GARC/Chennai, NATRAX/ Indore, and NIAMIT/Silchar.

2. NATRIP was initially approved at a cost of ₹ 1718.00 crore. The Cabinet Committee on Economic Affairs (CCEA) in the month of July, 2016 has approved the second revised cost estimate of ₹ 3727.30 Cr

3. NATRIP is being funded by the Central Government through a mix of grant-in-aid, interest free loan and user charges to be collected from the centres for the facilities developed under the project.

4. Under National Automotive Testing and R&D Infrastructure Project (NATRIP), the following centres have been set up: -

i. International Centre for Automotive Technology (ICAT), a full-fledged testing and homologation centre within the northern hub of automotive industry at Manesar in the State of Haryana;

ii. Global Automotive Research Centre (GARC), a full-fledged testing and homologation centre within the southern hub of automotive industry at a location near Chennai in the State of Tamil Nadu;

iii. Up-gradation of existing testing and homologation facilities at Automotive Research Association of India (ARAI), Pune and at Vehicle Research and Development Establishment (VRDE), DRDO, Ahmednagar;

iv. National Automotive Test Tracks (NATRAX), world-class proving grounds, testing tracks in Indore, Madhya Pradesh;

v. National Institute for Automotive Inspection Maintenance and Training (NIAIMT), National Specialized Hill Area Driving Training Centre as also Regional In-Use vehicle management Centre at Dholchora (Silchar) in the State of Assam.

5. Current Status of various facilities planned under NATRIP at various centres.

(i) In accordance with the approval of CCEA, NATRIP has completed 21 of the 22 sanctioned facilities. Some of the facilities created under NATRIP of various centres are given below:

- ICAT, Manesar – Passive Safety Lab, Powertrain Lab, EMC Lab, Fatigue Lab, CAD/CAE, Component Lab, Infotronics Lab, NVH Lab, Calibration Lab, Tyre Test Lab and Certification Lab, Electromagnetic Compatibility (EMC) Lab.
- GARC-Chennai- Fatigue Lab & Certification Lab, Test Tracks, CAD/CAE Lab & Infotronics Lab, Powertrain Lab, Electromagnetic Compatibility (EMC) Lab.
- NATRAX- Indore – Powertrain Lab, Vehicle Dynamics Lab, CAD/CAE lab and Test Tracks (13 out of 14 being operational), Test Tracks.
- VRDE, Ahmedanagar – Electromagnetic Compatibility (EMC) Lab & ABS Test Track.
- NIAMIT, Slichar – Training Test Tracks, Model I & M, Mechanics Training Institute (MTI), Driver Training Institute (DTI).
- ARAI, Pune – Passive Safety Lab, Powertrain Lab & Fatigue Lab.

The remaining 1 facility under construction/ commissioning are:

- Advanced Passive Safety Lab being constructed & commissioned at GARC/ Chennai.

(ii) Centers of Excellence have also been created for facilitating R&D in the auto sector at the following locations:

- ICAT, Manesar–Component Lab andNVH Lab,
- GARC-Chennai- Passive Safety Lab, Infotronics Lab and Electromagnetic Compatibility (EMC) Lab.
- NATRAX- Indore – Vehicle Dynamics Lab, and Test Tracks
- ARAI, Pune –Powertrain Lab and Fatigue Lab.

6. Major Activities at a glance in FY 2019-20:-

i. Driving Training Institute (DTI) is conducting regular driving training courses in the FY 2019-20 under self-sponsored category and also continuing Cab Driving Training program (Non-Transport to Transport Category).

ii. DTI under NIAIMT has got sponsorship from TATA Motors and TATA AIG--SKIP for conducting 2 days Refreshers Residential Driving Training program.

iii. DTI under NIAIMT has got sponsorship from Orion Edutech Pvt. Ltd. & Shriram Transport Finance Corporation for conducting Heavy Motor Vehicle (commercial) and Light Motor Vehicle driver training programme.

iv. NIAIMT has partnered with National Skill Development Corporation for Recognition of Prior Learning (RPL) component of the Pradhan Mantri Kaushal Vikas Yojana (PMKVY-2.0) Program. Recognition of Prior Learning commonly known as RPL largely refers to an assessment process used to evaluate a person's existing skill sets, knowledge and experience gained either by formal, non-formal or informal learning.

v. NIAIMT has been selected for target allocation under **PMKVY 2.0** for the North East Government Institutions Short Term Training (STT) Program. A total of 270 nos. as targets have been allocated for NIAIMT under the program across 3 NSQF job roles.

vi. Total 1363 nos of candidates trained under various training courses of DTI & 27nos of candidates trained under MTI in this FY (2019-20) from April 2019 – March, 2020.

vii. Total 117 nos. of commercial vehicles have been tested & certified at Inspection & Maintenance Station NIAIMT from April 2019 -March'2020.

viii. Bajaj auto ltd. donated two Diesel for training in 3-Wheeler.

ix. NIAIMT was given access to VAHAN portal for online vehicle certification.

5.3. Automotive Research Association of India (ARAI)

1. Located in the picturesque surroundings in the western part of Pune, Maharashtra, India and built on approximately 15000 sq. metres area, The Automotive Research Association of India (ARAI) houses various test facilities.

2. ARAI is a co-operative research organisation that was established in 1966 by the Indian Vehicle and Automotive ancillary manufacturers and the Government of India. ARAI is affiliated to the Ministry of Heavy Industries and Public Enterprises and recognised by the Department of Scientific and Industrial Research. It is an ISO 9001-2015, ISO 14001-2015, ISO 45001-2018 and ISO 27001-2013 certified organisation. ARAI is also accredited as per ISO/IEC 17025-2005 by National Accreditation Board for Testing and Calibration Laboratories (NABL) for its major certification facilities.

3. ARAI is registered as a society under the Societies Registration Act XXI of 1860 and major automobile and ancillary manufacturers are its members. The Governing Council consists of members from Indian Automotive Industry and representatives from the Government of India.

4. ARAI has been playing a crucial role in assuring safe, less polluting and more efficient vehicles. It provides technical expertise in R&D, testing, certification, homologation and framing of vehicular regulations.

5. The state-of-the-art Research & Development and Testing facilities at ARAI

are increasingly utilised for sponsored and in-house Research & Development projects as well as domestic CMVR Type Approval and export homologation activities.

Major Achievements During the Year:

A. Achievements during the period April 2019 to March 2020:

A.1 The total income during Financial Year 2019-20 was ₹418.75 crore.

A.2 Out of this total income, the operational income was ₹363.39 crore.

A.3 A total of 2622 Type Approval cases were opened during the Financial Year 2019-20.

A.4 Collaboration with CHARIN Association for CCS & CHADEMO Association for CHADEMO

A.5 Development of AC and DC Public Charging Station and EV & EVSE Simulator for Electric Vehicles

A.6 Accreditation of Telecommunication Engineering Centre, Department of Telecommunications as "Conformity Assessment Body" for Testing of Telecom Equipment

A.7 Energy and Environment Foundation Global Sustainability Award 2019 in Gold Category

A.8 Energy Conservation Award conferred by Maharashtra Energy Development Agency (MEDA)

A.9 Organized Hardware Edition of Smart India Hackathon (SIH) 2019 along with NCL and IISER, Pune

A.10 E-Lite – Electric Bus Development: A Conventional Bus with Internal Combustion Engine (Diesel Powertrain) has been converted to Electric propulsion

A.11 Development of Mobile Energy Storage Device for 2 & 3 Wheeler EVs

A.12 Centre for Green Mobility at ARAI – Homologation and Technology Centre (ARAI – HTC), Chakan inaugurated by Shri Arjun Ram Meghwal, Hon'ble Minister of State, Ministry of Heavy Industries and Public Enterprises

A.13 ARAI conferred with 'Global Sustainability Award 2019' in Gold Category by Energy and Environment Foundation

A.14 Director – ARAI conferred with Nari Shakti Puraskar – 2019 at the hands of Hon'ble President, Shri Ram Nath Kovind

A.15 ARAI conferred with Green Technology Award 2020 by ETNow for contribution towards adoption of EV Technology

A.16 Director – ARAI conferred with Business Leader of the Year Award 2020 by ETNow

B. Achievements during the period April 2020 to September 2020:

B.1 This year, the total income till 30th September 2020 is ₹112.95 crore and the anticipated total income for the year is ₹278.17 crore.

B.2 Out of the total income till 30th September 2020, operational income is ₹94.44 crore.

B.3 A total of 941 Type Approval cases have been opened till 30th September 2020 in this financial year.

B.4 Director – ARAI conferred with Nari Shakti Puraskar – 2019 at the hands of Hon'ble President of India, Shri Ram Nath Kovind.

B.5 ARAI conferred with 'Global Sustainability Award 2019' in Gold Category by Energy and Environment Foundation.

B.6 ARAI Recognized by ET Now with Green Technology Award 2020

B.7 Director – ARAI Conferred by ET Now with Business Leader of the Year Award 2020

B.8 Centre for Green Mobility at ARAI – Homologation and Technology Centre (ARAI – HTC), Chakan inaugurated by Shri Arjun Ram Meghwal, Hon'ble Minister of State, Ministry of Heavy Industries and Public Enterprises

B.9 Technology know-how transfer of India specific AC and DC Charging Stations (developed by ARAI) to Indian industry for its manufacturing has been initiated

B.10 Contribution to National Cause – Fighting COVID-19 Pandemic

- Development of Face Shield for the benefit of health and safety personnel engaged in fighting coronavirus pandemic
- Providing testing support to start-ups for testing of ventilators

5.4 Fluid Control Research Institute (FCRI), Palakkad, Kerala

Fluid Control Research Institute (FCRI) is an autonomous organization under Government of India, Department of Heavy Industry (DHI) located at Palakkad, Kerala. FCRI was established in 1987 with the assistance from UNDP and is registered under the Societies Registration Act XXI of 1860. The Institute has full-fledged NABL accredited laboratories for the calibration/ testing of flow products in water, oil and air media. It is a premier institute in our country rendering industrial services and solutions to industry.

The fluid flow laboratories of FCRI are at par with National/International standards for flow measurement. The facilities are being utilized for sponsored R&D programmes as well as calibration/evaluation of flow products. The accreditation has been awarded on the basis of compliance to NABL-criteria and as per ISO standard 17025-2017. The laboratories accredited by NABL automatically get the approval from the Asia Pacific Laboratory Accreditation Cooperation (APLAC) and the International Laboratory accreditation Cooperation (ILAC).

The Flow Laboratories at FCRI are at par with similar international facilities in Europe, as have been proved through regular inter-laboratory comparison programmes with National engineering Laboratory UK, Delft Hydraulic Laboratory Netherland, Denmark Tech. Institute Denmark, NSIT USA and Czech Metrology Institute, etc. The major objective of the Institute is to establish research and development assistance to the flow product industry and to assist in upgrading quality and reliability of flow measurement and Instrumentation in our country. Higher level skill development and training of industrial personnel is also an integral activity. The quality assurance of flow products at FCRI are by and large carried out with reference to international standards like ISO, ISA, API, ASTM and OIML.

FCRI has received the renewal of recognition as Scientific and Industrial Research Organization from the Department of Scientific and Industrial Research, Ministry of Science and Technology.

Ongoing/ recently completed projects by FCRI

a) **MoU with Bhabha Atomic Research Centre & Ministry of Defence**:- A MoU for setting up, installation & commissioning, operation & maintenance of a Vibration Endurance Shaker (VES) at FCRI for testing/qualification

of special purpose valves has been signed by Advanced Technology Vessel Project (ATVP), Ministry of Defence, BARC and FCRI.

b) **Project to improve efficiency of pumping system 'Petti and Para':-**To improve the efficiency of pumping water in low lying paddy fields which will substitute the existing pumping system (Petti and Para) was successfully experimented at FCRI. The site test of the project is in progress, it is expected to considerably reduce energy bills for pumping for farmers.

c) **Surge Studies on Modified Surge Tank (SG) for IGCAR**:- The primary objective of the study was to develop suitable devices to minimize the Sodium column height in the surge tank with no Argon entrainment in the actual loop.

d) **"LOTUS"-Low-cost innovative Technology for water quality monitoring and water resources management for Urban and rural water System in India**:- FCRI is partnering with IIT Guwahati and IIT Mumbai in a project funded by European Union and DST on digital water solution in order to optimize operational efficiency in water management practices and improve water quality and availability for municipalities and consumers.

e) **DAS system for Liquid Propulsion System Centre (LPSC), Bangalore**:- The design, supply, installation and commissioning of data acquisition system (DAS) for LPSC, Bangalore including software and hardware was completed.

f) **Remote witnessing of Calibration/test**:- The quality evaluation of flow products at FCRI was physically witnessed by the customers/ third party inspectors. This was mandatory in many cases. Under the pandemic situation, to overcome this difficulty FCRI made arrangements for the remote witnessing of calibration/testing of flow products for its customers.

g) **Calibration of Mass flow meters for GAIL, Bangalore**:- FCRI received an order from GAIL, Bangalore for the calibration of the coriolis mass flow meters.

h) **Model approval test**:- Model approval test as per OIML R 117 on mass flow meters for M/s Aegis Logistics Limited has been completed.

i) **Inter Laboratory Comparison**:- As part of the quality assurance and reliability establishing process an Inter Laboratory Comparison programme was successfully completed using critical flow venture nozzle as artefact with CEESI, Colorado.

j) **Severe Accident Test simulating rig for NPCIL**:- NPCIL has requested FCRI to set up a severe accident test facility to qualify the instrumentation parts employed in Nuclear power plants. This facility needs a supersaturated steam environment for a duration of 7 days inside the test chamber. The MSLB facility available at FCRI was modified and automated to create the temperature, pressure and humidity requirements set for the test profile. A control valve and an ON/OFF valve was successfully tested for severe accident conditions.

k) **Testing of Electro Mechanical Injection Valves for M/s Brahmos Aerospace and M/s LPSC:** Liquid Propulsion Systems Centre (LPSC), Thiruvananthapuram, requested FCRI for conducting High Flow tests on their PS1 and PSOM SITVC valves, which are used to control the flow of Strontium perChlorate into the main exhaust of PSLV launch vehicles. The Test-rig was

implemented at the new High Pressure High Flow Test Facility at FCRI. The test lines for the SITVC Valves would be set up by modifications to existing loops so as to meet the Test requirements. The required flow will be developed by a multistage centrifugal pump. A 3" NB loop is provided for testing the valve. The flow rate through the test loop will be monitored using two flow meters. Pressure and temperature of test fluid (DM water) will be monitored by a pressure transmitter (PT) and a temperature transmitter (TT) respectively. The tests are being carried out regularly.

5.5 Central Manufacturing Technology Institute Tumkur Road, Bengaluru

Central Manufacturing Technology Institute, a premier R&D organization in the manufacturing technology, established in the year 1962, is an autonomous body, registered as a Society and under the Administrative control of Department of Heavy Industry, Ministry of Heavy Industries & Public Enterprises. The institute is assisting Indian Industries to achieve excellence in technology and stimulate economic growth. The Institute is active in metal working technology, evolving solutions to national strategic initiatives and is a one-stop destination for end-to-end solutions in manufacturing technology deployment. The Institute is guided by a Governing Council consisting of representatives from industries in the manufacturing sector, machine tool manufacturers, Government nominees and other stakeholders.

CMTI continues to support the Indian engineering industry and various sectors through its value added services in manufacturing technology and product development/realization activities. It continues to play a vital role of a catalyst in the application of manufacturing technology. The Institute is equipped with trained manpower, equipment and facilities for design, research, prototype production, manufacturing, testing, inspection, calibration, product development, training and technical information.

Over the years CMTI evolved as Centre of Excellence for Machine Tool and Manufacturing Process Development; developed special purpose machines for various needs and significantly assisted MSMEs by providing high value added services. This has been possible with in-house capabilities covering the entire product development cycle viz., ideation, design, manufacturing, testing of pilot plants, and system integration in related areas. Today, CMTI undertakes research, develops process technologies and machines, trains manpower and deploy the solutions to applications. The focused domains include Ultra-precision machine tools, Special purpose machines, Sensors and machine controls, Textile machineries, Smart manufacturing and Industry-4.0 enabled technologies, Additive and other special manufacturing processes, Precision Metrology, Aircrafts LRUs including test rigs development & qualifications, Skilling and Reskilling (experienced learning). There are about 35 technologies which are ready for licensing to industrial use and to manufacture in multiple. CMTI also hand-holds the technology licensee and the start-ups through incubation/consultancy, until commercialization of acquired technology.

CMTI has successfully developed:

a. Five planetary mixing machines of various capacities (upto 4.5 tonne) for different customers.

b. The High speed shuttleless rapier loom developed by CMTI has been successfully tested for waiving range of cotton and polyester yarns.

c. Sensor Technology development facility and Nano manufacturing facilities having 16 clean room facilities have been created.

d. CMTI in its endeavour to develop smart machines has developed smart ultra-

precision diamond turning machine built in with several intelligent features. Under the aegis of 'Samarth Udyog' initiative for Industry 4.0 of DHI, CMTI is establishing "Smart Manufacturing Development and Demonstration Cell" with the consortium of six industries. While Smart Factory is being established, 11 IIoT solutions relevant to metal cutting industries have already been developed for the benefit of MSMEs.

e. CMTI has contributed significantly towards Linear Electrohydraulic Servo Actuators (LESA) indigenous efforts of Aeronautical Development Agency (ADA). CMTI has designed test rigs and established the protocols for three categories of LESA actuators. These have been successfully handed over to ADA on 16th August 2019. The LESA actuators developed indigenously for LCA-TEJAS aircraft have undergone successful flight tests at supersonic speed on 28th May 2020.

f. Compact Air Bearing Rotary stage, Temperature sensors, IIoT module for energy monitoring in CNC machines are important machine tool aggregates developed at CMTI in the current year.

Facility created

3D Scanner Developed

Sensor Technology Development Facility (STDF) of CMTI: Development of various sensors for industrial applications

NMTC Building – Clean Room Infrastructure development

Clean room labs at ground and underground floor

Nano Manufacturing Technology Center (NMTC) of CMTI: Nano manufacturing for strategic sectors

Shuttle less rapier loom of 450 RPM developed by Centre of Excellence at CMTI, Bengaluru

5.6 R&D Initiatives by some of the CPSEs.

Some of the technology up- gradation and R&D efforts of the Central Public Sector Enterprises under the Department of Heavy Industry are detailed below.

5.6.1 Bharat Heavy Electricals Ltd. (BHEL):

Major R&D/ Technology up gradation achievements in 2019-20

5.6.1.1 During 2019-20

Some significant developments carried out during the year are:

1. Prototype of 12 m electric bus which successfully completed the CMVR compliance homologation tests and obtained the TAC-Type Approval Certification from ICAT-Manesar.
2. Under the AUSC project, the following developments have been completed:
   - Commissioning of High Spin Rotor Test Rig (DST Project) to simulate low cycle fatigue & creep.
   - Commissioningof High Temperature Furnace (12T) for piping bends of IN617M & Inconel 740.

5.6.1.2 During 2020-21 upto Sep'20

1. Developed Composite Insulators with 1600 mm creepage for usage in overhead traction lines in high-polluted zones for Indian Railways.
2. Developed Dynamic Hot spot Temperature Measurement System (HTMS) for traction motor type IM3302 AZ using Inductive telemetry.

5.6.2 Rajasthan Electronics & Instruments Limited, (REIL)

Innovation and the pursuit of new business opportunities are essential for growth of an organization. The research & development activities of the Company are aimed at achieving the Corporate Mission of meeting the existing and emerging needs of customers and serve them through development/ marketing and delivery of quality products and dependable after sale service. The R&D activities not only target the new development, but improvement in existing products/processes also to improve productivity and overall performance.

REIL has been providing cost effective solutions in dairy electronics and the renewable energy sectors to the country in general and the rural masses in particular. The R&D centre is equipped with latest tools & technologies based equipment and skill resources are recognized by Department of Science & Industrial Research, Government of India and are engaged in development of various dairy electronics and solar projects.

Major areas of operation:

- Project Conceptualization, Design & Development
- Absorption & Transfer of Technical know-how
- Indigenization of the Existing Range of products
- Engineering Support to Materials Management, Production and Business Division
- Technical Documentation / Project proposals & Report Generations
- Management of Design, Drawing & Drafting Section and Technical Library
- Securing IPR of the company

The following Research & Development activities were undertaken during the year

a) **Development of Handheld Milk Adulteration Tester**:- The Handheld Milk Adulteration Tester is an ideal, low cost solution designed for small Collection Centres/ Consumers to discriminate between genuine and spurious milk.

b) **Development of Handheld Milk Fat Tester**:- The instrument are based on Near Infrared (NIR) technology and suitable for small milk vendors/sweet shoppers.

c) **Advanced Data Process Unit (ADV-DPU):-** It is an advanced and latest version of the Data Processor Unit Product line, with cutting edge technological features incorporated.

d) **4G Modem with WiFi**:- DPMCU has the facility to store the milk collection date and upload it on server remotely. In the existing DPMCU, milk collection data can be uploaded to the server via modem only. As per requirement received, there is a need for WiFi to upload the data on the server.

5.6.3 HMT Limited

HMT has established R & D centers in all manufacturing units to meet the needs of design & development of different products, with a focus to improve product technology and enhance product competitiveness.

R&D has been a focus area for the company in its endeavor to serve the customer better and develop new products. R & D activities are carried out in each subsidiary with particular reference to customer needs in product technology, quality, reliability and price competitiveness. Upgrading the existing products with additional features, design optimisation and improvement in aesthetics are the major thrust areas. The initiative has resulted in many new products and also up-gradation of existing products.

Highlights of R&D activities carried out / planned in the different product areas of HMT's domain are as below:

HMT Limited (Food Processing Machinery Division)

- Development of Hydraulically operated Homogeniser, Cap. 50, 100 & 200 lph.

5.6.4 HMT Machine Tools Limited:

All the manufacturing units of the Company have its own R&D facilities to meet its needs. The focus of R&D is to progressively achieve self reliance in

product technology, upgrading the existing products with additional features. This approach has resulted in development of the following products during 2019-20.

R&D is a continuous process and closely linked with the various operations of the Company and benefits could be derived as a result of the above R & D. Consistent efforts are being made in-house to design, develop and manufacture new products as per technologies available as well as state-of-art and technology centric special purpose machines. Technology development plans are focused to facilitate reduction in cost of production by value engineering, thereby providing viable import substitution as well as Joint Working Arrangement with overseas foreign Institute & IIT's etc.

1. Directing Gear for SONAR Array for Submarine:

The Directing Gear System (DG) is a ship-borne electric driven mechanism to rotate and accurately position the acoustic sensor array of Hull/Bow Mounted Sonar for calibration purpose. Directing Gear System for Hull/ Bow Mounted Sonar is already developed indigenously through a collaborative effort between Naval Physical Oceanographic Laboratory (NPOL, Kochi), Bharat Electronics Limited (BEL, Bengaluru) and HMT Machine Tools Limited (HMT, Kalamassery). Based on the requirements from MDL/IN, the Company has developed a compact and lightweight DG system indigenously for Bow Mounted Sonar. Directing gear system for Talwar class of ships was designed to meet sonar requirements for INS Talwar and to accommodate light weight Bow Mounted Sonar. The major components are made of pure Titanium and Titanium Alloys to reduce the weight.

Directing Gear –Talwar for SONAR Array for Submarine

2. Twin Head Spindle Grinder:

Twin Head Grinder is indigenously developed by HMT Machine Tools limited at Ajmer Division as a Make in India Initiative. The Machine is a heavy duty CNC Cylindrical Grinding Machine for finishing grinding of Railway Axles and different contours in single setup.

This is a high technology and highly productive machine configured with a moving wheel head concept. It is used for simultaneous grinding of both the end rail axles and equipped with auto gauging, auto dynamic wheel balancing electronic probing and diamond roll dressers for dressing both the grinding wheels simultaneously.

This Grinding machine features the Stationery Table, Two Grinding Wheel Heads, simultaneously on both ends using independent wheel heads. Job length of 3000 mm can be held on this machine, the power of each wheel head is 37 Kw.

Formed grinding wheels are used to grind the bearing seat and dust cover with fillet in one plunge. The machine is used for the increase in volume requirement of railway axles. This machine saves space, cost per axle and foreign exchange value and reduces manpower. Design was completed during 2019-20, Final Assembly is under progress.

3. Flow Forming Lathe (FFL):

HMT had developed Flow Forming technology using conventional methodology during the 1990's with its own R&D capabilities, since the development was too early for the market to accept, further development was stopped. Now, the demand and market potential for FFL is growing further. HMT indigenously designed and developed a modern forming technology suited for producing seamless tubular components, first of its kind made in India. This machine will meet the defence requirements of the country (Ordnance Factories) and save revenue via import substitution. First Machine was supplied to Ordnance Factory during 2019-20

and Second machine with some change in features is in Final Assembly and work is under progress at Bengaluru Unit.

4. Servo Manipulators:

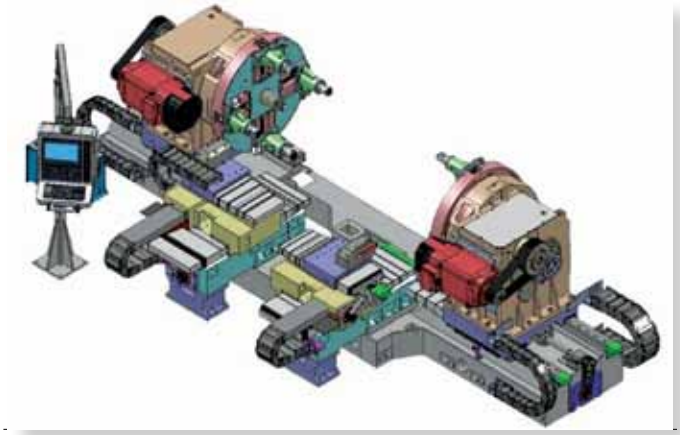
HMT MTL contributed previously to the nuclear sector and has well established technology and potential to further cater the requirements of nuclear industries. MTL has recently developed Servo Manipulator with six degrees of freedom operating on force feedback mechanism which is an in-house design for IGCAR, Chennai. We have also provided advanced features in control and user interface, using advancements in digital microelectronics. MTL is developing Servo Manipulators to BARC which is under progress

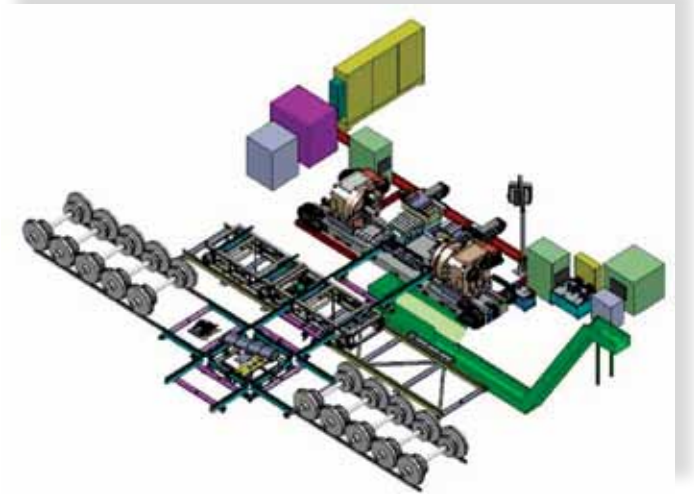
5. Surface Wheel Lathe (SWL):

Broad gauge surface wheel lathe (SWL) is a new form of lathe for HMT, where new areas of design and innovative production process are researched and implemented to meet the demand of railways. This CNC lathe featured simultaneous reprofiling of both the railway wheels which are new or worn out with higher accuracy (<0.3 mm on the same axle) and surface finish. The advanced CNC surface wheel lathe is capable of undertaking cuts of depth up to 8mm on both the wheels of the axle. The unique design features of HMT's SWL are majorly follows:

- Cast iron machine bed with hardened and ground guideways, adequate openings are provided for chip disposal.
- Two individually powered (2 x 37kW) headstocks with precision machined spindle, Face plates which operate at predetermined angular position and self centering jaw for effective wheel set clamping and holding.
- It is equipped with automatic lifting, centring and lowering of wheel sets. New feature of non-contact centering system accurately position the wheel with different diameter (range 750-1250 mm) to the machine.
- Wheel wear measurement consists of a set of contact probes which takes the measurement at predetermined locus of the wheel profile. The wear data is processed in the controller and software suggests the economical depth of cut.
- Latest version of Sinumerik 828D is incorporated with flexibility to include any wheel profiles of different wheel flange thickness.

The SWL is intended for locomotive wheel sets of thread diameters up to 1250 mm, the lathes are adapted to roll in and roll out the wheel set on the same side. Major buyer of SWL is COFMOW. Assembly is under progress.





Surface Wheel Lathe (SWL) – Conceptual Layout

6. Disinfection Gateway:

The Chitra Disinfection Gateway co-developed, manufactured and commercialized by HMT Machine Tools Limited, Kalamassery in technical collaboration with Sree Chitra Tirunal Institute for Medical Sciences & Technology (SCTIMST), Trivandrum is meant for use in places where people are coming from a public area. The unit aims at reducing the microbial/virus load that a person may carry through his body, clothing, and bags. The unit works on a dual mode operation using the disinfectants, hydrogen peroxide (H2O2) mist and ultra violet (UV) rays.

This Disinfection Gateway employs 0.5% hydrogen peroxide in mist form, which is generated using an atomizer and is employed to reduce the virus load from a person's body surfaces, clothing and bags. As per the pocket guide on chemical hazards for hydrogen peroxide published by National Institute for Occupational Safety and Health (NIOSH), the safe inhalation limit is 75 ppm and the Chitra Disinfection Gateway has 1.5 ppm design limits, providing a safety margin of 50 times. The UV – C rays are used only for disinfecting the chamber, when it is unoccupied (i.e. only after a person exits the gateway) and hence do not pose any health or safety hazards.

From design considerations and based on the experimental validation studies, the Chitra Disinfection Gateway commercialized by HMT Machine Tools Ltd, Kalamassery ensures ample precautions of chemical safety aspects considering the exposure limits for hydrogen peroxide. Also on the efficacy side the current formulation yields exceptionally good results in bioburden reduction.

Disinfection Gateway Base Model

Disinfection Gateway - Installed at Cochin International Airport Limited

Disinfection Gateway -Model CGPT

Disinfection Gateway - Installed at Kannur International Airport Limited

- **Products Development and Technology Up gradation plans.**
  - Development of CNC Multi Spindle Automats in technical collaboration with M/s CMTI, Bengaluru
  - Collaborative technical project with ISRO reg. product development was finalized in August 2019.

5.6.5 Andrew Yule & Company Limited (AYCL)

The R&D activities carried out by the Company's different Divisions were as follows:–

I. Steps have been taken for:

a) Tea Division's Innovation cells for designer / specialty tea of AYCL are in operation.

b) The Engineering Division has an in-house R&D facility for product development.

c) Electrical Division successfully completed the type testing of BIS Star 1 rated 100kVA Transformer.

d) Successfully developed highest rating of 4 MVA, 33kV HT to LT Automatic Voltage Regulator (AVR).

e) Initiatives have been taken for the augmentation of test equipment required for NABL accreditation for in-house testing facilities.

f) The procurement of a Partial discharge test setup is in progress required for measurement of recurrent discharges to extend life expectancy.

II. **Benefits derived like product development, cost reduction or import substitution:**

a) Overall surge in the Price Realization of Made Tea (INR 184.57 per Kg in 2019-20 vis-à-Vis INR 176.66 per kg in 2018-19) by maintaining consistent Quality.

b) All time record production of Made Tea (1972 kg/Ha) due to best agricultural practices adopted.

c) Electrical Division – Kolkata Operation (ED-KO) received orders for 50 nos. and 200 nos. 100kVA Star 1 rated Distribution Transformers from CESC, Mysore and HESCOM respectively.

d) ED-KO received and successfully executed the first order of 4 MVA, 33 kV HT to LT Automatic Voltage Regulator (AVR).

e) Electrical Division- Chennai Operation (ED-CO) is now using a digital impulse measuring system that improved customer satisfaction and quality of testing due to the effective waveform analysis. This meets the requirements of NABL regarding the uncertainty of measurements

f) Continuous efforts are being made by the Engineering Division at all levels to update product profile to sustain in the market as potential suppliers and also to match with client's application requirement.

g) Imported critical Sinter Waste Gas Fan Rotor assembly for integrated Steel Plants viz. RINL, SAIL-Bhilai, Bokaro and Durgapur, substituted with AYCL make rotors.

h) Engineering Division has developed High Efficiency and economic Heavy & medium duty Industrial Fans through in-house R&D which now compete with International players in India.

Also Retrofitted imported ones, saving foreign exchange.

5.6.6 The Braithwaite Burn & Jessop Construction Company Ltd. (BBJ)

Awareness about the new technologies and products is being imparted to the senior management for utilizing the same. Presentations on the new and innovative technologies are being organized. Due to various factors viz. conventional nature of job, cost and size constraints etc., Research & Development activities are not presently taken up by the Company.

However, in an increasingly competitive environment, BBJ has recognized the importance of R&D to maintain its leadership position. To further its competitive edge with the limited resources and concerted efforts by the employees, BBJ developed new launching schemes for steel bridges in the past. BBJ developed an effective erection scheme to replace old steel bridges with newly fabricated girders in a very short time on running lines. In the past, BBJ developed forward launching plans for DMRC project, Ganga Bridge at Munger and also for other projects. BBJ has developed appropriate cutting plans for fabrication to reduce wastage. Up-gradation of technology is being done from time to time based on operational need by means of installation of new software to promote Digital India campaign, monitor project execution and accounting related tools.

5.6.7 Engineering Projects (India) Limited (EPI)

Considering the company's nature of job, there is limited scope of Research & Development as EPI is executing the work based on the technical specifications and requirement of clients. However, EPI has actively provided state of the art technology like Prefab Technology, Glass Fibre Reinforced Gypsum (GFRG) system and Light Gauge Sheet Framed Structure (LGSF) system. The company is making continuous efforts to upgrade technology and construction techniques.

The company has developed a state of the art Border Infrastructure and Surveillance System for international projects, adopting a combination of physical and electronically controlled barriers, real-time display monitoring with an intelligence system using sensors, optical fiber cables and HRC camera's keeping the international border safe and secure for prevention of infiltration/trafficking.

EPI used excavated material like limestone/clinkers for stabilization of sand dunes for construction of roads and fence foundation, etc. EPI has started using rapid monolithic disaster proof technology in construction of mass housing and other construction projects.

EPI has entered into an agreement with a Global Technology Provider to source technology for Flue Gas Desulfurization (FGD) system for reduction of SO_2 (Sulphur Dioxide) and NO (Nitrogen Oxide) from Flue Gas Thermal Power Projects within permissible limit.

CHAPTER 6

Welfare of SCs/STs/OBCs/PwDs and Minorities

6.1 It has been the constant endeavour of this Department to oversee the obligations of Central Public Sector Enterprises to promote the welfare of minorities in the light of Government's directive on this subject. Instructions issued by the Government in respect of reservation in appointment/ promotion for SCs/STs/OBCs, Persons with Disabilities and minority communities are followed by PSEs under the Department.

6.2 An SC/ ST Cell is functioning within the Department, under the supervision of a Liaison Officer of the rank of Director/ Deputy Secretary for proper monitoring of the implementation of the reservation policy of Government of India.

6.3 The work force in the CPSEs consists of a large number of persons from different minority communities. Their integration into the mainstream workforce is emphasized in all CPSEs and there is no discrimination on account of their caste, creed or religious beliefs. Facilities like residential accommodation etc. are extended to employees on equal terms. Every Year, Qaumi Ekta/Sadbhavna Diwas is organized where people from all sections of the society including women and children participate to stimulate the spirit of oneness, national integration and harmony.

6.4 All operating CPSEs under this Department are under the provisions of the Rights of Persons with Disabilities Act, 2016.

6.5 Department of Heavy Industry issues Essentiality Certificate to Persons with Disability for availing eligible concession on excise duty on purchase of modified cars. As a step towards simplification of Government procedure, the affidavit to be submitted by the applicant in this regard has been replaced with the self-attested certificate. The detailed eligibility conditions are displayed on the website of the Department. During the year 2019-20, for the period 01.04.2019 to 31.03.2020 total number of applications received were 613 and certification were issued to 338 persons and during the period from 01.01.2020 to 31.12.2020, total number of applications received were 1062 and certificates were issued to 736 persons.

6.6 The annual data about representation of SCs, STs, OBCs and Persons with Disabilities in the Department of Heavy Industry as on 1st January of each year is furnished on-line to DoPT, through the portal launched by Department of Personnel & Training (www.rrcps.nic.in) for representation of reserved category in posts and services.

CHAPTER 7

Empowerment / Welfare of Women

7.1 In order to safeguard the rights especially of female employees, the Department of Heavy Industry in accordance with the directions issued by the Government for the preservation and enforcement of rights to gender equality and justice to working women employees, an Internal Complaint Committee has been constituted in the Department for redressal of complaints related to sexual harassment of women in accordance with the Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013.

7.2 Department of Heavy Industry and the CPSEs under its administrative control constantly endeavour to ensure that there is no discrimination against women on any count. All members of the staff are made conscious of the principles of gender mainstreaming and gender justice enshrined in the Constitution of India.

7.3 In order to create awareness regarding human rights, especially of female employees, in accordance with the directions issued by the Government for the preservation and enforcement of rights to gender equity and justice to women employees, a Complaints Committee has been constituted in the Department for redressal of complaints related to sexual harassment of women. Department actively encourages women employees to freely participate in all activities like meetings, seminars, competitions, training etc. This helps in ensuring their fuller integration into the mainstream workforce.

7.4 The instructions issued by the Ministry of Women & Child Development on Gender Budgeting with a view to identify sectors/ services where initiatives can be taken by the Department for the implementation of schemes/programmes for promoting gender equality, are being followed in Department of Heavy Industry and CPSEs under the administrative control of the Department.

CHAPTER 8

Vigilance

8.1 The Department has a Chief Vigilance Officer of the rank of Joint Secretary/Additional Secretary to look into vigilance matters of employees of the Department as well as Board Level Officers of the Central Public Sector Enterprises and Organizations under its administrative control. He/she is assisted by a Director/Joint Director and an Under Secretary along with a Vigilance Section.

8.2 The main areas of work of the Vigilance Section are:-

- Dealing with complaints against Board level appointees of CPSEs under the administrative control of the Department of Heavy Industry as well as the officers of the Department;
- Periodical review of vigilance matters;
- Issue of vigilance clearance in respect of Board level appointees in CPSEs and all other appointments based on PESB recommendations requiring ACC approval as well as officers/ officials of DHI;
- Interfacing with CVC, CBI and CVOs of PSEs under DHI to streamline flow of information in respect of vigilance matters;
- Tendering advice on issues of procedural irregularity;
- Vetting charge sheets in respect of vigilance cases against Board level appointees;
- Monitoring and completion of Performance Appraisal Reports of officers and staff of the Department as well as Board level appointees of its CPSEs and maintenance of the same;
- Monitoring submission of Annual Property Return by officers and staff of the Department of Heavy Industry as well as Board level appointees of its CPSEs;
- Filling of APARs under SPARROW in respect of IAS/IPS/IES/IFS officers & Group 'A' officers of CSS/CSSS.

8.3 The Vigilance Section lays considerable emphasis on preventive vigilance and is promoting the use of IT to bring about greater transparency. Punitive measures are also taken in appropriate cases and followed up, wherever required.

8.4 Vigilance Awareness Week was observed by DHI from 27.10.2020 to 02.11.2020 to generate and spread awareness against corruption.

8.5 Vigilance cases are usually of a complex nature, demanding varied and detailed information, comments and analysis into the allegations, with due assistance from the CVOs of the CPSEs. There were 23 vigilance cases/complaints in the beginning of the year 2020. 40 new cases/complaints were received till 31.12.2020. Investigation was completed in 34 cases and they were disposed-off after the approval of competent authority and in consultation with the Central Vigilance Commission, wherever required.

8.6 Vigilance clearance was obtained from CVC in case of 16 Board level officers for recruitment / confirmation / extension/ retirement / resignation and Vigilance Clearance of 205 Officers of DHI/PSUs was granted by CVO, DHI for various purposes.

CHAPTER 9

Progressive Use of Hindi

9.1 In keeping with the motto "Shramev Jayate", Hindi Section of the Department of Heavy Industry is making all efforts to make the Official Language Hindi a medium to transact government business in accordance with the goals set by the Department of Official Language and to suggest ways to remove impediments in the use of Official Language for official work. This Department has one post of Deputy Director and Assistant Director each, two posts of Senior Translation Officers and two posts of Junior Translation Officers for achieving this objective. The Department of Heavy Industry continued its efforts towards greater use of Hindi in official work during 2020-21. To review the progress made in the use of Hindi, there is a provision of the quarterly meeting of the Departmental Official Language Implementation Committee to be held under the chairmanship of Joint Secretary, in-charge of Hindi.

9.2 During the year 2020, the inspecting team of the Department carried out inspection of 01 Unit/Office of Central Public Sector Enterprises under the administrative control of this Department to monitor the progress made in the implementation of Hindi and also directed the officers concerned to achieve the targets prescribed in the Annual Programme issued by the Department of Official Language, Ministry of Home Affairs.

9.3 All the Cabinet Notes, Notifications, Resolutions and Circulars, Parliament Questions & papers laid on the Table of both Houses of the Parliament, Annual Report, CAG reports, Delay Statements etc. were issued both in Hindi and in English.

9.4 In order to encourage the use of Hindi in official work amongst the officers/employees of the Department, "Hindi Fortnight" was organized from 14 September, 2020 to 29 September, 2020 in which competitions were organized. Officers/Staff of the Department participated in these competitions enthusiastically.

9.5 Public Sector Undertakings, under the administrative control of this department also continued to make vigorous efforts to implement the Official Language Act and provisions there under. Various Seminars, Competitions and Workshops were organised in these PSUs to propagate the use of Hindi. **"HINDI FORTNIGHT/HINDI WEEK/HINDI MONTH"** were celebrated in these PSUs with great zeal.

Competition during Hindi Fortnight

CHAPTER 10

Implementation of Sevottam

10.1 The Department of Heavy Industry is committed to the goal of effective and responsive administration and service on delivery excellence. The SEVOTTAM framework of the Government of India has been implemented in the Department. Following steps have been taken in this direction. In addition to above, the Department has appointed/designated various Nodal Officers at appropriate levels for the smooth functioning of the Department as well as for helping its staff and the public. Some of such areas are described below:

In an effort to streamline the system of Redressal of Public Grievances, a Joint Secretary in this Department is functioning as Joint Secretary (Public Grievances).

In order to process litigation matters and to further coordinate, a Nodal Officer has been designated to ensure timely action.

10.2 Grievance Redress Management:

The Department receives public grievances online through CPGRAMS Portal. In addition, off-line grievances are also received. The grievances are monitored regularly for expeditious disposal. As per age-wise pendency report from CPGRAMS Portal of DHI for the period from 01.01.2020 to 31.12.2020, 1188 fresh Public Grievance cases were received and 58 grievances were brought forward from previous period. Total 1195 grievances were disposed-off during the period. The average days of pendency of grievances was 16 days.

During the same period, total 70 grievances related to Covid-19 cases were received online and all of them were disposed-off within the stipulated time of 3 days.

10.3 IT initiatives in the Department of Heavy Industry:

Taking the slogan “Minimum Government and Maximum Governance”, a citizen centric approach and accountable administration is the focus of the Government. COVID -19 has challenged the existing system and has also opened up a lot of opportunities for enhancing the capacity and use of information technology specifically in Digital Governance. Leveraging the power of information technology brings with it the advantage of transparency and quality citizen services to improve the way of governance. Digital India Plan and Ease of Doing Business are two sides of a coin. The emphasis has been on simplification and rationalization of the existing rules and introduction of information technology to make governance more efficient and effective. The Department of Heavy Industry has taken big strides by enabling ‘work from home’ on e-office for all officials of the Department during the pandemic. The digital platforms are also being used

for innovative initiatives, big data analytics to achieve data driven decision making. In addition to this monitoring of all CPSEs and Autonomous Bodies under its domain is being done through digital platforms.

During 2020-21 several IT achievements have been accomplished which included use of e-office/e-file to a factor which crossed 98.3% as on 31.03.2020. The other achievements include the enhancement of features in Fame- India I with DBT web service integration, implementation of the second phase of the FAME-India portal with online beneficiary verification, PRAYAS API integration, launching of GST Exemption Certificate Scheme portal, revamping of the Department's website, launching of dedicated Dashboard on Key Performance Indicators of sectoral growth, operationalization of various in-house intranet applications/MIS, finalization of GIS based land records for CPSEs.

DHI Informatics Division of the National Informatics Centre, Ministry of Electronics and Information Technology renders NIC support services, consultations, development cum implementations of e-governance in DHI as well as at all its organizations. It also maintains departmental websites, facilitating DHI in accessing on-line e-governance services portals and conducting training/ workshops on different topics with reference to the need.

10.3.1 DHI Website

DHI website (https://heavyindustry.gov.in https://dhi.nic.in) has been revamped and upgraded into the cloud environment along with more capacity, SSL encryption. Real time dashboard of FAME 2 scheme also incorporated in the website along with API. It is the most effective platform for dissemination of Information on Policies, Procedures, Feedback, Performance, Budget, RTI etc. relevant to the Heavy Industrial Sectors as well as Indian Citizens to get the benefit of the schemes implemented by DHI.

Flashing of latest initiatives, schemes, policies, notices and events under the 'What's New' tag are most popular among global visitors. To encourage the participation of the Industry in Policy, feedbacks are invited from them within the due date. Schemes-wise Policy, Procedures, Performers, Industry 4.0 initiatives, Citizen Charter, Mission Plan, Budget, Grant & Aid details, GST implementation etc. are some of the important tags published in the website. The Content related to various Scheme-wise Policy, Procedures, Performing reports, Industry 4.0 Events, Citizen Charter, Budget, Grant & Aid details, GST implementation etc. are also regularly maintained. To keep the latest information and its updation in the website, DHI content moderators are facilitated through content management framework to take care of their respective web contents. In order to monitor the content publishing regularly, an automatic email alert has been activated. An exclusive MIS system has also been developed and implemented in intranet to monitor the content moderation activity and trace out the audit log of the website. Both Cyber security audit and STQC certifications had been obtained for the website. The Hindi version of the website is also made available and regularly updated by the Hindi Section. Total visitors count reached 1,00,23,510 on Dec 2020 in

comparison to 79 lakhs visitors till 15 Nov 2019.

10.3.2 E-office Implementation

Under National e-Governance Division (NeGD) project, e-office has been implemented and operationalized at https://dhi.eoffice.gov.in with all its modules. During COVID Pandemic lock down DHI officers were able to access the e-office through VPN. The E-File module has been upgraded to version 5.6 with proper hands on training for successful performance. As on Dec 6, 2020 e-File % reached to 98.4%. Other modules like EMD, PIMS have also been upgraded to the latest version. E-leave are being availed and granted through ehrms.gov.in. Out of 259 e-office users, near about twenty-five officers have been authorized to publish the circulars / notices through KMS. Necessary facilitation for Integration with DSC, e-sign and email diarization have also been taken up. About 10,074 DSC signatures and 601 e-signs have been exercised during 2020 till 30-Nov-2020. In order to monitor the performance, an intranet based MIS has also been developed and deployed.

10.3.3 DHI Dashboard

A Dashboard portal has been developed by the Department for interaction with the public. The portal contains progress of e-Mobility, 100 days Plan, sectoral information and information regarding the Central Public Sector Enterprises under the administrative control of DHI.

10.3.4 DHI DARPAN Portal

A DHI-DARPAN interface linked to NGO-Darpan Portal of NITI Aayog to verify the details of the NGOs before releasing funds to them has been developed.

10.3.5 Intranet Applications

Various web based intranet office automation applications and sectoral applications are operationalized. Office automation applications like MIS on e-Office Implementation, MIS on Content Management of website, MIS on Status of Vital Activities of DHI, MIS on DHI Schemes (DBT MIS), MIS on PRAGATI Agenda Updations, CPSEs Performance Monitoring System, User Complaints Monitoring System, MIS on Cyber Incidents in DHI (Cert-in), CPSEs DashBoard, MIS on feedback received through website / emails, on-line Consumable Distributions System, MIS system on PMO references, Court cases, VIP references, Parliament references, On-line engagement etc. are made operational. Various reports like age-wise pendency, JS/Dir/Section/CPSEs wise pendency, disposed off list are also made available. Sectoral databases like CPSEs performance monitoring system, performance on auto sector and capital goods sector are also made available.

10.3.6 Online E-governance Services

In addition to the in-house services, more online e-governance portals with common services like SPARROW (Smart Performance Appraisal Report Recording Window) for IAS,CSS,IPS officers, Pro Active Governance And Timely Implementation (PRAGATI) PMO, Online Single User Platform Related To Employees Online (SUPREMO), Online Legal Information Management & Briefing System (LIMBS), Online e-tendering and e-procurement, Biometric Attendance

System (BAS), Visitor Management for the Bhavans (MHA), RTI applications/ first appeals online (DoPT), Centralized Public Grievance Redressal And Monitoring System (CPGRAMS), Online system for monitoring of follow-up action (e-samiksha) (CS), India Code Portal, e-suvidha, Foreign Visit Management System, Government E-Marketing Portal, PFMS (Public Financial Management System) are operationalized in the Department.

10.3.7 VIDEO Conferencing

In order to make effective and efficient interactions internally, inter-Ministry level as well as externally, Video conferencing setups have been operationalized in the Department.

During 20-21 (till 7th December, 2020), in addition to PRAGATI monthly meetings, 191 VC conferences of 336 Hours, 280 Desktop/ web room based VCs with 1270 participants of 977 Hours and about 60 more web sessions have been undertaken. All the important meetings have been conducted virtually during the pandemic.

10.3.8 ICT infrastructure

New Hardware / Software / Accessories have been incorporated to the sections as well as officers level for better performance to utilize the latest information technology. Various cyber security measurements have been taken by deploying more firewalls, manageable network equipment as per the security guidelines issued time to time by GOI. Systems for automatic patch management and virus detections have also been upgraded to ensure virus free zone over the LAN/WAN/Email/Wifi services. Desktop BAS devices (38X), Tablet(6X) based BAS devices are also installed and activated.

10.3.9 Social Media

As per the guidelines of MeitY, an official twitter account of DHI (@heindustry) has been launched and maintained by DHI. This will bridge the direct platform with Industry/citizens more effectively in sharing the information between them.

10.3.10 IT in CPSEs of DHI

All CPSEs are asked to upgrade their ICT infrastructure with IPV6 compliance. Most of the CPSEs are having their own domain name and all have launched their websites for disseminating their progress. Their web links are made available on the Department's website. In order to organize VC meetings and conferences few CPSEs have already setup VC studios. Some are having NICs desktop VC facility in which they used to organize internal meetings too. All are instructed to integrate with online e-gov applications like e-tendering, GeM, PFMS etc. Six CPSEs are also equipped with high end VC studios. EPIL and NATRIP have already established email service with NIC. Nepa and EPIL are already hosting their sites in Meghraj cloud. Implementation of e-office has been successfully completed by BHEL. All CPSEs are encouraged to use on-line marketing portal GeM for procurement cum sale.

10.4 INTERNATIONAL COOPERATION

In furtherance of the objective of bringing the state of the art technologies in industry, DHI collaborated with other nations and

participated in the following International meetings/ conferences/ seminars:

Secretary, HI attended the Annual Meeting of the World Economic Forum, held at Davos, Switzerland from 20-24 January 2020. The visit was an extremely useful opportunity to interact with and learn about the state of play in Industry 4.0 amongst the global manufacturing leaders. This opportunity was also used to invite investment to India during meetings with CEOs and global business leaders from the Automobile and the Capital Goods sectors.

Inviting investments for the Capital Goods sector:

To invite investments to the Capital Goods sector in India and towards Aatmanirbhar Bharat, the Department of Heavy Industry has been reaching out to our Missions abroad in countries which have a competitive advantage in producing heavy machineries.

Since Japan is a global leader in capital goods manufacturing, the Embassy of India Tokyo and the Department jointly invited the Capital Goods Industries in Japan and India for a webinar on 24th June 2020 on the topic 'Investment opportunities in the Capital Goods Sector in India'. There was an excellent response and around 150 capital goods companies from India and Japan attended. The webinar was followed by B2B interactions between the Indian and Japanese companies.

The officers of the Japanese Ministry of Economy, Trade and Industry (METI) and the Japan External Trade Organization (JETRO) attended and addressed the Industrialists and Industry Associations from both countries. Both the Secretary Heavy Industry and our Ambassador addressed the participants, after which numerous areas for investments were presented. The State Governments of Maharashtra, Tamil Nadu, Karnataka and Haryana also made presentations on their special incentives for these sectors and the investment opportunities. Invest India and the Indian Industry Associations also made their investment pitch.

After the webinar, the Department has organized several one to one meetings with leading manufacturers of capital goods who have expressed their interest in investing in India. The Department is supporting them through one to one meetings and has introduced them to the concerned State Governments.

A webinar titled "Indo-Japan Webinar on Electrical Vehicle Sector: Challenges & Emerging Opportunities", was organized along-with Embassy of India on 5th August 2020 to showcase Govt. Policies and programmes in the field of Electric Vehicles and identify areas of cooperation in the spheres of R&D and Manufacturing of Electric Vehicles (EVs), EV components and Advanced Chemistry Cell (ACC). The Webinar was attended by leading OEMs from Japan and India.

10.5 Swachh Bharat Abhiyan:

Awareness regarding Swachhta and implementation of the Swachh Bharat Abhiyan is regularly monitored by the Senior Officers in the Department. A Swachhta Pakhwada (fortnight) was observed in the Department from 16.08.2020 to 31.08.2020 to engender a sense of responsibility towards cleanliness.

CHAPTER 11

Right to Information

11.1 Various provisions of RTI Act and the like instructions issued by the Government of India, Department of Personnel and Training and the Central Information Commission have been implemented in the Department of Heavy Industry. The Central Public Sector Enterprises under the administrative control of the Department, separate public authorities under RTI Act, have also been enjoined upon to implement the provisions of the RTI Act.

11.2 The web portal `RTI On-line' launched by DoPT has been made operational in the Department of Heavy Industry with effect from 18/7/2013. All the officers of the level of Under Secretary or equivalent have been designated as CPIOs and all officers at the level of Director/Deputy Secretary or equivalent have been designated as First Appellate Authority under the RTI Act. In addition, an officer of the rank of Director/Deputy Secretary is designated as Transparency Officer to ensure suo-motu disclosure of information on the website of the Department in terms of Section 4(1) (b) of RTI Act, 2005.

11.3 Based on the guidelines issued by the Department of Personnel & Training on the basis of recommendations of Task Force, for the implementation of suo-motu disclosure of information in terms of Section 4(1) (b) of RTI Act, 2005, various steps have been taken in the Department for suo-motu disclosure and updating the information on the website of the Department. An officer of the rank of Joint Secretary has been designated as Nodal Officer for ensuring compliance with these proactive disclosure guidelines.

11.2 For the effective and quick disposal of RTI applications / appeals, Government had decided to integrate the CPSEs/Autonomous Bodies with the 'RTI on-line' Portal of DoP&T. As a part of implementation of this decision of the Government, the Nodal officers of RTI matter of CPSEs under the Department of Heavy Industry have been provided necessary training through DoP&T.

11.3 The RTI logo is being used on the printed stationery used in the Department. The Quarterly RTI returns were submitted to CIC online by the Department and the CPSEs under DHI.

11.6 During the year 2019-20, 678 applications and 33 appeals under RTI were received in the Department and 655 applications and 30 appeals disposed off. For the period 01.01.2020 to 31.12.2020, 659 applications and 47 appeals have been received, and 621 applications and 45 appeals were disposed off.

Annexure-I

Allocation of Business to the Department of Heavy Industry

INFORMATION IN RESPECT OF ADMINISTRATION SECTION

Department of Heavy Industry used to be one of the Departments of Ministry of Industry. With effect from 15th October, 1999, a separate Ministry viz. Ministry of Heavy Industries & Public Enterprises has been created. The Ministry comprises the Department of Heavy Industry and Department of Public Enterprises. The Department of Heavy Industry is looking after the following items of work:

(A)	**Work relating to following CPSEs:-**
1.	Heavy Engineering Corporation Limited
2.	Engineering Projects (India) Limited
3.	Bharat Heavy Electricals Limited
Subsidiaries:	
(i)	BHEL Electrical Machines Limited
Joint Venture	
(i)	NTPC BHEL Power Projects (Private) Limited
4.	HMT Limited
Subsidiaries:	
(i)	HMT (International) Limited
(ii)	HMT (Machine Tools) Limited
5.	Scooters India Limited
6.	Andrew Yule and Company Limited
Subsidiaries:	
(i)	Hooghly Printing Company Limited
7.	Cement Corporation of India Limited
8.	Hindustan Paper Corporation Limited
Subsidiaries:	
(i)	Nagaland Pulp and Paper Company Limited
(ii)	Hindustan Newsprint Limited
(iii)	Jagdishpur Paper Mills Limited
9.	Hindustan Salts Limited
Subsidiary:	
(i)	Sambhar Salts Limited
10.	Rajasthan Electronics and Instruments Limited
11.	NEPA Limited
12.	Braithwaite, Burn & Jessop Construction Limited
13.	Bharat Pumps and Compressors Limited
14.	Richardson and Cruddas (1972) Limited
15.	Bridge and Roof Company (India) Limited

PSEs/Subsidiaries/Units of CPSEs liquidated/under liquidation, wound up/ winding up, closed/under closure and transferred to other Departments/ Organizations:

1.	Bharat Ophthalmic Glass Limited
2.	Bharat Leather Corporation Limited
3.	Tannery and Footwear Corporation of India Limited
4.	Rehabilitation Industries Corporation
5.	Bharat Yantra Nigam Limited
6.	National Bicycle Corporation of India Limited
7.	National Industrial Development Corporation Limited
8.	Mining and Allied Machinery Corporation Limited
9.	Cycle Corporation of India Limited
10.	Jessop and Company Limited
11.	Lagan Jute Machinery Company Limited
12.	Reyrolle Burn Limited
13.	Weighbird (India) Limited
14.	Bharat Brakes and Valves Limited
15.	Bharat Process and Mechanical Engineers Limited
16.	Mandaya National Paper Mills Limited
17.	Tyre Corporation of India Limited
18.	Triveni Structurals Limited
19.	HMT(Bearing) Limited
20.	HMT (Watches)Limited
21.	HMT (Chinar Watches) Limited
22.	HMT Ltd- (Tractor Division, Pinjore only)
23.	Tungabhadra Steel Plants Limited
24.	Hindustan Cables Limited
25.	Hindustan Photo Films Manufacturing Company Limited
26.	Instrumentation Limited (Kota Unit-Under Closure & Palakkad Unit- Under Transfer to concerned State Govt.
(B)	**Autonomous Bodies:**
i)	Fluid Control Research Institute (FCRI).
ii)	The Automotive Research Association of India (ARAI)
iii)	NATRIP Implementation Society (for the Implementations of National Automotive Testing and Research & Development Infrastructure Project)
iv)	National Automotive Board (NAB).
v)	Central Manufacturing Technology Institute (CMTI)
(C)	**Other Subjects:**
1.	Manufacture of Heavy Engineering Equipment for all industries
2.	Heavy Electrical Engineering Industries
3.	Machinery Industries including Machine Tools and Steel Plant Equipment
4.	Auto Industries, including Tractors and Earth Moving Equipment
5.	All Type of diesel engines
6.	Development Council for Automobile and Allied Industries
7.	Electrical Construction Company (A Joint Venture between Govt. of India and Govt. of Libya).

Annexure-I (A)

List of Central Public Sector Enterprises under Department of Heavy Industry (along with disinvestment/closure status)

Sl. No.	Name of CPSE	STATUS OF CPSE
1	Andrew Yule and Company Ltd. (AYCL)	---
2	Bharat Heavy Electricals Ltd. (BHEL)	MAHARATNA
3	Bharat Pumps and Compressors Ltd. (BPCL)	UNDER CLOSURE
4	BHEL – Electrical Machines Ltd. (BHEL-EML)	---
5	Braithwaite, Burn and Jessop Construction Ltd. (BBJ)	---
6	Bridge and Roof Company Ltd. (B&R)	MINIRATNA
7	Cement Corporation of India Ltd. (CCI)	---
8	Engineering Projects (India) Ltd. (EPI)	MINIRATNA
9	H.M.T. International Ltd.	MINIRATNA
10	H.M.T. Ltd.	---
11	H.M.T. Machine Tools Ltd.	---
12	Heavy Engineering Corporation Ltd. (HEC)	---
13	Hindustan Cables Ltd. (HCL)	UNDER CLOSURE
14	Hindustan Newsprint Ltd.	UNDER IBC PROCEEDINGS
15	Hindustan Paper Corporation Ltd. (HPC)	UNDER IBC PROCEEDINGS
16	Hindustan Photo Films Manufacturing Company Ltd. (HPF)	UNDER LIQUIDATION
17	Hindustan Salts Ltd. (HSL)	---
18	HMT Bearing Ltd.	UNDER CLOSURE
19	HMT Chinar Watches Ltd.	UNDER CLOSURE
20	HMT Watches Ltd.	UNDER CLOSURE
21	Hooghly Printing Co. Ltd.(HOOGHLY)	UNDER MERGER WITH AYCL
22	Instrumentation Ltd. (ILK)	UNDER CLOSURE
23	N.E.P.A. Ltd. (NEPA)	---
24	Nagaland Pulp and Paper Company Ltd. (NPPC)	---
25	Rajasthan Electronics and Instruments Ltd. (REIL)	MINIRATNA
26	Richardson and Cruddas Ltd. (R & C)	---
27	Sambhar Salts Ltd. (SSL)	---
28	Scooters India Ltd. (SIL)	UNDER CLOSURE
29	Tungabhadra Steel Products Ltd. (TSPL)	UNDER CLOSURE

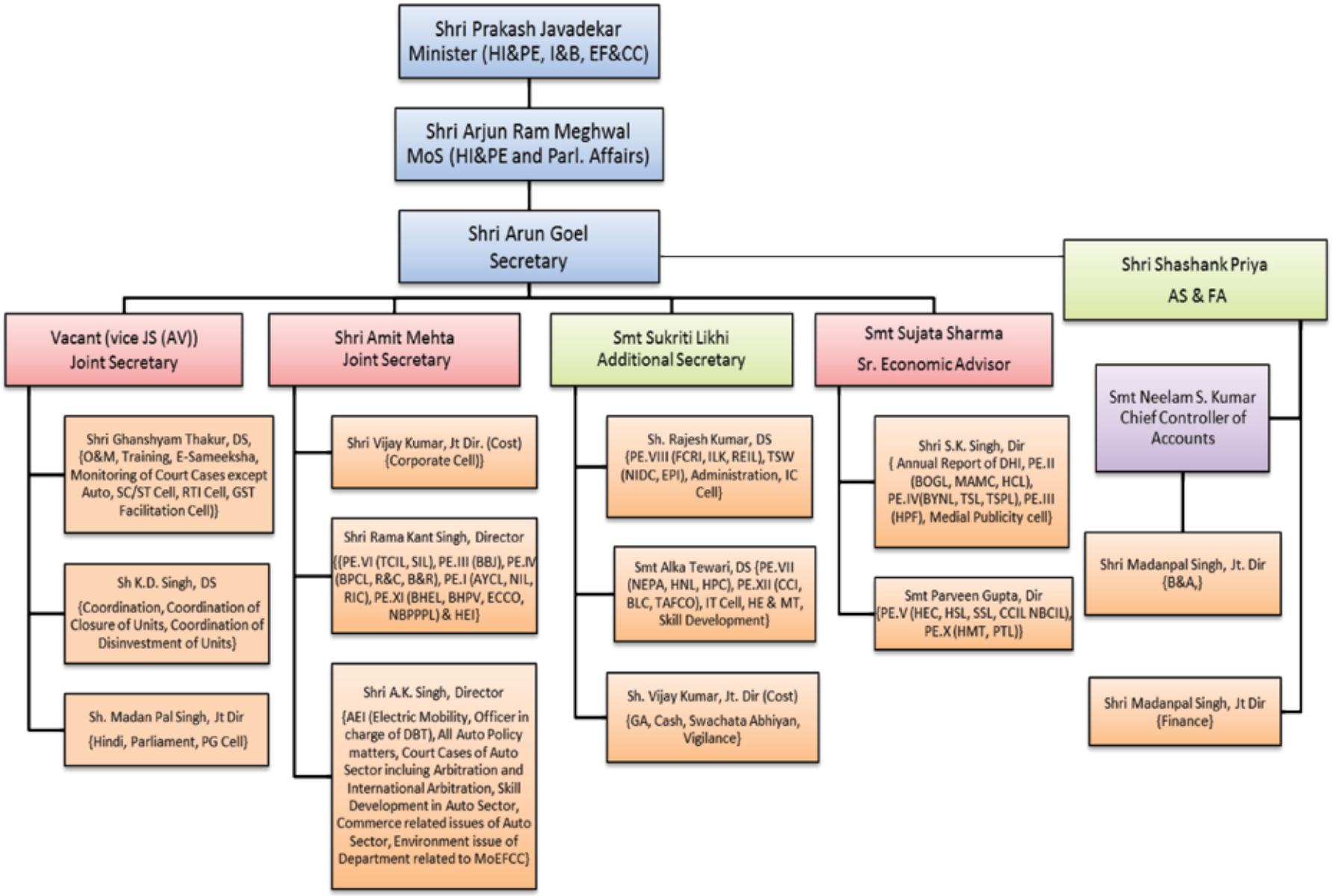
ANNEXURE-II

List of Central Public Sector Enterprises under Department of Heavy Industry (Profit Making/Loss Making/Under Liquidation)

S.No.	Name of CPSEs
	Profit making CPSEs
1	Engineering Projects (India) Ltd.
2	Braithwaite, Burn & Jessop Construction Ltd.
3	HMT Ltd.
4	HMT (International) Ltd. (subsidiary of HMT Ltd.)
5	Richardson and Cruddas (1972) Ltd.
6	Bridge & Roof Company (India) Ltd.
	Loss making CPSEs
1	HMT Machine Tools Ltd. (subsidiary of HMT Ltd.)
2	Rajasthan Electronics & Instruments Ltd.
3	Bharat Heavy Electricals Ltd.
4	NEPA Ltd.
5	Hindustan Salts Ltd. (HSL)
6	Sambhar Salts Ltd. (subsidiary of HSL)
7	Andrew Yule and Company Ltd.
8	Heavy Engineering Corporation Ltd.
9	Cement Corporation of India Ltd.
10	Scooters India Ltd.
11	Bharat Pumps and Compressors Ltd.
	Non-Operational CPSEs
1	Hindustan Paper Corporation Ltd. (under IBC proceedings)
2	Nagaland Pulp and Paper Company Ltd. (subsidiary of HPC Ltd.- under IBC proceedings)
3	Hindustan Newsprints Ltd. (subsidiary of HPC Ltd.- under IBC proceedings)
4	BHEL-EML (subsidiary of BHEL)
5	Hooghly Printing Company Ltd. (subsidiary of AYCL- undergoing merger with AYCL)

S.No.	Name of CPSEs
	CPSEs under closure
1	HMT Watches Ltd. (subsidiary of HMT Ltd.)
2	HMT Chinar Watches Ltd. (subsidiary of HMT Ltd.)
3	Instrumentation Ltd.
4	HMT Bearings Limited (subsidiary of HMT Ltd.)
5	Hindustan Cables Ltd.
6	Tungabhadra Steel Products Ltd.
7	Hindustan Photo Films Ltd.
	Tractor Division of HMT Ltd. is also under closure.
	CPSEs under Liquidation
1	Reyrolle Burn Ltd.
2	Tyre Corporation of India Ltd.
3	Bharat Opthalmic Glass Ltd.
4	Weighbird (India) Ltd.
5	Mining & Allied Machinery Corporation Ltd.
6	Bharat Process & Mechanical Engg. Ltd.
7	Bharat Brakes & Valves Ltd.
8	Cycle Corporation of India Ltd.
9	Rehabilitation Industries Ltd.
10	Bharat Yantra Nigam Ltd.
11	Triveni Structurals Ltd.
12	Tannery & Footwear Corporation of India Ltd.
13	Bharat Leather Corporation Ltd.
14	National Industrial Development Corporation Ltd.

Organogram as on 01.01.2021



ANNEXURE-IV

GENERAL INFORMATION ABOUT CPSEs UNDER DHI

Sl. No.	Name of PSE and location of Registered Office	Year of setting up of CPSE	Gross Block as on 31.3.2020 (₹in crore)
1	Andrew Yule & Co. Ltd., (AY&CL), Kolkata	1919	204.80
2	Bharat Heavy Electricals Ltd., (BHEL), New Delhi	1964	6,645.00
3	Braithwaite, Burn & Jessop Construction Co.Ltd., (BBJ), Kolkata	1987	22.46
4	Bharat Pumps & Compressors Ltd., (BPCL) Allahabad.	1970	105.43
5	Richardson & Cruddas (1972) Ltd., (R&C) Mumbai	1973	29.27
6	Bridge and Roof Co.(India) Ltd., (B&R) Kolkata.	1920	110.68
7	Heavy Engineering Corpn.Ltd., (HEC), Ranchi.	1958	393.77
8	HMT Ltd.,(Holdg Co.), Bangalore.	1953	143.60
9	HMT (Machine Tools) Ltd., Bangalore.	1999	352.37
10	HMT (International), Bangalore	1974	8.32
11	Rajasthan Electronics & Instruments Ltd., (REIL) Jaipur	1981	57.12
12	Scooters India Ltd., (SIL), Lucknow.	1972	73.63
13	Cement Corpn.of India Ltd. (CCI), New Delhi.	1965	728.82
14	Hindustan Salts Ltd., (HSL), Jaipur.	1958	16.66
15	Sambhar Salts Ltd., (SSL) Jaipur.	1964	48.40
16	Nepa Ltd., (NEPA), Nepa Nagar.	1947	107.62
17	Engineering Projects (India) Ltd., (EPI), New Delhi.	1970	27.27
	TOTAL		**9,075.22**

ANNEXURE-V

EMPLOYMENT POSITION INCLUDING SC, ST & OBC AS ON 31.3.2020 IN CPSEs UNDER DHI.

Sl. No.	Name of CPSE	TOTAL NO. OF EMPLOYEES				Number of Employees			
		Executives	Supervisors	Workmen/ Others	Total	SC	ST	OBC	PWD
1	2	3	4	5	6	7	8	9	10
1	AYCL	185	93	14328	14606	1313	4062	7849	23
2	BHEL	10209	6312	17231	33752	6950	2463	11632	890
3	BBJ	49	6	45	100	8	0	5	0
4	BPCL	46	15	109	170	32	1	43	1
5	R&C	5	1	3	9	0	0	4	0
6	B&R	667	293	202	1162	151	9	81	19
7	HEC	622	102	697	1421	313	316	297	15
8	HMT (Hldg Co.)	36	1	46	83	14	2	16	2
9	HMT (MT)	286	21	620	927	196	43	276	13
10	HMT (International)	23	0	0	23	1	1	5	0
11	REIL	87	65	84	236	47	9	50	4
12	SIL	67	4	508	579	136	2	211	0
13	CCI	151	134	219	504	74	38	112	2
14	HSL	16	19	49	84	12	2	20	2
15	SSL	10	15	51	76	19	4	25	1
16	NEPA	119	154	65	338	23	4	36	0
17	EPIL	264	36	3	303	50	11	58	2
	TOTAL	**12842**	**7271**	**34260**	**54373**	**9339**	**6967**	**20720**	**974**

ANNEXURE-VI

PRODUCTION PERFORMANCE OF CPSEs UNDER DHI

(₹in crores)

Sl. No.	Name of CPSE	2017-18 (Actual)	2018-19 (Actual)	2019-20 (Actual)	2020-21 (Anticipated)	2021-22 (Tentative)
1	2	3	4	5	6	7
1	AYCL	354.29	302.78	297.28	347.25	427.00
2	BHEL	27,580.00	29,423.00	20,491.00	18,000.00	26,200.00
3	BBJ	72.28	104.99	129.02	125.00	140.00
4	BPCL	76.28	54.56	63.70	90.00	0.00
5	R&C	17.00	13.00	9.20	5.00	5.00
6	B&R	2,048.24	3,074.64	3,244.17	2,900.00	2,900.00
7	HEC	399.02	356.21	132.68	301.26	503.43
8	HMT (Holding Co.)	12.05	17.01	20.99	22.50	24.50
9	HMT(MT)	163.15	238.83	213.42	181.00	200.00
10	HMT(International)	24.95	57.07	67.15	36.00	55.00
11	REIL	242.88	269.31	110.19	230.00	270.00
12	SIL	31.08	66.92	58.97	0.77	0.00
13	CCI	321.45	276.66	247.62	416.80	434.81
14	HSL	6.88	7.93	3.38	8.21	12.00
15	SSL	20.62	17.81	22.76	29.50	39.00
16	NEPA	0.00	0.00	0.00	244.80	320.00
17	EPI	1,607.41	1,791.05	1,336.59	1,200.00	1,800.00
	TOTAL	**32,977.58**	**36,071.77**	**26,448.12**	**24,138.09**	**33,330.74**

ANNEXURE-VII

PROFIT(+) LOSS (-) (BEFORE TAX) OF CPSEs UNDER DHI

(₹in crores)

Sl. No.	Name of CPSE	2017-18 (Actual)	2018-19 (Actual)	2019-20	2020-21 (Anticipated)	2021-22 (Tantitave)
1	2	3	4	5	6	8
(A) PROFIT MAKING CPSEs						
1	BBJ	4.62	1.60	2.28	25.50	7.00
2	R&C	16.45	23.78	24.06	25.00	26.00
3	B&R	26.07	51.42	50.92	29.00	31.90
4	HMT (Hldg. Co.)	-7.17	17.25	248.18	31.45	28.00
5	HMT (International)	0.14	1.51	2.71	1.11	2.24
6	EPIL	1.71	-29.62	7.94	-6.00	20.50
Sub-total for (A) Profit making Companies		**41.82**	**65.94**	**336.09**	**106.06**	**115.64**
(B) LOSS MAKING CPSEs						
1	AYCL	23.57	10.51	-21.25	7.49	0.40
2	BHEL	1,585.00	2,047.00	-662.00	-2,449.00	-870.00
3	BPCL	-46.30	-38.42	-26.99	-11.25	0.00
4	HEC	446.00	-93.67	-405.37	-263.81	-164.24
5	HMT (Machine Tools)	-125.42	-74.80	-102.90	-133.70	-130.85
6	REIL	6.22	14.36	-27.56	5.18	7.00
7	SIL	-18.70	-5.09	-16.01	-1.50	0.00
8	CCI	17.99	6.35	-50.94	27.07	31.17
9	HSL	1.84	1.26	-1.85	0.60	1.00
10	SSL	-2.58	-10.83	-2.59	-1.04	2.30
11	NEPA	30.12	-77.78	-71.25	-23.08	-15.08
Sub-total (B) Loss making Companies.		**1,917.74**	**1,778.89**	**-1,388.71**	**-2,843.04**	**-1,138.30**
GRAND TOTAL(A&B)		**1,959.56**	**1,844.83**	**-1,052.62**	**-2,736.98**	**-1,022.66**

ANNEXURE-VIII

SALARY/WAGE BILL & SOCIAL OVERHEADS AS % OF TURNOVER OF CPSEs UNDER DHI

		Wages and salaries as % of Turnover					Social overheads as % of Turnover				
Sl. No.	Name of CPSE	2017-18 (Actual)	2018-19 (Actual)	2019-20 (Actual)	2020-21 (Anticipated)	2021-22 (Tentative)	2017-18 (Actual)	2018-19 (Actual)	2019-20 (Actual)	2020-21 (Anticipated)	2021-22 (Tentative)
1	2	3	4	5	6	7	8	9	10	11	12
1	AYCL	45.88	53.66	59.00	47.60	43.00	4.89	5.80	5.21	4.80	4.50
2	BHEL	21.00	19.00	26.00	32.00	22.00	2.70	2.60	3.50	4.10	2.80
3	BBJ	21.77	19.27	18.39	18.96	14.79	0.87	0.62	0.38	0.24	0.21
4	BPCL	64.60	46.77	39.47	28.89	0.00	1.35	1.88	1.34	1.00	0.00
5	R&C	2.68	3.75	7.14	8.00	8.00	0.00	0.00	0.00	0.00	0.00
6	B&R	8.29	6.94	8.21	9.76	10.52	1.94	0.99	1.02	1.21	1.24
7	HEC	29.12	34.75	93.22	41.06	25.85	2.39	2.65	8.73	3.51	2.20
8	HMT (Hldg)	77.00	48.00	50.00	39.00	37.00	4.00	3.00	3.00	3.00	2.00
9	HMT (MT)	67.00	44.00	49.00	51.00	50.00	10.00	7.00	10.00	10.00	9.00
10	HMT (International)	11.00	5.00	4.00	9.00	6.00	0.00	0.00	0.00	0.00	0.00
11	REIL	11.50	11.27	28.06	13.91	13.30	2.32	1.49	3.72	1.74	1.50
12	SIL	46.15	34.94	28.90	22.89	0.00	0.00	0.00	0.00	0.00	0.00
13	CCI	15.32	16.00	16.32	9.44	9.60	6.87	8.02	8.06	4.66	4.74
14	HSL	100.67	74.17	170.14	91.23	76.03	4.60	3.14	5.85	3.75	3.13
15	SSL	41.10	32.55	28.15	25.16	22.58	3.77	3.04	2.55	2.68	2.41
16	NEPA	287.40	234.54	138.37	70.88	40.00	15.91	16.59	13.48	4.43	2.80
17	EPIL	4.12	3.83	5.06	4.59	4.25	0.77	0.43	0.43	0.39	0.36

ANNEXURE -IX

ORDER BOOK POSITION OF CPSEs under DHI

(₹in crores)

Sl. No.	CPSE	As on 01.10.2017	As on 01.10.2018	As on 01.10.2019	As on 1.10.2020
1	2	3	4	5	6
1	AYCL	141.69	161.78	120.93	109.39
2	BHEL	97,090.00	115,532.00	108,603.00	107,645.00
3	BBJ	426.63	638.87	692.55	802.50
4	BPCL	105.54	88.80	46.44	43.51
5	R&C	15.92	19.17	15.42	8.00
6	B&R	4,903.49	7,216.54	8,160.70	9,884.01
7	HEC	1,056.24	863.02	1,138.33	1,131.40
8	HMT(Hldg)	5.99	5.02	20.12	14.04
9	HMT(MT)	72.90	144.81	120.48	80.53
10	HMT(I)	4.38	80.90	85.08	47.18
11	REIL	167.86	129.43	173.86	63.29
12	SIL*	0.00	0.00	0.00	0.00
13	CCI	5.26	3.83	4.74	5.00
14	HSL	3.63	5.06	0.70	4.16
15	SSL	10.20	8.32	10.53	10.66
16	NEPA	0.00	0.00	0.00	0.00
17	EPIL	8,651.67	5,805.79	3,285.45	5,496.15
	TOTAL	**112,661.40**	**130,703.34**	**122,478.33**	**125,344.82**

*Goods are produced for stock and sale hence not applicable.

ANNEXURE-X

EXPORT PERFORMANCE OF CPSEs UNDER DHI

(₹in crores)

Sl. No.	PSEs	2017-18(Actual)			2018-19(Actual)			2019-20 (Actual)		
		Physical	Deemed	Total	Physical	Deemed	Total	Physical	Deemed	Total
	1	2	3	4	5	6	7	8	9	10
1	AYCL	3.63	0.00	3.63	2.23	0.00	2.23	3.50	0.00	3.50
2	BHEL	824.00	4,051.00	4,875.00	3,808.00	2,019.00	5,827.00	3,843.00	959.00	4,802.00
3	BBJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	BPCL	0.00	1.55	1.55	0.00	6.69	6.69	0.00	0.00	0.00
5	R&C	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	B&R	0.25	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00
7	HEC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	HMT (Hldg)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	HMT(MT)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	HMT(I)	2.13	0.00	2.13	2.35	0.00	2.35	2.91	0.00	2.91
11	REIL	0.19	0.00	0.19	0.04	0.00	0.04	0.07	0.00	0.07
12	SIL	0.00	0.00	0.00	0.10	0.00	0.10	0.46	0.00	0.46
13	CCI	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	HSL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	SSL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	NEPA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	EPIL	795.45	0.00	795.45	1,116.15	0.00	1,116.15	714.10	0.00	714.10
	TOTAL	**1,625.65**	**4,052.55**	**5,678.20**	**4,928.87**	**2,025.69**	**6,954.56**	**4,564.04**	**959.00**	**5,523.04**

ANNEXURE - XI

PAID UP CAPITAL, NETWORTH AND ACCUMULATED PROFIT (+)/LOSS (-) AS ON 31.3.2020 OF THE CPSEs UNDER DHI

(₹in crores)

Sl. No.	Name of CPSE	Paid up capital		Networth	Accumulated Profit (+)/Loss (-)
		Government/ Holding CPSE	Others		
1	2	3	4	5	6
1	AYCL	87.28	10.51	168.28	40.00
2	BHEL	439.92	256.49	29,181.00	28,485.00
3	BBJ	120.86	0.00	206.52	85.66
4	BPCL	53.53	0.00	-213.61	-297.19
5	R&C	156.61	0.00	214.55	-376.84
6	B&R	54.63	0.36	377.75	322.76
7	HEC	606.08	0.00	-400.73	-1,096.69
8	HMT(Holding Co.)	279.57	76.03	388.91	33.31
9	HMT(Machine Tools)	276.60	0.00	-1,535.17	-1,834.48
10	HMT(International)	0.72	0.00	37.43	36.71
11	REIL	6.25	6.00	93.93	81.68
12	SIL	81.92	5.35	50.02	-15.72
13	CCI	811.41	0.00	-42.29	-833.50
14	HSL	52.06	0.00	45.17	-15.13
15	SSL	1.00	0.00	-48.23	-58.32
16	NEPA	279.73	15.63	-118.89	-490.81
17	EPIL	35.42	0.01	198.56	163.14
	TOTAL	**3,343.59**	**370.38**	**28,603.20**	**24,229.58**

ANNEXURE-XII

DETAILS OF BHEL WRITE-UP

1. POWER SECTOR

1.1 Major Orders received during 2019-20

In spite of the a challenging business environment, the organization has secured an order inflow of ₹ 13,784 Crore in Power sector .

Significant utility orders received in the year were:

1.1.1 Thermal

- 2x660 MW THDCIL / Khurja (TG Pkg)
- 3x660 MW NPGCL / Nabinagar STPP (FGD Pkg)
- 4x250 MW BRBCL / Nabinagar (FGD Pkg)

1.1.2 Hydro

- 3x27.5 MW KSEB / Kuttiyadi HEP (RMU Works)
- 6x33 + 1x8 MW PSPCL / Shahpurkandi HEP (Addl. Order)
- 1x70 MW TANGEDCO / Kodayar HEP (RMU)

1.1.3 Nuclear

- 2x1000 MW NPCIL / Kudankulam 3&4
- 2x1000 MW NPCIL / Kudankulam 3&4

1.2 Major Orders received in 2020-21 upto Sep'20

- Power Sector secured orders worth ₹ 3,822 Cr of power projects in 2020-21 upto Sep'20.
- Secured FGD order for SOx emission control for 2x500 MW NTPL/Tuticorin TPS
- Hydro projects worth ₹ 1,853 Cr (2,845 MW) including Lift Irrigation Schemes (LIS)

2. INDUSTRY SECTOR

BHEL secured orders worth ₹ 8,757 crore in the Industry Sector during 2019-20.

During 2020-21, BHEL bagged orders worth ₹ 1,144 crores in the Industry Sector till Sep'20 in a wide variety of products & systems.

Segment-wise details of orders received are as follows:

2.1 Transportation

2.1.1 Major Orders received during 19-20

- Prestigious orders from Indian Railways for manufacture and supply of 75 WAG- 9H electric locomotives
- 3 nos. 1400 HP DESL with environment compliant US EPA TIER II from JSW, Dolvi, which shall be manufactured for the first time in India.
- Supply of 2 sets of Aluminum Tank for 7775 KVA and 3 sets of aluminum tank for 6531 KVA rating transformers from CLW, Chittaranjan

WAG9 locomotives under manufacture for Indian Railways at TP Jhansi

2.1.2 Major Orders received during 2020-21 upto Sep'20

- 210 nos. of traction motors (type 6FRA 6068) from CLW, Chittaranjan
- 20 sets of IGBT based complete propulsion system from CLW, Chittaranjan
- 45 sets 3 phase 6531 KVA transformer from CLW, Chitaranjan

2.2 Transmission

2.2.1 Major Orders received during 2019-20

- Highest ever order booking of transformers totalling to 48570 MVA [247 nos.]

- First time orders from Powergrid through competitive bidding for 765 KVA transformers and reactors for all standard ratings in the 765 KVA transmission system totalling up to 15720 MVA

2.2.2 Major Orders received during 2020-21 upto Sep'20

- 75 nos. dry type transformers from Bhilai Steel Plant
- 8 nos. 30.24 MVA 110 KVA Traction Transformers from Central Organisation for Railway Electrification (CORE)

2.3 Renewable Energy

BHEL has received Highest ever order booking in financial year 2019-20 for Renewable Energy (RE) Projects

2.3.1 Major Orders received during 19-20 & 2020-21 upto Sep'20

- EPC order for one of the largest single location floating solar power plant in India
- NTPC Ramagundam 100 MW. Floating Solar portfolio reached 152 MW with a DC capacity of more than 220 MWp, making BHEL the biggest EPC player in the floating solar market in India.

2.4 Water Business

2.4.1 Achievements during 19-20 & 2020-21 upto Sep'20:

- Phytorid based Sewage Treatment Project (STP) project implemented by BHEL at Telibandha Lake, Raipur, in partnership with National Environmental Engineering Research Institute (NEERI) has been consistently operating with satisfactory result
- BHEL signed an MoU with CSIR for commercialization and implementation of indigenously developed technologies by CSIR

2.5 Defence & Aerospace

2.5.1 Major Orders received during 19-20

BHEL secured development order for air cycle machine based liquid cooling system from DRDO

500kW Main Motor Generator (MMG) (assembly of AC & DC machine) for defence application designed & manufactured by BHEL

2.5.2 Major Orders received during 20-21 upto Sep'20

- Software Modification of Integrated Platform Management System (IPMS) for Indigenous Aircraft Carrier (IAC) Project 71 from Cochin Shipyard Limited
- Design and Development of Pump Module for Liquid Cooling System (LCS) of Environmental Control System (ECS) of Light Combat Aircraft (LCA)-AF Mk2 from Aeronautical Development Agency, Ministry of Defence

2.6 Captive Power Plants

2.6.1 Major Orders received during 19-20:

- Maiden order for energy efficiency turbine from GNFC
- Order from new customer - Gallantt Ispat Limited & Ankur Udyog Limited

2.6.2 Major Orders received during 20-21 upto Sep'20:

- Supply of loose Turbine of 40MW from SMC Power Generation Ltd

2.7 Industrial Products (including Oil & Gas and Electrical Machines)

2.7.1 Major Orders received during 19-20:

- First ever order for 7 MW Ethylene Gas Compressor for Petrochemical complex at IOCL Panipat Refinery

- First ever order for Recycle Gas Compressor for HRRL from M/s Toyo Engg. Pvt. Ltd.
- First ever bulk order of 23 high-tonnage Pressure Vessels for HPCL Vizag Package from M/s L&T Hydrocarbon Engineering

2.7.2 Major Orders received during 20-21 upto Sept'20

- Supply of Gas Turbine driven Natural Gas Compressor from GAIL, Gandhar
- Supply of Steam Turbine driven Recycle Gas Compressor for VGO HDT unit at HRRL Rajasthan from TATA Projects Ltd.

2.8 Energy Storage Solutions Group

2.8.1 Major Orders received during 19-20:

- Order for supply of 2 nos. of 12M Low Floor AC electric buses for Gorakhpur city from Urban Transport Directorate of Uttar Pradesh through competitive bidding

2.8.2 Major Orders received during 20-21 upto Sep'20:

- Solar based Parking (25 KW) cum EV Charging Station (1 Nos of DC001 and AC001 EV Charger each) from AIC- EMPI (Atal Incubation Centre - Entrepreneurship & Management Process International), New Delhi.

2.9 INTERNATIONAL OPERATIONS

2.9.1 Major Orders received during 2019-20

During the year 2019-20, BHEL secured the following overseas orders:

- Electro-mechanical package of 2 × 20 MW Rahughat Hydroelectric Project, which is the second successive order for hydro power project from Nepal. The order has been placed by the Raghuganga Hydropower Limited (RGHPL), a company 100% owned by Nepal Electricity Authority (NEA).
- Maiden order from Chad for Pyranometer & Anemometer for 32 MW Solar PV project from Djermaya CDEN Energy SARL, Chad.

2.9.2 Major Orders received in 2020-21 upto Sep'20

Despite subdued business environment across the globe due to COVID-19 pandemic, orders worth ₹ 7.03 crore were booked for products and after sales spares/services from Indonesia, Italy, Liberia, Malawi, New Caledonia, Oman, Sri Lanka, UAE, Vietnam up to 30th September, 2020. Major orders are:

- First Grid Connected MW scale Solar order received from CEB Mauritius for 8 MW Solar Plant.
- First ever order booked from Liberia for a 2750 kW Motor. This is BHEL's maiden entry into Liberia.

2.10 PROJECT COMMISSIONING

2.10.1 Commissioning highlights during 19-20

BHEL achieved a capacity addition of 3,580 MW in 2019-20, the largest capacity addition achieved by any single equipment manufacturer in this year. The projects are:

- 2 Units of 2×660 MW OPGCL / IB Valley TPS
- 1 Unit of 1×800 MW GSECL / Wanakbori TPS

2×660 MW IB Valley Thermal Power Station commissioned by BHEL in Odisha

2.10.2 Utility power projects synchronised (1,206.15 MW):

- 1 Unit of 2x500 MW NLC / New Neyveli TPS
- 1 Unit of 4×270 MW TSGENCO / Bhadradri (Manuguru) TPS

2.10.3 Lift Irrigation Schemes (2,103 MW):

- 7 units of 7×139 MW I&CAD, Telangana / Kaleshwaram Lift Irrigation Scheme (LIS) Pkg-8

- 7 units of 7×116 MW I&CAD, Telangana / Kaleshwaram Lift Irrigation Scheme (LIS) Pkg-6

Since its inception in 1964, BHEL has added 452 coal-based sets, 420 hydro utility sets, 102 gas based utility sets and 12 nuclear based utility sets in India up to 2019-20.

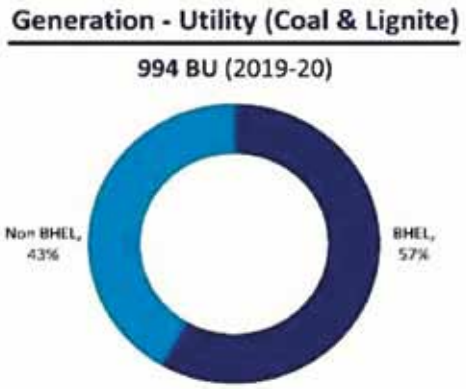
2.10.4 Commissioning Highlights during 2020-21 upto Sep'20

- Capacity addition of 36.15 MW STG of 98.4 MW APGCL/Namrup CCPP and 1 unit of 4×270 MW TSGENCO / Bhadradri (Manuguru) TPS.
- Synchronization of 1 unit of 4×270 MW TSGENCO / Bhadradri (Manuguru) TPS, 1 unit of 2×800 MW NTPC Gadarwara and 1 unit of UHL-II (HEP) achieved

2.11 EQUIPMENT PERFORMANCE

2.11.1 During 2019-20

57% of the country's total generation of 994 BUs from thermal utility sets (coal based) was contributed by BHEL supplied sets, testifying to the superior performance of BHEL sets.



BHEL's first supercritical unit 660 MW Barh-4 has clocked around 42,630 hours of operation, with uninterrupted operation for 265 days from 6th March 2019 to 26th Nov 2019.

Major achievements of performance of BHEL sets include:

- Thermal sets registered OA of 84.9 % and generated 5,65,983 MUs in 2019-20
- Generation from sets of 195 MW and above went up to 5,53,278 MUs with OA of 85.3%

2.11.2 During 2020-21 upto Sep'20

53.7 % of the country's total generation of 444.08 BUs from thermal utility sets (coal and lignite based) contributed by BHEL supplied sets. Major achievements of performance of BHEL sets include:

- BHEL's 1st supercritical unit 660 MW Barh-4 clocked around 45846 hours of operation (OA 96.7%)
- Kothagudam-12 (800 MW) achieved the highest PLF 79.1% highest among all supercritical sets.

2.12 OTHER HIGHLIGHTS

2.12.1 During 19-20

- Appreciation letter received from MAHAGENCO for Satisfactory Capital Overhauling at Bhusawal-5 TPS
- MoU signed with Rapide AG, to address present/ potential future business relationships in the area of Maglev rail systems, technologies and Projects.
- India's first Air-conditioned Rake for central railway, fitted with BHEL's electrics, inaugurated for commercial service between Panvel and Thane on 30th January 2020.

2.12.2 During 20-21 (Upto Sep'20)

- Appreciation letter received from MD, CSPGCL for in situ machining work carried out at Marwa-2 by BHEL during lockdown due to pandemic
- India's highest rated first of its kind indigenously developed PHWR (Pressurized Heavy Water Reactor) of 700 MWe rating at Kakrapar (Unit 3) has achieved criticality on 22nd July 2020
- BHEL had partnered with Indian Railways (IR) and has successfully commissioned a 1.7 MW pilot Solar Photo Voltaic plant at Bina.
- MoU signed with Zorya Mashproekt, Ukraine for Localization of Marine Gas Turbine & Gear Box for Defence application.

2.13 RECOGNITION OF EXCELLENCE

2.13.1 During 2019-20

- **20 Vishwakarma Rashtriya Puraskars**

(Performance year 2017) received by 88 BHEL employees.

- **Asia Pacific Entrepreneurship Award 2019** under corporate excellence in the field of Engineering Industry
- **Golden Globe Tigers Award 2019** for excellence in HR Leadership under the category- Dream Company to Work for Golden Peacock Award 2019 for corporate social responsibility
- Dr. Nalin Shinghal, CMD, BHEL, awarded **'CEO with HR Orientation'** by World HRD Congress
- **Indian Green Energy Award 2019** for 'Outstanding Renewable Energy Generation Projects' (Solar) for its 7.5 MWp Solar PV Plant at Trichy
- Dr. Nalin Shinghal, CMD, BHEL, felicitated by the Indian Chamber of Commerce for **Outstanding Contribution to the Nation**

2.13.2 During 2020-21 upto Sep'20

- BHEL received appreciation letter from **Druk Green Power Corporation - Bhutan** for its efforts in immediate restoration of Unit#1 (93.3 MVA, 11 kV, 50 Hz,300 rpm) of 4x84 MW Chhukha Hydropower Plant in Bhutan, despite the difficult situation of ongoing pandemic
- BHEL has been declared winner for **SKOCH Order of Merit Award** (Year 2020) under the category **'Inspirational or Transformational Performance during COVID'** for the following Projects:
  - In-house Development of Electrostatic Disinfectant Unit to fight against COVID-19 Pandemic
  - E-office implementation at BHEL Leveraging Work from Home for achieving Organization Objective

2.14 MAJOR R&D/ TECHNOLOGY UPGRADATION ACHEIVEMENTS

2.14.1 During 2019-20

Some significant developments carried out during the year are:

- Prototype of 12 m electric bus which successfully completed the CMVR compliance homologation tests and obtained the TAC-Type Approval Certification from ICAT-Manesar.
- Under the AUSC project, the following developments have been completed
  - Commissioning of High Spin Rotor Test Rig (DST Project) to simulate low cycle fatigue & creep.
  - Commissioning of High Temperature Furnace (12T) for piping bends of IN617M & Inconel 740.

2.14.2 During 2020-21 upto Sep'20

- Developed Composite Insulators with 1600 mm creepage for usage in overhead traction lines in high-polluted zones for Indian Railways.
- Developed Dynamic Hot spot Temperature Measurement System (HTMS) for traction motor type IM3302 AZ using Inductive telemetry.

2.15 HUMAN RESOURCE

- BHEL's greatest strength is its highly skilled and committed workforce of 32,745 employees (as on 30th Sep-20) who are the cornerstone of the company's engineering excellence.
- To strengthen the national fight against COVID-19 pandemic, employees of BHEL contributed one day's salary amounting to ₹ 8.72 Crores to PM CARES Fund.

2.16 SOCIAL RESPONSIBILITIES

BHEL remained focused on its social responsibility through its various CSR initiatives.

2.16.1 CSR activities undertaken in 2019-20 & 2020-21 (up to Sep'20)

Clean India

- For conservation of rain water and recharging the ground water, desilting of ponds in vicinity of Village Navapattu in Tiruchirappalli District, Tamil Nadu was done
- Under Swachh Bharat Abhiyan, BHEL's manufacturing units and projects sites took up

many projects for construction/renovation of toilets in schools/colleges and at public places

Toilets in schools constructed by BHEL under Swachh Bharat Abhiyan

Educated India

- Distribution of school kits to 50,000 flood affected underprivileged students in Western Maharashtra

Scholarship program for 48 students from adopted villages in Bhopal

- Scholarship program for 48 students from adopted villages in Bhopal, mainly widows' wards/ orphans / Divyangjan pursuing courses such as ITI, B.Sc. (Nursing) etc.

Healthy India

- Providing Anti Haemophilic Factors (AHF) to 100 underprivileged haemophilic patients in various Aspirational Districts across India under its CSR initiative "Heal-A-Soul III"
- BHEL has taken up a CSR project with a NGO called "MISSION SMILE" for taking up cleft surgery of 200 underprivileged cleft patients from Haridwar and other nearby districts. An agreement (MOU) for the same was signed with the NGO on 06.03.2020 at Haridwar

Green India

- Providing solar water heaters at Vikarabad and Gaulidoddi social welfare residential schools for girls, Telangana
- Providing Solar Street Lights in Donkeshwar Village, Nizamabad district, Telangana

Responsible India

- Construction of Dining Hall in the hostel of Divya Prem Sewa Mission Nyas for leprosy patients and their wards at Haridwar, Uttarakhand.

Inclusive India

- Support to Latika Roy Memorial Foundation, Dehradun for their program "Latika Vihar–Come One: Come All", which is a holistic development & inclusion program for children and young adults with intellectual impairment
- Skill development training to women in various trades like embroidery, beautician, tailoring, music & dance etc. at Haridwar, Uttarakhand through BHEL Ladies Club

2.17 QUALITY PERFORMANCE

BHEL has well established Quality Management systems to realize the objective of Quality Policy. Quality Policy of BHEL was revised with an objective of building company wide culture of 'Quality First' and same was approved by CMD and released on 1st Nov'19.

Mission 'Quality First' focuses on four objectives — Empower, Educate, Engage and Encourage employees.

Quality Circle (QC) movement in BHEL, which is being driven, by workers & supervisors is the role model in the country.

29th BAQCS (BHEL Annual Quality Circle Summit: 2018-19) held at HEEP Haridwar on 26th Apr'19. 48 Quality Circles from 15 MUs participated in the summit. Quality Circle no. 582 of HPBP Trichy awarded with Shri S R Udpa trophy for best Quality Circle.

Major thrust is being given to Root Cause Analysis (RCA) of Quality issues faced at manufacturing shops and erection sites.

ANNEXURE-XIII

Demand No.44 – Department of Heavy Industry
Scheme-Wise Allocation for the year 2020-21

(₹in crores)

Sl. No	Schemes/Items	BE 2018-19	RE 2018-19	Actual 2018-19	BE 2019-20	RE 2019-20	Actual 2019-20	BE 2020-21	Expenditure as on 31.12. 2020
1.	**Secretariat**	**36.85**	**36.85**	**35.67**	**39.05**	**39.05**	**36.95**	**41.09**	**21.16**
2.	**Development of Automobile Industry**								
i.	Grants to National Automotive Testing and R&D Infrastructure Project (NATRIP)	378.88	400.00	400.00	259.23	259.23	259.23	300.00	114.30
ii.	Grants to Scheme for Faster Adoption and manufacturing of (Hybrid and) Electric Vehicle in India - FAME India	260.00	145.00	145.00	500.00	500.00	500.00	692.94	248.36
iii.	Grants to Development Council for Automobile & Allied Industries (DCAAI)	30.00	15.00	14.92	25.00	8.80	8.80	15.00	10.97
	Total- Development of Automobile Industry	**668.88**	**560.00**	**559.92**	**784.23**	**768.03**	**768.03**	**1007.94**	**373.63**
3.	**Development of Capital Goods Sector**								
i.	Scheme for Enhancement of Competitiveness in Capital Goods Sector	120.00	110.00	110.46	110.00	102.30	102.17	173.11	36.87
ii	Scheme in R&D Projects Development of Advanced Ultra Super-Critical (Adv.-USC) Technology for Thermal Power Plants - AUSC	100.00	220.00	220.00	134.00	134.00	134.00	0.00	0.00
iii	Industry associations and PSU for undertaking promotional activities	0.50	0.50	0.00	0.50	0.20	0.04	0.20	0.05
	Total- Development of Capital Goods Sector	**220.50**	**330.50**	**330.46**	**244.50**	**236.50**	**236.21**	**173.31**	**36.92**

Sl. No	Schemes/Items	BE 2018-19	RE 2018-19	Actual 2018-19	BE 2019-20	RE 2019-20	Actual 2019-20	BE 2020-21	Expenditure as on 31.12. 2020
4.	**Other Central Sector Expenditure**								
	Grants to Central Manufacturing Technology Institute (CMTI)	10.00	15.00	15.00	19.00	19.00	19.00	6.00	6.00
5.	**Support to Central Public Sector Enterprises (CPSEs)**								
i.	Grants to Hindustan Salts Limited (HSL)	2.00	2.00	2.00	2.30	2.30	2.30	2.00	2.00
ii	Grants - in- Aid General to Swachhta Action Plan	1.00	0.10	0.10	0.01	0.00	0.00	0.01	0.00
iii	Investment in Hindustan Paper Corporation (NPPC) -(NER)	90.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
iv	Investment in HCL	0.01	0.00	0.00	0.01	0.00	0.00	0.01	0.00
v	Investment in NEPA Ltd.	0.01	49.54	49.54	248.31	181.05	181.05	137.24	92.95
vi	Investment in Hindustan Salts Limited (HSL)	14.50	0.00	0.00	5.00	0.00	0.00	5.00	0.00
vii	Implementation of Revival Scheme of Public Sector Enterprises (Lump sum provision)	61.78	6.34	6.33	0.01	0.00	0.00	0.01	0.00
viii	Implementation of VSS/VRS and Payment of Statutory Dues (Lump sum provision)	10.00	26.00	26.00	0.01	0.00	0.00	53.92	53.92
ix	Loans to implementation of closures of sick Public Sector Enterprises	10.00	10.00	10.00	24.41	24.41	24.39	0.01	0.00
x	Loans to NEPA Ltd.	0.01	0.00	0.00	0.01	38.27	38.26	63.31	53.72
xi	Others	0.19	0.01	0.00	0.15	0.00	0.09	0.13	0.00
	Grand Total	**1125.73**	**1036.34**	**1035.02 (91.94%)**	**1367.00**	**1308.61**	**1306.28 (95.56%)**	**1489.98**	**640.30 (42.97%)**

Department of Public Enterprises

VISION

Effective, Profitable and Globally Competitive
Central Public Sector Enterprises

MISSION

To continuously improve management and performance of CPSEs through Corporate Governance, Performance Evaluation, Human Resource Management, Research & Development so as to enhance their global competitiveness.

Department of Public Enterprises (DPE)

1. In their 52nd Report, the Estimates Committee of 3rd Lok Sabha (1962-67) stressed the need for setting up a centralized coordinating unit, which could also make continuous appraisal of the performance of public enterprises. This led to the setting up of the Bureau of Public Enterprises (BPE) in 1965 in the Ministry of Finance. Subsequently, as a result of the reorganization of the Ministries/ Departments of the Union Government in September, 1985, BPE was made part of the Ministry of Industry. In May, 1990, BPE was made a full-fledged Department known as the Department of Public Enterprises (DPE). Presently, it is part of the Ministry of Heavy Industries & Public Enterprises.

2. The Department of Public Enterprises is the nodal department for all the Central Public Sector Enterprises (CPSEs) and formulates policy pertaining to CPSEs. It lays down, in particular, policy guidelines on performance improvement and evaluation, autonomy and financial delegation and personnel management in CPSEs. It furthermore collects and maintains information in the form of a Public Enterprises Survey on several areas in respect of CPSEs.

3. In fulfilling its role, the Department coordinates with other Ministries, CPSEs and concerned organisations. As per the Allocation of Business Rules of the Government, the following subjects have been allocated to the DPE:

- Residual work relating to erstwhile Bureau of Public Enterprises including Industrial Management Pool.
- Coordination of matters of general policy affecting all Public Sector Enterprises.
- Evaluation and monitoring the performance of Public Sector Enterprises, including the Memorandum of Understanding mechanism.
- Matters relating to Permanent Machinery of Arbitration for the Public Sector Enterprises.
- Counselling, training and rehabilitation of employees in Central Public Sector Undertakings under Voluntary Retirement Scheme.
- Review of capital projects and expenditure in Central Public Sector Enterprises.
- Measures aimed at improving performance of Central Public Sector Enterprises and other capacity building initiatives of Public Sector Enterprises.
- Rendering advice relating to revival, restructuring or closure of Public Sector Enterprises including the mechanisms therefor.

- Matters relating to Standing Conference of Public Enterprises.
- Matters relating to International Center for Public Enterprises.
- Categorisation of Central Public Sector Enterprises including conferring 'Ratna' status.
- Survey of Public Enterprises.

4. Department of Public Enterprises is headed by Secretary to the Government of India who is assisted by an establishment with an overall sanctioned strength of 118 officers/personnel. The organizational structure of DPE is at **Annexure-1.**

CHAPTER 1

Public Enterprises Survey

1.1 Public Enterprises Survey

The Department of Public Enterprises brings out the Public Enterprises Survey on the performance of Central Public Sector Enterprises (CPSEs), which is laid in the Parliament every year. The Public Enterprises Survey 2019 -20 (60th in Survey) will be laid in both the Houses of Parliament during the Budget Session of Parliament. The collection of information regarding PE Survey 2019-20 is at advance stage and being finalized. This year the collection of information for PE Survey 2019-20 was delayed due to outbreak of COVID-19. In view of this, M/O Corporate affairs also extended the last date of AGM for all CPSEs to 31st Dec 2020. Hence, the annual reports / audited Financial Statements were not available with the CPSEs which in turn has led to delay in data submission by the CPSEs. As the collection of information is in progress, the information provided in this report is Provisional & is subject to change.

1.2 Performance of CPSEs, during the year 2019-20, is summarized below:

There were 366 Central Public Centre Enterprises under the administrative control of various Ministries/ Departments as on 31.3.2020. Out of these 366 CPSEs, 256 are in Operation, 96 CPSEs have yet to commence business and 14 are under liquidation or approved for closure.

Out of 256 operating CPSEs as many as 171 CPSEs showed profit during 2019-20, 85 CPSEs incurred losses during the year, and 1 CPSE had no profit no loss. The 'net profit' of 171 profit making CPSEs was ₹ 1,38,112 crore in 2019-2020. The 'net loss' of 85 loss making enterprises stood at ₹ (-) 44,818 crore during the year. The overall net profit of the 256 operating CPSEs went down by -34.61% to ₹ 93,294 crore in 2019-20 from ₹ 1,42,666 crore in 2018-19. The contribution of CPSEs to the Central Exchequer decreased by -0.49% to ₹ 3,75,899 crore in 2019-20 as compared to previous year of ₹ 3,77,759 crore.

The cumulative investment (paid up capital plus long term loans), which was ₹ 29 crore in 5 enterprises as on 31.03.1951, has gone up to ₹ 20.62 lakh crore in 366 CPSEs as on 31.03.2020. The increase in 'investment' in all the CPSEs was 29.72 % in 2019-20 over 2018-19, similarly 'capital employed' went up by 17.45 % during the same period.

A comparison of performances of CPSEs during 2019-20 vis-a-vis the previous year i.e. 2018-19, is at **Annexure-2**.

1.3 Scheme in respect of Research Development and Consultancies (RDC)

DPE is implementing a Plan Scheme of Research Development and Consultancies (RDC) for the executives of Central Public Sector Enterprises (CPSEs) and State Level Public Enterprises (SLPEs). Under the Scheme Management Development Programmes on various topics for increasing the knowledge & skill of executives of CPSEs and SLPEs are organized at various Centers for Excellence such as IIMs, IITs, IIPA New Delhi etc. Due to COVID-19, the training institutes are not organizing physical training in the year 2019-20.

CHAPTER 2

Autonomy to CPSEs

2.1 The endeavor of the Government is to make Central Public Sector Enterprises (CPSEs) autonomous board managed companies. Under Articles of Association, the Board of Directors of CPSEs enjoys autonomy in respect of recruitment, promotion and other service conditions of below board level employees. The Board of Directors of a CPSE exercises delegated powers subject to broad policy guidelines issued by Government from time to time. The Government has granted enhanced powers to the Boards of the profit-making enterprises under various schemes like Maharatna, Navratna and Miniratna in the manner stated in the following paragraphs.

2.2 MAHARATNA SCHEME

2.2.1 The main objective of the Maharatna scheme which was introduced in 2010 is to empower mega CPSEs to expand their operations and emerge as global giants. The Maharatna Scheme empowers big sized CPSEs to expand their operations and emerge as global giants.

2.2.2 The salient features of Maharatna scheme are at **Annexure-3**.

2.2.3 Presently there are Ten Maharatna CPSEs, viz. (i) Bharat Heavy Electricals Limited (ii) Bharat Petroleum Corporation Limited, (iii) Coal India Limited, (iv) GAIL India Limited, (v) Hindustan Petroleum Corporation Limited, (vi) Indian Oil Corporation Limited, (vii) NTPC Limited, (viii) Oil & Natural Gas Corporation Limited (ix) Power Grid Corporation of India Limited, and (x) Steel Authority of India Limited.

2.3 NAVRATNA CPSEs

2.3.1 The Government had introduced the Navratna scheme, in 1997, to identify Central Public Sector Enterprises (CPSEs) that had comparative advantages and to support them in their drive to become global giants. Under this scheme, the Boards of Navratna CPSEs have been delegated enhanced powers in the areas of (i) capital expenditure, (ii) investment in joint ventures/ subsidiaries, (iii) mergers & acquisitions, (iv) Human resources management, etc.

2.3.2 Presently, there are 14 Navratna CPSEs as under:

(i) Bharat Electronics Limited

(ii) Container Corporation of India Limited

(iii) Engineers India Limited

(iv) Hindustan Aeronautics Limited

(v) Mahanagar Telephone Nigam Limited

(vi) National Aluminium Company Limited

(vii) National Buildings Construction Corporation Limited

(viii) Neyveli Lignite Corporation Limited

(ix) NMDC Limited

(x) Oil India Limited

(xi) Power Finance Corporation Limited

(xii) Rashtriya Ispat Nigam Limited

(xiii) Rural Electrification Corporation Limited

(xiv) Shipping Corporation of India Limited

2.3.3. The powers delegated to the Boards of Navratna CPSEs and conditions/guidelines for exercise of delegated Navratna powers are at **Annexure 4.**

2.4 Miniratna scheme

2.4.1 In October 1997, the Government had decided to grant enhanced autonomy and delegation of financial powers to some other profit making companies subject to certain eligibility conditions and guidelines to make them efficient and competitive. These companies, called Miniratnas, are in two categories, namely, Category- I and Category-II.

2.4.2 The salient features of Miniratna scheme are at **Annexure-5.**

2.4.3 Presently there are 72 Miniratna CPSEs (60 Category-I and 12 Category-II). The list of these 72 Miniratna CPSEs is enclosed at **Annexure-6**.

CHAPTER 3

Corporate Governance and Professionalization of Boards in Central Public Sector Enterprises (CPSEs)

3.1 Corporate Governance – Background

3.1.1 The term Corporate Governance includes the policies and procedures adopted by a corporate entity in achieving its objectives in relation to shareholders, employees, customers and suppliers, regulatory authority and the community at large. In general parlance, it means a code of corporate conduct in relation to all the stakeholders, whether internal or external. Corporate Governance implies transparency of management systems and encompasses the entire mechanics of the functioning of the company. It provides a system by which corporate entities are directed and controlled, besides attempting to put in place a system of checks and balances between the shareholders, directors, auditors and the management.

3.1.2 Keeping in view the importance of Corporate Governance principles in ensuring transparency and enhancing the trust of stakeholders and the fact that there was a continued need to adopt and apply the good Corporate Governance practices in respect of CPSEs where huge public funds are invested, Guidelines on Corporate Governance for all CPSEs on mandatory basis was approved by the Government in March, 2010.

3.1.3 The Guidelines cover issues like composition of Board of CPSEs, Audit Committee, Remuneration Committee, Subsidiary companies, Disclosures, Code of conduct and ethics, Risk management and reporting. They also include provisions relating to monitoring the compliance of Guidelines by the CPSEs and formation of Remuneration Committee. Since, the concept of Corporate Governance is dynamic in nature; it has also been provided that suitable modifications in these Guidelines would be carried out to bring them in line with prevailing laws, regulations, acts, etc. from time to time.

3.1.4 The salient features of these guidelines are at **Annexure-7**.

3.2 Professionalization of Board of CPSEs

3.2.1 Department of Public Enterprises (DPE) formulates policy guidelines on the Board structure of CPSEs. In pursuance of the public sector policy being followed since 1991 several measures have been taken by the Department of Public Enterprises to professionalize the Boards of public enterprises. The guidelines issued in 1992 provide that outside professionals should be inducted on the Boards of CPSEs in the form of part-time non-official Directors and that the number of such Directors should be at least 1/3rd of the actual strength of the Board. In the case of listed CPSEs headed by executive Chairman, the number of non-official Directors (Independent Directors) should be at least half the strength of the Board. The guidelines also provide that the number of Government Directors on the Boards should be not more than one-sixth of the actual strength of the Board subject to a maximum of two. Apart from this, there should be some functional Directors on

each Board whose number should not exceed 50% of the actual strength of the Board.

3.2.2 As regards selection and appointment of non-official Directors on the Boards of CPSE, the following eligibility criteria has been prescribed: -

Criteria of Experience

(i) Retired Government officials with a minimum of 10 years' experience at Joint Secretary Level or above.

(ii) Persons who have retired as CMD/CEOs of CPSEs and Functional Directors of the Schedule 'A' CPSEs. The ex-Chief Executives and ex-Functional Directors of the CPSEs will not be considered for appointment as non-official Director on the Board of the CPSE from which they retire. Serving Chief Executives/Directors of CPSEs will not be eligible to be considered for appointment as non-official Directors on the Boards of any CPSEs.

(iii) Academicians/Directors of Institutes/Heads of Department and Professors having more than 10 years teaching or research experience in the relevant domain e.g. management, finance, marketing, technology, human resources, or law.

(iv) Professionals of repute having more than 15 years of relevant domain experience in fields relevant to the company's area of operation.

(v) Former CEOs of private companies if the company is (a) listed on the Stock Exchanges or (b) unlisted but profit making and having an annual turnover of at least Rs.250 crore.

(vi) Persons of eminence with proven track record from Industry, Business or Agriculture or Management.

(vii) Serving CEOs and Directors of private companies listed on the Stock Exchanges may also be considered for appointment as part-time non-official Directors on the Boards of CPSEs in exceptional circumstances.

Criteria of Educational Qualification

Minimum graduate degree from a recognized university.

Criteria of Age

The age band should be between 45-65 years (minimum/maximum limit)

This could, however, be relaxed for eminent professionals, for reasons to be recorded, being limited to 70 years.

3.2.3 The proposals for appointment of non-official Directors are initiated by the concerned Administrative Ministries/Departments. The selection of non-official Directors in respect of all CPSEs is made by the Search Committee which presently consists of Secretary (DoPT) as chairperson, Secretary (DPE), Secretary of the administrative Ministry/Department of the CPSE and 2 non-official Members. The concerned Administrative Ministry/Department appoints the non-official Directors on the basis of recommendations of Search Committee after obtaining the approval of competent authority.

3.2.4 The functional Directors are appointed by the administrative Ministry on the recommendations of PESB and with the approval of Competent Authority. The Government Directors are appointed in ex-officio capacity by the concerned administrative Ministries/Departments.

3.2.4 The revised guidelines on Role of Government Directors of CPSEs were issued to administrative Ministries/ Departments after inter-ministerial consultations and concurrence of CVC.

3.3 Performance Appraisal of Board Level Executives of CPSEs:

3.3.1 First-ever recording of Annual Performance Appraisal Reports (APAR) for the year 2018-19 (through online mode) for Board level incumbents of CPSEs in the new online SPARROW-CPSE system was completed.

CHAPTER 4

MoU System in CPSEs

4.1 **Memorandum of Understanding:** MoU is a negotiated agreement and contract between the Administrative Ministry/Department/ Holding CPSEs i.e. majority shareholder and the Management of the Central Public Sector Enterprises (CPSE) on selected parameters having targets decided normally before the start of a new financial year and results evaluated after the end of the year to major the performance. MoU system involves target setting in financial and non-financial areas and performance evaluation of those targets.

4.1.1 The Government of India introduced the system of MoU in the year 1986, based on recommendations given by Arjun Sen Gupta Committee report (1984). The report recommended that the CPSEs should enter into agreements with their Administrative Ministries for five years, with progress would be reviewed annually. The MoU system was given broader thrust by the Government after the announcement of the New Industrial Policy of 1991. In view of the above policy statement, the scope of MoU system has been extended to cover nearly all CPSEs over a period of time and this is given below:

Year	No. of MoUs signed	Year	No. of MoUs signed
1987-88	4	2010-11	198
1991-92	72	2011-12	197
2001-02	104	2012-13	196
2002-03	100	2013-14	197
2003-04	96	2014-15	214
2004-05	99	2015-16	215
2005-06	102	2016-17	231
2006-07	113	2017-18	196
2007-08	144	2018-19	167
2008-09	147	2019-20	144
2009-10	197	2020-21	124*

**MoU Targets decided*

4.2 **Purpose of MoU:** The purpose of the MoU is to measure the performance of the management of the CPSEs on key selected parameters against the targets agreed upon so as to improve the critical performance indicators of the organization.

4.3 **Parameters:** CPSEs are working in various sectors under different conditions. In view of this, the following guidelines are laid down:-

4.3.1 There would be uniform parameters for measuring financial performances such as revenue from operations. Operating profit and return on investment (e.g. ratio of PAT/ Net-worth). This would be applicable to all CPSEs, except CPSEs which are dependent

on government grant or performing functions of distribution of grants etc. e.g. Biotechnology Industry Research Assistance Council (BIRAC). Hence, 3 financial parameters have been prescribed for all CPSEs which total weightage of 50% except for CPSEs like BIRAC.

4.3.2 For the remaining 50% weightage, a menu of parameters has been suggested for selection depending on the sector in which the CPSE is operating. The parameters most appropriate and relevant for measuring performance shall be suggested by the Pre-Negotiation Committee (PNC) to the Inter-Ministerial Committee (IMC). In all the cases IMC shall take appropriate decision on the suggestions made by PNC.

4.3.3 Chairman IMC is authorized to modify the parameters or weightages of parameters in sector specific cases, if justified.

4.4 Institutional Arrangements for Implementation of MoU Policy:

(a) **High Power Committee (HPC) on MoU:** It is a Committee of Secretaries (COS) set up by the Government as the Apex body for Central Public Sector Enterprises (CPSEs) to assess the performance of MoU signing CPSEs with reference to the commitments made by them in the MoU, HPC is headed by the Cabinet Secretary and comprises of following members:

Finance Secretary, Secretary (Expenditure), CEO (NITI Aayog), Secretary (Statistics & Programme Implementation), Chairman, Public Enterprises Selection Board; Chief Economic Advisor, Department of Economic Affairs; Chairman, Tariff Commission; and Secretary (PE). HPC on MoU gives guidance and directions with respect to the determination of the principles and parameters for evaluating the performance of CPSEs.

(b) **Inter-Ministerial Committee (IMC):** MoU targets are decided by the IMC. Inter-Ministerial Committee on MoU consists of Secretary, DPE as Chairman, Secretary of concerned administrative Ministry/Department or his representative not below the rank of Joint Secretary (Member), Secretary, Ministry of Statistics and Programme Implementation or his representative not below the rank of Joint Secretary (Member), Additional Secretary, NITI Aayog or his representative (Member). Secretary, DPE may co-opt any officer who is a finance expert in case the need is felt.

(c) **Pre-negotiation Committee (PNC):** The role of the Pre-negotiation Committee is to assist IMC in determining the most appropriate and relevant parameters for measuring improvement in performance and for fixing targets. Meetings of the Pre-negotiation Committee is held in each case before the meetings of IMC to look at the trends, discuss, negotiate and recommend MoU parameters and targets. The Pre-negotiation committee comprises Adviser (MoU), DPE, concerned Joint Secretary/Adviser of Administrative Ministry, concerned Adviser (NITI Aayog), Director (MoU) and representative from Ministry of Statistics & Programme Implementation (MoSPI).

4.5 **Time-lines for submission of MoU:** The draft MoU with all documents/ Annexures should be submitted to administrative Ministry/ Department in respect of all CPSEs and their subsidiaries by 21st November of each

year for the forthcoming year/ the draft MoU after the approval of administrative Ministry/ Department should be sent to DPE by 15th December of each year for the forthcoming year with all documents/Annexures. Administrative Ministry/Department would ensure that the targets are realistic, growth oriented, aspirational and consistent with the latest Annual report, Budget and Corporate plan of the CPSEs.

4.6 **MoU Signing Process:** MoU based on the parameters, targets and weightage recommended by IMC without any deviation shall be signed between CMD/MD of CPSE and Secretary of administrative Ministry/ Department is case of holding/independent CPSEs and between CEO/MD of subsidiary company and CMD/MD of holding CPSE in case of subsidiary by 31st March (i.e. before start of financial year in respect of which targets are fixed) or within 21 days form issue of IMC meeting minutes, whichever is later. In case, deviation is detected, IMC minutes would prevail.

4.7 **For Evaluation of MoU:** Evaluation of MoU of the CPSE is done after the end of the year on the basis of actual achievements vis-à-vis the MoU targets. CPSEs (Holding as well as Subsidiaries) are required to submit performance evaluation reports on the basis of audited accounts to Department of Public Enterprises after approval of the Board of CPSE and through the administrative Ministries/Departments on or before 30th September (in respect of immediately preceding year) or any other date communicated by DPE. Figures and information in the MoU achievement which are not verifiable from audited accounts would be relied on the basis of certification by way of resolution of the Board given separately for each parameter.

4.8 **MoU Score and Rating**: MoU score is an aggregate of score on all parameters with respect to performance vis-à-vis the targets. With a view to distinguish 'excellent performance' from 'poor performance', five different performance ratings have been fixed in the MoU, i.e., 'Excellent', 'Very Good', 'Good', 'Fair', and 'Poor'.

4.8.1 The system of rating of CPSEs on the basis of MoU Aggregate Score is as follows:

Aggregated Score	Rating
90≤Score≤100	Excellent
70≤Score<90	Very Good
50≤Score<70	Good
33≤Score<50	Fair
0≤Score<33	Poor

4.8.2 Score and rating is subject to fulfilling following criteria failing which aggregate MoU score would be reduced by 1 mark for each instance of non-compliance subject to maximum of 5 marks and the rating is modified accordingly:

i. Compliance of Provisions of The Companies Act, 2013 or the relevant Act under which they have been regulated (To the extent compliances are within the ambit of CPSEs).

ii. In case of listed CPSEs, compliance of provisions of Listing Agreement (To the extent compliances are within the ambit of CPSEs).

iii. Compliance of DPE Guidelines having financial implications.

iv. No adverse observations by CAG on Annual Accounts pointing out

misappropriation of funds of any amount or Over statement of profit/ surplus/ assets or understatement of loss/ deficit/ liabilities amounting to 5% of Revenue from Operation.

v. Holding of AGM without seeking extension of time.

vi. Submission of Draft MoU/ MoU evaluation through administrative Ministry / Department to DPE by prescribed date.

vii. Signing of MoU as prescribed without deviation from minutes of the IMC meeting.

viii. Compliance of Public Procurement Policy for Micro and Small Enterprises issued by M/o Micro Small and Medium Enterprises.

ix. Compliance of DPE guidelines issued from time to time on CSR expenditure by CPSEs.

x. Compliance of DPE guidelines on Digital India.

xi. Compliance of DPE guidelines on Implementation of Apprenticeship Act, 1961 in CPSEs.

xii. Compliance of DPE guidelines on Accessible India Campaign (Sugamya Bharat Abhiyan).

xiii. Compliance of DPE guidelines on boarding of CPSEs on TReDS platform.

xiv. Compliance of DPE guidelines on any policy, issued from time to time, and prescribed specifically in this regard.

4.8.3 Compliance of each of additional eligibility criteria to be confirmed/ certified by Board of Directors by way of resolution.

4.9. MoU Evaluation

4.9.1 The year wise figures for signed MoU and evaluation for CPSEs is tabulated below:

Item	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
Total MoUs Signed	198	197	196	197	214	215	231	196	165	144
Evaluation Report Submitted	161	175	189	187	200	200	198	186	156	*

** Under process*

4.9.2 A comparison of the MoU ratings secured by the CPSEs during the last 10 years is as under:

Rating	Number of Public Sector Enterprises under each rating over Years									
	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
Excellent	73	67	76	75	76	73	57	49	49	42
V. Good	31	44	39	39	38	53	58	54	41	38
Good	20	24	33	37	36	41	28	40	36	30
Fair	20	24	25	36	29	26	22	31	39	16
Poor	01	02	02	02	08	7	26	24	21	18
Total	**145**	**161**	**175**	**189**	**187**	**200**	**191**	**198**	**186**	**144***

**12 CPSEs have submitted their MoU evaluation late.*

CHAPTER 5

Wage Policy and Manpower Rationalization

5.1 The Department of Public Enterprises (DPE) functions as the nodal Department for policy relating to pay revision of CPSE executives at Board as well as below Board level and non-unionized supervisors. DPE also issues guidelines for wage settlement negotiations in case of workmen in CPSEs. The Department renders advice to the Administrative Ministries/ Departments and CPSEs in matters relating to revision in pay scales of executives and also for the wage policy negotiations of workmen. The CPSEs are largely following the Industrial Dearness Allowance (IDA) pattern of scales of pay. However in some CPSEs, Central Dearness Allowance (CDA) pattern of scales of pay is also followed. DPE also issues quarterly DA orders in respect of IDA employees. The DA orders for CDA employees of CPSEs are issued for six monthly periods.

5.2 Third Pay Revision Committee under IDA pattern

5.2.1 The third Pay Revision Committee (PRC) was constituted under the Chairmanship of Justice (Rtd) Satish Chandra to consider and recommend pay scales for Board and Below Board level executives and non-unionized supervisors of CPSEs under IDA pattern of pay scale. Therefore, based on the recommendations of the third PRC, Government's decisions thereon and with approval of the Cabinet, the revised pay scale guidelines effective from 1st January, 2017 were issued vide DPE OMs dated 03.08.2017, 04.08.2017 and 07.09.2017.

5.2.2 The revised pay scales and allowances recommended by third PRC were based on the basic premise of "affordability". These pay scales and allowances would be implemented subject to the condition that the additional financial impact in the year of implementing the revised pay- package for Board and Below Board level Executives and Non-Unionized Supervisors should not be more than 20% of the average Profit Before Tax (PBT) of the last three financial years preceding the year of implementation. All the expenditure on this account will be met by the CPSE implementing the revised pay scales & allowances and no budgetary support shall be provided by the government in this regard.

5.3 Wage Revision for Workmen under IDA pattern

5.3.1 DPE has issued policy guidelines for the 8th Round of Wage Negotiations with unionized workmen of CPSEs (generally effective from 01.01.2017) for a period of 10 years vide its OM dated 24.11.2017. The validity of the wage negotiation as per para 2(xi) of DPE OM dated 24.11.2017 would be minimum period of five years for those who opted for a five year periodicity and for a maximum

period of ten years for those who have opted for a ten year periodicity of wage negotiation w.e.f. 01.01.2017.

5.4 Pay revision of employees under CDA Pattern in CPSEs

5.4.1 Pay scales on CDA pattern are applicable to the clerical staff, unionized cadres and executives of 69 CPSEs who were on the rolls of these CPSEs as on 1.1.1986 and upto 31.12.1988 and were in receipt of the CDA pattern pay scales during that time. A High Powered Pay Committee (HPPC) was appointed by the Government in pursuance of the Hon'ble Supreme Court directions dated 12.03.1986. The HPPC submitted its Report to the Government on 24.11.1988 and its recommendations were implemented in these CPSEs. Further in pursuance of the Hon'ble Supreme Court directions dated 03.05.1990 read with subsequent directions dated 28.08.1991, IDA pattern and related scales of pay were introduced in these CPSEs with effect from 01.01.1989.

5.4.2 Similarly, for the employees of CPSEs following the CDA pattern, DPE vide OM dated 17.08.2017 issued guidelines for revision of pay scales and allowances w.e.f. 01.01.2016. The benefit of pay revision is allowed to the employees of those CPSEs that are not loss making and are in a position to absorb the expenditure on account of pay revision from their own resources without any budgetary support from the Government.

5.4.3 DPE vide OMs dated 21.05.2018 and 04.07.2019 conveyed the Government decision on allowances applicable to CDA employees of CPSEs.

5.5 Recently issued guidelines

(i) Based on the D/o Expenditure instructions issued vide OM No. 01/01/2020-E-II (B) dated 23.04.2020 regarding freezing of additional installment of DA payble to Central Government employees and DR to Central Government pensioners, due from 01.01.2020 till 30.06.2021, DPE vide OM dated 28.04.2020 endorsed the same to the employees of CPSEs following CDA patterns of pay.

(ii) DPE vide OM dated 21.08.2020 has requested all the administrative Ministries/ Departments to take necessary action to review the profitability of CPSEs under their administrative control in light of para 3(iv) (b) of DPE OM No. W-02/0028/2017-DPE (WC)-GL-XIII/17 dated 03.08.2017 regarding reduction of PRP/allowances.

(iii) DPE vide OM Dated 19.11.2020 has guidelines on freezing of Industrial Dearness Allowances to employees drawing CPSE following 2017, 2007, 1997, 1992 & 1987 IDA pay scales at current rates till 30th June, 2021-reg.

CHAPTER 6

Categorisation Of CPSEs

6.1 The Public Sector Enterprises are categorized into four schedules namely 'A', 'B', 'C' & 'D'. The categorization of CPSEs has implications mainly for organizational structure and salary of Board level incumbents of the concerned CPSE. It also plays a role in grant of autonomy to the Boards of CPSEs under 'Ratna' scheme.

6.2 The initial categorization of CPSEs in the mid-sixties was made on the basis of their importance to the economy and complexities of their problems. Over the years the Department of Public Enterprises has evolved norms for the purpose of categorization/re-categorization of CPSEs. Categorization is based on criteria such as quantitative factors like investment, capital employed, net sales, profit before tax, number of employees and units, capacity addition, revenue per employee, sales / capital employed, capacity utilization, value added per employee and qualitative factors such as national importance, complexities of problems being faced by the company, level of technology, prospects for expansion and diversification of activities and competition from other sectors, etc. The other factors, wherever available, relate to share price, MOU ratings, Maharatna / Navratna/ Miniratna status and ISO certification. In addition, the factor relating to the critical/ strategic importance of the corporation is also taken into account. The present procedure involves consideration of the proposals in the administrative Ministry concerned and the Department of Public Enterprises which consults the Public Enterprises Selection Board. At present (as on 31.3.2018) there are 66 Schedule 'A', 65 Schedule 'B', 44 Schedule 'C' and 5 Schedule 'D' CPSEs. The schedule-wise list of CPSEs is given in **Annexure-8.**

6.3 The proposal of initial categorization of New Space India Ltd (NSIL) as Schedule 'A' CPSE was considered in consultation with Public Enterprises Selection Board and was concurred.

6.4 The proposal of Ministry of Railways for re-designation of Managing Director, Indian Railway Finance Corporation Limited (IRFC) as Chairman & Managing Director, IRFC was considered in consultation with Public Enterprises Selection Board and was agreed to.

6.5 The proposal of Ministry of Steel for reconstitution of Board of Directors of Steel Authority of India Limited (SAIL) was agreed to.

6.6 The proposal for abolishing the post of Director (HR), Solar Energy Corporation of India Ltd was examined in consultation with Public Enterprises Selection Board and was agreed to.

CHAPTER 7

Revival and Restructuring of Sick/loss making CPSEs

7.1 Introduction

7.1.1 Historically, the Central Public Sector Enterprises (CPSEs) have been playing an important role in socio-economic development of the country. The number of CPSEs, their investment, turnover, profit and contribution to exchequer has been consistently growing over a period. While CPSEs, as a group, are on a growth path, some CPSEs have been incurring losses for the last several years. As the Central Public Sector Enterprises (CPSEs) operate under dynamic market conditions, it is quite natural to see ups-and-downs in their performance. In a number of cases, their accumulated losses have exceeded their net worth, making the enterprises sick. Though reasons for losses/ sickness may vary from unit to unit, Government has taken many measures to improve the performance of CPSEs. CPSEs are expected to function on commercial considerations with a view to sustaining growth and viability of the companies. Government is of the view that revival/ restructuring of sick/ loss making CPSEs is to be done after taking into account their strategic & national importance and addressing their business concerns. Accordingly, plans for revival/ restructuring of sick/ loss making CPSEs are drawn and implemented by the concerned administrative Ministries/ Departments and the Board of CPSEs, after obtaining the approval of the competent authority.

7.2 Reasons for losses and sickness in CPSEs

7.2.1 The reasons for losses/ sickness in CPSEs vary from enterprise to enterprise. However, some common problems for sickness in CPSEs include old and obsolete plant and machinery, outdated technology, low capacity utilization, low productivity, poor debt–equity structure, excess manpower, weak marketing strategies, stiff competition, lack of business plans, dependence on government orders, heavy interest burden, high input cost, resource crunch, etc. Further with privatization, liberalization and opening up of the economy, those CPSEs which did not change along with the fast-changing times lost ground to private companies and turned loss making and sick. Attempts have, therefore, been made to overcome "sickness" in these CPSEs through various measures.

7.3 Streamlining the mechanism of revival/ restructuring of Central Public Sector Enterprises (CPSEs)

7.3.1 Multiple mechanisms for restructuring / revival of sick/loss making CPSEs have existed. Government has taken steps to make the mechanism and process for

revival/ restructuring of CPSE time bound, comprehensive, performance driven and efficient. Government has decided to remove multiple layers in the decision making process to ensure timely revival/ restructuring of sick CPSEs. It has been decided that revival/restructuring of sick/ incipient sick CPSEs is to be merit based taking into account strategic, national and business concerns of the CPSE.

7.3.2 Earlier, Sick Industrial Companies were referred to Board for Industrial and Financial Reconstruction (BIFR), for suggesting a restructuring plan. BIFR has now been dissolved and this work is being done by NCLT under Companies Act, 2013 and Insolvency and Bankruptcy Code, 2016. Further, Board for Reconstruction of Public Sector Enterprises (BRPSE) was created in 2004 to advise the Government for the restructuring or revival plan of referred CPSEs. However, the same has been wound up in November, 2015.Thereafter concerned administrative Ministries/ Departments are responsible to monitor sickness of CPSEs functioning under them and take timely redressal measures with the approval of the competent authority.

7.3.3 To fill this void and to help identify weak or sick CPSEs, DPE issued guidelines for "Streamlining the mechanism for revival and restructuring of sick/ incipient sick and weak Central Public Sector Enterprises; General principles and mechanism of restructuring" on 29th October, 2015. These guidelines were to be followed by the Administrative Ministries /Departments to prepare proposals for revival/restructuring or closure of CPSEs under their administrative control and also implement the approved plans. The guidelines are at **Annexure-9.**

7.3.4 These guidelines are laid down for streamlining the mechanism for restructuring / revival or closure of sick or incipient sick CPSEs and weak CPSEs and replace the multiple options available for the same purpose.

7.4 Definition of sick, incipient sick and weak CPSEs:

(i) Sick CPSEs:

As per the guidelines, a CPSE is considered sick, if it meets one of the following criteria:

a. If it is declared sick as per the provisions of the Companies Act, 2013.

b. If it's net worth is negative.

(ii) Incipient sick CPSEs:

As per the guidelines, a CPSE is considered incipient sick, if it meets one of the following criteria:

a. If its net worth is less than 50% of its paid-up capital in any financial year.

b. If it had incurred losses consecutively for three years.

(iii) Weak CPSEs:

As per the guidelines, a CPSE is considered weak or sub-optimally performing, if it meets one of the following criteria:

a. If its turnover or its operational profit has declined by more than an average of 10% in the last 3 years.

b. If its profit before tax is less than income from the other sources.

c. If its trade receivable and inventories are more than 50% of net worth of the CPSE.

d. If the claims against the company, not acknowledged as debts, are more than its net worth.

e. Any other criteria as may be prescribed to quantify early signs of weakness in the performance of the CPSEs by the government.

In all the reference to net worth, it would have the same meaning as defined under Section 2 (57) of the Companies Act, 2013.

7.4.1 As per the guidelines, the administrative Ministry/Department will classify CPSEs functioning under their control into sick, incipient sick and weak CPSEs within 6 months of the closure of the financial year or within one month from finalization of Annual Accounts, whichever is earlier. The concerned administrative Ministry/ Department will formulate revival/ restructuring/ closure road map for sick CPSEs as per the principles outlined in the guidelines. This would be done within three months from the issue of these guidelines in case of existing sick CPSEs and within nine months from the end of the financial year for a CPSE becoming sick subsequently.

7.4.2 The administrative Ministry will take the following action:

(a) The administrative Ministry will put weak CPSEs under "observation and intensive review" to arrest the early signs of weakness in such CPSEs. It may include nomination of independent expert members on the board, quarterly intensive review or special reviews for taking corrective business, operational and financial measures at the board level, fixing the responsibility for declining performance or non-performance or any other corrective step as may be appropriate and necessary by the administrative Ministry or Department.

(b) The administrative Ministry will initiate the process for preparation of restructuring/ revival plan, which may include disinvestment or privatisation or closure options, for sick/ incipient sick CPSEs based on the classification as given above within 6 months from the closure of the financial year or within one month from finalisation of Annual Accounts, whichever is earlier.

(c) Restructuring and revival plan for the sick and incipient sick CPSEs shall be prepared within nine months of the closure of the financial year.

(d) External expert agency which has experience and expertise of the business environment, operational issues, technology option and financial viability of the sector in which such CPSE is functioning may be engaged by the government and shall function under the supervision of the administrative ministry for preparation of the future road map.

7.5 Guidelines on Time bound Closure of Sick/ Loss making Central Public Sector Enterprises (CPSEs) and disposal of movable and immovable assets

7.5.1 Pursuant to the approval of the Government on 06.06.2018, Department of Public Enterprises (DPE) has issued revised guidelines on 'time bound closure of sick/ loss making Central Public Sector Enterprises (CPSEs) and disposal of movable and immovable assets' vide its OM No. DPE/5(1)/2014-Fin(Part-I) dated 14.06.2018 to all the Ministries/ Department. These replaces the earlier guidelines issued by DPE on 07.09.2016

on this subject. The detailed guidelines are given in **Annexure-10.**

7.5.2 The guidelines are intended to expeditiously complete the procedures for closure of CPSEs and lay down responsibilities of the concerned Ministries/ Departments/ CPSE, etc., including the support required to be extended by nodal Departments/ Organizations like, Ministry of Finance, NITI Aayog, etc. The revised guidelines prescribe a matrix of timelines for step by step process to be completed in respect of a CPSE under closure and about disposal of its assets. The guidelines on time bound closure of sick/ loss making CPSEs uniformly provide for payment of VRS/VSS at 2007 notional pay scale to employees of CPSEs under closure irrespective of the existing pay scales of the company.

7.5.3 Further, DPE has issued clarification to the administrative Ministries/ Departments of CPSEs on 12.02.2019 for estimating the applicable MAT liability in case the proposals inter alia involve waiver of outstanding Government of India loans (and accrued interest thereon) and include the same in the proposed budgetary support sought for funding closure under para 4.1.8 (i) of the said guidelines, while formulating proposals seeking approval of the cabinet/CCEA for closure of their CPSEs.

7.6 Applicability of Time bound Closure of Sick/ Loss making Central Public Sector Enterprises (CPSEs)

7.6.1 These guidelines shall apply to all sick/ loss making CPSEs, where:

(i) Approval/ in principle approval for closure has been obtained by administrative Ministry/ Department from the CCEA/ Cabinet; or

(ii) The process for obtaining the approval of the competent authority is underway after the administrative Ministry/ Department has decided for the closure of the CPSE.

Note: These guidelines shall not apply to CPSEs under liquidation where liquidator has been appointed. The Administrative Ministry/ Department of such CPSE(s) may take necessary action relating to closure of the CPSE and disposal of its movable/immovable assets in consultation with NITI Aayog and in accordance with the legal requirements of the liquidation process.

CHAPTER 8

Scheme of Counselling, Retraining and Redeployment (CRR)

8.1 The Scheme for Counselling, Retraining and Redeployment (CRR) of Rationalized Employees of CPSEs is being implemented by Department of Public Enterprises (DPE) since 2001-02. CRR Scheme was modified in November, 2007 in order to widen its scope and coverage. One dependent of VRS optee is also eligible in case the VRS optee himself/herself is not interested. The Scheme has been subsequently modified in February, 2016 in order to broaden the network of Training Providers and also to follow standardized methodology of training, design and delivery.

8.2 Objective of the CRR scheme:

i. Separated employees of CPSEs to be brought into the mainstream economy and thereby contribute to national income.

ii. Reorientation of VRS / VSS optees / dependents to enable them to adjust to new environment and adopt new vocations.

iii. Skill development for VRS optees/ dependents for their redeployment.

iv. Exposure to various industry associations, which is also a component of the CRR scheme, to help the trainees in product / service selection.

v. Awareness of various Central and State Government loan assistance/ subsidized schemes.

8.3 The main elements of the CRR scheme:

Counselling: Counselling is the basic pre-requisite of the rehabilitation programme of the separated employees. The separated employee needs psychological counselling to absorb the distress of loss of assured livelihood and to face the new challenges and also needs support to plan his compensation amount prudently. He/she also needs to be made aware of the new environment of market opportunities so that he/she may, depending upon his/her aptitude and expertise, take up economic activities and continue to be in the production process.

Retraining: The objective of such training is to help the separated employees for rehabilitation. The trainees will be helped to acquire necessary skills/expertise/ orientation to start new avocations and re-enter the productive process after loss of their jobs. These training programmes will be short duration programmes according to the trade decided during counselling.

Redeployment: It will be the endeavor to redeploy such rationalized employees in the production process through the counselling and retraining efforts. At the end of the programme, VRS/VSS optees/dependents should be able to engage themselves in alternate vocations of self/wage employment. Although there cannot be any guarantee

that the separated employee will be assured of alternate employment, yet possible help from the identified nodal training agencies as well as from the CPSEs concerned would be extended to them for starting new avocations.

8.4 The target group of the CRR scheme is very unique and distinct from other skill development schemes of the Government. Mostly VRS/VSS optees are below 58 years of age. The scheme provides that if the VRS optee does not want to come forward for training, the benefit of the scheme could be extended to VRS optee's dependent. The focus of the scheme is envisaged to extend the benefit to VRS/VSS optees, or to his/her dependent (one person per family) in lieu of eligible VRS optee.

8.5 CPSEs are the key to the success of the scheme. They are expected to extend all possible support for the welfare of the separated employees by clearing their compensation/dues before release. Long association with employees puts CPSEs in a better position to identify their retraining needs.

8.6 Year wise number of persons trained under the scheme is shown as under:-

Year	Number of VRS optees trained
2001-02	8064
2002-03	12066
2003-04	12134
2004-05	28003
2005-06	32158
2006-07	34398
2007-08	9728
2008-09	9772
2009-10	7400
2010-11	9265
2011-12	9400
2012-13	7506
2013-14	3230
2014-15	2525
2015-16	3150
2016-17	1576
2017-18	2000
2018-19	2000
2019-20	1146@
Total	**1,95,521**

@ due to Covid-19, there is disruption in programme being administered under CRR as they have to be kept suspended during this p/\eriod leading to time over-run.*

8.7 CRR scheme – 2019-20

8.7.1 A tripartite agreement has been signed for 2019-20 between Department of Public Enterprises (DPE), National Skill Development Fund (NSDF) under Ministry of Skill Development & Entrepreneurship (MSDE) and National Skill Development Corporation (NSDC) to provide skill training under National Skills Qualification Framework (NSQF) to employees of CPSEs who left service under voluntary retirement scheme (VRS) or their dependents; over a period of one year.

8.7.2 The following job roles have been selected for the skill training during the year:

Sr. No.	Job Role	Sector
1	Assistant Electrician	Construction
2	Catering Manager	Tourism & Hospitality
3	Domestic Data entry Operator	IT-ITES
4	Field Engineer - RACW	Electronics & Hardware
5	Field Technician - Other Home Appliances	
6	Field Technician - UPS and Inverter	
7	Medical Laboratory Technician	Healthcare
8	Plumber (General)	Plumbing
9	Retail Sales Associate	Retail
10	Self Employed	Apparel, Made-Ups & Home Furnishing

A target of 1500 was set against which 1021 trainings have been completed and assessment and certification are pending due to COVID-19. Deployment figures would be known in due course.

8.7.3 The Physical & Financial Achievement along with allocation of funds under BE & RE and utilisation under CRR Scheme during last five years is as under:

Particular	Unit	2015-16	2016-17	2017-18	2018-19	2019-20
Target	No.	3000	2000	2000	2000	1500
Achievement	No.	3150	1576*	2000	2000	1146
Redeployment	No.	1637	769	1371	1347	@
BE	(Rs. in Cr.)	3.20	3.20	3.00	3.00	3.50
RE	(Rs. in Cr.)	2.97	2.32	2.67	3.96	3.85
Actual	(Rs. in Cr.)	2.83	2.06	2.59	3.86	3.30

** NSDC was associated for the first time. They had some difficulties in identification/mobilisation of VRS optees. Therefore, training started late in February, 2017. During the year, 1576 candidates were trained against set target of 2000.*

@ As per last information received from NSDC the trainings completed in respect of 1021 candidates out of 1500 targeted candidates. However, assessment, certification and redeployment are pending due to lockdown restriction since March 2020.

CHAPTER 9

Voluntary Retirement Scheme (VRS)

9.1 As a result of the restructuring in some Central Public Sector Enterprises (CPSEs), Government announced the Voluntary Retirement Scheme (VRS) in October, 1988. A comprehensive scheme was later notified by the Department of Public Enterprises (DPE) in May, 2000. From the introduction of VRS Scheme in October 1988, till March 2019, approximately 6.28 lakh employees have been released under VRS.

9.2 VRS in CPSEs that can support the scheme on their own

Enterprises, which are financially sound and can sustain VRS on their own, can frame their own schemes of VRS and make it attractive enough for employees to opt for it. They may offer as compensation upto 60 days salary (only Basic Pay +DA) for every completed year of service. Such compensation will, however, not exceed the salary for the balance period of the service left.

9.3 VRS in marginally profit or loss Making / sick / unviable CPSEs

Marginally profit /loss making CPSEs as well as sick and unviable units may adopt either of the following models:

Gujarat Model, under which the compensation is computed by allowing 35 days salary for every completed year of service and 25 days for each year of the balance service left until superannuation subject to the condition that compensation shall not exceed the sum of salary for the balance period left for superannuation.

Department of Heavy Industry (DHI) model, under which ex-gratia payment made is equivalent to 45 days emoluments (Pay + DA) for each completed year of service or the total emoluments for the balance period of service, whichever is less. The employees who have completed not less than 30 years of service will be eligible for a maximum of 60 (sixty) months salary/wage as compensation and this will be subject to the amount not exceeding the salary/wage for the balance period of service left.

CHAPTER 10

Executive Development Programmes

10.1 The Central Public Sector Enterprises (CPSEs) design their own human resource development programmes to upgrade skills and knowledge of middle and senior level executives by giving them training in various fields of management development through their own management institutes or outsourcing the services of premier management training institutions in India.

10.2 DPE is an ex-officio member of the Executive Board and Governing Council of the Standing Conference of Public Enterprises (SCOPE), New Delhi.

10.3 Secretary, DPE is member on the Board of Governors of the Institute of Public Enterprise, Hyderabad.

10.4 India is a founder Member of International Center for Promotion of Enterprises (ICPE) headquartered in Slovenia. It was established as an inter-Governmental organisation of developing countries for improving the performance of their public enterprises as strategic instrument of economic and social development. Presently, the post of Director General (Acting), ICPE is held by Slovenia. And the position of President of ICPE, Council is held by India, represented through Secretary, DPE. ICPE pursues its goals by carrying out research, education, training, consultancy work and disseminating information through documentation and publishing activities directed towards bridging the gap between theory and practice on a wide range of issues pertaining to corporate governance, management and other related fields.

CHAPTER 11

Corporate Social Responsibility (CSR)

11.1 As per Section-135 of the Companies Act, 2013, all profit making corporates, including Central Public Sector Enterprises (CPSEs) exceeding threshold limits prescribed in the Act regarding net worth of Rs. 500 crore, or turnover of Rs. 1000 crore or net profit of Rs. 5 crore are mandated to spend at least 2% of the average net profits (Profit Before Tax) of the company made during the three immediately preceding years.

11.2 The CPSEs are required to follow the provisions contained in Section-135 of the Companies Act, 2013 and the Companies (CSR Policy) Rules, 2014 notified thereunder by M/o Corporate Affairs and the Schedule-VII of the Act, which lists the activities that can be undertaken under CSR. An advisory on observance of transparency and due diligence in selection and implementation of activities under CSR was issued by Department of Public Enterprises to the CPSEs in August, 2016.

11.3 DPE organized a daylong conference in Hotel Ashoka, New Delhi on Transformation of Aspirational Districts -Corporate Social Responsibility (CSR) Initiatives by Central Public Sector Enterprises (CPSEs). The conference was an attempt to bring all the stakeholders involved in the Aspirational District Programme (ADP) i.e. NITI Aayog, sectoral Ministries / Departments for healthcare, nutrition and school education activities, District Magistrates / District Collectors of aspirational districts, Central/ State Prabhari Officers of aspirational districts and Senior Executives of CPSEs on a common platform to develop better synergies. The conference was addressed by Hon'ble Minister (HI&PE), CEO, NITI Aayog, Secretary, DPE and Secretaries from other Ministries/ Departments. The participants include CMDs/ MDs along with CSR heads of CSR eligible CPSEs, District Magistrates/ District Collectors of aspirational districts and State Nodal Officers appointed by Central Government in aspirational districts, implementing agencies, etc.

11.4 Based on the recommendations of CPSEs Conclave held in April, 2018, with the approval of competent authority, Department of Public Enterprises has issued guidelines on 10.12.2018 to all administrative Ministries & CPSEs for adopting a theme based focused approach every year on CSR expenditure by CPSEs. These guidelines inter-alia provide that CSR expenditure for such thematic programmes should be around 60% of annual CSR expenditure of CPSEs. The aspirational districts identified by NITI Aayog may be given preference. The common theme identified for the FY 2020-21 is 'Health and Nutrition'.

CHAPTER 12

Compliance Report by CPSEs

12.1 Department related Parliamentary Standing Committee on Industry in its 216th report had recommended that DPE should play a meaningful and effective role in getting the policies and guidelines implemented by the CPSEs. In compliance of this, the Department had made provision in MoU guidelines 2015-16 providing for one negative mark for non-compliance of DPE guidelines. From 2017-18 and onwards, provision has been made in MoU guidelines for negative marking for non-compliance of DPE guidelines having financial implications.

CHAPTER 13

Official Language Policy

13.1 DPE's Hindi Section is primarily responsible for implementation of the various provisions of the Official Language Act 1963 and the Rules framed there under. Hindi Section is also responsible for translation of documents required to be issued under Section 3(3) of the Official Language Act, 1963. As more than 80% of the staff of this Department knows Hindi, the Department has been notified under rule 10(4) of the Official Language Rules, 1976.

13.2 Resolutions, notifications, notices, circulars, papers etc. to be laid on the Table of the both houses of Parliament have been issued bilingually during the year 2019-20. Efforts were also made to promote original correspondence in Hindi. The Official Language Implementation Committee of DPE continues to function under the Chairmanship of the Addl. Secretary.

13.3 To create awareness and expanding the use of Hindi as Official Language, Hindi Pakhwada was organized by the Department from 14th September, 2020 to 30th September, 2020. During the Hindi Pakhwada three competitions namely, Hindi Shrutlekh, Hindi Grammar and Chitra Lekhan were organized for the officers and staff including officials on contract basis.

13.4 Annual Public Enterprises Survey on the working of Central Public Sector Enterprises is presented in the Parliament every year by this Department. This is very voluminous and comprehensive document brought out by the Department simultaneously in English and Hindi.

CHAPTER 14

Welfare of Women

14.1 The principle of gender equality is enshrined in the Indian Constitution in its Preamble, Fundamental Rights, Fundamental Duties and Directive Principles. The Constitution not only grants equality to women but also empowers the State to adopt measures of positive discrimination in favour of women. Within the framework of a democratic polity, our laws, development policies, plans and programmes have aimed at advancement of women in different spheres.

14.2 The Department has also set up a complaint committee under the chairmanship of a woman Officer, to ensure fair, safe and healthy environment at work place for women. The guidelines laid down by the Supreme Court relating to sexual harassment have been brought to the notice of all those working in this Department. Department of Public Enterprises vide its O.M. dated 29th May, 1998, has already issued detailed guidelines and norms to the Chief Executives of CPSEs for observance and prevention of sexual harassment of working women.

14.3 To facilitate gender responsiveness in the Department's policies/programmes, a Gender Budget Cell (GBC) has been constituted under the chairmanship of Joint Secretary. A nodal officer has also been nominated to enhance coordination and support sustained efforts towards Gender Budgeting.

14.4 The Department has a total sanctioned strength of 118 employees of which 80 officers/ staff are in position, including 9 Women employees. The Department has made all possible efforts to create a healthy and congenial atmosphere so that women employees can perform duties with honor, dignity and without fear.

CHAPTER 15

Statement of Scheme wise Expenditure

Department of Public Enterprises Demand No. 47 2019-20

(₹in thousand)

Scheme	BE 2019-20	RE 2019-20	Total Expenditure 2019-20 As on 31.03.2020
CRR Scheme			
Publications	0	0	0
Other Administrative Expenses	500	500	0
Professional & Special Services	33000	33000	33015
Grants-in-Aid	500	500	0
CRR Scheme NER **(Grant-in Aid)**	1000	1000	1000
RDC Scheme			
Domestic Travel Expenses	2000	2000	910
Foreign Travel Expenses	500	500	0
Publications	2000	2000	1393
Other Administrative Expenses	9000	9000	6515
Professional & Special Services	27500	27500	28381
Grants-in-Aid	500	500	1
Contribution ICPE	10000	10000	10000
RDC Scheme NER **(Grant-in-Aid)**	8500	8500	4266
Total	**95000**	**95000**	**85481**

CHAPTER 16

Reservation in services for Scheduled Castes (SCs), Scheduled Tribes (STs), Other Backward Classes (OBCs) and others, in the CPSEs

16.1 The Personnel and Recruitment Policies in respect of appointments against below Board level posts are formulated by the management of respective CPSEs. However, on matters of general importance, policy guidelines are issued by the Government of India to the enterprises so as to enable them to frame their individual corporate policies. Furthermore, formal Presidential Directives are issued to CPSEs by the concerned administrative Ministries to ensure reservation in regard to employment for Scheduled Castes, Scheduled Tribes and Other Backward Classes (OBCs), on similar lines as applicable in the Central Government Ministries/Departments. Through DPE OM dated 25.02.2015 has stipulated that instructions as issued by Government in respect of reservations to SC/ ST/ OBC/ Disability & Ex-servicemen are to be taken as *mutatis mutandis* extended to all the CPSEs concerned unless specified otherwise by DPE.

16.2 A comprehensive Presidential Directive incorporating all important instructions on reservation for SCs and STs was issued by DPE to all the administrative Ministries/ Departments concerned on 25th April, 1991 for formal issuance of the same to CPSEs. Necessary changes and modifications are also circulated to CPSEs through their administrative Ministries/ Departments for information and compliance.

16.3 Subsequently, based on the recommen-dation of the Second Backward Classes Commission (Mandal Commission) and in accordance with the Hon'ble Supreme Court Judgment in the Indira Sawhney case, instructions were issued in providing reservation of 27% of vacancies in favour of Other Backward Classes (OBCs). The Department of Personnel & Training (DoPT) which formulates the policy in respect of reservation in services, has been issuing instructions from time to time on various aspects of reservation in favour of OBCs. Reservation for OBCs was made effective w.e.f. 8.9.1993. Department of Public Enterprises (DPE) has been extending these instructions to CPSEs through their administrative Ministries for compliance. A comprehensive Presidential Directive incorporating the instructions was forwarded by the Department of Public Enterprises to all administrative Ministries vide DPE's OM dated 27th July, 1995 for formal issuance to the CPSEs under their control.

16.4 DoPT instructions on allocation of a sub-quota of 4.5% for minorities within the 27% reservation for OBCs have also been extended vide DPE O.M. dated 2nd January, 2012 to the administrative Ministries/Departments (concerned with CPSEs) for implementation in CPSEs under their control.

16.5 The present quota for providing reservation for candidates belonging to Scheduled Castes, Scheduled Tribes and OBCs as well as other categories of persons entitled to reservation of vacancies is shown below:

Category	Quota for Reservation
Scheduled Castes	15%
Scheduled Tribes	7.5%
Other Backward Classes (including sub-quota of 4.5% for minorities)	27%
Physically Handicapped Persons	4%
Economically Weaker Sections (EWSs)	10%

As per policy of reservation for Ex-servicemen & Dependents of those killed in action, 14.5% posts in respect of skilled workers and 24.5% post in respect of un-skilled posts are reserved for Ex-servicemen in CPSEs.

16.6 The need to ensure timely filling up of reserved posts and the backlog has been stressed through various instructions issued from time to time. All administrative Ministries/ Departments have been requested to advise the CPSEs under their administrative control to take effective steps to fill up the unfilled reserved posts in Direct Recruitment as well as in Promotion in accordance with the existing instructions. Further, the DoPT has issued instructions from time to time to launch a Special Recruitment Drive (s) to fill up backlog of reserved vacancies for SCs, STs & OBCs in CPSEs. DPE has also extended these instructions to all administrative Ministries/ Departments dealing with CPSEs to fill up these vacancies in a time bound manner.

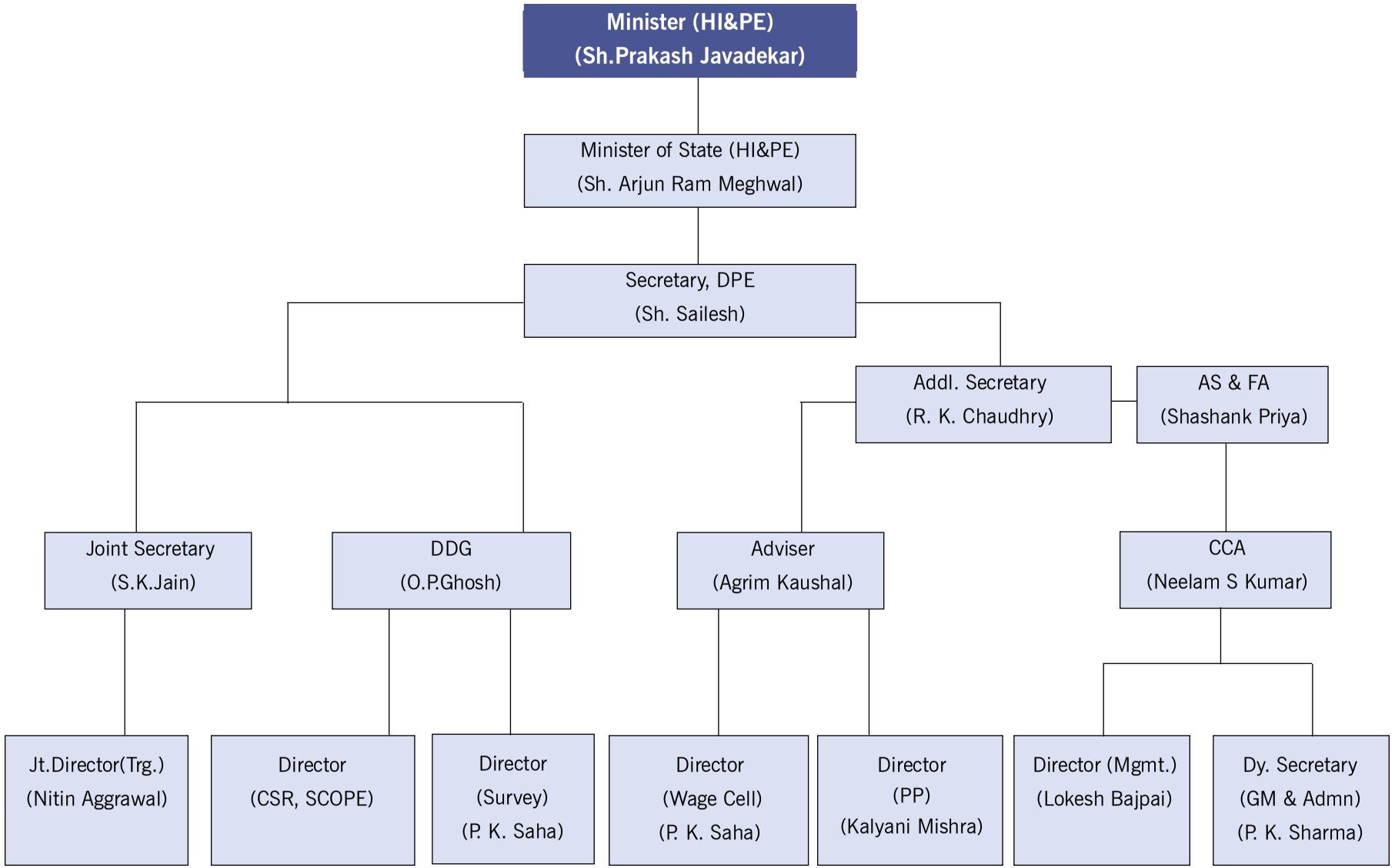
16.7 Further in terms of DPE OM dated 25-10-2017, all executives i.e. Board & below board level will be considered as creamy layer subject to the proviso that those executives whose annual income as per criterion given in DoPT OM dated 08-09-1993 is less than Rs. 8 lakhs (as amended vide DoPT OM dated 13-09-2017) will not fall under creamy layer criteria. It is for the concerned CPSE to issue the necessary orders for the posts covered under creamy layer criteria on the above mentioned principle.

16.8 DPE has also extended instructions vis-à-vis the scheme for reservation for Ex-servicemen in CPSEs through the administrative Ministries/ Departments. Instructions for streamlining the procedure for recruitment of Ex-servicemen have also been issued with a view to augment their in-take in CPSEs. Such CPSEs, which are in a position to offer agencies/dealerships, have been advised to reserve quota of such agencies/dealership for allotment to Ex-servicemen.

16.9 DPE has issued Presidential Directive on 11.3.1997 to all the administrative Ministries / Departments concerned with the CPSEs in follow-up of DoPT instructions for employment of physically challenged persons in CPSEs. With the enactment of the Persons with Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act, 1995, the reservation to physically challenged persons have been extended to identified Group 'A' and 'B' posts to be filled through Direct Recruitment. As per the The Rights of Persons with Disabilities Act, 2016, not less than 4% posts shall be reserved for persons with disabilities.

16.10 The instructions issued by DoPT vide its OM dated 19.01.2019 & 31.01.2019 and DO dated 21.01.2019 in respect of 10% reservation to Economically Weaker Sections (EWSs) are also mutatis mutandis extended to all the CPSEs in terms of DPE OM dated 25.01.2019 and 01.02.2019.

Organogram of Department of Public Enterprises



Annexure-2

(Para 1.2)

Table 1: Performance of CPSEs during 2019-20

(₹. in crore)

Sl. No.	Item/Indicator	2018-19*	2019-20*	% in Growth
1.	Gross Revenue of (operation) CPSEs	25,45,697	24,61,321	-3.31
2.	Total Income of (operating) CPSEs	24,42,173	23,57,032	-3.49
3.	Total paid up capital of all CPSEs	2,51,678	2,70,593	7.52
4.	Investment (equity plus long term loans) of all CPSEs	15,89,912	20,62,471	29.72
5.	Capital employed (Paid up capital + long term loans and reserves & surplus) of all CPSEs	25,87,064	30,38,436	17.45
6.	Profit of (profit making) CPSEs	1,74,286	1,38,112	-20.76
7.	Loss of (loss making) CPSEs	-31,620	-44,818	41.74
8.	CPSEs neither making profit nor making loss	1	1	-
9.	Overall Net Profit	1,42,666	93,294	-34.61
10.	Reserves and Surplus of all CPSEs	9,97,152	9,75,965	-2.12
11.	Net Worth of all CPSEs	11,88,120	12,13,948	2.17
12.	Contribution of all CPSEs to Central Exchequer	3,77,759	3,75,899	-0.49
13.	Foreign Exchange earnings of CPSEs	1,43,376.96	1,21,756.23	-15.08
14.	Foreign Exchange Outgo of CPSEs	6,64,891.57	5,94,511.38	-10.59

** Provisional.*

Annexure-3

(Para 2.2.2)

Salient features of Maharatna scheme

Eligibility Criteria for grant of Maharatna status:

The CPSEs meeting the following eligibility criteria are considered for Maharatna status:-

a) Having Navratna status

b) Listed on Indian stock exchange with minimum prescribed public shareholding under SEBI regulations

c) An average annual turnover of more than Rs. 25,000 crore during the last 3 years

d) An average annual net worth of more than Rs. 15,000 crore during the last 3 years

e) An average annual net profit after tax of more than Rs. 5,000 crore during the last 3 years

f) Should have significant global presence/ international operations.

Procedure for grant/divestment of Maharatna status:

The procedure for grant of Maharatna status as well as their review is similar to that in vogue for the grant of Navratna status.

Powers delegated to Maharatna CPSEs:

(1) The Boards of Maharatna CPSEs in addition to exercising all powers to Navratna CPSEs, exercise enhanced powers in the area of investment in joint ventures/subsidiaries and creation of below Board level posts. The Boards of Maharatna CPSEs have powers to (a) make equity investment to establish financial joint ventures and wholly owned subsidiaries in India or abroad and (b) undertake mergers & acquisitions, in India or abroad, subject to a ceiling of 15% of the net worth of the concerned CPSE in one project, limited to an absolute ceiling of Rs.5,000 crore (Rs. 1,000 crores for Navratna CPSEs). The overall ceiling on such equity investments and mergers and acquisitions in all projects put together will not exceed 30% of the net worth of the concerned CPSE. In addition, the Boards of Maharatna CPSEs have powers to create below Board level posts upto E-9 level.

(2) The delegated powers to establish financial joint ventures and subsidiary entities would be exercised by the Board of Maharatna CPSEs in the following manner.

(i) The proposal for establishing financial joint ventures and subsidiary entities will be presented to the Board of the concerned CPSE.

(ii) The concerned administrative Ministry/ Department will obtain the concurrence of NITI Aayog for such proposals on a case to case basis and firm up its view on the proposals as the stakeholder for the Board's deliberations through its representative on the Board for appropriate decision.

(3) The Government Directors will ensure that the views of the Government, being the majority shareholder, on such proposals are properly presented before the Board while a decision on such proposal is being taken. The decision for investment to set up financial joint ventures and subsidiary entities should only be taken by the Board when Government Directors are present in the board meeting.

Annexure-4
(Para 2.3.3)

Salient features of Navratna scheme

1. **Eligibility criteria for grant of Navratna Status**: The CPSEs which are Miniratna I, Schedule 'A' and have obtained 'excellent' or 'very good' MOU rating in three of the last five years and have a 'Composite Score' of performance to be 60 or above in six identified performance parameters are eligible to be considered for grant of Navratna status. The composite score is calculated on the basis of performance of the concerned CPSEs during the last three years. For calculation of composite score, 6 performance indicators have been identified based on their general applicability to the PSUs. The performance indicators have been chosen so as to capture the performance of PSUs irrespective of their belonging to manufacturing sector or services sector. The 6 identified performance indicators are: -

S. No.	Performance Indicator	(Maximum Weight)
1.	Net Profit to Networth	25
2.	Manpower Cost to total Cost of Production or Cost of Services	15
3.	PBDIT to Capital employed	15
4.	PBIT to Turnover	15
5.	Earnings Per Share	10
6.	Inter Sectoral Performance	20
	Total	**100**

2. **The powers delegated to the Boards of Navratna CPSEs are as under: -**

(i) **Capital Expenditure: -** The Navratna CPSEs have the powers to incur capital expenditure on purchase of new items or for replacement, without any monetary ceiling.

(ii) **Technology Joint Ventures and Strategic Alliances: -** The Navratna CPSEs have the powers to enter into technology joint ventures or strategic alliances and obtain by purchase or other arrangements, technology and know-how.

(iii) **Organization Restructuring:-** The Navratna CPSEs have the powers to effect organizational restructuring including establishment of profit centres, opening of offices in India and abroad, creating new activity centres, etc.

(iv) **Human Resources Management:-** The Navratna CPSEs have been empowered to create posts up to E-6 level and wind up all posts up to non-Board level Directors and make all appointments up to this level. The Boards of these CPSEs have further been empowered to effect internal transfers and re-designation of posts. The Board of Directors of Navratna CPSEs have the power to further delegate the powers relating to Human Resource Management (appointments, transfer, posting, etc.) of below Board level executives to sub-committees of the Board or to executives of the CPSE, as may be decided by the Board of the CPSE.

(v) **Resource Mobilization:-** These CPSEs have been empowered to raise debt from the domestic capital markets and for borrowings from international market, subject to condition that approval of RBI/ Department of Economic Affairs, as may

be required, should be obtained through the administrative Ministry.

(vi) **Joint ventures and Subsidiaries**:- (1) The Navratna CPSEs have been delegated powers to establish financial joint ventures and wholly owned subsidiaries in India or abroad with the stipulation that the equity investment of the CPSE should be limited to the following: -

i. Rs. 1000 crore in any one project,

ii. 15% of the net worth of the CPSE in one project,

iii. 30% of the net worth of the CPSE in all joint ventures/ subsidiaries put together.

3. The delegated powers to establish financial joint ventures and subsidiary entities would be exercised by the Board of Navratna CPSEs in the following manner.

(i) The proposal for establishing financial joint ventures and subsidiary entities will be presented to the Board of the concerned CPSE.

(ii) The concerned administrative Ministry/ Department will obtain the concurrence of NITI Aayog for such proposals on a case to case basis and firm up its view on the proposals as the stakeholder for the Board's deliberations through its representative on the Board for appropriate decision.

4. The Government Directors will ensure that the views of the Government, being the majority shareholder, on such proposals are properly presented before the Board while a decision on such proposal is being taken. The decision for investment to set up financial joint ventures and subsidiary entities should only be taken by the Board when Government Directors are present in the board meeting.

(vii) **Mergers and acquisitions**:- The Navratna CPSEs have been delegated powers for mergers and acquisitions subject to the conditions that (i) it should be as per the growth plan and in the core area of functioning of the CPSE, (ii) conditions/ limits would be as in the case of establishing joint ventures/subsidiaries, and (iii) the Cabinet Committee on Economic Affairs would be kept informed in case of investments abroad. Further, the powers relating to Mergers and Acquisitions are to be exercised in such a manner that it should not lead to any change in the public sector character of the concerned CPSEs.

(viii) **Creation of/Disinvestment in subsidiaries**:- The Navratna CPSEs have powers to transfer assets, float fresh equity and divest shareholding in subsidiaries subject to the condition that the delegation will be in respect of subsidiaries set up by the holding company under the powers delegated to the Navratna CPSEs and further to the proviso that the public sector character of the concerned CPSE (including subsidiary) would not be changed without prior approval of the Government and such Navratna CPSEs will be required to seek Government approval before exiting from their subsidiaries.

(ix) **Tours abroad of functional Directors**: - The Chief Executive of Navratna CPSEs have been delegated powers to approve business tours abroad of functional directors up to 5 days' duration (other than study tours, seminars, etc.) in emergency under intimation to the Secretary of the administrative Ministry.

5. Conditions/guidelines for exercise of delegated Navratna powers

a) The proposals must be presented to the Board of Directors in writing and reasonably well in advance, with an analysis of relevant factors and quantification of the

anticipated results and benefits. Risk factors if any must be clearly brought out.

b) The Government Directors, the Financial Directors and the concerned Functional Director(s) must be present when major decisions are taken, especially when they pertain to investments, expenditure or organizational/ capital restructuring.

c) The decisions on such proposals should preferably be unanimous.

d) In the event of any decision on important matters not being unanimous, a majority decision may be taken, but at least two thirds of the Directors should be present, including those mentioned above, when such a decision is taken. The objections, dissents, the reasons for over-ruling them and those for taking the decision should be recorded in writing and minuted.

e) No financial support or contingent liability on the part of the Government should be involved.

f) These CPSEs will establish transparent and effective systems of internal monitoring, including the establishment of an Audit Committee of the Board with membership of non-official Directors.

g) All the proposals, where they pertain to capital expenditure, investment or other matters involving substantial financial or managerial commitments or where they would have a long-term impact on the structure and functioning of the CPSE, should be prepared by or with the assistance of professionals and experts and should be appraised, in suitable cases, by financial institutions or reputed professional organizations with expertise in the areas. The financial appraisal should also preferably be backed by an involvement of the appraising institutions through loans or equity participation.

h) The exercise of authority to enter into technology joint ventures and strategic alliances shall be in accordance with the Government guidelines as may be issued from time to time.

i) The Boards of these CPSEs should be restructured by inducting at least four non-official Directors as the first step before the exercise of the enhanced delegation of authority.

j) These public sector enterprises shall not depend upon budgetary support or Government guarantees. The resources for implementing their programmes should come from their internal resources or through other sources, including the capital markets. However, wherever Government guarantee is required under the standard stipulations of external donor agencies, the same may be obtained from the Ministry of Finance through the administrative Ministry. Such Government guarantee shall not affect the Navratna status. Further, budgetary support to implement Government sponsored projects of national interest and Government sponsored Research & Development projects will not disqualify CPSEs from retaining their Navratna status. However, for such projects, investment decisions will be taken by the Government and not by the CPSE concerned.

Annexure-5
(Para 2.4.2)

Salient features of Miniratna scheme

1. Eligibility conditions and criteria for grant of Miniratna status are as under:

(i) **Category-I CPSEs** should have made profit in the last three years continuously, the pre-tax profit should have been Rs.30 crores or more in at least one of the three years and should have a positive net worth.

(ii) **Category-II CPSEs** should have made profit for the last three years continuously and should have a positive net worth.

(iii) These CPSEs shall be eligible for the enhanced delegated powers provided they have not defaulted in the repayment of loans/ interest payment on any loans due to the Government.

(iv) These public sector enterprises shall not depend upon budgetary support or Government guarantees.

(v) The Boards of these CPSEs should be restructured by inducting at least three non-official Directors as the first step before the exercise of enhanced delegation of authority.

(vi) The administrative Ministry concerned shall decide whether a Public Sector Enterprise fulfilled the requirements of a Category-I/Category-II company before the exercise of enhanced powers.

2. The delegation of decision-making authority available at present to the Boards of these Miniratna CPSEs is as follows:

(i) Capital Expenditure

(a) **For CPSEs in category I:** The power to incur capital expenditure on new projects, modernization, purchase of equipment, etc., without Government approval upto Rs. 500 crore or equal to net worth, whichever is less.

(b) **For CPSEs in category II:** The power to incur capital expenditure on new projects, modernization, purchase of equipment, etc., without Government approval upto Rs. 250 crore or equal to 50% of the Net worth, whichever is less.

(ii) Joint ventures and subsidiaries:

(1) (a) **Category I CPSEs:** To establish joint ventures and subsidiaries in India with the stipulation that the equity investment of the CPSE in any one project should be limited to 15% of the net worth of the CPSE or Rs. 500 crores, whichever is less. The overall ceiling on such investment in all projects put together is 30% of the net worth of the CPSE.

(b) **Category II CPSEs:** To establish joint ventures and subsidiaries in India with the stipulation that the equity investment of the CPSE in any one project should be 15% of the net worth of the CPSE or Rs. 250 crores, whichever is less. The overall ceiling on such investment in all projects put together is 30% of the net worth of the CPSE.

(2) The delegated powers to establish financial joint ventures and subsidiary entities would be exercised by the Board of Miniratna CPSEs in the following manner.

(i) The proposal for establishing financial joint ventures and subsidiary entities will be presented to the Board of the concerned CPSE.

(ii) The concerned administrative Ministry/ Department will obtain the concurrence of NITI Aayog for such proposals on a case

to case basis and firm up its view on the proposals as the stakeholder for the Board's deliberations through its representative on the Board for appropriate decision.

3. The Government Directors will ensure that the views of the Government, being the majority shareholder, on such proposals are properly presented before the Board while a decision on such proposal is being taken. The decision for investment to set up financial joint ventures and subsidiary entities should only be taken by the Board when Government Directors are present in the Board meeting.

(iii) **Mergers and acquisitions** :- The Board of Directors of these CPSEs have the powers for mergers and acquisitions, subject to the conditions that (a) it should be as per the growth plan and in the core area of functioning of the CPSE, (b) conditions/limits would be as in the case of establishing joint ventures/ subsidiaries, and (c) the Cabinet Committee on Economic Affairs would be kept informed in case of investments abroad. Further, the powers relating to Mergers and Acquisitions are to be exercised in such a manner that it should not lead to any change in the public sector character of the concerned CPSEs.

(iv) **Scheme for HRD** :- To structure and implement schemes relating to personnel and human resource management, training, voluntary or compulsory retirement schemes, etc. The Board of Directors of these CPSEs have the power to further delegate the powers relating to Human Resource Management (appointments, transfer, posting, etc.) of below Board level executives to sub-committees of the Board or to executives of the CPSE, as may be decided by the Board of the CPSE.

(v) **Tour abroad of functional Directors:-** The Chief Executive of these CPSEs have the power to approve business tours abroad of functional directors up to 5 days' duration (other than study tours, seminars, etc.) in emergency, under intimation to the Secretary of the administrative Ministry.

(vi) **Technology Joint Ventures and Strategic Alliances:-** To enter into technology joint ventures, strategic alliances and to obtain technology and know-how by purchase or other arrangements, subject to Government guidelines as may be issued from time to time.

(vii) **Creation/Disinvestment in subsidiaries :-** To transfer assets, float fresh equity and divest shareholding in subsidiaries subject to the condition that the delegation will be in respect of subsidiaries set up by the holding company under the powers delegated to the Miniratna CPSEs and further to the proviso that the public sector character of the concerned CPSE (including subsidiary) would not be changed without prior approval of the Government, and such Miniratna CPSEs will be required to seek Government approval before exiting from their subsidiaries.

The above delegation of powers is subject to similar conditions as are applicable to Navratna CPSEs.

Annexure-6
(Para 2.4.3)

List of Miniratna CPSEs (as on March, 2020)

Category-I CPSEs	
1.	Airports Authority of India
2.	Antrix Corporation Limited
3.	Balmer Lawrie & Co. Limited
4.	Bharat Coking Coal Limited
5.	Bharat Dynamics Limited
6.	BEML Limited
7.	Bharat Sanchar Nigam Limited
8.	Bridge & Roof Company (India) Limited
9.	Central Warehousing Corporation
10.	Central Coalfields Limited
11.	Central Mine Planning & Design Institute Limited
12.	Chennai Petroleum Corporation Limited
13.	Cochin Shipyard Limited
14.	EdCIL (India) Limited
15.	Garden Reach Shipbuilders & Engineers Limited
16.	Goa Shipyard Limited
17.	Hindustan Copper Limited
18.	HLL Lifecare Limited
19.	Hindustan Newsprint Limited
20.	Hindustan Paper Corporation Limited
21.	Housing & Urban Development Corporation Limited
22.	HSCC (India) Limited
23.	India Tourism Development Corporation Limited
24.	Indian Rare Earths Limited
25.	Indian Railway Catering & Tourism Corporation Limited
26.	Indian Railway Finance Corporation Limited
27.	Indian Renewable Energy Development Agency Limited
28.	India Trade Promotion Organization
29.	IRCON International Limited
30.	KIOCL Limited
31.	Mazagaon Dock Shipbuilders Limited
32.	Mahanadi Coalfields Limited
33.	MOIL Limited
34.	Mangalore Refinery & Petrochemical Limited

35. Mineral Exploration Corporation Limited
36. Mishra Dhatu Nigam Limited
37. MMTC Limited
38. MSTC Limited
39. National Fertilizers Limited
40. National Projects Construction Corporation Limited.
41. National Small Industries Corporation Limited
42. National Seeds Corporation
43. NHPC Limited
44. Northern Coalfields Limited
45. North Eastern Electric Power Corporation Limited
46. Numaligarh Refinery Limited
47. ONGC Videsh Limited
48. Pawan Hans Helicopters Limited
49. Projects & Development India Limited
50. Railtel Corporation of India Limited
51. Rail Vikas Nigam Limited
52. Rashtriya Chemicals & Fertilizers Limited
53. RITES Limited
54. SJVN Limited
55. Security Printing and Minting Corporation of India Limited
56. South Eastern Coalfields Limited
57. Telecommunications Consultants India Limited
58. THDC India Limited
59. Western Coalfields Limited
60. WAPCOS Limited

Category-II CPSEs

61. Artificial Limbs Manufacturing Corporation of India
62. Bharat Pumps & Compressors Limited
63. Broadcast Engineering Consultants (I) Limited
64. Central Railside Warehouse Company Limited
65. Engineering Projects (India) Limited
66. FCI Aravali Gypsum & Minerals India Limited
67. Ferro Scrap Nigam Limited
68. HMT (International) Limited
69. Indian Medicines & Pharmaceuticals Corporation Limited
70. MECON Limited
71. National Film Development Corporation Limited
72. Rajasthan Electronics & Instruments Limited

Annexure-7
(Para 3.1.4)

Salient features of the Guidelines on Corporate Governance for CPSEs

Composition of Board

1. In respect of the Board composition, these Guidelines provide that the number of functional Directors should not exceed 50% of the actual strength of the Board; and the number of Government nominee Directors shall be restricted to maximum of two. In case of listed CPSEs with executive chairmen, the number of non-official Directors shall be at least 50% of Board members. In case of unlisted and listed CPSEs with non-executive chairmen, at least one-third of the Board Members shall be non-official Directors. The Government has also laid down pre-defined criteria in terms of educational qualifications, age and experience in respect of persons to be considered for appointment as non-official Directors. Relevant clauses have been incorporated in these guidelines to ensure 'independence' of non-official Directors and avoid potential conflict of interest. It has also been provided that the Directors nominated by any institution other than public financial institution will not be treated as non-official Directors.

2. It has been further mandated that the Board meetings are to be held at least once in every 3 months and at least 4 such meetings held in a year and all relevant information is to be given to the Board. Further, the Board should lay down code of conduct for all members and senior management. In this regard, a model Code has been incorporated in the Guidelines to assist the CPSEs. The Guidelines inter alia provide that the Board should ensure integration and alignment of risk management system and the company should undertake suitable training programmes for its new Board members.

Audit Committee

3. The provisions relating to Audit Committee require a qualified and independent Audit Committee to be set up by CPSEs with minimum three Directors as members. Further, two-thirds of the members of this Committee should be independent Directors with an independent Director as Chairman. The Audit Committee has been given extensive powers with regard to financial matters of company and is required to meet at least 4 times in a year.

Subsidiary Companies

4. With regard to subsidiary companies, it has been provided that at least one independent Director of holding company will be Director on the Board of subsidiary company and the Audit Committee of holding company will review financial statements of subsidiary. All significant transactions and arrangements of subsidiary companies are required to be brought to the attention of Board of Directors of the holding company.

Disclosures

5. The provisions regarding disclosures require all transactions to be placed before the Audit Committee. The Guidelines mandate that while preparing financial statements, treatment should be as per prescribed Accounting Standard and if there are any deviations, the same are to be explicitly mentioned. Further, the Board is to be informed about risk assessment and minimization procedures and senior Management is to make disclosures to Board relating to all financial and commercial transactions where they have personal interest or may have a potential conflict.

Compliance

6. It has also been mandated in the Guidelines that Annual report of companies should contain a separate section on Corporate Governance with details of compliance. The CPSEs will have to obtain a certificate from auditors/company secretary regarding compliance with these Guidelines. Chairman's speech in AGM will also carry a section on compliance with Corporate Governance Guidelines and will form part of the company's Annual Report. The CPSEs are required to submit quarterly compliance/ grading report in the prescribed format to their administrative Ministries who will furnish consolidated annual report to DPE.

Annexure-8
(Para-6.2)

SCHEDULE-WISE LIST OF CENTRAL PUBLIC SECTOR ENTERPRISES

Schedule - A

1. Airports Authority of India
2. Air India Limited
3. BEML Ltd.
4. Bharat Electronics Ltd.
5. Bharat Heavy Electricals Ltd.
6. Bharat Petroleum Corporation Ltd.
7. Bharat Sanchar Nigam Ltd.
8. Central Warehousing Corporation
9. Coal India Ltd.
10. Container Corporation of India Ltd.
11. Dedicated Freight Corridor Corporation of India Ltd.
12. Electronics Corporation of India Ltd.
13. Engineers India Ltd.
14. Fertilizers & Chemicals (Travancore) Ltd.
15. Food Corporation of India
16. GAIL (India) Ltd.
17. Heavy Engineering Corporation Ltd.
18. Hindustan Aeronautics Ltd.
19. Hindustan Copper Ltd.
20. Hindustan Paper Corporation Ltd.
21. Hindustan Petroleum Corporation Ltd.
22. HMT Ltd.
23. Housing & Urban Development Corporation Ltd.
24. I T I Ltd.
25. Indian Oil Corporation Ltd.
26. IRCON International Ltd.
27. Indian Railway Finance Corporation Ltd.
28. Konkan Railway Corporation Ltd.
29. Kudremukh Iron Ore Company Ltd.
30. MMTC Ltd.
31. Mahanagar Telephone Nigam Ltd.
32. Mangalore Refinery & Petrochemicals Ltd.
33. Mazagon Dock Shipbuilders Ltd.
34. MECON Ltd.
35. MOIL Limited
36. Mumbai Railway Vikas Corporation Ltd.
37. National Aluminium Company Ltd.
38. National Building Construction Corporation Ltd.
39. National Fertilizers Ltd.
40. NHPC Ltd.
41. National Mineral Development Corporation Ltd.
42. National Textiles Corporation Ltd.
43. NewSpace India Ltd.
44. NTPC Ltd.
45. Neyveli Lignite Corporation Ltd.
46. North Eastern Electric Power Corporation Ltd.
47. Oil & Natural Gas Corporation Ltd.
48. Oil India Ltd.
49. ONGC Videsh Ltd.
50. Power Finance Corporation
51. Power Grid Corporation of India Ltd.
52. Power System Operation Corporation Limited
53. RITES Ltd.
54. RailTel Corporation of India Ltd.
55. Rail Vikas Nigam Ltd.
56. Rashtriya Chemicals and Fertilizers Ltd.
57. Rashtriya Ispat Nigam Ltd.
58. Rural Electrification Corporation Ltd.
59. Satluj Jal Vidyut Nigam Ltd.
60. Security Printing & Minting Corporation of India Ltd.
61. Shipping Corporation of India Ltd.
62. Solar Energy Corporation of India Ltd
63. State Trading Corporation of India Ltd.
64. Steel Authority of India Ltd.
65. Telecommunications Consultants (India) Ltd.
66. THDC India Limited

Schedule - B

1. Andrew Yule & Company Ltd.
2. Balmer Lawrie & Company Ltd.
3. Bharat Coking Coal Ltd.
4. Bharat Dynamics Ltd.
5. Bharat Gas Resources Ltd.

6. Bharat Petro Resources Ltd.
7. Bharat Pumps & Compressors Ltd.
8. Brahmaputa Crackers & Polymers Ltd.
9. Brahmaputra Valley Fertilizer Corporation Ltd.
10. Biotechnology Industry Research Assistance Council
11. Braithwaite & Company Ltd.
12. Bridge & Roof Company (India) Ltd.
13. British India Corporation Ltd.
14. Burn Standard Company Ltd.
15. Cement Corporation of India Ltd.
16. Central Coalfields Ltd.
17. Central Electronics Ltd.
18. Central Mine Planning & Design Institute Ltd.
19. Chennai Petroleum Corporation Ltd.
20. Cochin Shipyard Ltd.
21. Cotton Corporation of India Ltd.
22. Eastern Coalfields Ltd.
23. Engineering Projects (India) Ltd.
24. Fertilizer Corporation of India Ltd.
25. Garden Reach Shipbuilders & Engineers Ltd.
26. Goa Shipyard Ltd.
27. Handicrafts & Handlooms Export Corporation Ltd.
28. Hindustan Cables Ltd.
29. Hindustan Fertilizer Corporation Ltd.
30. HLL Lifecare Ltd.
31. Hindustan Newsprints Ltd.
32. Hindustan Organic Chemicals Ltd.
33. Hindustan Shipyard Ltd.
34. Hindustan Steelworks Construction Company Ltd.
35. HMT (International) Ltd.
36. HMT Machine Tools Ltd.
37. HMT Watches Ltd.
38. India Tourism Development Corporation Ltd.
39. India Trade Promotion Organization
40. Indian Drugs & Pharmaceuticals Ltd.
41. Indian Railway Catering & Tourism Corporation Ltd.
42. Indian Rare Earths Ltd.
43. Indian Renewable Energy Development Agency Ltd.
44. Instrumentation Ltd.
45. M S T C Ltd. .
46. Madras Fertilizers Ltd.
47. Mahanadi Coalfields Ltd.
48. Mineral Exploration Corporation Ltd.
49. Mishra Dhatu Nigam Ltd.
50. National Handloom Development Corporation Ltd.
51. National Jute Manufacturers Corporation Ltd.
52. National Projects Construction Corporation Ltd.
53. National Seeds Corporation Ltd.
54. National Small Industries Corporation Ltd.
55. Northern Coalfields Ltd.
56. Numaligarh Refinery Ltd.
57. Orissa Mineral Development Company Ltd.
58. PEC Ltd.
59. Pawan Hans Helicopters Ltd.
60. Projects & Development India Ltd.
61. Scooters India Ltd.
62. South Eastern Coalfields Ltd.
63. Uranium Corporation of India Ltd.
64. W A P C O S Ltd.
65. Western Coalfields Ltd.

Schedule - C

1. Andaman & Nicobar Islands Forest & Plantation Development Corporation Ltd.
2. Artificial Limbs Mfg. Corporation of India
3. BBJ Construction Ltd.
4. Bengal Chemicals & Pharmaceuticals Ltd.
5. BHEL Electric Machines Ltd.
6. Bharat Wagon & Engineering Company Ltd.
7. Bisra Stone Lime Company Ltd.
8. Broadcast Engineering Consultants India Ltd.
9. Central Cottage Industries Corporation of India Ltd.
10. Central Inland Water Transport Corporation Ltd.
11. Central Railside Warehouse Company Ltd.

12. Certification Engineers International Ltd.
13. Delhi Police Housing Corporation
14. Educational Consultants (India) Ltd.
15. FCI Aravali Gypsum & Minerals (India) Ltd.
16. Ferro Scrap Nigam Ltd.
17. Hindustan Antibiotics Ltd.
18. Hindustan Insecticides Ltd.
19. Hindustan Photo Films Manufacturing Company Ltd.
20. Hindustan Prefab Ltd.
21. Hindustan Salts Ltd.
22. HMT Bearings Ltd.
23. HMT Chinar Watches Ltd.
24. Hooghly Dock and Port Engineers Ltd.
25. HSCC (India) Ltd.
26. Hotel Corporation of India Ltd.
27. Jute Corporation of India Ltd.
28. Karnataka Antibiotics & Pharmaceuticals Ltd
29. Nagaland Pulp & Paper Company Ltd.
30. National Backward Classes Finance & Development Corporation.
31. National Film Development Corporation Ltd.
32. National Handicapped Finance & Development Corporation.
33. National Minorities Development & Finance Corporation
34. National Research Development Corporation of India.
35. National Safai Karamcharis Finance & Development Corporation.
36. National SC Finance & Development Corporation
37. National ST Finance & Development Corporation
38. NEPA Ltd.
39. North Eastern Handicrafts & Handloom Development Corporation Ltd.
40. North Eastern Regional Agricultural Marketing Corporation Ltd.
41. Rajasthan Electronics & Instruments Ltd.
42. Richardson & Cruddas (1972) Ltd.
43. STCL Ltd.
44. Tungabhadra Steel Products Ltd.

Schedule - D

1. Birds Jute & Exports Ltd.
2. Hindustan Fluorocarbons Limited
3. Indian Medicines Pharmaceutical Corporation Ltd.
4. Orissa Drugs & Chemicals Ltd.
5. Rajasthan Drugs & Pharmaceuticals Ltd.

Annexure-9
(Para: 7.3.3)

Guidelines for "Streamlining the mechanism for revival and restructuring of sick/ incipient sick and weak Central Public Sector Enterprises: General principles and mechanism of restructuring" issued on 29th October, 2015

1. These guidelines are laid down for streamlining the mechanism for restructuring / revival or closure of sick or incipient sick CPSEs and replace the multiple process options available for the same purpose.

2. Multiple mechanisms for restructuring / revival of sick and incipient sick CPSEs exist. Sick industrial companies as defined in Sick Industrial Companies Act 1985 are referred to Board for Industrial Financial Reconstruction (BIFR), which suggest a restructuring plan and seek sacrifices & commitments from promoters and stake holders. Board for Reconstruction of Public Sector Enterprises (BRPSE) has been created to advise the government through the resolution No.16(25)2004-Fin. dated 6th December, 2004 to consider the restructuring or revival plan of CPSEs prepared by a CPSE itself under the guidance of its administrative ministry. The administrative ministry may, in the public interest, prepare a revival or restructuring plan for a CPSE which may involve comprehensive restructuring, disinvestment, closure etc of the sick and incipient sick CPSE and take it directly to the competent authority for appropriate decision.

3. Primary responsibility for supervision of a CPSE for its efficient functioning lies in the administrative ministry and final view for restructuring and revival of sick and incipient sick CPSEs or taking appropriate measures for CPSEs showing early indications of weakness has to be taken by them with approval of the competent authority after inter-ministerial consultation and concurrence of the Ministry of Finance through PIB/ EFC mechanism as may be required. It is in the public interest to make this process, time bound, comprehensive, performance driven and efficient so that such decisions are taken and implemented in a time bound manner to minimise further losses. Hence there is a need to lay down broad principles and guidelines to be followed in such cases.

4. Guidelines:

4.1 The Companies Act, 2013 Chapter XIX refers to Revival and Rehabilitation of Sick Companies and Chapter XX to Winding up of the Companies. The decision whether a company has become a sick company would be taken by the Tribunal (National Company Law Tribunal). The Administrative Ministries/ Departments have to keep a track of the debts of CPSEs and take advance action to avoid a situation where the CPSEs may be considered fit to be declared sick entity as per provisions of the Companies Act, 2013.

4.2 The administrative ministry shall, at the end of the each financial year, analyse the performance of its CPSEs to classify them by a specific order in the following categories within 6 months of the closure of the financial year or within one month from finalisation of Annual Accounts, whichever is earlier.

4.2.1 **Sick CPSEs:** A CPSE shall be considered sick if it meets one of the following criteria:

a. If it is declared sick as per the provisions of the Companies Act, 2013.

b. If its net worth is negative.

4.2.2 **Incipient sick CPSEs**: A CPSE would be considered incipient sick if it meets one of the following criteria:

a. If its net worth is less than 50% of its paid-up capital in any financial year.

b. If it had incurred losses consecutively for three years.

4.2.3 **Weak CPSEs**: A CPSE would be considered weak or sub optimally performing if it meets one of the following criteria:

a. If its turnover or its operational profit has declined by more than an average of 10% in the last 3 years.

b. If its profit before tax is less than income from the other sources.

c. If its trade receivable and inventories are more than 50% of net worth of the CPSE.

d. If the claims against the company, not acknowledged as debts, are more than its net worth.

e. Any other criteria as may be prescribed to quantify early signs of weakness in the performance of the CPSEs by the government.

4.3 In all the reference to Net worth, it would have the same meaning as defined under Section 2 (57) of the Companies Act, 2013.

4.4 The administrative ministry will take the following action:

(a) The administrative ministry will put weak CPSEs under **"observation and intensive review"** to arrest the early signs of weakness in such CPSEs. It may include nomination of independent expert members on the board, quarterly intensive review or special reviews for taking corrective business, operational and financial measures at the board level, fixing the responsibility for declining performance or non-performance or any other corrective step as may be appropriate and necessary by the administrative ministry or department.

(b) The administrative ministry shall initiate the process for preparation of restructuring/ revival plan, which may include disinvestment or privatisation or closure options, for sick/ incipient sick CPSEs based on the classification as given above within 6 months from the closure of the financial year or within one month from finalisation of Annual Accounts, whichever is earlier.

(c) Restructuring and revival plan for the sick and incipient sick CPSEs shall be prepared within nine months of the closure of the financial year.

(d) External expert agency which has experience and expertise of the business environment, operational issues, technology option and financial viability of the sector in which such CPSE is functioning may be engaged by the government and shall function under the supervision of the administrative ministry for preparation of the future road map.

4.5 Restructuring and revival plan with the help of the agency and other experts, as may be required, shall be prepared by the administrative ministry/ department and shall specifically include:

4.5.1 Perspective of Relevance and Functioning:

a) Background and purpose of the formation of the CPSE.

b) Economic and regulatory environment along with their impact on the growth of the company

c) Liberalisation and its impact on its business operation

d) Ability of the CPSE in adapting new business strategies, technology to regain and sustain its economic viability.

e) Efforts and special interventions made for its revival or avert early sickness and its impact on the health of the CPSE.

4.5.2 Strategic Plan for Restructuring/Revival:

(a) The concerned administrative ministry/ department should clearly bring out the national and strategic interest served by the CPSEs in the light of the sectoral business environment, domestic as well as global.

(b) Prevailing market need to be analysed for supply of goods or services through other providers in the private sector, domestic or from other countries, to bring out if there is a specific role of the CPSE in this segment to serve the national strategic or defence interests.

(c) Keeping the business environment other relevant facts in mind, a CPSE may be categorised as **a high priority** or **priority** CPSE to meet the strategic interest of the country. For this purpose, a report of the 14th Finance Commission may also be referred to.

(d) All other sick CPSEs which are not required to serve the strategic national/ defence interests should be categorised as **non-priority** CPSEs.

4.5.3 Business Plan for Restructuring/ Revival Plan:

A. High Priority or Priority CPSE.

a) For high priority CPSEs, the business plan has to be made keeping in mind the strategic national interest and economically viable business opportunities.

b) For strategic business model, requirement for Government policy convergence should be clearly spelt out to meet the economic viability of such enterprises. Also, viability gap funding, if required for such strategic operations have to be brought out.

c) For high priority sector, the business plan may be drawn seeking specific financial and non-financial support from the Government. It may include strategic disinvestments or joint ventures etc.

B. Non-priority CPSE.

a) For CPSEs in the non-priority category, the business plan is to be made on business and economic viability model to attain self-sufficiency in short or medium term.

b) Business plan should be based on performance efficiency bench marks, viable scale of economic operation and road map for technology adoption/ upgradation to support business strategy for viability and sustainability over period of time.

c) Business reorganisation through merger, demerger or closure of various business activities.

d) It should support desirable market share to be sustainable in the medium and long term.

e) All the presumptions underlying the business plan with respect to their business environment, economic viability and mechanism of funding should be market validated and credibly established.

4.5.4 Operational Restructuring:

a) Keeping in mind the business plan, the required human resource needs are to be assessed and rationalised.

b) It may be seen whether sectoral efficiency benchmarks as are existing globally/ domestically can be achieved by the CPSE in short or medium term through implementation of this plan in shortest period of time.

c) Options for adopting requisite technology and up-gradation of the same as per requirement through various management options including JV, disinvestment or privatisation to be factored into the operational restructuring plan.

d) The options of merger or de-merger of various operations in line with the proposed business plan to ensure continuous procurement of new technology and its up-gradation.

4.5.5 Financial Restructuring Plan:

a) For high priority and priority CPSEs, a comprehensive financial restructuring plan should be drawn comprising various methods

of financing with minimum and unavoidable viability gap funding in the strategic national/ defence interest. Limited private investment through disinvestment within permissible limits may also be considered under financial plan.

b) In case of other (non priority) CPSEs financing plan should be based on economic viability of operations. Various options of leveraging private and/or institutional funding may be explored.

c) Details of projected profitability/cash flow for the next five years. These presumptions should be pragmatic and market validated.

4.6 Mechanism and Methodology to be followed for restructuring/ revival/closing of sick CPSEs

(a) The concerned administrative ministry/ department would classify the CPSE as sick CPSE, incipient sick or with early indications of weakness as per para 4.2 above. The concerned Administrative Ministry/ Department will also inform DPE about the status of CPSE accordingly.

(b) The concerned administrative ministry/ department will be responsible for formulating revival/ restructuring/ closure road map for sick CPSEs as per the principles outlined above. This would be done within three months from the issue of these guidelines in case of existing sick CPSEs and within nine months from the end of the financial year for a CPSE becoming sick subsequently.

(c) Administrative Ministry/Department may engage credible expert organisation for drawing of business, operational and financial restructuring plans. Such expert entity, if appointed should function under the direct control of administrative ministry/ department so as to draw a professionally credible, implementable and realistic restructuring plan. Suitable mechanism for market validation should be incorporated during the Request for Proposal (RFP) stage of engagement of expert(s)/ expert organization(s) and the market validation should be cross checked and confirmed by the administrative ministry/department as well.

(d) Implementation plan with specified time line for various stages should be objective, quantifiable and supported with the monitoring mechanism.

Annexure-10
(Para 7.5.1)

Guidelines for time bound closure of Sick/ Loss Making Central Public Sector Enterprises (CPSEs) and disposal of Movable and Immovable assets issued on 14th June, 2018.

To expeditiously complete the procedures for closure of CPSEs and lay down responsibilities of the concerned ministries/ departments/ CPSE, etc., guidelines for time bound closure of Sick/ Loss Making CPSEs and disposal of movable and immovable assets are laid down hereunder:

1 APPLICABILITY:

These guidelines shall apply to all sick/ loss making CPSEs, where –

(i) Approval/ in principle approval for closure has been obtained by administrative Ministry/ Department from the CCEA/ Cabinet; or

(ii) The process for obtaining the approval of the competent authority is underway after the administrative Ministry/ Department has decided for the closure of the CPSE.

Note: These guidelines shall not apply to CPSEs under liquidation where liquidator has been appointed. The Administrative Ministry/Department of such CPSE(s) may take necessary action relating to closure of the CPSE and disposal of its movable/immovable assets in consultation with NITI Aayog and in accordance with the legal requirements of the liquidation process.

2. DEFINITIONS

(i) **Preparatory Date (P_0)** shall be the date on which administrative Ministry takes the decision for closure of the CPSE.

(ii) **Zero Date (T_0)** shall be the date of issue of minutes conveying the decision of Cabinet/ CCEA for closure. In respect of those CPSEs where approval for closure has already been obtained, the process of closure shall be fast tracked as per these guidelines.

(iii) **CPSE:** Certain statutory corporations and all Government Companies in which more than 50% equity is held by the Central Government are classified as CPSEs. The Subsidiaries of these Companies in which any CPSE has more than 50% equity are also categorised as CPSEs, if registered in India.

(iv) **Land Management Agency (LMA)** is the CPSE, such as NBCC/ EPIL which has the experience of activities as mentioned in para 5 of the guidelines. It shall be nominated by the administrative Ministry/ Department/ the Board of the CPSE under closure to manage, maintain and assist in disposal of land. If instead of a CPSE, a public agency is to be nominated as the LMA, it shall be done by Ministry of Housing and Urban Affairs (MoHUA).

(v) **Auctioning Agency (AA)** is the CPSE, such as MSTC, which is nominated by the administrative Ministry/ Department/ the Board of the CPSE under closure to dispose of movable and immovable assets through e-auction in a transparent manner.

(vi) **Reserve Price:** Reserve price for disposal of land may be worked out based on the prevalent circle rate in the said location for similar use and the average price at which land assets of similar size in the nearby areas have been sold in the last 3 years, whichever is higher.

(vii) **Single Bid:** In cases of sale of land by auction, while dealing with single bid situations, the guidelines/ provisions of Ministry of Finance and CVC guidelines in this regard shall apply.

3. ROLE OF CONCERNED ORGANISATIONS/ BODIES

3.1 Role of the Board of Directors of CPSEs for Closure

In respect of CPSEs where decision for closure has been taken or in-principle approval for closure has been given by Cabinet/ CCEA, the Directors of the CPSE should provide all support and material required in formulating the closure proposal and its implementation, failing which the administrative Ministry/ Department shall take a view on removing the Functional Directors including the CMD and give additional charge of the CMD to the Joint Secretary concerned and charge of other functional Directors to other senior officers in the administrative Ministry/ Department as per extant guidelines in this regard. This fact of removal of the Functional Directors including the CMD will be communicated to the PESB.

3.2 Role of the administrative Ministry/ Department

3.2.1 **Preparatory activities:** The Administrative Ministry / Department of CPSEs in respect of whom in-principle approval for closure has been given and those mentioned in para 1 (ii) of the guidelines shall take advance preparatory action for such CPSEs which shall include the following:

(a) Negotiate with the secured creditors to settle their dues at the minimum value as One Time Settlement (OTS). Administrative Ministry/Department may critically examine the best possible settlement including schedule of payment, waiver of interest and penalties with secured creditors so that it requires minimum budgetary support.

(b) Modalities of the settlement of liabilities covered by the Government guarantees will be settled in consultation with the Ministry of Finance.

(c) **Estimation of other liabilities:** Administrative Ministry/ Department will get the estimates of all other liabilities required to be paid including unsecured creditors.

3.2.2 The CPSEs in respect of whom in-principle approval for closure has been given and those for which the administrative Ministry/ Department has decided for closure as mentioned in para 1 (ii) of the guidelines, the concerned administrative Ministry/ Department will be responsible for formulating the detailed proposal for closure of the CPSE and placing the same before the Cabinet/ CCEA within a period of three months from the Preparatory date. It shall be ensured by the administrative Ministry/ Department that all relevant details along with their financial implications including details of liabilities, movable and immovable assets to be offered for sale are covered in the approval para of the proposal for closure of the CPSE. After obtaining decision of the competent authority on closure of the CPSE, the administrative Ministry/ Department shall take up request for budgetary support and shall oversee the settlement of liabilities and disposal of assets including negotiations with the State Governments on land related issues as outlined below:

(a) **Request for Budgetary Support:** Request budgetary support from the Department of Expenditure, Ministry of Finance, within 15 days from the Zero date.

(b) **Settlement of Liabilities:**

(i) Instruct the CPSE for payment of statutory dues/ liabilities towards revenues, taxes, cesses and rates due to Central Government or State Government or to the local authorities within two months from the Zero Date;

(ii) Instruct the CPSE to give a general notice to employees and other stakeholders intimating about intended closure and intimate/ apply to the Ministry of Labour and Employment in respect of closure, as may be applicable

under Industrial Disputes Act, 1947 within 05 days from the Zero Date. Implement VRS package with a timeframe/ final cut-off date and settle wages/salaries of employees and statutory dues within 3 months from the Zero Date or within such extended time required due to the need to seek Parliamentary approval for additional funds.

(iii) Take action for completing the legal formalities for retrenchment of employees not opting for VRS within the four months from the Zero Date by payment of compensation as per law.

(iv) Settlement of secured creditors. The settlement should be completed within 3 months from the Zero Date unless there are financing constraints beyond the control of the administrative Ministry/ Department.

(v) Settlement of other liabilities should be the next priority.

(c) Disposal of Assets

In case the CPSE is a subsidiary of another CPSE and if the assets are required by such holding company, the same may be transferred to the holding company at book value, in consultation with the State Government, wherever so required within 30 days from zero date (T_0). Similarly, if assets are required by the administrative Ministry/ Department for its own use, the same may be transferred to it at book value within 30 days from zero date (T_0). In respect of remaining assets, guidelines as mentioned in subsequent paras, i.e., 4.2 and 4.3 shall apply.

(d) Negotiations with the State Government

The Secretary of the Department/ Ministry concerned shall lead the interactions with the State Government regarding the utilisation/ alternative utilisation of land, return of land to the State Government and conclude these deliberations within a period of two months from Zero Date.

3.3 Role of NITI Aayog

For all cases of closure, NITI Aayog shall monitor the implementation of the decision along the prescribed timelines. There shall be an Oversight Committee in NITI Aayog to carry out the work of monitoring the implementation of decisions of the Government in this regard. The administrative Ministry/ Department may approach NITI Aayog for resolution of any problem/dispute arising out of sale of immovable assets of CPSE(s) approved for closure. NITI Aayog will develop a framework in place for resolution of such issues.

3.4 Role of Ministry of Finance

Ministry of Finance may examine, either through professional help or otherwise, the request for budgetary support at the stage of seeking in-principle or final approval of the competent authority for closure of CPSE. Once closure proposal is approved Ministry of Finance would release funds as per the prescribed time-lines. For this, a mechanism for time bound release of funds required to implement all aspects of closure of CPSEs may be put in place by the Department of Expenditure, Ministry of Finance so that funds are released within one month of receiving the request, except where Parliamentary approval for Supplementary Demand for Grants is required.

3.5 Role of Ministry of Housing and Urban Affairs (MoH&UA)

MoH&UA shall nominate LMA, in cases where a public agency with necessary expertise and resources needs to be identified as the LMA as per para 2(iv) of the guidelines. MoH&UA shall inform the LMA about the requirement for land parcels for affordable housing. Such land shall undergo the process of disposal as per the guidelines of MoH&UA in this regard. A mechanism shall be put in place in MoH&UA for enabling proper co-ordination with the

CPSE under closure/ the concerned administrative Ministry/ LMA with regard to process of disposal of land for affordable housing.

4. ROLE/ACTIVITIES OF CPSES UNDERCLOSURE

4.1 **Preparatory Activities:** The CPSEs in respect of whom in-principle approval for closure has been given and those for which the administrative Ministry/ Department has decided for closure as mentioned in para 1 (ii) of the guidelines shall take advance preparatory action within three months from the Preparatory Date which shall include the following:

4.1.1 **Estimation of Statutory dues:** The CPSE will estimate the statutory dues/ liabilities towards revenues, taxes, cesses and rates due to Central Government or State Government or to local authorities under the supervision of its administrative Ministry/ Department.

4.1.2 **Estimation of dues of employees:**

(i) Preparation of VRS/ VSS package at 2007 notional pay scale, irrespective of the pay scale in which the CPSE is operating for release of the employees. Estimation of financial implications for such a package.

(ii) Estimation of funds required for payment of wages/ salaries and statutory dues in respect of the employees till the time the employees are released by way of opting for VRS/ VSS/ retrenched or settled.

(iii) Total Estimated budgetary support for (i) and (ii) above with the phasing of requirement of funds and time lines

4.1.3 **Estimation of liabilities towards Secured Creditors etc.**

(i) Secured creditors are those in whose favour a charge has been created on the assets of the Company and filed/ registered with the Registrar of Companies.

(ii) Processing of offers from secured creditors and statutory dues for settling them at minimum value and estimation of the total amount so determined to be paid back to the secured creditors.

4.1.4 **Estimation of dues payable to the Central Government:** The dues payable to the Central Government availed in the form of loans extended from time to time, segregated into the principal outstanding amount and the interest thereon shall be worked out.

4.1.5 **Estimation of other liabilities:** Make estimate of all other liabilities required to be paid including unsecured creditors.

4.1.6 **Estimation of movable assets:**

(i) Updating details of movable assets including plant(s) & machineries. The inventory of all moveable assets should be got verified/ certified from an independent third party e.g. a firm of Chartered Accountants;

(ii) Book Value of the movable assets as well as the current estimated market value and estimation of realisable value from their sale by the CPSE/ administrative Ministry/ Department.

(iii) Where movable assets are on lease negotiation with the lessor whether he would take it back at market price or would like it to be auctioned.

(iv) Ascertaining whether movable assets are to be utilised by holding CPSE, if any or by the administrative Ministry/ Department.

(v) Ascertaining whether factory/ office building (superstructure) is required to be disposed of along with movable assets or along with land.

(vi) Ascertaining of market value of brand name, goodwill, trademarks, etc. of the CPSE under closure.

4.1.7 Estimation of receivables including trade receivables, securities, loans and advances, etc.

4.1.8 Estimation of Budgetary Support required for closure

(i) Total Estimated funds required for financing the closure of the Company which would include liabilities at para 4.1.1 to 4.1.5 above, along with time-lines/ phasing of release of funds from the Central Government.

(ii) CPSE's own resources, including amount to be realised from sale of assets, which may be available for settlement of liabilities during the course of closure shall be taken into account for working out the requirement for budgetary support, with phasing of funds and time lines.

4.1.9 Immovable assets including buildings:

(i) Updating of land records with geo-mapping and details such as title deed, lease hold land, freehold land, conditions of lease, remaining period of lease, current land use, FAR and other rights relating to use of land, whether land compensation (partly/fully) has been paid by the CPSEs/ Central Government at the time of acquisition, amount of compensation paid, status of possession of land, encroachments, if any, etc.

(ii) Obtaining the concurrence/ agreement of the State Government in respect of utilisation/ settlement of lease hold land of the CPSE intended to be closed for further use for similar or identical activities as per local laws governing land use by other Central Government/ State Government/ Departments or PSEs/ organisations for public purpose/ expansion of economic activities, etc, if options possible.

(iii) Ascertaining whether immovable assets are to be utilised by holding CPSE, if any or by the administrative Ministry/ Department failing which appointment of Land Management Agency (LMA) and sharing information with it.

4.2 Disposal of Movable Assets

(i) The CPSE shall carry out the processes of disposal of movable assets including plant & machinery in a transparent manner immediately after 'Preparatory Date' under the supervision of Administrative Ministry/ Department.

(ii) The leasehold assets may be transferred to the lessor at his option.

(iii) The CPSE in consultation with the administrative ministry/ department, if necessarily required, may dispose of factory building structure along with disposal of movable assets.

(iv) If there is a need for auction of movable assets including brand name, goodwill, trademarks, etc., Auctioning Agency shall be nominated by the Administrative Ministry/ Department/ CPSE for completing the job within three months from the zero date.

(v) If the CPSE is not able to dispose of movable assets within the stipulated time-frame, it should be brought to notice of the Administrative Ministry/ Department and NITI Aayog by the CPSE. Thereafter, the Administrative Ministry/ Department shall redress the matter within 15 days and shall take a decision on settlement of the disposal of movable assets.

4.3. DISPOSAL OF IMMOVABLE ASSETS: LAND & BUILDING

Considering that land of the CPSE may be leasehold or freehold or a conditional Land Grant with restricted rights of occupation and use, the CPSE shall carry out the following activities after examining issues mentioned in para 4.1.9 above, under close supervision and guidance of the administrative Ministry/ Department and in consultation with State Government(s)/ lessor, wherever required.

4.3.1. Disposal of Leasehold Land

(i) **Leasehold land with conditions:** Leasehold land with specific condition that it will be given back to the State in case the CPSE ceases to exist or non-utilisation of land for the purpose for which it had been allotted etc. or where there is no provision of sale in the lease agreement, such land may be returned to the State Government on receipt of financial compensation determined as per the terms and conditions of the Lease or Land Grant Agreement within three months from the Zero Date. In such a case, financial compensation, if any, paid by the CPSE/ Central government at the time of acquisition or the higher amount shall be re-paid/ paid by the State government while taking back the land.

(ii) **Other Leasehold land:** In case the terms and conditions of the Lease do not contain any restrictive conditions regarding the use/ disposal of such land, and/or do not confer any pre-emptive rights in favour of the State/lesser in the event of closure of the CPSE, the subject land may be treated akin to freehold land and dealt with in the same manner as prescribed for the freehold land, subject to any specific terms and conditions of the Lease.

4.1.2. Disposal of Freehold Land*:* Important steps for disposal of free hold land:

a) Freehold land is generally allotted to the CPSE by the State Government after acquisition or purchased by CPSE directly. There may or may not be conditions of land use attached to such land. In case of freehold land with conditions of land use attached, best possible use of such land may be worked out in the light of the original land-use of the land or the current land-use of the area as per the master plan of the locality, whichever is better.

b) The following process shall be followed for settlement of the freehold land of the CPSEs:

(i) The LMA shall first ascertain from MoH&UA about the requirement of land for Affordable Housing. Such land shall undergo the process of disposal as per the guidelines of MoH&UA in this regard. After identification of land for Affordable Housing, the remaining land shall be disposed of as below.

(ii) CPSE/ administrative Ministry/ Department through the LMA shall invite offers for purchase of land from Central/ State Government Departments/ Agencies. Land shall be allotted to the Government entities, subject to the approval of the Cabinet/ CCEA as required.

(iii) Land shall be allotted to the Central/ State Government Departments at reserve price in the following order of priority:

(a) Central Government Department(s)

(b) State Government Department(s)

(iv) Then land shall be offered for sale to Central or State PSEs/ Bodies/ Authorities. In case of sale of land to such bodies, a limited bidding process may be adopted in a physical format or on e-platform. This process can be conducted with the help of an Auctioning Agency.

(v) In case any of the above government entities is willing to take the entire land (without any division thereof), the same shall be given priority over others. In case, above category of organisations are interested in taking part of the land, it would require preparation of a Development Plan of the area of land, plotting and provision of internal infrastructure works/ facilities, which shall be prepared by LMA and presented to the CPSE/ administrative Ministry/ Department. The administrative Ministry/ Department will consider the land development plan, approve it including the scheme of financing and may entrust LMA or any other suitable agency(ies) to execute it to ensure allotment/ settlement of such divided land parcels as per the priority given in the guidelines.

(vi) In case, no offer is received in respect of (i) to (v) above, the disposal of immovable assets is to be done in a transparent process through the auctioning agency to any entity with the approval of competent authority. However, before the last date of submission of bid, if any offer is received from Central Government Departments as mentioned at para 4.3.2 b)(iii)(a) above, the same will be given overriding priority. The process mentioned above at (i) to (vi) will be completed within 8 months of Zero Date. The timelines prescribed may apply separately to each tranche if LMA decides to dispose of land in more than one tranche for maximizing value.

(vii) Land would be sold as per the permissible land use and restrictions, if any, FAR and other applicable conditions and subject to the approval of the Cabinet/ CCEA as required.

(viii) In case of non-feasibility of monetisation of land assets by way of the above option land/property may be utilised for public purposes like public parks, utilities, etc. as may be permissible in consultation with NITI Aayog and approval of the Cabinet/ CCEA, as required within 11 months of Zero Date.

(ix) Wherever the Administrative Ministry/ Department faces any difficulty in disposal of land, it shall consult the NITI Aayog and take action as per the advice tendered in this behalf.

5. FUNCTIONS OF LAND MANAGEMENT AGENCY

The administrative Ministry/ Department and the Board of the CPSE under closure may entrust the immovable assets as per para 4.1.9 to the nominated Land Management Agency (LMA), which shall:

(i) Identify, manage, maintain and, if required, engage security agency for the watch and ward of the assets on contract basis for the CPSE against payment. The LMA shall ensure that the land is not encroached, movable assets are not stolen and premises are secured. The LMA may engage a few key employees dealing with assets of the CPSE on contract basis to obtain, manage, maintain and update the records of lands and other immovable assets of the CPSEs on behalf of the CPSE.

(ii) Collect and validate the information regarding the land, e.g. title deed, lease hold or freehold, conditions of lease, remaining period of lease, whether land compensation was paid by the CPSE/ Central Government at the time of acquisition, status of possession of land, encroachment, if any, and its verification on the ground.

(iii) Examine the current land use, FAR and the land use as per the local laws applicable in that area to determine the suitability of the land for industrial, manufacturing or some other purposes.

(iv) Shall ascertain from MoH&UA about requirement of land for Affordable Housing so that such land can be transferred as per the guidelines of MoH&UA in this regard.

(v) Carry out valuation of land on the basis of applicable circle rates and any other information necessary for use/valuation of land/building including limitations arising out of nature of title, master plan and state government restrictions, if any. Further, the LMA shall try to maximize the land value by parcelling the land into marketable units.

(vi) Work out the reserve price of the land as per para 2(vi).

(vii) The Land Management Agency shall compile all such information and publish the same on Land Management Portal website at the earliest, but not later than three months from preparatory date, in the public domain for the information of all parties that may be interested in taking such land.

(viii) If the LMA comes to the conclusion from the EoIs received that disposal of immovable assets as per priorities set out in the Guidelines would require division of land into parcels and development of such land parcels to facilitate their monetisation,

it should bring the matter to the notice of the Administrative Ministry/ Department. The LMA shall prepare and place before the Administrative Ministry/ Department a Land Development Plan along with its scheme of financing for consideration and further approval.

(ix) The LMA shall submit monthly report updating the status of disposal of immovable property to the administrative Ministry/ Department as per their approvals, with a copy to the NITI Aayog.

(x) The LMA will be entitled to land management fee which would be 0.5% of the value realized from disposal of land for affordable housing and to Government Departments/ Agencies/ private entities subject to a maximum of Rupees One crore.

(xi) In cases where the LMA is required to support watch and ward of the asset under disposal and engage employees as mentioned at para 5(i) above, such expenditure shall be reimbursed by the administrative Ministry/Department on the basis of actuals every month. LMA would obtain prior approval of the administrative Ministry/Department before incurring any expenditure which require reimbursement.

(xii) LMA may be required to engage the State Government/ Public Sector Enterprises on appropriate terms and conditions for discharge of some of its responsibilities.

6. FUNCTIONS OF AUCTIONING AGENCY

The auctioning agency shall dispose the assets of the Company by e-auction through a transparent process. The Auctioning Agency would be paid 1% of amount realized from auction subject to maximum of Rs. 25.00 lakh per auction.

7. Proceeds from sale of assets after making payment for all liabilities would be deposited in Consolidated Fund of India.

8. APPLICATION TO THE ROC FOR REMOVAL OF THE NAME OF THE COMPANY FROM THE REGISTER OF COMPANIES

Immediately upon settlement and discharge of all the liabilities, the Board of Directors of the CPSE shall take necessary steps to apply to the Registrar of Companies (RoC) for removal of the name of the Company from the Register of Companies under Section 248 of the Companies Act, 2013. The Board of Directors may also pass a resolution at this stage to transfer all the residual assets of the Company to another entity or the Central Government as considered necessary. This step shall be completed within 2 months from the date of disposal/ transfer of all assets, but not later than 13 months from the Zero Date.

9. TIME-LINES

For ease of use, a matrix of timelines of various steps for closure of the CPSE as per these Guidelines is at **Annex**.

In respect of those CPSEs where approval for closure has already been obtained, the process of closure shall be fast tracked as per these guidelines.

Revised Time-lines of activities for closure of CPSEs

Sr.No.	Milestones/ Activities	Time-Lines	Para No. of Guidelines
A.	**Preparatory date:** Preparatory Date (P0) shall be the date on which administrative Ministry takes the decision for closure of the CPSE.		
1.	Estimation of Statutory dues	P_0 + 3 months	4.1.1
	Estimation of dues of employees		4.1.2
	Estimation of liabilities towards Secured Creditors etc.		4.1.3 & 3.2 1(a)
	Estimation of dues payable to Central Government		4.1.4
	Estimation of other liabilities		4.1.5 & 3.2.1 (c)
	Estimation of Movable assets		4.1.6
	Estimation of receivables		4.1.7
	Estimation of Budgetary Support Required		4.1.8
	All preparatory actions in respect of immovable assets, e.g. updating of land records with geo-mapping and other formalities, Obtaining State Governments commitments, Valuation etc.		4.1.9
	Detailed Proposal for closure to be placed before the Cabinet/ CCEA		3.2.2
	Placing of information relating to immovable assets/ land on the 'Land Management Portal web site'		5 (vii)
B.	**Zero date:** Date of issue of minutes of approval for closure of sick/ loss-making CPSE by the Cabinet/ CCEA. This is shown as $\mathbf{T_0}$.		
2.	General notice to employees and other stakeholders intimating about intended closure	T_0 + 5 days	3.2.2 (b) (ii)
	Intimate/ apply to the Ministry of Labour and Employment in respect of closure		
3.	Request for budgetary support from Department of Expenditure.	T_0 + 15 days	3.2.2(a)
4.	Transfer of assets to Holding company/ administrative Ministry/ Department	T_0 + 1 month	3.2.2(c)
5.	Settlement of statutory dues/ liabilities towards revenues, taxes etc.	T_0 + 2 months	3.2.2 (b) (i)
	Negotiation with State Government		3.2.2 (d)

Sr.No.	Milestones/ Activities	Time-Lines	Para No. of Guidelines
6.	Payment of secured creditors as one time settlement	T_0 + 3 months	3.2.2 (b) (iv)
	Settlement of wages/salaries of employees and statutory dues		3.2.2 (b) (ii)
	Disposal of movable assets		4.2
	Return of leasehold land to State Government with conditions of non-sale		4.3.1(i)
7.	Retrenchment of employees not opting for VRS	T_0 + 4 months	3.2.2(b)(iii)
8.	Identification of land for affordable Housing, Sale/ transfer to Central Government departments, State Government departments, Central Government bodies/ CPSEs and State Government bodies/ PSEs	T_0 + 8 months	4.3.2 b) (i), (ii), (iii), (iv) & (v)
9.	Auction of land to any entity after exhausting option at sl. no. 8		4.3.2 b) (vi)
10.	Utilisation of land for public purposes like public parks, utilities, etc.	T_0 + 11 months	4.3.2 b)(viii)
11.	Application to Registrar of Companies for removal of name of CPSE	T_0 + 13 months	8

Note: The above timelines would be suitably modified in individual cases requiring Parliamentary approval.

HERKULES

सत्यमेव जयते

Government of India

Ministry of Heavy Industries and Public Enterprises