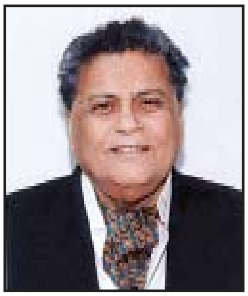
मंत्री
भारी उद्योग एवं लोक उद्यम
भारत सरकार, नई दिल्ली-110 011
MINISTER OF
HEAVY INDUSTRIES & PUBLIC ENTERPRISES
GOVERNMENT OF INDIA
NEW DELHI-110 011

Foreword



संतोष मोहन देव
SONTOSH MOHAN DEV

The Public Enterprises Survey (2007-08) is the 48th Survey in the series being laid in the Parliament. It presents an overview of the performance of Central Public Sector Enterprises. The CPSEs as a group, continued to perform well during 2007-08. This was despite the year being difficult for the public sector Oil Marketing Companies (OMCs) who had to face steep rise in international price of crude oil. It is important to realize that the share of OMCs in the total turnover of all CPSEs stood at 54 per cent in 2007-08.

2. The CPSEs have, on the whole, served well the macro-economic objectives of low and stable prices, high economic growth and regional development. While the number of profit making CPSEs went up from 154 in 2006-07 to 160 companies in 2007-08, the number of loss making CPSEs came down from 60 CPSEs in 2006-07 to 53 CPSEs in 2007-08. The profit of profit making CPSEs was Rs. 91083 crore during 2007-08 as against Rs. 89578 crore during 2006-07; the loss of loss making enterprises on the other hand, stood at Rs. 11274 crore and Rs. 8457 crore in these two years respectively.

3. In terms of gross block, the investment in CPSEs grew by 10.16 per cent during 2007-08, which was better than the last year (9.45%). While the growth in investment in mining, manufacturing and electricity stood at 10.17%, 9.11% and 10.64% respectively, investment in the services sector grew by 10.54% during 2007-08 over 2006-07. The CPSEs, in this respect, have been one of the key drivers of growth in the economy.

4. There are altogether 58 mega projects (i.e. projects costing Rs.1000 crore and above) and 32 major projects (i.e. projects costing Rs. 100 crore to Rs. 1000 crore) under implementation by CPSEs. In addition to these direct investments, some of the 'shell companies' (SPVs) floated by public sector financial companies/ CPSEs have been successful in attracting private sector into Ultra Mega Power Projects with investments in the magnitude of more than Rs. 10,000 crores.

5. The CPSEs, nevertheless, continue to face stiff competition, and business risks on account of various reasons like price fluctuation,

high interest rates and the global slow down. The CPSEs, therefore, need to take cognizance of market forces and act wisely on all fronts of cost reduction, accessing cheaper finance and adopting superior technology.

6. The CPSEs, constitute an important segment of the Corporate Sector of India. The trained manpower and skilled labour force has been one of the strengths of CPSEs. It has been often claimed that part of the rapid growth of the private sector in almost all industries has come from the talent acquired from the CPSEs.

7. Further, the performance of CPSEs during the first half of the current year i.e 2008-09 has been encouraging. As per the information received from CPSEs, the turnover is likely to grow by about 36% over the corresponding period last year. I am sure, CPSEs will continue to play an important role in helping the country to achieve a high growth rate in the years to come.

8. I congratulate Shri R. Bandyopadhyay, Secretary, Department of Public Enterprises and his team of officers & staff involved in preparing the Survey.

(Sontosh Mohan Dev)
Minister
Ministry of Heavy Industries & Public Enterprises

February 2, 2009
New Delhi

राज्य मंत्री
भारी उद्योग एवं लोक उद्यम मंत्रालय
भारत सरकार, नई दिल्ली-110 011
MINISTER OF STATE
HEAVY INDUSTRIES & PUBLIC ENTERPRISES
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सत्यमेव जयते

Preface

रघुनाथ झा
RAGHUNATH JHA

The Estimates Committee, in their 73rd Report (1959-60), had recommended that in addition to the individual annual report of each enterprise laid on the Table of both the Houses of Parliament, a separate comprehensive report should be submitted to the Parliament indicating the Government's total appraisal of the working of public enterprises. Accordingly, the first "Annual Report" (Public Enterprises Survey; was prepared by the erstwhile Bureau of Public Enterprises (now Department of Public Enterprises) in 1960-61 giving a consolidated picture of the performance of the Central Public Sector Enterprises (CPSEs).

2. The form and content of the Public Enterprises Survey (Annual Report) has undergone changes over the years. The Committee on Public Undertakings (COPU) in its 46th Report (5^{tn} Lok Sabha) made recommendations vis-a-vis the various aspects of Public Enterprises Survey, such as, coverage, classification of enterprises, content of the report etc. These recommendations have been taken into account while preparing the Survey.

4. The Public Enterprises Survey (2007-08) is the 48th Survey in the series. As many as 160 CPSEs earned profits during 2007-08 out of 214 operating CPSEs against 53 CPSEs incurred losses. The profits of profit making CPSEs have been moreover, higher than last year and the dividend declared by CPSEs was also higher during the year than last year.

5. The Department of Public Enterprises acknowledges the cooperation extended by all the Ministries/Departments/CPSEs for the supply of financial and other data for the preparation of Public Enterprises Survey. The support provided by Industry Information System Division of National Informatics Centre (NIC) in processing and tabulating the large data base is duly acknowledged. I also take this opportunity to place on record the efforts put in by Shri R Bandyopadhyay, Secretary, Department of Public Enterprises and all his officers & staff of the Department for preparing this Survey.

Minister of State
Ministry of Heavy Industries & Public Enterprises

February , 2009
New Delhi

सचिव
SECRETARY
भारत सरकार
GOVERNMENT OF INDIA
भारी उद्योग एवं लोक उद्यम मंत्रालय
HEAVY INDUSTRIES & PUBLIC ENTERPRISES
लोक उद्यम विभाग
DEPARTMENT OF PUBLIC ENTERPRISES

Introduction

आर. बन्द्योपाध्याय, आई.ए.एस.
R. BANDYOPADHYAY, I.A.S.

The Department of Public Enterprises under the Ministry of Heavy Industries and Public Enterprises is the nodal Department in the Government of India to provide, inter alia, an overview on the financial and physical performance of Central Public Sector Enterprises (CPSEs). Besides statutory corporations, the CPSEs comprise those Government companies (as defined under Section 617 of Companies Act) wherein more than 50% equity is held by the Central Government. The subsidiaries of these companies are also categorized as CPSEs. The Public Enterprises Survey is a consolidated report on the performance of all CPSEs, which is laid in the Parliament every year. The Survey, however, does not cover departmentally run public enterprises, banking institutions and enterprises with Central Government investment less than or (only) equal to 50% equity.

2. The basic data for the Public Enterprises Survey is compiled based on Annual Reports/Accounts for the year 2007-08 provided by the individual enterprises to the Department of Public Enterprises. The data so compiled are analyzed and presented in three separate volumes. **Volume-1** contains a macro appraisal of the performance of CPSEs in terms of broad physical and financial parameters. **Volume-2** contains analysis of the performance, sector wise, cognate group wise and individual CPSE wise. **Volume-3** contains enterprise-wise data for three years, e.g., 2007-08, 2006-07 and 2005-06. The data consists of summarized balance-sheet, summarized profit and loss account and important management ratios. Important financial and accounting terms used in the Survey are as per Schedule VI of the Companies Act, 1956 unless otherwise defined in the “glossary”.

3. There were 242 CPSEs (excluding 7 Insurance Companies) falling within the scope of the Public Enterprises Survey as on 31.3.2008. During 2007-08, thirteen enterprises have either been closed or changed their public sector character (due to formation of joint ventures with less than 51% shareholding by the Government/ CPSE or transfer of ownership to private sector due to the order of BIFR in the case of sick enterprises or the decision of the Government/

concerned administrative Ministry). These thirteen enterprises include Pyrites Phosphates & Chemicals Ltd., National Instruments Ltd., Praga Tools Ltd. (merged with HMT Ltd.), Guru Gobind Singh Refineries Ltd., Pipavav Power Development Company Ltd., Parbati Koldam Transmission Company Ltd., Coastal Andhra Power Ltd., Sasan Power Ltd., Coastal Gujarat Power Ltd., Air India Ltd. and Indian Airlines Ltd. (amalgated into National Aviation Company of India Ltd.), Bharat Yantra Nigam Ltd. and Bokaro Kodarma Maithon Transmission Company Ltd. At the same time, eight new public sector enterprises namely Bhartiya Rail Bijlee Company Ltd., Central Railside Warehousing Company Ltd., Dedicated Freight Corridor Corporation of India Ltd., National Aviation Company of India Ltd., North Karanpura Transmission Company Ltd., PFC Consulting Ltd., REC Power Distribution Company Ltd. and Talchar-II Transmission Company Ltd. have been added to the list of CPSEs during the year, as per the information received from the different Ministries/ Departments. Among the newly added CPSEs, Central Railside Warehousing Company Ltd., REC Power Distribution Company Ltd. and National Aviation Company of India Ltd. are in operation, and the rest are yet to commence their commercial operation.

4. Vaishali Power Generating Company Ltd., National Hydroelectric Power Corporation Ltd. and Water & Power Consultancy Services (India) Ltd. have changed their names as Kanti Bijlee Utpadan Nigam Ltd., NHPC Ltd. and WAPCOS Ltd. respectively.

5. The year also saw the creation of a new Department, namely, Department of Pharmaceuticals under the Ministry of Chemicals & Fertilizers. Eight enterprises namely Bengal Chemicals & Pharmaceuticals Ltd., Bihar Drugs and Organic Chemicals Ltd., Hindustan Antibiotics Ltd., IDPL (Tamilnadu) Ltd., Indian Drugs & Pharmaceuticals Ltd., Karnataka Antibiotics &'Pharmaceuticals Ltd., Orissa Drugs & Chemicals Ltd. and Rajasthan Drugs & Pharmaceuticals Ltd. have been put under its administrative control.

6. As in the past, the present Survey incorporates audited figures for the year 2006-07 in respect of CPSEs whose accounts were treated as provisional in the Public Enterprises Survey 2006-07. The figures relating to 2006-07 as appearing in the last year's Survey, have, therefore, undergone revision.

7. There are altogether fourteen chapters in the survey. In comparision to previous year, however, the chapter on 'Purchase Preference Policy' does not find any place in this survey, in view of the decision of the Government to discontinue this policy w.e.f. 31.03.2008. The chapter on 'Enterprise under Construction and Projects under Implementation' has been, moreover, divided into two

chapters with the respective titles of ‘CPSEs under Construction’ (Chapter-9) and ‘Mega and Major Projects under Implementation’ (Chapter-10).

8. The status of 249 enterprises, including Insurance Companies, discussed in the Public Enterprises Survey (2007-08) is shown below:

Sl.No	Status (as on 31.03.2008)	Number of CPSEs
1	Operating Enterprises	214
2	Enterprises which are yet to commence commercial operation	28
	Sub Total (1+2)	242
3	Insurance Companies	7
	Grand Total	249

9. During the year, while 147 apex/independent CPSEs signed MOUs with their respective Administrative Ministries/Departments, the subsidiary CPSEs signed MOUs with their respective Holding Companies/CPSEs. These MOUs, which are coordinated by the Department of Public Enterprises set out mutually agreed targets between the two parties, in the beginning of the year. Based on these targets, the achievements of CPSEs are evaluated.

10. Since India has decided to adopt the International Financial Reporting System (IFRS) w.e.f. 1st April, 2011, the CPSEs will also have to change over to the new accounting system. Keeping, this in view, the Department of Public Enterprises took the initiative to organize workshop on this important subject during the year.

11. We are grateful to all the Ministries/Departments/CPSEs for making available the requisite information for the Survey. The Survey was prepared under the overall coordination of Dr. Sharat Kumar, Economic Adviser, Department of Public Enterprises. The technical support was provided by the Industry Information System Division of the NIC, Government of India. I may, furthermore, mention that the Survey is available on-line and may be accessed on www.dpe.nic.in. Suggestions to improve the Public Enterprises Survey are welcome.

(R. Bandyopadhyay)

February , 2009
New Delhi

1 PERFORMANCE OVERVIEW 2007-08

1.1 Introduction

The Central Public Sector Enterprises (CPSEs) are engaged in large scale production and supply of a wide range of products and services. These include basic goods like steel, cement and chemicals; capital goods like pressure vessels, boilers and drilling rigs; and intermediate goods like electricity and gas. They also render a large number of services, such as, telecommunications, trading, tourism, warehousing, etc.

A large number of these CPSEs have been set up as greenfield projects consequent to the initiatives taken during the Five Year Plans. CPSEs, such as National Textile Corporation, Coal India Ltd. (and its subsidiaries) have, however, been taken over from the private sector consequent to their 'nationalization'. Industrial units such as Indian Petrochemicals Corporation Ltd., Modern Food Industries Ltd., Hindustan Zinc Ltd., Bharat Aluminum Company, Maruti Udyog Ltd. etc. on the other hand, which were CPSEs earlier ceased, to be CPSEs after their 'privatization'.

A number of CPSEs belong to the category of limited companies and have been established with the approval of the Government under the Companies Act, 1956. CPSEs in the category of 'corporations' like the Food Corporation of India, the Life Insurance Corporation etc. have been established under the specific central legislations. While the company form of CPSEs function according to the Articles of Association and are registered under the Companies Act, the Corporation form of CPSEs have their objectives and scope defined in the concerned legislation.

On the eve of the First Five Year Plan, there were 5 CPSEs with a total investment (equity plus long term loans) of Rs. 29 crore. Both the number of enterprises and the total investment in CPSEs saw an overwhelming increase over the years. On 31st March, 2008, there were as many as 242 CPSEs (excluding 7 Insurance Companies) with a total investment of Rs. 455409 crore.

Major highlights of the performance of CPSEs as a whole for the year 2007-08 are given in Box 1.1. Furthermore, Box 1.2 gives the macro view of performance of CPSEs for the last ten years. The number of profit making CPSEs increased steadily from 143 CPSEs in 2004-05 to 160 CPSEs in 2007-08 while the number of loss making CPSEs come down from 73 in 2004-05 to 53 CPSEs in 2007-08.

1.1.1 Economy and CPSEs (2007-08)

The GDP at market price (at current prices) grew at the rate of 13.7 per cent in 2007-08 over 2006-07. In comparison, the gross value addition contributed by CPSEs in comparable terms grew by 11.12 percent during the corresponding period. Growth in turnover of CPSEs stood at 12.13 percent in 2007-08 over 2006-07. As such, the growth of CPSEs during the year was very much in tandem with the overall growth in the economy.

1.2 CPSEs and Financial/Management Ratios

The performance of CPSEs, at the aggregate level, vis-à-vis the different financial ratios for the last ten years is shown in Box 1.3/ Fig. 1.1. A perusal of profit related ratios shows a general improvement in profitability of CPSEs over the years. Significant improvement may be seen especially in regard to net profit to net worth, which improved from 8.92 percent in 1998-99 to 15.39 percent in 2007-08; PBTEP to Turnover, which increased from 6.35 per cent in 1998-99 to 11.35 percent in 2007-08 and PBITEP to Capital Employed increased from 14.99 percent in 1998-99 to 20.32 per cent in 2007-08. The dividend payout has been fluctuating over the years; it was 37.04% in 1998-99, peaked to 52.08% in 2000-01, then came down to 28.80% in 2003-04 and was 36.06 percent in 2007-08 (Fig. 1.1).

BOX 1.1

HIGHLIGHTS

- **Total paid up capital** in 242 CPSEs as on 31.3.2008 stood at Rs. 134322 crore compared to Rs. 131629 crore as on 31.3, 2007, showing a growth of 2.05%.
- **Total investment** (equity plus long term loans) in all CPSEs stood at Rs.455409 crore as on 31.3.2008 compared to Rs.420476 crore as on 31.3.2007, recording a growth of 8.31%.
- **Capital Employed** (net block plus working capital) in all CPSEs as on 31.3.2008 stood at Rs.763815 crore compared to Rs. 660667 crore showing a growth of 15.61%.
- **Total turnover** of all CPSEs during 2007-08 was Rs.1081925 crore compared to Rs.964896 crore in the previous year showing a growth of 12.13 %.
- **Profit** of profit making CPSEs stood at Rs. 91083 crore during 2007-08 compared to Rs. 89,578 crore in 2006-07.
- **Loss** of loss incurring CPSEs stood at Rs. 11,274 crore in 2007-08 compared to Rs. 8457 crore in 2006-07.
- **Reserves & Surplus** of all CPSEs went up from Rs. 416601 crore in 2006-07 to Rs. 485577 core in 2007-08, showing an increase of 16.56%.
- **Net worth** of all CPSEs went up from Rs. 454279 crore in 2006-07 to Rs. 520855 crore in 2007-08 registering a growth of 14.66%.
- **Contribution of CPSEs to Central Exchequer** by way of excise duty, customs duty, corporate tax, interest on Central Government loans, dividend and other duties and taxes went up from Rs. 148789 crore in 2006-07 to Rs. 165994 crore in 2007-08.
- **Foreign exchange earnings** through exports of goods and services increased from Rs. 70906 crore in 2006-07 to Rs. 74283 crore in 2007-08, showing a growth of 4.76%. **Foreign exchange outgo** on imports (primarily crude oil) went up from Rs. 316161 crore in 2006-07 to Rs. 368196 crore in 2007-08 showing a growth rate of 16.45%.
- CPSEs employed 15.70 lakh people (excluding casual workers and contract labours), out of which about one-fourth of the employees belong to managerial and supervisory cadres.
- The salary and wages went up from Rs. 52586 crore in 2006-07 to Rs. 64306 crore, showing a growth of 15.90%. This was mainly on account of provisions made by some CPSEs for pay revision pending final recommendation of the 2nd Pay Revision Committee.
- **Total Market Capitalisation** (M_Cap) of 41 listed CPSEs, based on the stock price in Mumbai Stock Exchange, went up from Rs 679089 crore as on 31.03.2007 to Rs. 1120061 crores as on 31.03.2008, showing a growth of 64.94%.
- M_Cap of CPSEs as per cent of BSE M_Cap also went up from 19.16% as on 31.3.2007 to 21.80% as on 31.3.2008.

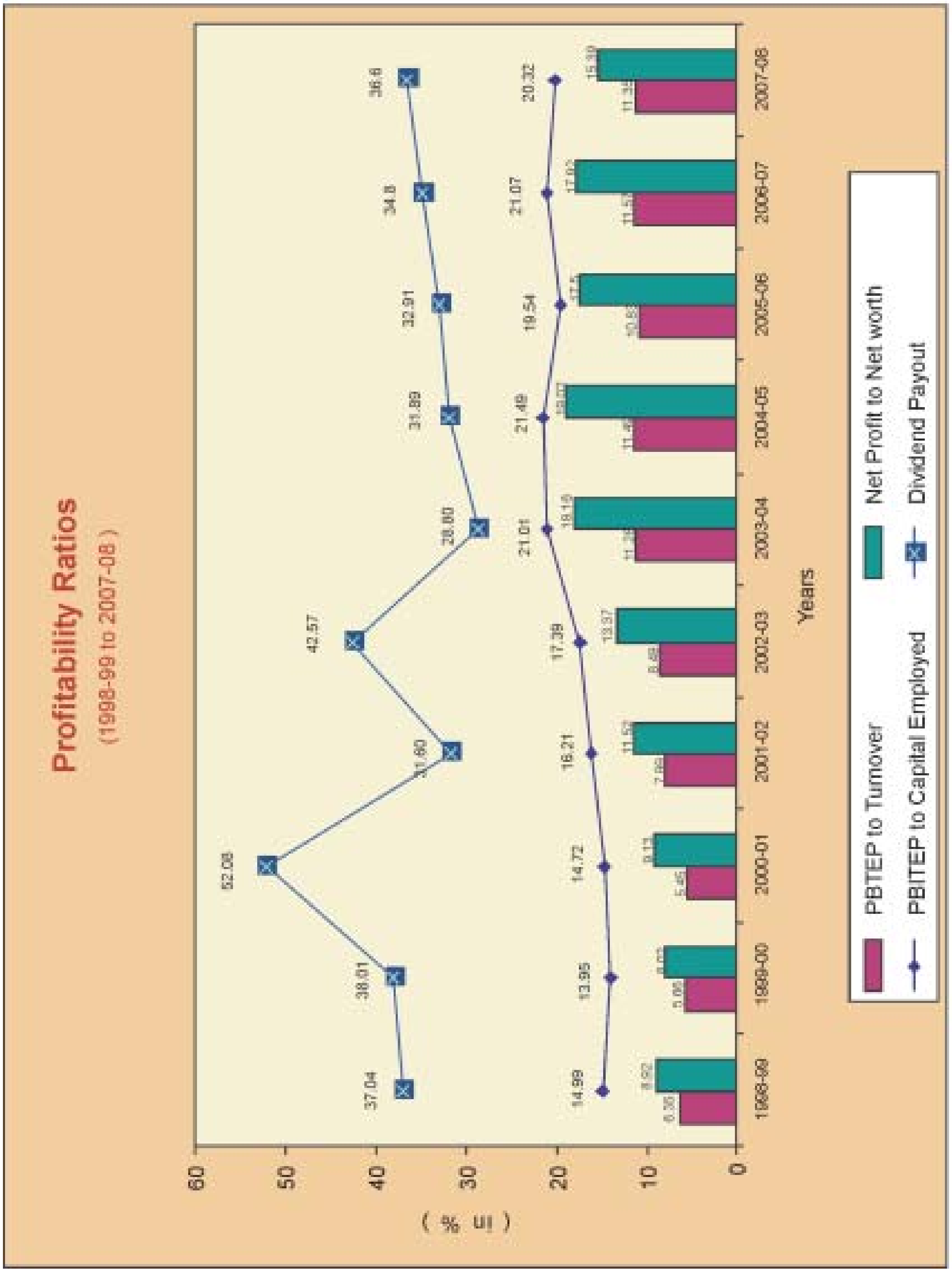

Profitability Ratios
(1998-99 to 2007-08)
(in %)
Years
PBTEP to Turnover
Net Profit to Net worth
PBITEP to Capital Employed
Dividend Payout

Fig. 1.1

BOX 1.2

MACRO VIEW OF CENTRAL PUBLIC SECTOR ENTERPRISES

(Rs. in crore)

Particulars	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
No. of operating Enterprises	235	232	234	231	226	230	227	226	216	214
Capital Employed	265093	302947	331372	389934	417160	452336	504407	585484	659959	763127
Turnover	310179	389199	458237	478731	572833	630704	744307	837295	964896	1081925
Net Worth	148064	160674	171406	225472	241846	291828	341595	397275	452753	518417
Profit before dep, int, tax & EP (PBDITEP)	56495	62212	69287	89550	101691	127320	142554	150262	178049	197560
Depreciation	16768	19942	20520	26360	28247	31251	33147	34848	33141	36679
DRE/Prel. Exps. Written Off	-	-	-	-	905	1025	986	992	5841	5802
Profit before int., tax & EP (PBITEP)	39727	42270	48767	63190	72539	95039	108420	114422	139068	155079
Interest	20025	20233	23800	24957	23921	23835	22869	23708	27455	32240
Profit before Tax & EP (PBTEP)	19702	22037	24967	38233	48618	71144	85550	90714	111605	122839
Tax provisions	6499	7706	9314	12255	17499	22134	21662	24370	34352	42013
Net Profit before EP	-	-	-	-	31119	49010	63889	66344	77261	80826
Net Extra Ordi. Items & Prior Period Adj.	-	-	-	-	-1225	-3933	-1075	-3192	-3861	1017
Net profit	13203	14331	15653	25978	32344	52985	64964	69536	81122	79809
Profit of profit making CPSEs	22508	24633	28494	36432	43316	61606	74432	76382	89578	91083
Loss of loss incurring CPSEs	9305	10302	12841	10454	10972	8522	9003	6845	8457	11274
Profit making CPSEs (No.)	126	126	123	120	119	139	143	160	154	160
Loss Incurring CPSEs (No.)	107	105	110	109	105	89	73	63	60	53
CPSEs Making no profit/loss	2	1	1	2	2	2	-	1	1	1
Operating CPSEs not furnished information (No.)	-	-	-	-	-	-	-	2	1	-
Dividend declared	4932	5455	8260	8068	13769	15288	20718	22886	26819	28081
Dividend tax	537	790	842	8	1193	1961	2852	3215	4107	4722
Retained profit	7734	8086	6551	17902	17382	35835	41394	43435	50196	47006

Note. The figures above relate to operating CPSEs.

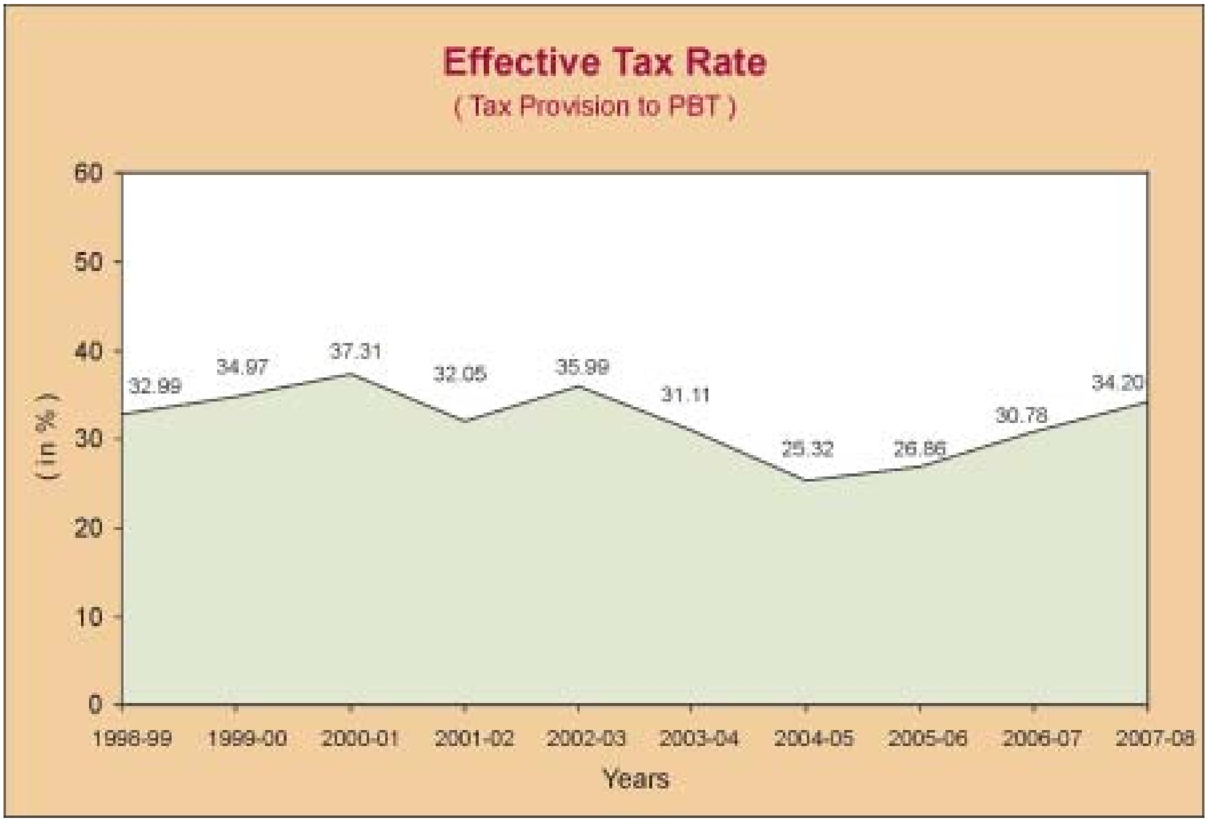

Effective Tax Rate
(Tax Provision to PBT)
60
50
40
30
20
10
0
(in %)
32.99
34.97
37.31
32.05
35.99
31.11
25.32
26.86
30.78
34.20
1998-99
1999-00
2000-01
2001-02
2002-03
2003-04
2004-05
2005-06
2006-07
2007-08
Years

Fig. 1.2

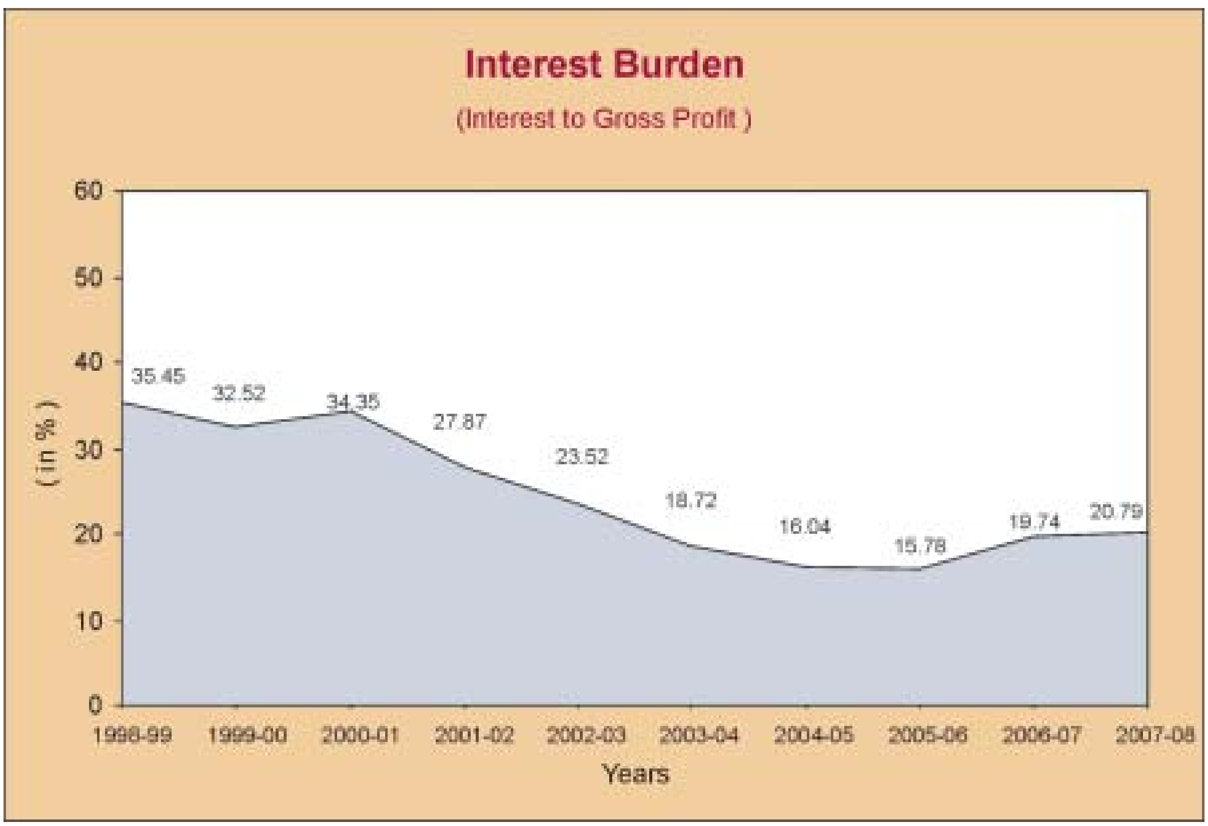
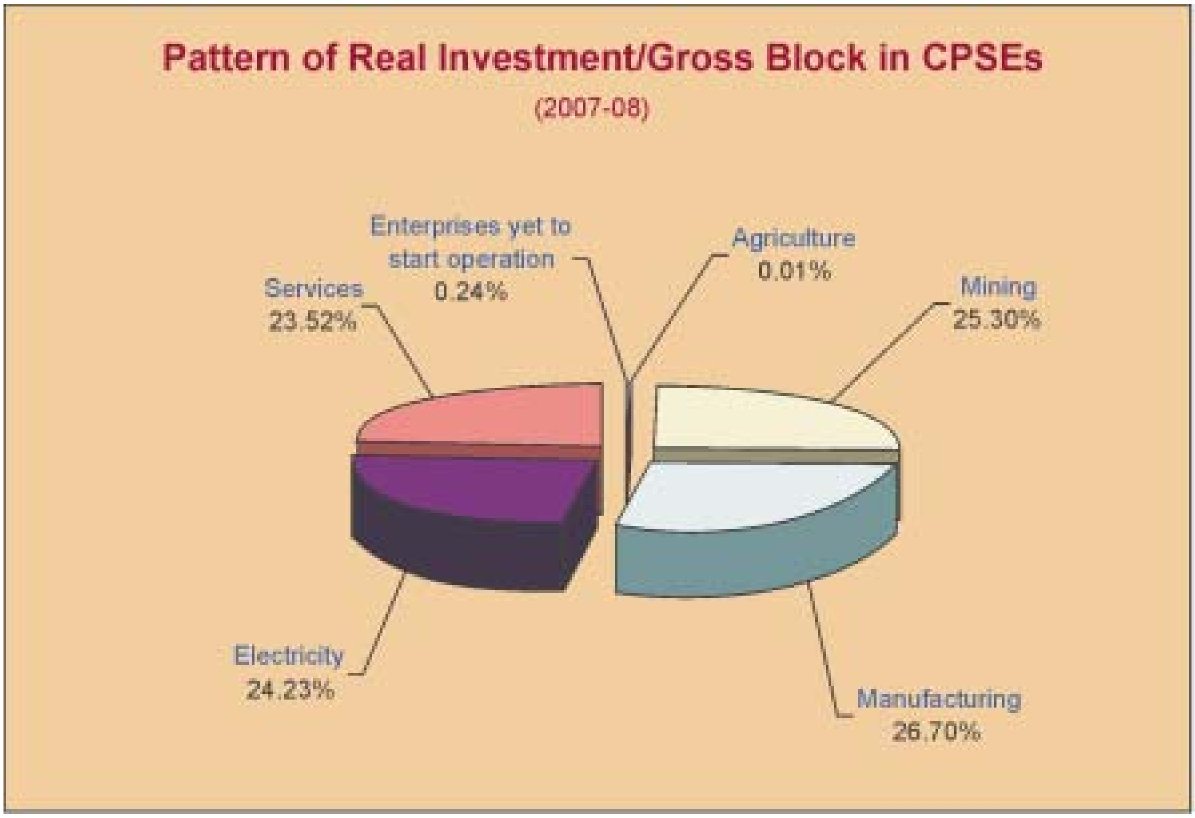
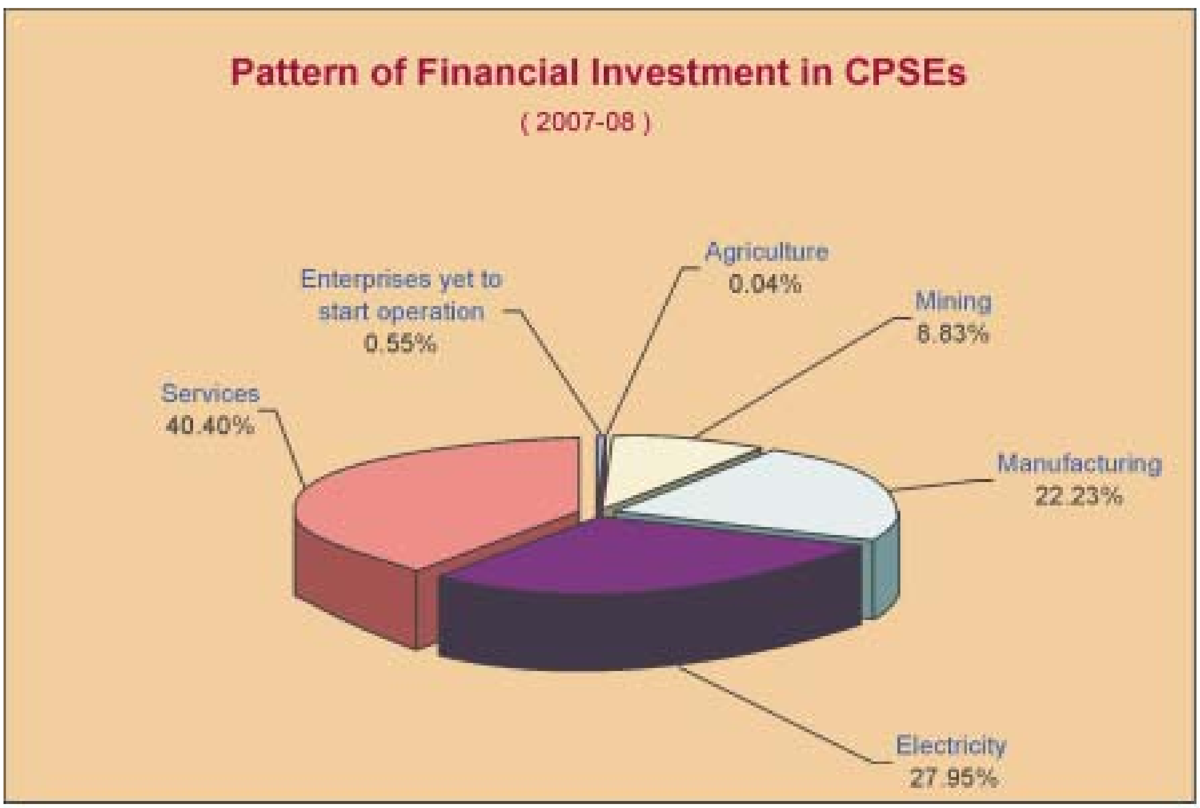

Interest Burden
(Interest to Gross Profit)
60
50
40
30
20
10
0
(in %)
35.45
32.52
34.35
27.87
23.52
18.72
16.04
15.78
19.74
20.79
1998-99
1999-00
2000-01
2001-02
2002-03
2003-04
2004-05
2005-06
2006-07
2007-08
Years

Fig. 1.3



Pattern of Real Investment/Gross Block in CPSEs
(2007-08)
Enterprises yet to start operation 0.24%
Agriculture 0.01%
Services 23.52%
Mining 25.30%
Electricity 24.23%
Manufacturing 26.70%

Fig. 1.4



Pattern of Financial Investment in CPSEs
(2007-08)
Agriculture 0.04%
Enterprises yet to start operation 0.55%
Mining 8.83%
Services 40.40%
Manufacturing 22.23%
Electricity 27.95%

Fig. 1.5

BOX 1.3

Financial Ratio

(in per cent)

Particulars	98-99	99-00	00-01	01-02	02-03	03-04	04-05	05-06	06-07	07-08
Sales to Capital employed	117.01	128.47	138.28	122.77	137.32	139.43	147.56	143.01	146.21	141.78
PBDITEP to Capital employed	21.31	20.54	20.91	22.97	24.38	28.15	28.26	25.66	26.98	25.89
PBTEP to Net worth	13.31	13.72	14.57	16.96	20.10	24.38	25.04	22.83	24.65	23.69
PBDITEP to Turnover	18.21	15.98	15.12	18.71	17.75	20.19	19.15	17.95	18.41	18.26
PBITEP to Capital employed	14.99	13.95	14.72	16.21	17.39	21.01	21.49	19.54	21.07	20.32
PBITEP to Turnover	12.81	10.86	10.64	13.20	12.66	15.07	14.57	13.67	14.41	14.33
PBTEP to Turnover	6.35	5.66	5.45	7.99	8.49	11.28	11.49	10.83	11.57	11.35
Net Profit to Turnover	4.26	3.68	3.42	5.43	5.65	8.40	8.73	8.30	8.41	7.38
Net Profit to Capital Employed	4.98	4.73	4.72	6.66	7.75	11.71	12.88	11.88	12.29	10.46
Net Profit to Net Worth	8.92	8.92	9.13	11.52	13.37	18.16	19.02	17.50	17.92	15.39
Dividend payout	37.04	38.01	52.08	31.60	42.57	28.80	31.89	32.91	34.80	36.06
Tax Provision to PBTEP	32.99	34.97	37.31	32.05	35.99	31.11	25.32	26.86	30.78	34.20
Interest to Gross Profit	35.45	32.52	34.35	27.87	23.52	18.72	16.04	15.78	19.74	20.79

In terms of effective tax rate or 'tax provision to profit before tax' (Fig. 1.2), the tax burden on CPSEs that improved significantly from 35.99% in 2002-03 to 25.32% in 2004-05 deteriorated in 2007-08 (34.20%). The interest burden on CPSEs measured as 'interest to gross profit', on the other hand, has been continuously showing improvement and declined from a peak of 33.9% in 1997-98 to 19.74% in 2006-07 and 20.79% in 2007-08. The decline in interest rates has contributed significantly towards improvement in profitability of CPSEs (Fig. 1.3).

1.3 Aggregate Balance Sheet of CPSEs

Table 1.1 below provides information on 'sources of funds' (funds available) with CPSEs during the last three years. There was further improvement in 2007-08 as the funds available to CPSEs went up to Rs. 1122296 crore, from the earlier levels of Rs.1006202 crore in 2006-07 and Rs. 906204 crore in 2005-06. While 'reserves and surplus' went up to Rs. 485577 crore (16.56%) in 2007-08 from the earlier level of Rs. 416605 crore in 2006-07, long term loans went up to Rs. 321087 crore in 2007-08 (11.16%) from the earlier level of Rs. 288847crore in 2006-07.

In terms of 'application of funds', while 'gross block' increased from Rs. 684588 crore in 2006-07 to Rs. 749745 crore in 2007-08 (9.52%), 'net current assets' increased from Rs. 320346 crore in 2006-07 to Rs. 385703 crore in 2007-08 (20.4%). However, 'investments' (outside their own units) by CPSEs decreased by 5.53 per cent in 2007-08 (Rs. 142235 crore) over 2006-07(Rs.

Table 1.1

Aggregate Balance Sheet of Central Public Sector Enterprises

(Rs. in crore)

Particulars		2007-08	2006-07	2005-06
SOURCES OF FUNDS				
(i)	Share holders fund (a+b+c)	619898.78	548234.18	486228.57
	a. Paid-up Capital	131231.63	125322.71	120844.14
	b. Share application Money	3090.26	6306.40	6203.72
	c. Reserves & Surplus	485576.89	416601.33	359180.71
(ii)	Long Term Loans	321087.36	288847.13	276657.67
(iii)	Deferred Tax Liability	47819.99	46438.42	41061.85
(iv)	Other Funds	133490.36	122681.96	102255.61
Total (i+ii+iii+iv)		**1122296.49**	**1006201.69**	**906203.70**
APPLICATION OF FUNDS				
(i)	Gross Block	749745.33	684587.78	621713.69
(ii)	Less: Depreciation	371633.83	344266.73	311968.23
(iii)	Net Block	378111.50	340321.05	309745.46
(iv)	Capital Work In Progress	112459.04	98080.24	93394.28
(v)	Investments (Financial)	142234.89	150567.52	136575.34
(vi)	Net Current Assets	385703.17	320345.91	276095.51
(vii)	Deferred Revenue Expenditure	2408.27	4519.29	3436.27
(viii)	Deferred Tax Asset	4744.07	2930.15	2270.26
(ix)	Profit & Loss Account (DR)	96635.55	89437.53	84686.58
Total (iii to ix)		**1122296.49**	**1006201.69**	**906203.70**

Note: DR= Debit Balance /Accumulated losses from previous year.

150568 crore). Share of such investments, which was 36.14 percent of 'reserves & surplus' during 2006-07 decreased to 29.29 percent in 2007-08. Accumulated losses (the debit balance / Profit & Loss Account) of all CPSEs (both loss making and turnaround CPSEs) was Rs. 84687 crore in 2005-06, Rs. 89438 crore in 2006-07 and Rs. 96636 crore in 2007-08.

1.4 Investment Pattern, in terms of Gross Block

Gross block (inclusive of capital works in progress) stood at Rs. 862204 crore in 2007-08 compared to Rs. 782668 crore, showing a 10.16 per cent growth. The share of 'industrial CPSEs' (i.e. manufacturing, mining and electricity) in aggregate investment of all CPSEs, in terms of gross block, stood at 76.23 per cent followed by 'service sector CPSEs' (23.52%) during 2007-08. The respective shares in investment by broad groups of manufacturing, mining, electricity and services was 26.70%, 25.30%, 24.23% and 23.52% respectively in 2007-08 (Table 1.2 & Fig. 1.4).

Table 1.2

Pattern of investment in terms of Gross Block

(2006-07 and 2007-08)

(Rs. in crore)

Sl. No.	Sector	Investment in terms of Gross Block* as on		Growth rate over the previous year	Gross block as % of total, as on 31.3.08
		31.3.2008	31.3.2007		
(1)	(2)	(3)	(4)	(5)	(6)
1.	Agriculture	101	93	8.60	0.01
2.	Mining	218137	198004	10.17	25.30
3.	Manufacturing	230231	211016	9.11	26.70
4.	Electricity	208890	188806	10.64	24.23
5.	Services	202744	183415	10.54	23.52
6.	CPSEs yet to commence operations	2101	1334	57.50	0.24
	Total	862204	782668	10.16	100.00

Note: * Gross Block, inclusive of 'capital works in progress.

1.4.1 Top Ten Enterprises in terms of Gross Block

Gross block in top ten enterprises (amounting to Rs.584758 crore) accounted for 67.82 percent of the total Gross Block in all CPSEs as on 31.3.2008. ONGC Limited, BSNL and NTPC have been the top three CPSEs in this respect (Table 1.3). As a category, the oil CPSEs have the major share in real investment/ Gross Block.

1.3.2 Financial Investment in CPSEs

Total investment (equity plus long term loans) in 242 CPSEs as on 31.3.2008 stood Rs.455409 crore compared to Rs.420476 crore as on 31.3.2007, showing an increase of Rs.34933 crore or a growth of 8.31 percent. Table 1.4 shows the sector-wise cumulative investment in CPSEs as on 31.3.2007 and 31.3.2008. While investment increased during the year, in 'electricity' (Rs. 8206 crore), manufacturing (Rs. 5598 crore) and 'services (Rs. 2915 crore), it declined in 'mining' sector by (-) Rs. 1811 crore. The decline in investment is, generally, on account of either repayments of long term loan by the profit making companies or financial structuring of sick/loss making CPSEs or merger of some CPSEs with other CPSEs. The share of CPSEs in (financial) investment, sectorwise, is shown in Fig. 1.5.

1.5 Turnover in CPSEs

Gross sales/ turnover of CPSEs have been robust during the last three years (Table 1.5). All the cognate groups under the different sectors except 'textiles' under manufacturing sector and 'tourism' and 'telecommunications' under services sector witnessed increase in their respective sales. The relatively more important sectors like 'mining', 'manufacturing', and 'electricity' with larger shares in total turnover witnessed double digit growth during 2007- 08 (Table 1.5 & 1.6).

The turnover of CPSEs, at the aggregate level, grew by 12.24% in 2007-08 over 2006-07 (Table 1.6). The major sectors of manufacturing (12.77%), mining (13.55%) and electricity (13.79%) have performed extremely well during both the years of 2006-07 and 2007-08 (Table 1.5

Table 1.3

Gross Block* in Top Ten Enterprises

(as on 31.3.2008)

(Rs. in crore)

Sl. No	CPSEs	Investment in terms of Gross Block	Share in total Gross Block (%)
1.	Oil & Natural Gas Corporation Ltd.	134186	15.56
2.	Bharat Sanchar Nigam Ltd.	127248	14.76
3.	NTPC Ltd.	75846	8.80
4.	Indian Oil Corporation Ltd.	66002	7.66
5.	Power Grid Corporation of India Ltd.	44175	5.12
6.	Steel Authority of India Ltd.	33312	3.86
7.	Nuclear Power Corporation of India Ltd.	30441	3.53
8.	NHPC Ltd.	28035	3.25
9.	Hindustan Petroleum Corporation Ltd.	22886	2.65
10.	National Aviation Company of India Ltd.	22627	2.63
	Total (Top Ten CPSEs)	584758	67.91
	Total Gross Block	862204	100.00

Note: * Gross Block, inclusive of ‘capital works in progress’.

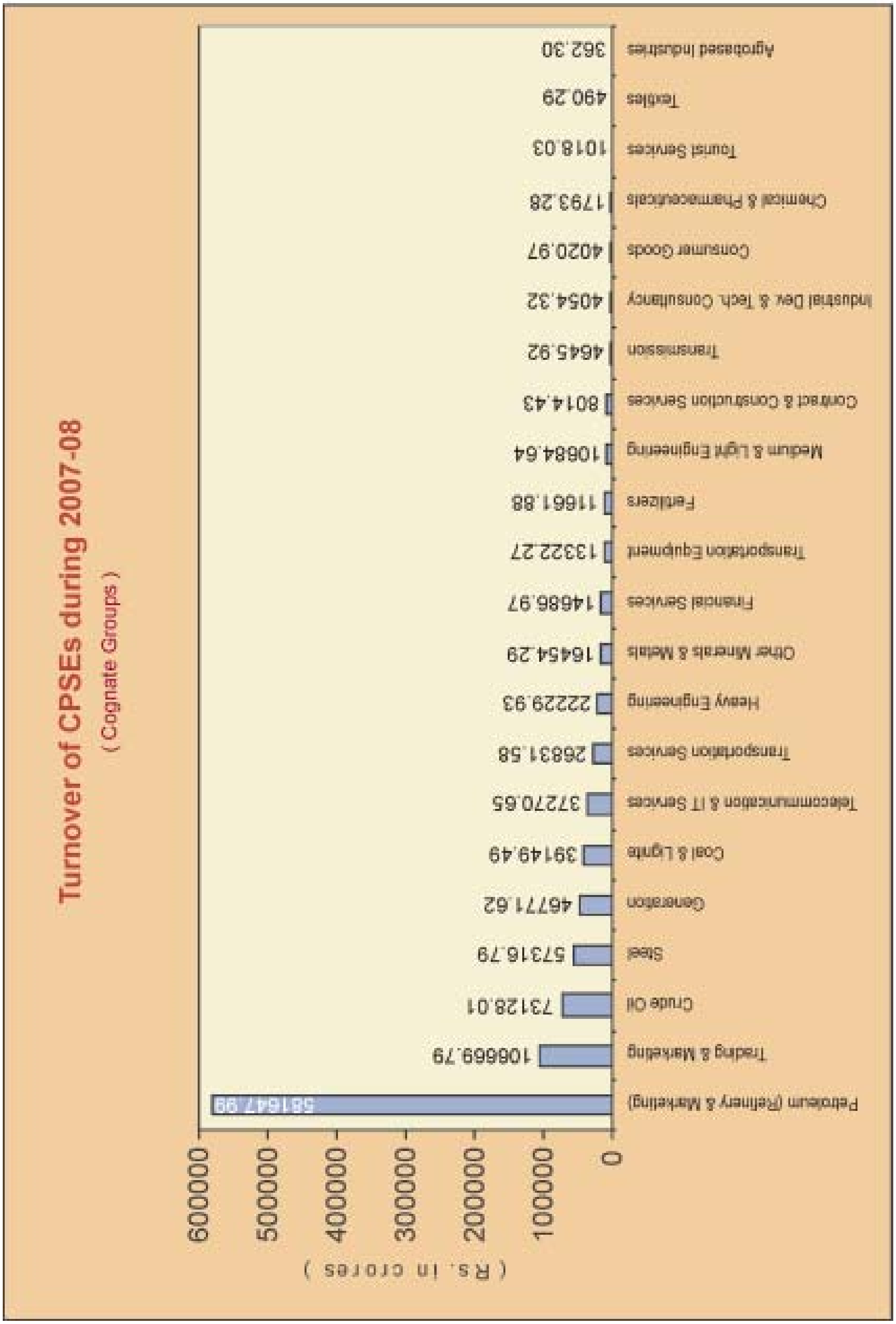
Table 1.4

Financial Investment in CPSEs

(as on 31.3.2008)

(Rs.in crore)

Sl. No.	Sector	Cumulative Net Investment as on		Investment during 2007-08	Share in total investment as on 31.3.08 (in%)
		31.3.2008	31.3.2007		
(1)	(2)	(3)	(4)	(5)	(6)
1.	Agriculture	182.22	181.49	0.73	0.04
2.	Mining	40230.90	42042.04	-1811.14	8.83
3.	Manufacturing	101217.72	95620.13	5597.59	22.23
4.	Electricity	127300.32	119093.93	8206.39	27.95
5.	Services	183994.86	162079.39	2915.47	40.40
6.	Under Construction	2483.23	1459.26	1023.97	0.55
	Total	455409.25	420476.24	34931.01	100.00



Turnover of CPSEs during 2007-08
(Cognate Groups)
(Rs. in crores)
600000
500000
400000
300000
200000
100000
0
Petroleum (Refinery & Marketing) 581647.99
Trading & Marketing 106669.79
Crude Oil 73128.01
Steel 57316.79
Generation 46771.62
Coal & Lignite 39149.49
Telecommunication & IT Services 37270.65
Transportation Services 26831.58
Heavy Engineering 22229.93
Other Minerals & Metals 16454.29
Financial Services 14686.97
Transportation Equipment 13322.27
Fertilizers 11661.88
Medium & Light Engineering 10684.64
Contract & Construction Services 8014.43
Transmission 4645.92
Industrial Dev. & Tech. Consultancy 4054.32
Consumer Goods 4020.97
Chemical & Pharmaceuticals 1793.28
Tourist Services 1018.03
Textiles 490.29
Agrobased Industries 362.30

Fig. 1.6

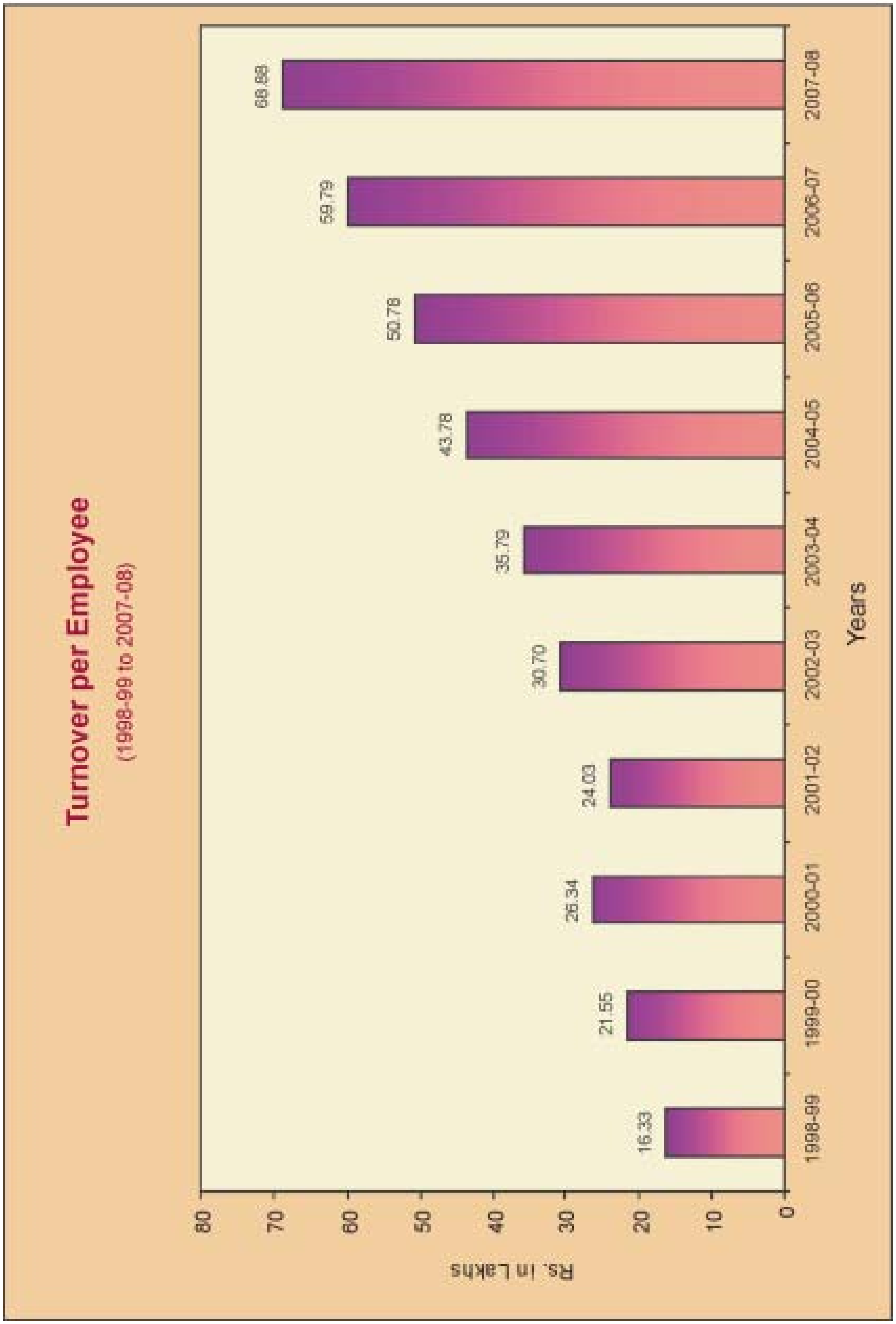

Turnover per Employee
(1998-99 to 2007-08)
Rs. in Lakhs
0
10
20
30
40
50
60
70
80
16.33
21.55
26.34
24.03
30.70
35.79
43.78
50.78
59.79
68.88
1998-99
1999-00
2000-01
2001-02
2002-03
2003-04
2004-05
2005-06
2006-07
2007-08
Years

Fig. 1.7

Table 1.5
Group-wise Turnover of CPSEs

(Rs. in crore)

Sl. No.	Sector/ Cognate Group	Turnover 31.3.2008	31.3.2007	31.3.2006
(1)	(2)	(3)	(4)	(5)
I. Agriculture				
1	Agro Based Industries	362.30	245.35	172.73
	Sub Total	**362.30**	**245.35**	**172.73**
II. Mining				
2	Coal & Lignite	39149.49	34143.53	34606.90
3	Crude Oil	73128.01	65165.01	54989.17
4	Other Minerals & Metals	16454.29	14056.85	12384.31
	Sub Total	**128731.79**	**113365.39**	**101980.38**
III. Manufacturing				
5	Steel	57316.79	49399.19	41742.28
6	Petroleum(Refinery & Marketing)	581647.99	515941.94	441744.02
7	Fertilizers	11661.88	10452.48	9364.39
8	Chemicals & Pharmaceuticals	1493.28	1179.86	974.95
9	Heavy Engineering	22229.93	19453.81	15037.64
10	Medium & Light Engineering	10684.64	10647.81	9559.73
11	Transportation Equipment	13322.27	12534.49	9618.66
12	Consumer Goods	4020.97	3133.49	1659.63
13	Textiles	490.29	516.13	603.76
	Sub Total	**702868.04**	**623259.20**	**630305.06**
IV. Electricity				
14	Generation	46771.62	41580.17	34633.18
15	Transmission	4645.92	3607.80	3152.80
	Sub Total	**51417.54**	**45187.97**	**37785.98**
V. Services				
16	Trading & Marketing	106669.79	94148.60	81211.80
17	Transport Services	26831.58	25824.05	25527.77
18	Contract & Construction Services	8014.43	6450.99	4452.68
19	Industrial Development & Tech. Consultancy Services	4054.32	3492.90	3246.01
20	Tourist Services	1018.03	1029.63	671.45
21	Financial Services	14686.97	12252.99	10185.26
22	Telecommunication Services	37270.65	39638.49	41756.04
	Sub Total	**198545.77**	**182837.65**	**167051.01**
	Total	1081925.44	964895.56	837295.16

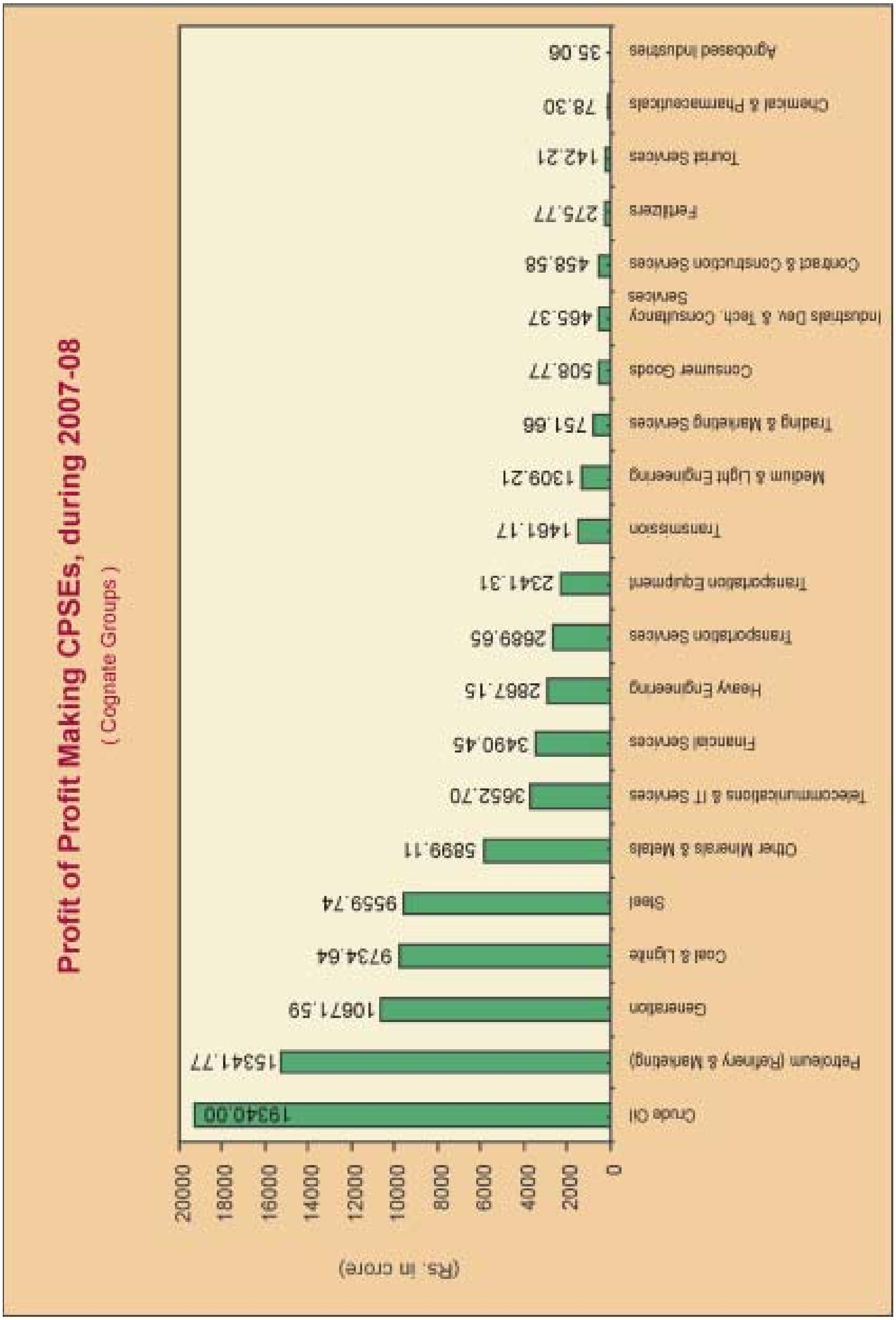

Profit of Profit Making CPSEs, during 2007-08
(Cognate Groups)
(Rs. in crore)
20000
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
19340.00
15341.77
10671.59
9734.64
9559.74
5899.11
3652.70
3490.45
2867.15
2689.65
2341.31
1461.17
1309.21
751.66
508.77
465.37
458.58
275.77
142.21
78.30
35.06
Crude Oil
Petroleum (Refinery & Marketing)
Generation
Coal & Lignite
Steel
Other Minerals & Metals
Telecommunications & IT Services
Financial Services
Heavy Engineering
Transportation Services
Transportation Equipment
Transmission
Medium & Light Engineering
Trading & Marketing Services
Consumer Goods
Industrials Dev. & Tech. Consultancy Services
Contract & Construction Services
Fertilizers
Tourist Services
Chemical & Pharmaceuticals
Agrobased Industries

Fig. 1.8

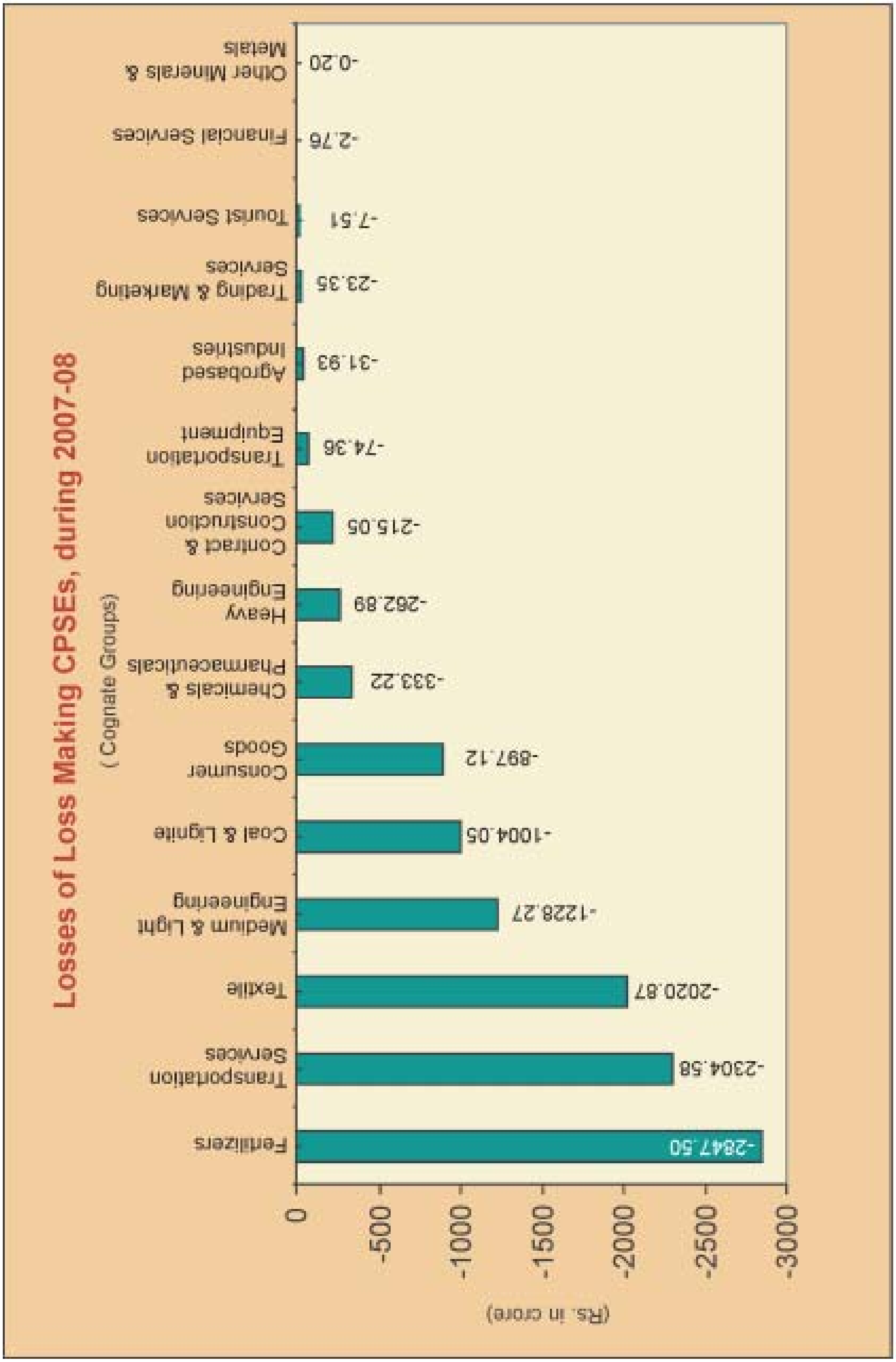

Losses of Loss Making CPSEs, during 2007-08
(Cognate Groups)
(Rs. in crore)
0
-500
-1000
-1500
-2000
-2500
-3000
Fertilizers
Transportation Services
Textile
Medium & Light Engineering
Coal & Lignite
Consumer Goods
Chemicals & Pharmaceuticals
Heavy Engineering
Contract & Construction Services
Transportation Equipment
Agrobased Industries
Trading & Marketing Services
Tourist Services
Financial Services
Other Minerals & Metals
-2847.50
-2304.58
-2020.87
-1228.27
-1004.05
-897.12
-333.22
-262.89
-215.05
-74.36
-31.93
-23.35
-7.51
-2.76
-0.20

Fig. 1.9

& 1.6). Part of the growth in turnover is on account of rise in prices (Fig. 1.6). The turnover per employee has also been continuously rising over the years (Fig. 1.7).

Table 1.6
Sector-wise Growth in Turnover of CPSEs
(2005-06 to 2007-08)

(in %)

Sector	2007-08	2006-07	2005-06
Mining	13.55	11.06	6.75
Manufacturing	12.77	17.53	17.29
Electricity	13.79	19.59	18.25
Services	9.18	9.16	1.52
Total	**12.24**	**15.18**	**12.49**

1.6 Share of select items in domestic/ national production

Table 1.7 shows the market share of CPSEs in the domestic (national) supply of goods and services of select items. The CPSEs continue to have complete monopoly in nuclear power generation. In other areas/items, however, there has been a general decline in the market share of CPSEs over the period 1997-98 to 2007-08. Despite the decline, CPSEs have the major share in output of hard coal (84%), coking coal (79%), crude oil (85%), natural gas (76%), refineries throughput (72%) and wired lines in the telecom sector (89%). In the case of wireless telephony the share of CPSEs has come down significantly to 17 per cent, consequent to the entry of private players. The share of CPSEs in the fertilizer sector also shows a decline; while in the case of 'nitrogenous' fertilizer the share came down from 31 per cent in 1997-98 to 26 per cent in 2007-08, in the case of 'phosphoric" fertilizer the share of CPSEs declined from 26 per cent in 1997-98 to 4 per cent in 2007-08.

1.7 Aggregate Profit and Loss of CPSEs

The net profit of all CPSEs (accounting for the losses of loss making CPSEs) stood at Rs. 79809 crore during 2007-08 as compared to a net profit of Rs 81,122 crore in 2006-07 (Table 1.8). This was, nevertheless, much higher than the net profit of all CPSEs achieved during 2005-06. The profit of profit making CPSEs, furthermore, stood at Rs. 91083 crore in 2007-08, which was higher than Rs. 89578 crore achieved in 2006-07(Table 1.8). The loss of loss making CPSEs, however, stood at Rs. 11254 crore in 2007-08 compared to Rs. 8457 crore in 2006-07 and Rs 6845 crore in 2005-06 (Box 1.2). The losses of loss making CPSEs include also the accounting losses of the closed/non-operating CPSEs, such as, Fertilizer Corporation of India Limited, Hindustan Fertilizer Corporation Limited and Bird Jute & Exports Limited (Fig. 1.8 and Fig. 1.9).

1.7.1 Top Ten Profit & Loss Making CPSEs

Table 1.9 and Table 1.10 provide the list of the top ten profit making and ten highest loss making CPSEs respectively. ONGC Ltd., SAIL and NTPC Ltd. ranked first, second and third amongst the profit making CPSEs, These ten companies, moreover, accounted for 60.05 per cent of the total profits of all profit making CPSEs. Amongst the loss making operating companies, National Aviation Co. of India Ltd., National Textiles Corporation Ltd. and Eastern Coalfields Ltd. are the top three loss making companies. The total net loss of these ten CPSEs amounted to Rs. 7419.79 crore during 2007-08.

1.8 Contribution of CPSEs to the Economy

The share of value addition in CPSEs as per cent of revised GDP (at market price), stood at 8.27 per cent in 2007-08 and 8.66 per cent in 2006-07. Different components of net value addition in CPSEs are shown in Table 1.11. The share of 'indirect taxes & duties (net of subsidies), in net value addition of CPSEs, during 2007-08 stood at 41.66% and that of net profit at 30.35%, salaries & wages at 15.90%, interest at 7.97% and rent, royalty and cess at 4.12%, (Fig. 1.10).

1.9 Contribution to the Central Exchequer

CPSEs contribute to the Central Exchequer by way of dividend payment, interest on government loans and taxes & duties(Table 1.12 and Fig. 1.17). Excise duty

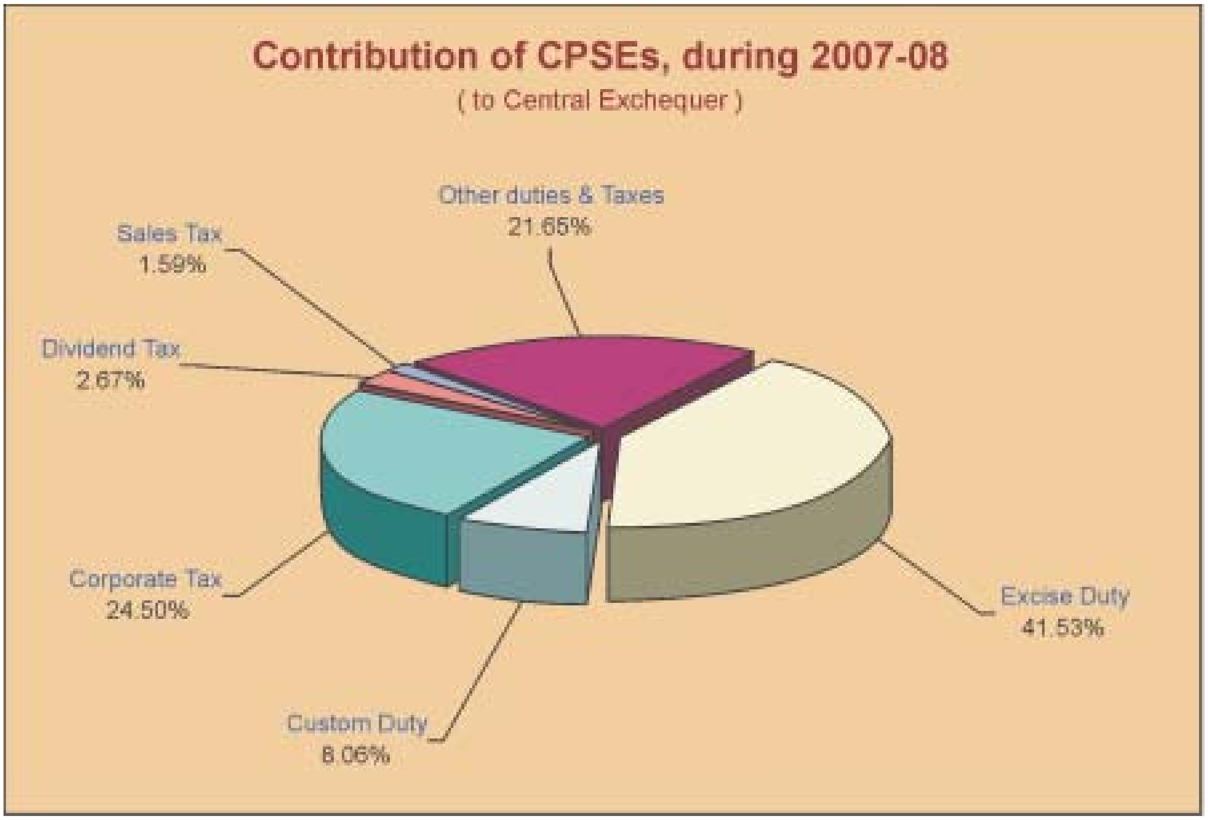


Fig. 1.10

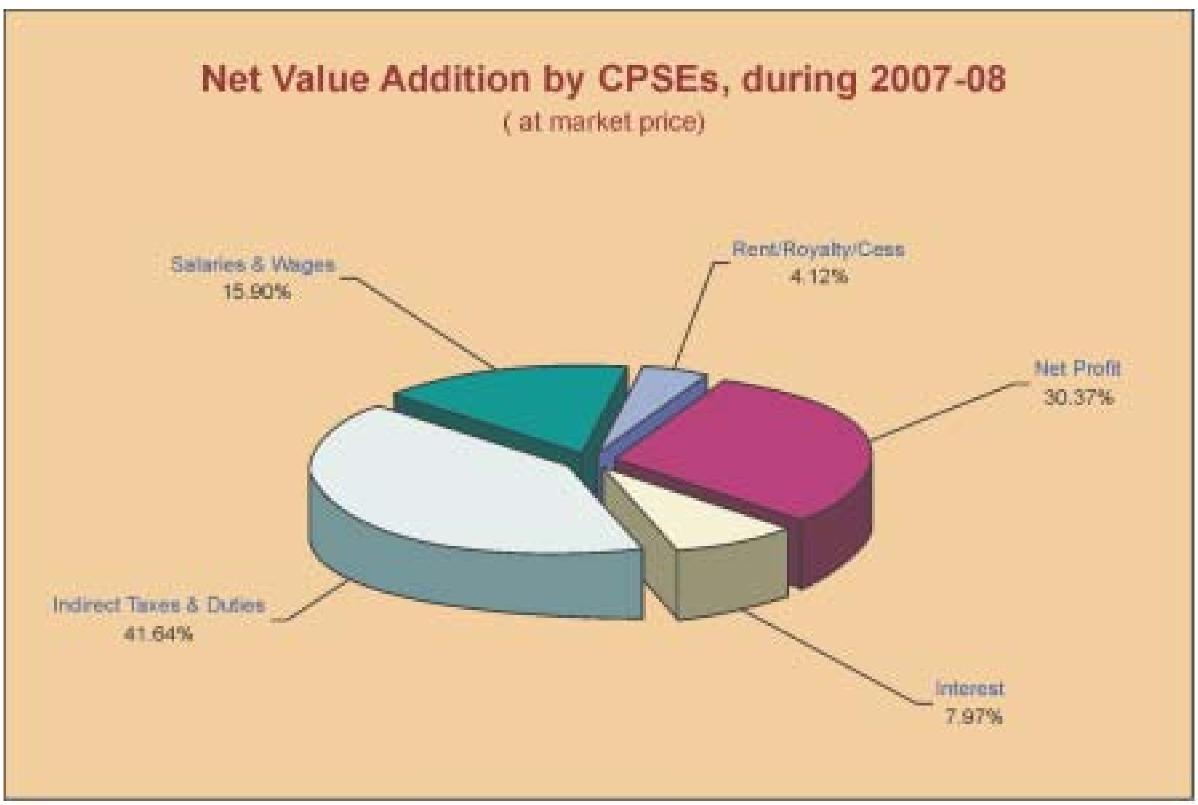


Fig. 1.11

Table 1.7

CPSEs Share in Domestic Output of Select Items

Sl. N.	Select Items	Units	Domestic Production/ Output		Total Output by CPSEs		Share of CPSEs in Domestic Output (%)	
			1997-98	2007-08	1997-98	2007-08	1997-98	2007-08
1	**Coal**							
	1.1 Hard Coal (Non-coking Coal)	Million Tonnes	253.326	422.548	223.474	353.595	88	84
	1.2 Coking Coal	Million Tonnes	43.843	34.455	38.618	27.270	88	79
2	**Petroleum Products**							
	2.1 Crude Oil	MMT	33.9	34.1	31.3	29.0	92	85.
	2.2 Natural Gas	BCM	26.4	32.4	24.7	24.7	94	76.
	2.3 Refineries Throughput	MMT	65.2	156.1	65.2	112.5	100	72.
3	**Power Generation**							
	3.1 Thermal	GWh	336095	558990	138670	240339	41	43
	3.2 Hydro	GWh	74582	123424	21115	41807	28	34
	3.3 Nuclear	GWh	10083	16777	10083	16777	100	100
4	**Telecommunication Services^**							
	4.1 Wired lines	Nos.Million	-	39.42	-	25.23	–	89
	4.2 Wire Less	Nos.Million	-	260.73	-	44.31	–	17
5	**Fertilizers**							
	5.1 Nitrogenous	Lakh MT	100.86	109.00	31.76	28.87	31	26
	5.2 Phosphoric	Lakh MT	29.76	38.07	7.26	1.61	24	4

Notes: MMT: Million Metric Tonnes, MCM: Million Cubic Metres

was the largest component towards this contribution (41.53%) during 2007-08, followed by corporate taxes (24.50%) and other duties and taxes (21.65%).

1.10 Disinvestment

Disinvestment of Government equity in CPSEs began in 1991-92. Till 1999-2000, disinvestment was primarily through sale of minority shares in small lots. From 1999-2000 till 2003-04, the emphasis of disinvestment changed in favour of strategic sale. At present, the emphasis is to list large, profitable CPSEs on domestic stock exchanges and to selectively sell small portions of equity in listed, profitable CPSEs (other than the Navratnas). The proceeds from disinvestment from April 1991 to 31st. March, 2008 amounted to Rs. 53,423.03 crore.

The National Common Minimum Programme (NCMP) outlines the present policy of the Government with respect to CPSEs. The salient features of this policy are as follows:

(i) The Government is committed to a strong and effective public sector whose social objectives are met by its commercial functioning. But for this, there is need for selectivity and a strategic focus. The Government is pledged to devolve full managerial and commercial autonomy to successful, profit-making companies operating in a competitive environment.

Table 1.8

Net Profit/Loss of CPSEs

(Rs.in crore)

Sl.No.	Sector/ Cognate Group	31.3.2008	31.3.2007	31.3. 2006
(1)	(2)	(3)	(4)	(5)
I. Agriculture				
1	Agro Based Industries	3.13	-1.58	-21.31
Sub Total		**3.13**	**-1.58**	**-21.31**
II. Mining				
2	Coal & Lignite	8790.59	8852.39	8215.72
3	Crude Oil	19340.00	18335.46	16770.16
4	Other Minerals & Metals	5898.91	5246.05	4039.23
Sub Total		**34029.50**	**32433.90**	**29025.11**
III. Manufacturing				
5	Steel	9559.74	7612.70	5307.20
6	Petroleum(Refinery & Marketing)	15341.77	15107.36	9411.17
7	Fertilizers*	-2571.73	-2474.77	-1990.11
8	Chemicals & Pharmaceuticals	-254.92	-134.47	-436.74
9	Heavy Engineering	2604.26	2123.34	976.56
10	Medium & Light Engineering	80.94	-27.50	-30.89
11	Transportation Equipment	2267.55	1816.41	1044.50
12	Consumer Goods	-388.35	-212.92	143.15
13	Textiles	-2020.87	-1348.38	792.60
Sub Total		**24618.39**	**22461.77**	**15217.44**
IV. Electricity				
14	Generation	10671.59	10883.43	9078.79
15	Transmission	1461.17	1232.30	1009.38
Sub Total		**12132.76**	**12115.73**	**10088.17**
V. Services				
16	Trading & Marketing	728.31	432.49	357.81
17	Transport Services**	385.07	1962.63	2527.80
18	Contract & Construction Services	243.53	-80.47	-190.36
19	Industrial Development & Tech. Consultancy Services	465.37	393.66	355.65
20	Tourist Services	62.29	53.07	61.84
21	Financial Services	3487.69	2814.53	2604.20
22	Telecommunication Services	3652.70	8528.49	15226.71
Sub Total		**9024.96**	**14112.08**	**20943.65**
	Grand Total	79808.74	81121.90	69536.12

* Major Loss relates to Fertilizer Corporation of India and Hindustan Fertilizer Corporation Ltd.

** The decline in profit of Transport services group is due to heavy loss incurred by the National Aviation Company of India Ltd.

Table 1.9

Top Ten Profit Making CPSEs

(Rs. in crore)

Sl No.	Name of CPSEs	Net profit 2007-08	%age share
1.	Oil & Natural Gas Corporation Ltd.	16701.65	18.33
2.	Steel Authority of India Ltd.	7536.78	8.27
3.	NTPC Ltd.	7414.81	8.14
4.	Indian Oil Corporation Ltd.	6962.58	7.64
5.	National Mineral Development Corpn. Ltd.	3250.98	3.57
6.	Bharat Sanchar Nigam Ltd.	3009.39	3.30
7.	Bharat Heavy Electricals Ltd.	2859.34	3.14
8.	GAIL (INDIA) Ltd.	2601.46	2.85
9.	Coal India Ltd.	2453.80	2.69
10.	Rashtriya Ispat Nigam Ltd.	1942.74	2.13
	Total	54733.53	60.05

Table 1.10

Ten Highest (operating) Loss Incurring CPSEs

(Rs. in crore)

Sl No.	Name of CPSEs	Net Loss 2007-08	% age share
1.	National Aviation Co. of India Ltd.	(-) 2226.16	19.79
2.	National Textile Corporation (Holding Co.) Ltd.	(-) 1514.67	13.46
3.	Eastern Coalfields Ltd.	(-)1004.05	8.92
4.	Hindustan Photo Films Manufacturing Co. Ltd.	(-)789.48	7.01
5.	National Jute Manufacturers Corporation Ltd.	(-)487.13	4.33
6.	Hindustan Cables Ltd.	(-)435.00	3.87
7.	ITI Ltd.	(-)366.82	3.26
8.	Indian Drugs & Pharmaceuticals Ltd.	(-)298.24	2.65
9.	Burn Standard Company Ltd.	(-)151.29	1.34
10.	HMT Watches Ltd.	(-)146.95	1.31
	Total	(-) 7419.79	65.48

Note : Since Fertilizer Corporation of India Ltd. and Hindustan Fertilizer Corporation Ltd are non-functional CPSEs, they have not been included here.

(ii) Generally, profit-making companies will not be privatized. All privatizations will be considered in a transparent and consultative case-by-case basis. The Government will retain existing "Navratna" companies in the public sector while these companies may raise resources from the capital market. All efforts will be made to modernize and

Table 1.11

Components of Net Value Addition in CPSEs

(Rs in crore)

Sl No	Net Value Addition	2007-08	%	2006-07	%
1.	Net Profit (before Tax & EP)	122838	30.37	111613	30.71
2.	Interest	32240	7.97	27455	7.56
3.	Indirect Taxes & Duties (net of subsidies)	168433	41.64	157621	43.38
4.	Salaries & Wages	64306	15.90	52586	14.47
5.	Rent, royalty and cess	16666	4.12	14092	3.88
	Total	404483	100.00	363367	100.00

Table 1.12

Contribution to the Central Exchequer

(Rs in crore)

	Particulars		2007-08	2006-07	2005-06
I.	**On Investment by CPSEs**				
	1.	Dividend	19423.47	1896743	15200.85
	2.	Interest	749.03	1975.08	138.22
		Total (I)	**20172.50**	**20942.51**	**15339.07**
II.	**Taxes and Duties (Central)**				
	1.	Excise Duty	68932.20	64022.87	53278.48
	2.	Customs Duty	13385.59	11045.37	8601.18
	3.	Corporate Tax	40670.64	32328.41	26046.69
	4.	Dividend Tax	4434.41	3867.33	3242.94
	5.	Sales Tax	2640.84	2698.34	5026.70
	6.	Other Duties & Taxes	15757.62	13884.33	13920.87
		Total (II)	**145821.30**	**127846.65**	**110116.86**
	Grand Total (I+II)		165993.80	148789.16	125455.93

restructure sick public sector companies and revive sick industry. The chronically loss-making companies will either be sold-off, or closed, after all the workers have got their legitimate dues and compensation. The Government will induct private industry to turn around companies that have potential for revival.

(iii) The Government believes that privatization should increase competition, not decrease it. It will not support the emergence of any monopoly that only restricts competition. It also believes that there must be a direct link between privatization and social needs, for example, the use of privatization revenues for designated social schemes. Public sector companies and nationalized banks will be encouraged to enter the capital market to raise resources and offer new investment avenues to retail investors.

The Government vide its decision dated 27.1.2005 constituted a "National Investment Fund" (NIF) into which the proceeds from disinvestment of Government equity in CPSEs would be channelised. NIF would be maintained outside the Consolidated Fund of India and would be professionally managed by selected Public Sector Mutual Funds for providing sustainable returns without depleting the corpus. As high as 75 per cent of the annual income of NIF will be used to finance selected social sector schemes to promote education, health and employment. The residual 25 per cent of the annual income of NIF will be used to meet the capital investment requirements of profitable and revivable CPSEs. During 2007-08, the process of Initial Public Offerings (IPOs) of Power Grid Corporation of India Ltd and Rural Electrification Corporation India Ltd were completed and Rs. 994.82 crore and Rs. 819.63 crore respectively were realized by the Government. The entire amount has been transferred to the NIF.

1.11 Revival of Sick PSEs

Sickness in CPSEs has been a continuing concern of the Government. The reason for sickness varies from enterprise to enterprise. In some cases, the cause of sickness is historical; textile companies which were taken over from the private sector on social consideration for protecting employment of workers in early seventies could not be modernized quickly. British India Corporation, Birds Jute & Exports and NTC belong to this group. Besides textile Companies, there are other enterprises as well which were taken over from the private sector but could not be modernized. These include engineering and refractory enterprises, such as, Bharat Wagons & Engineering, Biecco Lawrie, Burn Standard, Braithwaith & Co., Richardsan and Crudass Ltd.; drug companies like Bengal Chemicals & Pharmaceuticals Ltd.; transportation/ shipping companies like Hooghly Dock & Port Engineers Ltd., Central Inland Water Transport Corporation and consumer goods companies like Tyre Corpn. of India and Hooghly Printing Co. Ltd.

The other groups of sick companies (other than taken over) are greenfield companies. These became sick over the years on account of obsolete technology, high input cost, high overhead cost and the administrative price mechanism. These include fertilizer companies such as Fertilizer Corporation of India, Hindustan Fertilizer Corporation, chemicals and drug companies like Indian Drugs & Pharmaceuticals Ltd., Hindustan Insecticides Ltd., and Hindustan Antibiotics Ltd. etc.

Some companies have been set up for serving national objectives like the development of backward areas. The Nagaland Pulp & Paper Company Ltd., Manipur State Drugs & Pharmaceuticals Ltd., North Eastern Regional Agricultural Marketing Corporation Limited are examples of such enterprises. These companies have been suffering from losses from inception on account of inadequate infrastructure in the region etc.

In addition to the above reasons, some common problems faced/ being faced by sick and loss making CPSEs include adverse market/ administrative prices, stiff competition, weak marketing strategies, low capacity utilization and high interest rates. Attempts have, therefore, been made to overcome "sickness" in these CPSEs through various policy initiatives. The Statement on Industrial Policy (1991), the different Budget Speeches over the years and other policy pronouncements by the Government have addressed this issue from time to time.

A company is termed sick if at the end of any financial year, it has accumulated net losses equal to or exceeding its entire net worth. Such industrial company is required to be referred to BIFR for formulation of rehabilitation/ revival plan. The problem of sickness in CPSEs is addressed ultimately by the administrative Ministries/ Departments in the Government by evolving appropriate need based strategy concerning a particular PSE. As many as 67 sick industrial CPSEs were registered with BIFR upto 30.6.2008; out of these 5 CPSEs have been declared no longer sick and the cases of another 6 CPSEs have been dropped due to their net worth becoming positive. The case of Elgin Mills Co. Ltd. has been deregistered by the BIFR.

The Government, moreover, set up a Board for Reconstruction of Public Sector Enterprises (BRPSE) in December, 2004 to advise the Government inter-alia on the measures to be taken to restructure/revive PSEs (both industrial and non-industrial), including cases where disinvestments or closure or sale are justified. The concerned administrative Ministries are required to refer the proposals of their CPSEs identified as 'sick' for consideration of the BRPSE. Till 31.10.2008 BRPSE has made recommendations in respect of 54 CPSEs, and Government has approved the proposals of 35 cases including two CPSEs, namely, Bharat Yantra Nigam Nigam Ltd. and Bharat Ophthalmic Glass Ltd. for closure. Out of these 54 cases, the Government has approved revival proposals in respect of 33 cases of CPSEs and winding up of two enterprises namely Bharat Ophthalmic Glass Ltd. and Bharat Yantra Nigam Ltd. as on 15.12.2008. Out of the 33 cases of revival approved by the Government till 15.12.2008, 15 were approved during 2005-06, 10 cases during 2006-07, 3 cases during 2007-08 and 5 cases have been approved during 2008-09. The restructuring/revival proposals approved by the Government involved a total expenditure of Rs.14312 crore including Rs.2884 crore as cash assistance and Rs.11428 crore as non-cash assistance. The enterprise-wise details of cash and non-cash assistance in respect of revival proposals are given in Annex-12.2. The Government have transferred Bharat Heavy Plates and Vessels Ltd. to BHEL on 28.11.2007 and approved merger of Bharat Refractories Ltd. with SAIL on 24.4.2008.

1.12 Board Structure of CPSEs

The Department of Public Enterprises (DPE) formulates policy guidelines on the Board structure of Central Public Sector Enterprises (CPSEs) and advises on the shape and size of their organizational structure. CPSEs are categorized into four Schedules namely 'A', 'B', 'C' and 'D', based on various quantitative, qualitative and other factors. The pay scales of Chief Executives and full time Functional Directors in CPSEs are determined as per the schedule of the concerned enterprise.

Proposals received from the administrative Ministries/Departments for categorization/ upgradation of PSEs are examined in DPE in consultation with PESB. During 2007-08, two CPSEs were categorized in appropriate schedules, one CPSE was upgraded to higher schedule and 5 new posts of Functional Directors were created.

As on 31.3.2008, there were 242 CPSEs, of which 56 were in Schedule 'A', 74 in Schedule 'B', 47 were in Schedule 'C' and 6 are in Schedule 'D'. The rest (59) are covered under the uncategorized category. The details of the Board level posts (whole time) in the categorized CPSEs are given below (Table 1.13).

Table 1.13

Board Level Executives in CPSEs

Schedule of CPSEs	Chief Executive		Whole Time Director	
	2007	2008	2007	2008
Schedule A	54	56	*	*
Schedule B	77	74	201	202
Schedule C	48	47	181	185
Schedule D	06	06	67	67
Total	185	183	449	454

Note: *Whole time Directors are one level scheme below that of the Chief Executive.

1.13 Corporate Governance

The concept of corporate governance has generated extensive debate during the last three years due to the fast changing economic scenario across the world. It is a code of corporate conduct in relation to all the stake holders, whether internal or external. Corporate governance ensures transparency in management systems, and encompasses the entire functioning of the company.

In pursuance to the stipulations in the National Common Minimum Programme (NCMP), inter-alia, to devolve full managerial and commercial autonomy to successful profit making companies operating in a competitive environment, the Government delegated enhanced powers to Navratna , Mini Ratna and other Profit Making CPSEs in August, 2005. This has resulted in greater public accountability of these enterprises. The Government, therefore, approved comprehensive Guidelines on corporate governance, as prepared by the Department of Public Enterprises keeping in view relevant laws, instructions and procedures. These guidelines are under implementation by the CPSEs.

1.14 Professionalization of Boards

In pursuance to the public sector policy being followed since 1991, several measures have been taken by the Department of Public Enterprises (DPE) to professionalize the Boards of public enterprises. The guidelines issued by DPE 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 an 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 Government Directors. 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.

The proposals for appointment of non-official Directors are initiated by the concerned Administrative Ministries/Departments. In so far as Navratna and Miniratna CPSEs are concerned, the selection of non-official Directors is made by the Search Committee consisting of Chairman (PESB), Secretary (DPE), Secretary of the administrative Ministry/Department of the CPSE, Chief Executive of the concerned CPSE and non-official Members. In the case of remaining CPSEs (other than Navratna / Miniratna CPSEs), Public Enterprises Selection Board (PESB) makes the selection of non-official Directors. The concerned Administrative Ministry/Department appoints the non-official Directors on the basis of recommendations of Search Committee/PESB after obtaining the approval of competent authority, i.e. Appointments Committee of Cabinet (ACC).

1.15 Wages/ Salaries and Employees Welfare

The Department of Public Enterprises functions as the nodal Department, inter-alia, in respect of policy relating to wage settlements of unionized employees, pay revision of non-unionized supervisors and executives holding posts below the Board level as well as at the Board level in CPSEs. The Department renders advice to the administrative Ministries/ Departments and the CPSEs in matters relating to the wage policy and revision in the scales of pay of executives. The CPSEs are largely following Industrial Dearness Allowance (IDA) pattern scales of pay and in some cases Central Dearness Allowance (CDA) pattern scales of pay.

1.15.1 Industrial Dearness Allowance (IDA)

Government policy relating to pay scales and pay pattern is that all employees of CPSEs should be on IDA pattern and related scales of pay. Instructions had been issued by the DPE in July, 1981 and July, 1984 to all the administrative Ministries that as and when a new CPSE is created or established, IDA pattern and related scales of pay should be adopted *ab initio*. There are 242 CPSEs (excluding Banks, Insurance Companies etc.) under the administrative control of the Central Government. They employ approximately 15.70 lakh workmen, clerical staff and executives. Out of this, around 96% of the workmen and executives are on IDA pattern and related scales of pay. The last pay revision for the IDA executives and non-unionized supervisors was done w.e.f 1.1.2007 for a period of ten years based on the recommendations of 2nd. Pay Revision Committee headed by Justice M.J.Rao Committee, which submitted its report to the Government on 30.5.2008. The guidelines in this regard have been issued on 26.11.2008.

DPE vide its OM dated 9.11.2006 has issued the policy guidelines for the 7th Round of Wage Negotiations (which falls due on a general basis from 01.01.2007) with the unionized workmen of CPSEs. The management of CPSEs have freedom to negotiate revision of pay scales for the workmen within certain conditions. The guidelines are broadly similar to the earlier policy on the Sixth Round of Wage Negotiations. DPE vide its OM dated 01.05.2008 have allowed administrative Ministries/Departments concerned with CPSEs to take decision on a case to case basis for the periodicity of wage settlement below 10 years but not less than 5 years with the approval of their Minister.

1.15.2 Central Dearness Allowance (CDA)

CDA pattern pay scales are applicable to some of the clerical staff, unionized cadres and executives of the 69 CPSEs who were on the rolls of these companies as on 1.1.1986 and upto 31.12.1988 and were in receipt of CDA pattern pay scales during that time. In pursuance of the Supreme Court direction dated 3.5.1990 read with the subsequent directions dated 28.8.1991, IDA pattern and related scales of pay have been introduced in these CPSEs with effect from 1.1.1989.

Out of 69 CPSEs (covered under HPPC) at present, there are 48 CPSEs that are following both CDA and IDA pattern scales of pay. As per the recommendations of the High Power Pay Committee and Supreme Court directives thereon, the employees following CDA pattern of scales of the Central Public Sector Enterprises would get pay revision only when similar changes are effected for the Central Government employees. Accordingly, the recommendation of 6th Pay Commission had also been extended w.e.f. 1.1.2006 to the employees of CPSEs following CDA pattern of scales.

1.16 Employment

As on 31.3.2008, the 242 CPSEs employed over 15.70 lakh people (excluding casual workers). One-fourth of the manpower was in managerial and supervisory cadres. The CPSEs have thus a highly skilled workforce, which is their basic strength. The details of employment in CPSEs and per capita emoluments are given in Table 1.14 below. The Government also initiated a Voluntary Retirement Scheme (VRS) to help these enterprises to shed excess manpower. The basic parameters of the model (VRS), which were notified by the Government vide Department of Public Enterprises' OM dated 5.10.1988 and 6.1.1989 were in force since 1988 till April, 2000. The Government have improved upon this scheme and introduced new schemes of VRS on 5.5.2000 and again on 6.11.2001. As per available information, about 5.94 lakh employees opted for Voluntary Retirement Scheme until 31.3.2008.

Table 1.14
Employment and Average Annual Emoluments

Sl No.	Year	No. of Employees (in lakh)	Average Annual per capita emoluments (Rs.)
1.	2001-02	19.92	193554
2.	2002-03	18.66	225986
3.	2003-04	17.62	248481
4.	2004-05	17.00	286112
5.	2005-06	16.49	284123
6.	2006-07	16.14	398496
7.	2007-08	15.70	334956

1.17 Counseling, Retraining and Redeployment (CRR)

Considering the emerging need to have safety net, the Government had established the National Renewal Fund (NRF) in February 1992 to cover broadly the expenses of VRS and to provide retraining to the workers in the organized sector. In the backdrop of on going restructuring exercises in the central enterprises, priority was given to the needs of CPSEs. The NRF was abolished in February, 2000. The scheme for Counseling, Retraining and Redeployment (CRR) for employees of CPSEs was subsequently evolved by the Department of Public Enterprises and is under implementation since 2001-02.

The main elements of the CRR programme are Counseling, Retraining and Redeployment. A new element of sensitization programme has also been included under CRR programme. The Nodal Training Agencies implementing the CRR scheme are required to counsel VRS optees, develop curriculum /

materials, impart training, prepare feasibility reports, do market surveys and interface with credit institutions. CPSEs are, however, the key to the success of the scheme. They are supposed to extend all possible support for the welfare of the separated employees by clearing their compensation/dues before release. Till 31.3.2008, 136551 persons have been trained under the CRR programme.

1.18 Memorandum of Understanding

The Memorandum of Understanding (MoU), as applicable to public sector enterprises, is a negotiated document between the Government and the management of the enterprise specifying clearly the objectives of agreement and the obligations of both the parties. The main purpose of the MoU system is to ensure a level playing field to public sector enterprises vis-à-vis the private corporate sector. MoU is aimed at providing greater autonomy to public sector enterprises vis-à-vis the control of the Government. The management of the enterprise is, nevertheless, made accountable to the government through promise for performance or ‘performance contract’. The government, nevertheless, continues to have control over these enterprises through setting targets in the beginning of the year and by ‘performance evaluation’ at the end of the year.

Performance evaluation is done based on the comparison between the actual achievements against the annual targets agreed upon between the Government and the CPSE. The targets constitute of both financial and non-financial parameters with different weights assigned to the different parameters. In order to distinguish ‘excellent’ from ‘poor’ achievement, performance during the year is measured on a 5-point scale. Table 1.16 provides a summary of the performance of MoUs signing CPSEs as reflected in their MoU rating during the last five years.

1.19 Market Capitalisation of CPSEs Stocks

There were 45 CPSEs listed on the stock exchanges of India as on 31.03.2008; 4 CPSEs were, however, not being traded during 2007-08. Power Grid Corporation of India Ltd made an Initial Public Offer (IPO) during 2007-08. Altogether, stocks of 41 CPSEs were being traded during 2007-08 on the various stock exchanges of India. The total market capitalization of these 41 CPSEs, based on stock prices on Mumbai Stock Exchange as on 31.03.2007 stood at Rs 679089 crore that increased to Rs 1120061 crore as on 31.3.2008 registering a growth of Rs. 440972 crore or 64.94% over the previous year. Market capitalization of Mumbai Stock Exchange, on the other hand, increased by 44.94% and Sensex increased by 19.67% during this period. M_Cap of all listed CPSEs as percent of BSE M_Cap increased from 19.16% as on 31.03.2007 to 21.80% as on 31.3.2008. The closing price of listed CPSEs in BSE as on 31.3.2007 and 31.3.2008 (as well as M_Cap on these dates) is shown in Annex. 1.1

1.20 Ranking of CPSEs

Since all the public sector enterprises are not listed on the stock exchange, an attempt has been made to rank the public sector enterprises

Table: 1.15

Performance Rating of CPSEs

Rating	2003-04	2004-05	2005-06	2006-07	2007-08
Excellent	54	45	44	46	55
Very Good	21	31	36	37	34
Good	10	12	14	13	15
Fair	11	10	08	06	08
Poor	00	01	00	00	00
Total	96	99	102	102	112

on six parameters of (a) sales (net of excise duty), (b) percentage of change in sales over the previous year, (c) net profit (adjusted net profit), (d) percentage of change in net profit over the previous year, (e) return on equity (f) total Assets(Net Block + Investment + Working Capital). The composite score of CPSEs during 2007-08 based on these parameters is given at Annex. 1.2. This list includes only the profit making CPSEs; out of the profit making CPSEs, moreover, twentyfive CPSEs could not be included for reasons like (a) negative net-worth in the current year, (b) sales/profit have been 'nil', in the previous year, (c) CPSEs that had incurred 'loss' last year and (d) new companies with no financial results in the previous year.

Higher rank (First) is associated with lower numerical value (1). The composite score, in turn, is the summation of the respective ranks of each CPSE under the different paremeters. As such, while Indian Oil Corporation Limited ranks first in terms of 'net sales', it goes down to 24th position on account of its lower ranking on other paremeters. No weight has been given to the different paremeters.

Annex. 1.1

Growth In Market Capitalization of Listed & Traded CPSEs
(2007 to 2008)

(Rs. in crores)

Sl No.	CPSE	BSE Closing Market price (as on 30.03.2007)	BSE Closing Market price (as on 30.03.2008)	Market Capitali-zation as on 31.03.2007	Market Capitali-zation as on 31.03.2008	Increase in Mkt Cap(%)
1	MMTC Ltd	2237.00	21794.20	11185.00	108971.00	874.26
2	Hind Copper Ltd.	83.05	236.05	7881.03	18133.79	130.09
3	Steel Authority Of India Ltd	114.10	184.75	47127.86	76309.14	61.92
4	Container Corporation Of India Ltd	1908.50	1728.35	12403.34	11232.55	-9.44
5	Bharat Electronics Ltd	1501.00	1057.00	12008.00	8456.00	-29.58
6	NTPC Ltd.	149.75	197.00	123475.76	162435.56	31.55
7	Maharashtra Elecktrosmelt Ltd	92.40	446.40	221.76	1071.36	383.12
8	Shipping Corporation Of India	174.35	198.10	4921.90	5592.36	13.62
9	HMT LTD	71.70	70.40	3462.54	3295.92	-4.81
10	Bharat Heavy Electrical Corpn Ltd	2260.75	2056.55	55334.12	100672.24	81.94
11	Oil & Natural Gas Corporation Ltd	878.15	981.35	187826.63	209899.97	11.75
12	Rashtriya Chemicals And Fertilizers Ltd.	35.05	52.05	1933.67	2871.55	48.50
13	Andrew Yule & Company Ltd	22.35	29.65	130.23	172.77	32.67
14	Hind Organic Chemicals	34.15	38.35	229.73	257.98	12.30
15	National Mineral Dev. Corporation	1980.00	10346.80	26167.68	136743.31	422.57
16	Chennai Petroleum Corporation Ltd	187.90	279.65	2799.71	4258.04	52.09
17	State Trading Corp. of India Ltd.	144.75	329.20	434.25	1975.20	354.85
18	GAIL (India) Ltd	264.55	424.85	22371.67	35927.44	60.59
19	Scooter India Ltd	21.30	23.00	91.59	91.98	0.43
20	Mahanagar Telephone Nigam Ltd	146.70	96.55	9242.10	6082.65	-34.19
21	Mangalore Refinery And Petrochemicals Ltd	33.85	77.85	5964.67	13717.87	129.99
22	National Aluminium Company Ltd	233.15	451.70	15022.09	29103.48	93.74
23	Dredging Corporation	475.90	647.50	1332.52	1813.00	36.06
24	Bharat Immunological	11.14	26.55	48.10	67.41	40.15
25	Hindustan Petroleum Corpn Ltd	246.70	255.60	8361.65	8663.31	3.61
26	Fertilizer And Chemicals (Travancore)	20.30	22.35	720.18	792.91	10.10
27	Bharat Earth Movers	1083.60	990.30	3995.23	4149.36	3.86
28	Balmer Lawri Investments Ltd	88.05	84.30	195.47	187.15	-4.26
29	Bharat Petroleum Corpn Ltd	302.25	411.25	10927.55	14868.33	36.06

30	Balmer Lawri & Co Ltd	410.70	371.35	669.03	623.50	-6.81
31	National Fertilisers Ltd	27.55	39.80	1351.55	1952.51	44.46
32	Indian Oil Corporation Ltd.	399.60	445.60	46673.68	53130.86	13.83
33	Neyvelli Lignite Corpn Ltd	50.40	119.90	8455.66	20115.74	137.90
34	Bongaigaon Refinery	40.90	48.85	817.26	976.12	19.44
35	Madras Fertilizers Ltd	9.20	11.55	149.17	187.27	25.54
36	ITI Ltd.	37.85	34.30	2225.58	2016.84	-9.38
37	Engineers (I) Ltd	452.55	666.60	2541.52	3743.63	47.30
38	Power Finance Corpn.	104.30	162.15	11971.24	18611.04	55.46
39	Power Grid Corpn. Of India Ltd @	52.00	97.95	19694.53	41225.60	109.33
40	Indian Tourism Development Corpn.$	78.10	82.00	527.33	553.66	4.99
41	Rural Electrification Corporation @	105.00	106.10	8196.30	9110.38	11.15
I.	Total M_CAP of CPSEs	–	–	679089	1120061	64.94%
II.	Total M_CAP of BSE	–	–	3545041	5138014	44.94%
III.	BSE SENSEX	–	–	13072	15644	19.67%
IV	M_ CAP of CPSEs as % of BSE M_Cap	–	–	19.16%	21.80%	—

Note : # Stocks of 1. Hindustan Fluorocarbon Ltd., 2. Hindustan Photo Film Corpn Ltd., 3. IRCON International 4. Kudurmukh Iron Ore did not have trading on the stock exchanges

© Stocks of Power Grid Corporation and Rural Electrification Corporation were listed in 2007-08. Hence, the issue price for IPO has been taken as the closing price on 31.03.2007

$ ITDC was not being regularly traded during 2006-07. Hence, price on 03.07.2007 has been taken as closing price on 31.03.2007.

FINANCIAL RANKING OF CPSEs (2007-08)

CPSE	NetSales 07-08	% of Change in Net Sales	Net Profit/ Loss(-) 07-08	% of Change in Net P/L	Rank on Return on Equity 07-08	Total Assets 07-08	Composite Score	Rank
National Mineral Development Corpn. Ltd.	21	23	5	45	10	23	127	1
Mangalore Refinary & Petrochemicals Ltd.	7	68	19	14	19	29	156	2
Steel Authority of India Ltd.	5	58	2	65	23	11	164	3
Manganese Ore (India) Ltd.	56	6	35	5	4	60	166	4
Chennai Petroleum Corporation Ltd.	9	67	22	18	25	30	171	5
Rashtriya Ispat Nigam Ltd.	14	65	10	42	43	19	193	6
Hindustan Aeronautics Ltd.	15	83	14	43	7	34	196	7
M S T C Ltd.	26	10	63	32	17	53	201	8
Northern Coalfields Ltd.	23	55	12	57	29	28	204	9
South Eastern Coalfields Ltd.	17	24	18	82	27	36	204	10
Neyveli Lignite Corpn. Ltd.	40	20	23	20	82	21	206	11
National Bldg. Constn. Corpn. Ltd.	47	26	43	6	2	83	207	12
Bharat Heavy Electricals Ltd.	11	79	7	69	32	20	218	13
Mahanadi Coalfieldls Ltd.	32	57	13	68	16	32	218	14
Power Finance Corporation	27	31	20	64	79	5	226	15
ONGC Videsh Ltd.	18	5	27	108	53	16	227	16
Oil & Natural Gas Corporation Ltd.	4	95	1	87	38	2	227	17
Rural Electrification Corpn. Ltd.	37	37	26	55	66	6	227	18
Tehri Hydro Development Corp. Ltd.	55	3	41	9	105	22	235	19
STCL Ltd.	44	4	79	15	5	93	240	20
NTPC Ltd.	6	70	3	83	76	4	242	21
GAIL (India) Ltd.	12	78	8	81	47	17	243	22
M M T C Ltd.	10	72	48	31	48	35	244	23
Indian Oil Corporation Ltd.	1	77	4	98	62	3	245	24
Antrix Corporation Ltd.	60	21	51	27	8	78	245	25
Power Grid Corporation Of India Ltd	30	34	17	71	88	7	247	26
Oil India Ltd.	19	76	11	80	44	24	254	27
Kudremukh Iron Ore Co. Ltd	54	1	60	1	111	46	273	28
P E C Ltd.	22	43	74	35	22	77	273	29
Bharat Petroleum Corpn. Ltd.	2	73	16	101	77	9	278	30
Bongaigaon Refinery & Petrochemicals Ltd	20	101	42	30	35	55	283	31
Airports Authority of India Ltd.	35	19	28	93	71	37	283	32
State Trading Corpn. of India Ltd.	13	86	57	44	39	52	291	33
Hindustan Petroleum Corpn. Ltd.	3	63	21	116	87	10	300	34
Indian Railway Finance Corporation Ltd.	42	69	37	89	59	8	304	35
Central Coalfields Ltd.	31	80	32	95	20	51	309	36
Rashtriya Chemicals And Fertilizers	24	14	52	88	89	43	310	37
Maharashtra Elektrosmelt Ltd.	78	22	75	19	13	104	311	38
NHPC Ltd.	45	35	25	84	110	13	312	39
Bharat Electronics Ltd.	34	100	29	74	34	42	313	40
Cochin Shipyard Ltd.	61	61	62	25	28	76	313	41
Container Corporation of India Ltd.	38	88	31	86	40	40	323	42
Engineers India Ltd.	64	40	50	51	63	56	324	43

CPSE	NetSales 07-08	% of Change in Net Sales	Net Profit/ Loss(-) 07-08	% of Change in Net P/L	Rank on Return on Equity 07-08	Total Assets 07-08	Composite Score	Rank
Rail Vikas Nigam Ltd.	53	17	80	11	130	33	324	44
Bharat Pumps & Compressors Ltd.	92	27	78	29	15	88	329	45
Ircon International Ltd.	48	30	58	54	83	59	332	46
National Seeds Corpn. Ltd.	85	16	83	23	26	106	339	47
Western Coalfields Ltd.	28	81	33	99	58	41	340	48
Housing & Urban Dev. Corpn. Ltd.	41	99	38	61	93	12	344	49
Ntpc Electric Supply Company Ltd.	111	8	95	4	1	128	347	50
Railtel Corporation India Ltd.	90	11	70	49	68	69	357	51
Indian Rare Earths Ltd.	81	127	53	13	14	73	361	52
Balmer Lawrie & Co. Ltd.	52	75	65	62	30	80	364	53
National Aluminium Company Ltd.	25	125	15	118	55	26	364	54
Export Credit Guarantee Corpn. of India Ltd.	73	121	36	56	31	50	367	55
Security Printing & Minting Corpn. India	46	12	49	114	108	38	367	56
Numaligarh Refinary Ltd.	16	84	39	120	64	45	368	57
Mishra Dhatu Nigam Ltd.	83	28	76	34	57	91	369	58
India Trade Promotion Organisation	95	18	68	40	80	68	369	59
Coal India Ltd.	84	113	9	102	56	15	379	60
Bharat Sanchar Nigam Ltd.	8	117	6	127	123	1	382	61
Central Warehousing Corpn.	67	91	55	33	84	54	384	62
Hindustan Latex Ltd.	79	32	81	50	49	94	385	63
Shipping Corporation Of India Ltd.	36	110	30	109	72	31	388	64
Hindustan Copper Ltd.	49	107	46	111	11	66	390	65
Electronics Corpn. of India Ltd.	57	106	56	91	18	63	391	66
BEML Ltd.	43	97	47	78	78	48	391	67
NTPC Vidyut Vyapar Nigam Ltd.	63	123	87	7	9	111	400	68
Mumbai Railway Vikas Corporation Ltd.	127	59	84	16	36	81	403	69
Broadcast Engg. Consultants India Ltd.	113	64	92	8	3	124	404	70
Indian Renewable Energy Devt. Agency Ltd.	87	54	71	46	107	44	409	71
Mahanagar Telephone Nigam Ltd.	29	114	34	104	112	18	411	72
Tamil Nadu Trade Promotion Organisation	121	42	98	21	21	108	411	73
Dredging Corpn.of India Ltd.	66	49	54	106	81	57	413	74
National Informatics Centre Services Inc	98	56	73	60	37	92	416	75
North Eastern Electric Power Corporation	58	102	45	70	104	39	418	76
Pawan Hans Helicopters Ltd.	86	62	82	12	97	86	425	77
Nuclear Power Corpn. Of India Ltd.	39	119	24	117	114	14	427	78
WAPCOS Ltd.	93	45	90	58	42	107	435	79
Rajasthan Drugs & Pharmaceuticals Ltd.	100	7	114	48	45	121	435	80
India Tourism Dev. Corpn. Ltd.	75	126	69	37	50	82	439	81
Ennore Port Ltd.	96	39	77	76	90	61	439	82
Hindustan Paper Corporation Ltd.	62	94	64	77	85	58	440	83
RITES Ltd.	70	90	61	100	51	71	443	84
Bharat Dynamics Ltd.	74	98	72	38	92	70	444	85
Karnataka Trade Promotion Organisation	128	29	115	10	46	123	451	86
Bridge & Roof Co.(india) Ltd.	65	36	106	47	106	95	455	87
Cotton Corpn. of India Ltd.	50	115	85	39	102	64	455	88

CPSE	NetSales 07-08	% of Change in Net Sales	Net Profit/ Loss(-) 07-08	% of Change in Net P/L	Rank on Return on Equity 07-08	Total Assets 07-08	Composite Score	Rank
National Fertilizers Ltd.	33	92	59	124	101	47	456	89
Goa Shipyard Ltd.	114	134	67	24	33	84	456	90
Karnataka Antibiotics & Pharmaceuticals	91	13	108	63	75	112	462	91
Engineering Projects (India) Ltd.	59	82	89	75	65	99	469	92
Narmada Hydroelectric Development Corpn.	68	122	40	115	98	27	470	93
Satluj Jal Vidyut Nigam Ltd.	51	118	44	128	113	25	479	94
National Small Industries Corpn. Ltd.	76	48	110	41	116	89	480	95
Certification Engineers International Ltd.	117	41	105	59	41	120	483	96
Donyi Polo Ashok Hotel Ltd.	133	44	132	22	24	133	488	97
Indian Medicines & Pharmaceutical Corpn.	123	52	118	2	70	127	492	98
National Research Devp. Corpn.	125	9	129	3	103	129	498	99
Indian Oil Technologies Ltd.	132	51	126	52	12	131	504	100
Sponge Iron India Ltd.	104	85	104	26	94	103	516	101
BBJ Construction Company Ltd.	102	47	120	53	86	118	526	102
Vignyan Industries Ltd.	112	25	123	85	52	130	527	103
Hindustan Organic Chemicals Ltd.	71	71	93	110	100	85	530	104
Garden Reach Shipbuilders & Engineers Ltd.	72	130	66	123	69	72	532	105
Bharat Bhari Udyog Nigam Ltd.	122	2	133	92	134	49	532	106
Central Cottage Industries Corpn. of Ind	101	128	109	17	54	126	535	107
Ferro Scrap Nigam Ltd.	97	66	116	36	128	96	539	108
Rajasthan Electronics and Instruments Lt	103	74	113	72	67	117	546	109
Educational Consultants (India) Ltd.	109	46	112	94	61	125	547	110
Hindustan Insecticides Ltd.	89	93	103	73	96	101	555	111
National Scheduled Castes Finance & Devp	120	112	100	28	129	67	556	112
Central Mine Planning & Design Institute	88	50	111	79	115	114	557	113
National Handloom Development Corporation	69	15	128	107	121	119	559	114
National Minorities Devp. & Finance Corp	118	89	96	66	125	65	559	115
Projects & Development India Ltd.	106	60	101	113	91	102	573	116
FCI Aravali Gypsum & Minerals (India) Ltd.	110	111	102	67	74	113	577	117
Hindustan Newsprint Ltd.	80	116	86	121	95	87	585	118
Telecommunications Consultants (India)	77	108	94	119	119	75	592	119
HSCC (India) Ltd.	119	103	99	90	73	109	593	120
National Backward Classes Finance & Devp	116	104	88	103	124	62	597	121
Mineral Exploration Corpn. Ltd.	99	53	107	133	109	98	599	122
Uranium Corporation Of India Ltd.	82	105	91	125	127	74	604	123
National Scheduled Tribes Finance & Devp	124	87	97	97	122	79	606	124
National Handicapped Finance & Devpt. Co	131	33	117	105	126	97	609	125
Central Electronics Ltd.	94	38	124	129	120	105	610	126
Artificial Limbs Mfg. Corpn. of India	108	124	119	126	60	110	647	127
Pondicherry Ashok Hotel Corpn. Ltd.	134	132	131	112	6	134	649	128
Braithwaite & Co. Ltd.	105	120	130	96	99	116	666	129
National Safai Karamcharis Finance & Dev	126	96	125	130	133	90	700	130
Bel Optronics Ltd.	107	131	121	132	117	115	723	131
Hmt (International) Ltd.	115	129	127	122	118	122	733	132
Central Inland Water Transport Corpn. Lt	130	133	122	134	131	100	750	133
Hooghly Printing Company Ltd.	129	109	134	131	132	132	767	134

2 INVESTMENT IN CENTRAL PUBLIC SECTOR ENTERPRISES

The aggregate real investment in Central Public Sector Enterprises (CPSEs) measured in terms of 'gross block' went up from Rs. 782668 crore in 2006-07 to Rs. 862204 crore in 2007-08, showing an increase of Rs.79536 crore or a growth of 10.16 percent over the previous year. In terms of share in 'gross fixed capital formation' (GFCF) of the country, the share of gross block in CPSEs, however, shows a decline over the years. The share of 'gross block' of CPSEs as per cent of GFCF in the economy stood at 4.98 percent during 2007-08 (Table 2.1).

2.1 Growth in Financial Investment

The aggregate financial investment in CPSEs (comprising paid-up capital/share application money pending allotment and long term loans) grew from Rs.29 crore in 5 enterprises in 1951-52 to Rs.455409 crore in 242 enterprises in 2007-08 (Table 2.2). Aggregate financial investment in CPSEs during 2007-08 increased by Rs.34933 crore, showing a 8.31% growth over 2006-07.

2.2 Components of Investment

The structure of financial investment in CPSEs shows some change during the period 2002-03 (Table 2.3). While the share of paid-up capital in total (financial) investment was 32.57 percent during 2002-03, it declined to 28.81 percent in 2007-08. The share of long-term loans, on the other hand, went up from 66.56 percent in 2002-03 to 70.51 percent in 2007-08.

2.3 Sources of Investment

While the Central Government continues to have the majority share (equity) holding in CPSEs (>80%) investment in terms of both equity and long term loans has been forthcoming from other parties as well, such as, the financial institutions, banks, private parties (both Indian and foreign), State Governments and holding (parent) companies. A perusal of Table 2.4, moreover, shows a significant change in the investment pattern of CPSEs over the period 2002-03 to 2007-08. Whereas the share of Central

Table 2.1
Growth in real investment / Gross Block
(2002-03 to 2007-08)

Year	Accumulated Gross Block @ in CPSEs (Rs. crore)	Gross Block during the year (Rs. crore)	Growth over the previous year (in %)	GFCF^, in the economy during the year * (Rs. crore)	Gross Block in CPSEs, as % of GFCF (3)/(5)*100
(1)	(2)	(3)	(4)	(5)	(6)
2002-03	525301	34903	7.12	584366	5.97
2003-04	596727	71426	13.60	687150	10.39
2004-05	649245	52519	8.80	896774	5.86
2005-06	715108	65863	10.14	1109160	5.94
2006-07	782668	67560	9.45	1346501	5.02
2007-08	862204	79536	10.16	1598078	4.98

Note: @ including capital work in progress; ^ Gross Fixed Capital Formation.

* Source Central Statistical Organisation.

Table 2.2

Investment in CPSEs over the Plan Period #

Particulars	Total Investment (Rs. in crore)	Enterprises (no.)
(1)	(2)	(3)
At the commencement of the Ist Five Year Plan (1.4.1951)	29	5
At the commencement of the 2nd Five Year Plan (1.4.1956)	81	21
At the commencement of the 3rd Five Year Plan (1.4.1961)	948	47
At the end of 3rd Five Year Plan (31.3.1966)	2410	73
At the commencement of the 4th Five Year Plan (1.4.1969)	3897	84
At the commencement of the 5th Five Year Plan (1.4.1974)	6237	122
At the end of 5th Five Year Plan (31.3.1979)	15534	169
At the commencement of the 6th Five Year Plan (1.4.1980)	18150	179
At the commencement of the 7th Five Year Plan (1.4.1985)	42673	215
At the end of 7th Five Year Plan (31.3.1990)	99329	244
At the commencement of the 8th Five Year Plan (1.4.1992)	135445	246
At the end of 8th Five Year Plan (31.3.1997)	213610	242
At the end of 9th Five Year Plan (31.3.2002)	324614	240
At the end of 10th Five Year Plan(31.3.2007)	420476	245
At the end of first year of Eleventh Five Year Plan (31.3.2008)	455409	242

Note: # as in the Balance Sheet.

Table 2.3

Components of Financial Investment

(Rs. in crore)

Year ending	Paid-up Capital	Share application money	Long term loans	Investment (3+4+5)
(1)	(2)	(3)	(4)	(5)
As on 31.3.2003	109306	2933	223408	335647
	(32.57)	(0.87)	(66.56)	(100)
As on 31.3.2004	111874	7087	231033	349994
	(31.96)	(2.02)	(66.01)	(100)
As on 31.3.2005	117551	6494	233894	357939
	(32.84)	(1.81)	(65.34)	(100)
As on 31.3.2006	120844	6204	276658	403706
	(29.93)	(1.54)	(68.53)	(100)
As on 31.3.2007	125323	6306	288847	420476
	(29.80)	(1.50)	(68.70)	(100)
As on 31.3.2008	131232	3090	321087	455409
	(28.81)	(0.08)	(70.51)	(100)

Table 2.4

Sources of Investment

(2002-03 to 2007-08)

(Rs. in crore)

Items	Central Govt.	State Govt.	Holding Company	Foreign Parties	FI/Banks & Others	Share Appl.Money (pending allotment)	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
As on 31.3.2002							
Equity (E)	86444	1468	10329	575	2431	4732	105979
Loan (L)	56710	26	16018	33261	112620		218635
E+L	143154	1494	26347	33836	115051	4732	324614
% of Total (E+L)	(44.10)	(0.46)	(8.12)	(10.42)	(35.44)	(1.46)	(100.00)
As on 31.3.2003							
Equity (E)	91368	2542	11453	545	3398	2933	112239
Loan (L)	56699	10	21808	29835	115056	-	223408
E+L	148067	2552	33261	30380	118454	2933	335647
% of Total (E+L)	(44.11)	(0.76)	(9.91)	(9.05)	(35.29)	(0.87)	(100.00)
As on 31.3.2004							
Equity (E)	93415	3200	11154	767	3338	7087	118961
Loan (L)	50864	262	23675	27394	128838	-	231033
E+L	144279	3462	34829	28161	132176	7087	349994
% of Total (E+L)	(41.22)	(0.99)	(9.95)	(8.05)	(37.76)	(2.02)	(100.00)
As on 31.3.2005							
Equity (E)	98377	3113	11391	1421	3248	6494	124044
Loan (L)	36848	266	28591	28550	139639	-	233894
E+L	135225	3379	39982	29971	142787	6494	357838
% of Total (E+L)	(37.79)	(0.99)	(11.18)	(8.37)	(39.89)	(1.81)	(100.00)
As on 31.3.2006							
Equity (E)	101350	3353	11152	1514	3475	6204	127048
Loan (L)	45763	288	32040	27547	171019	-	276657
E+L	147113	3641	43192	29061	174494	6204	403705
% of Total (E+L)	(36.44)	(0.9)	(10.69)	(7.19)	(43.22)	(1.53)	(100.00)
As on 31.3.2007							
Equity (E)	93874	3438	11449	1733	14829	6306	131629
Loan (L)	45655	117	19067	35163	188845	-	288847
E+L	139529	3555	30516	36896	203674	6306	420476
% of Total(E+L)	(33.18)	(0.85)	(7.26)	(8.77)	(48.44)	(1.50)	(100.00)
As on 31.3.2008							
Equity (E)	110429	3544	11254	1627	4378	3090	134322
Loan (L)	51575	230	16409	32935	219938	-	321087
E+L	162004	3774	27663	34562	224316	3090	455409
% of Total (E+L)	(35.57)	(0.83)	(6.07)	(7.59)	(49.26)	(0.68)	(100.00)

Government in total (financial) investment stood at 44.10 per cent in 2002-03, it declined to 35.57 per cent in 2007-08. The share of financial institutions /banks (and 'others'), on the other hand, that was 35.44 per cent in 2002-03 has gone up to 49.26 per cent in 2007-08. In a way this shows the greater confidence of FIs and banks in the CPSEs. The share of 'foreign parties' in total financial investment has also shown a decrease from 10.42 per cent in 2002-03 to 7.59 per cent in 2007-08.

2.4 Plan investment in CPSEs

A good deal of investment in CPSEs in recent years has been made from internal resources(IR). Plan outlay in CPSEs, constituting internal resources (IR), extra-budgetary resources (EBR) and budgetary support (BS) showed a continuous increase in absolute terms, over the years. Plan outlay in CPSEs, accordingly went up from Rs.59189.79 crore in 2002-03 to Rs.109579.59 crores in 2007-08 (Table 2.5). The respective shares of IR, EBR and budgetary support have, nevertheless, undergone a change. While the share of IR went up from 55.51 per cent of plan outlay in 2002-03 to 62.18 per cent in 2007-08, the share of budgetary support came down from 8.98 percent in 2002-03 to 2.51 percent in 2007-08.

2.4.1 Internal Resources of CPSEs

A perusal of different components of IR, moreover, shows that the share of 'retained profit' has been showing a big increase during this period. It went up from Rs. 27176.50 crores in 2002-03 to Rs. 58463.74 crores in 2007-08 (Table 2.6). In terms of respective shares of the different components of IR, namely, depreciation' and 'retained profit' as well, there has been a significant change. Whereas the share of 'depreciation' in IR declined from 48.79 per cent in 2002-03 to 33.58 per cent in 2007-08, the share of 'retained profit' in IR went up from 50.07 per cent in 2002-03 to 60.65 per cent in 2007-08.

2..5 Pattern of Investment

Table 2.7 below shows cognate group-wise aggregate real investment in CPSEs during the last two years, as measured in terms of 'gross block'. The share of 'manufacturing' CPSEs in 'gross block', was the highest at 26.70 percent followed by 'mining' (25.30%), 'electricity'

Table.2.5

Plan Investment in CPSEs

(2002-03 to 2007-08)

(Rs. in crore)

Year	Internal Resources	Extra Budgetary Budgetary Resources	Budgetary support	Plan Outlay
2002-03	32858.83 (55.51)	21017.05 (35.51)	5313.91 (8.98)	59189.79 (100)
2003-04	31103.29 (49.39)	26855.66 (42.65)	5014.46 (7.96)	62973.41 (100)
2004-05	32222.46 (50.89)	26006.52 (41.07)	5090.24 (8.04)	63319.22 (100)
2005-06	42143.53 (51.31)	35723.30 (43.49)	4271.70 (5.20)	82138.53 (100)
2006-07	58981.57 (60.85)	32676.47 (33.71)	5263.76 (5.43)	96921.80 (100)
2007-08	68140.97 (62.18)	3869282 (35.31)	2745.80 (2.51)	109579.59 (100.00)

Note : Figures in brackets are as percent of total Plan Outlay

(24.23%) and 'services' (23.52%). In terms of national income classification, the share of 'industrial CPSEs' (comprising manufacturing, mining and electricity) was the largest at 76.48 per cent followed by 'the service sector CPSEs' at 23.52% during 2007-08.

2.6 Top Ten Enterprises in terms of Gross Block / Investment

Investment in terms of 'gross block' of top ten enterprises accounted for 67.91 percent of the total gross block CPSEs amounting to Rs.

Table 2.6

Internal Resources of CPSEs

(2002-03 to 2007-08)

(Rs. in crore)

Year	CPSEs which generated IR(no.)	Depreciation	DRE written off	Retained Profit	Total
2002-03	129	26477.41 (48.79)	619.18 (1.14)	27176.50 (50.07)	54273.09 (100.00)
2003-04	151	30526.72 (40.48)	769.15 (1.02)	44116.90 (58.50)	75412.77 (100.00)
2004-05	149	32477.42 (38.73)	537.60 (0.64)	50847.60 (60.63)	83862.62 (100.00)
2005-06	163	34540.93 (40.36)	797.93 (0.93)	50248.20 (58.71)	85587.06 (100.00)
2006-07	157	32365.08 (33.58)	5565.02 (5.77)	58463.74 (60.65)	96393.84 (100.00)
2007-08	160	35467.28 (35.66)	5742.76 (5.77)	58263.71 (58.57)	99473.75 (100.00)

Table 2.7

Pattern of Real Investment / Gross Block in CPSEs

2006-07 and 2007-08

(Rs. in crore)

Sl. No.	Sector	Investment in terms of Gross Block		Growth rate over the previous year	Investment as % of total as on 31.3.2008
		31.3.2008	31.3.2007		
1.	Agriculture	100.67	93.45	7.73	0.01
2.	Mining	218136.71	198004.42	10.17	25.30
3.	Manufacturing	230230.98	211016.37	9.11	26.70
4.	Electricity	208890.01	188806.20	10.64	24.23
5.	Services	202744.09	183414.37	10.53	23.52
6.	Under-Construction Enterprises	2101.91	1333.21	57.65	0.24
	Total	862204.37	782668.02	10.16	100.00

Table 2.8

Top Ten Enterprises in terms of Real Investment/Gross Block during 2007-08

(Rs. in crore)

Sl. No	Name of the Enterprises	Investment in terms of Gross Block	Share of total Real Investment(%)
1.	Oil & Natural Gas Corporation Ltd.	134185.77	15.56
2.	Bharat Sanchar Nigam Ltd.	127247.74	14.76
3.	NTPC Ltd.	75846.33	8.80
4.	Indian Oil Corporation Ltd.	66002.48	7.66
5.	Power Grid Corporation of India Ltd.	44175.23	5.12
6.	Steel Authority of India Ltd.	33312.28	3.86
7.	Nuclear Power Corporation of India Ltd.	30441.10	3.53
8.	NHPC Ltd.	28035.49	3.25
9.	Hindustan Petroleum Corporation Ltd.	22886.00	2.65
10.	National Aviation Company of India Ltd.	22627.19	2.62
	Total Top Ten	584759.61	67.91
	Total Gross Block	862204.37	100.00

862204.37 crore as on 31.3.2008. ONGC Limited leads the list of the top ten CPSEs in terms of real investment (Table 2.8).

2.7 State-wise Distribution of Investment

Sate wise distribution of 'gross block' shows a significant change over the years (Table 2.9). A comparison of percentage share of different states shows that whereas the states of Bihar (21.91%), M.P(13.04%), West Bengal (6.71%) and Orissa (5.65%) claimed the largest share in investment until 1977, it is now the states of Maharashtra (17.76%), Tamilnadu. (7.55%), A.P. (6.85%), U.P (6.64%) and Gujarat (5.97%) which had the larger share in terms of investment in CPSEs during the year 2007-08.

These changes, in good measure, have occurred mainly on account of higher investments in oil exploration (e.g. Mumbai High), power projects and telecommunications vis-a-vis investments in steel, heavy engineering and coal mining made in the earlier years. Some differences have also occurred due to bifurcation of states like Bihar into Bihar and Jharkhand, Madhya Pradesh into Madhya Pradesh and Chhattisgarh and Uttar Pradesh into Uttar Pradesh and Uttranchal as well as closing down of some CPSEs and conversion of other CPSE into Joint Ventures with private companies. In absolute terms, however, there has generally been an increase in investments in most states. The state wise investment in terms of 'gross block' is given in Table 2.9 below.

Table 2.9

State-Wise Distribution of Gross Block^

Sl. No	State / Union Territory	Gross Block Rs. in crore				% share of Gross Block			
		1977	1987	1997	2008	1977	1987	1997	2008
1.	Andhra Pradesh	390.70	6761.52	19486.16	59071.04	3.41	9.94	6.85	6.85
2.	Arunachal Pradesh	-	-	1489.20	4876.03	0.00	0.00	0.52	0.57
3.	Assam	312.90	3808.72	12448.89	37732.40	2.73	5.60	4.38	4.38
4.	Bihar	2509.10	6969.2	19982.51	20897.35	21.91	10.24	7.03	2.42
5.	Chhattisgarh				27981.48	-	-	-	3.25
6.	Delhi	400.70	1928.48	15014.81	24741.32	3.50	2.83	5.28	2.87
7.	Goa	3.30	35.27	144.57	950.16	0.03	0.05	0.05	0.11
8.	Gujarat	523.40	3197.79	20092.87	51470.32	4.57	4.70	7.07	5.97
9.	Haryana	142.70	649.69	4352.25	25679.06	1.25	0.95	1.53	2.98
10.	Himachal Pradesh	11.80	527.43	4720.54	21906.88	0.10	0.78	1.66	2.54
11.	Jammu & Kashmir	5.70	117.84	6413.36	14331.61	0.05	0.17	2.26	1.66
12.	Jharkhand	-	-	-	24073.20	-	-	-	2.79
13.	Karnataka	268.20	1721.52	6439.48	36074.62	2.34	2.53	2.26	4.18
14.	Kerala	274.10	1074.44	3991.76	20746.25	2.39	1.58	1.40	2.41
15.	Madhya Pradesh	1492.70	8571.69	21503.52	40728.70	13.04	12.60	7.56	4.72
16.	Maharashtra	630.30	10905.09	54854.07	153124.56	5.50	16.02	19.29	17.76
17.	Manipur	-	139.68	148.31	333.48	0.00	0.21	0.05	0.04
18.	Meghalaya	-	4.27	53.43	257.00	0.00	0.01	0.02	0.03
19.	Mizoram	-	-	30.03	381.13	-	-	0.01	0.04
20.	Nagaland	-	78.17	465.36	1096.51	0.00	0.11	0.16	0.13
21.	Orissa	646.50	4637.65	17101.40	40112.45	5.65	6.81	6.01	4.65
22.	Punjab	197.80	641.02	2077.85	11224.73	1.73	0.94	0.73	1.30
23.	Rajasthan	227.10	780.95	6065.94	22012.32	1.98	1.15	2.13	2.55
24.	Sikkim		0.55	241.13	3311.15	0.00	0.00	0.08	0.38
25.	Tamilnadu	466.90	3018.82	13539.28	65105.70	4.08	4.44	4.76	7.55
26.	Tripura		160.83	830.54	2041.46	0.00	0.24	0.29	0.24
27.	Uttar Pradesh	376.20	3913.96	20767.92	57233.35	3.29	5.75	7.30	6.64
28.	Uttaranchal	-	-	-	17040.22	-	-	-	1.98
29.	West Bengal	768.30	4524.94	18677.33	43937.76	6.71	6.65	6.57	5.10
30.	Andaman & Nicobar Islands	-	9.89	27.10	269.77	0.00	0.01	0.01	0.03
31.	Chandigarh	-	4.06	289.30	231.50	0.00	0.01	0.10	0.03
32.	Pondicherry	-	8.53	30.40	292.28	0.00	0.01	0.01	0.03
33.	Others and unallocated	1802.80	3859.87	13082.21	32938.58	15.74	5.67	4.60	3.82
	Total :	11451.20	68051.87	284361.52	862204.37	100.00	100.00	100.00	100.00

^ as on 31st March of each financial year.

3 PRICE POLICY IN CPSEs

While price of 'primary commodities', such as, agricultural products and minerals is observed to be determined by the market forces of demand and supply, the price of 'manufacture products' and 'services' is determined/ administered by firms based on the average / marginal cost of production and the mark-up over and above the cost to accommodate profits. The margin of 'mark-up', in turn, depends on the competitiveness or the degree of monopoly in the market and the elasticity of demand. Given the elasticity of demand for the product, a monopolist is able to charge a higher mark-up compared to a competitive market scenario ; the mark-up being the difference between the average revenue and the marginal cost per unit of output. In a monopoly market, a public sector enterprise can fix the price that maximizes the mark-up as well as the gross profits. That may not happen, however, since the government may intervene to moderate the price and reduce the mark-up in the interest of consumers and the user industries/sectors. In general, the governments fix/administer the price of goods (and services) produced by public sector entities based on the following principles :

(a) the true costs of goods and services plus a reasonable return on investment,

(b) cross subsidization between one group and another or between one sector and another,

(c) differential price norm for peak and off-peak demand,

(d) below the costs to stimulate demand under conditions of excess/unutilized capacity, and

(e) different prices/ multi-tariffs to include discounts for purchase of larger volumes or for various other incentives, e.g. the need to encourage consumption (e.g. fertilizer) and to discourage consumption (e.g. petroleum products).

The prices of goods and services produced by the public sector enterprises in India, for long, have been determined by the Government under the regime of administered price mechanism (APM). The APM, in most cases, has been governed by the true cost of production (plus a reasonable return on investment). The Government may obtain the cost estimates either from 'the management' or from 'an expert body'. In the case of Central Public Sector Enterprises (CPSEs) in the 'core sectors', the Government has relied upon the Bureau of Industrial Costs and Prices (merged in 1999 with the Tariff Commission, Ministry of Commerce and Industry) for cost estimates and the consequent recommendations on prices. The public sector enterprises have, therefore, not been free to fix the prices on their own even when enjoying the monopoly status.

There have, moreover, been situations when even though the Bureau of Industrial Costs and Prices (BICP) gave its recommendations the prices were not raised commensurately and in time, leading to financial difficulties for the CPSEs. Quite often even the moderated prices of public sector enterprises have been found to be above the international prices and higher than those charged by the private sector in the domestic market. This may indicate, on the one hand, higher overhead costs in public sector enterprises arising from better wages, housing and medical facilities etc; on the other, it may point to technological obsolescence and inefficiencies in these enterprises. The BICP, in this respect, has been recommending through its reports measures for cost reduction and improvement in efficiency in these enterprises. In the wake of post-1991 economic liberalization, industries in the 'core sector' are no more the exclusive preserve of the public sector.

Consequently, a good many central public sector enterprises (CPSEs) have ceased to be monopolies and they face intense competition in the market. The Government has gradually dismantled APM in most sectors / products and the CPSEs have been given the independence to fix the (competitive) prices on their own. Moreover, while the Government in earlier years depended on the BICP for arriving at the cost estimates for determining the normative (fair) price of outputs, the recent years have seen establishment of various price regulatory commissions / authorities for regulating prices in the best interests of both the consumers and the producers.

The writ of these regulatory commissions is not restricted to the public sector enterprises alone; rather it extends to the private sector enterprises as well. The Government, on its part, continues to be sensitive to the needs of the poor and the impact of rise in price of 'the core sector' on the Wholesale Price Index (WPI). Any rise in price level that is not acceptable to the Government is moderated through a combination of measures such as, control on prices, grant of subsidies, lowering of customs duties, excise and sales tax etc.

The paragraphs below briefly discuss the pricing system in respect of the core sector, where the CPSEs are the major players.

3.1 Coal

The Central Government was empowered under the Colliery Control Order, 1945 read with the Essential Commodities Act, 1955 to fix the grade-wise and colliery wise prices of coal. Pricing of all grades of coal has, however, been completely deregulated after the Colliery Control Order, 2000 that was notified w.e.f. 1st January, 2000 rescinding the Colliery Control Order, 1945. Accordingly, the coal companies are free to fix grade-wise prices for coal produced by them on their own based on cost of production, landed cost of imported coal as well as demand and supply scenario. Prices of different grades of coal were last revised on 16th June, 2004; thereafter no revision of coal price has taken place.

The public sector coal companies, namely, Coal India Ltd. and its subsidiaries started selling part of their production under e-auction scheme, from the year 2004-05 to the intending buyers (both traders and consumers). The floor price for such sale of coal under e-auction was kept at 120% of the notified price. The sale of coal under e-auction scheme had to be discontinued soon after as per directives of the Supreme Court. Sale of coal under e-auction has been replaced by e-price booking whereby the prices are fixed at 130% of the notified price for all intending buyers, barring National Consumers Co-operative Federation (NCCF) and state undertakings in respect of which price is fixed at 120% of the notified price. Sale of coal to consumers in the core sector is also at the notified price only.

In the absence of a regulatory price mechanism and the prevailing monopoly situation in the coal market leading to arbitrary increase in price levels that may adversely affect the cost of generation and thereby electricity tariff, the Ministry of Power has been pressing for appointing an independent regulatory body for price determination of coal. Several State Governments and State Electricity Boards/ Undertakings have also raised this issue.

In view of the above, the Tariff Commission, set up by the Government, is examining the extant pricing policy for coal for the Power sector and to suggest modalities for pricing of coal for other sectors.

3.2 Petroleum and Gas

Effective 1/4/2002, the oil companies are fixing the prices of petroleum products after taking into consideration the prevalent international oil prices. Domestic LPG and PDS kerosene are subsidized by the Government for which necessary provision is made in the budget. The oil marketing companies (OMCs) pay trade parity price (weighted average of import parity price and export parity price in the ratio of 80 : 20) to refineries when they buy petrol and diesel, and import parity price to refineries for PDS Kerosene and domestic LPG.The difference between the required price based on trade parity / import parity and actual selling price realized (excluding taxes, dealer commission) represents the under-recoveries of oil companies.

3.2.1 Subsidy on PDS Kerosene and Domestic LPG

While dismantling the Administered Pricing Mechanism (APM) for major petroleum products w.e.f 01.04.2002, the Government decided that the subsidies on PDS Kerosene and Domestic LPG, in the Post-APM era starting from 1.4.2002 will be on a specified flat rate basis for each depot/bottling Plant and will be met from the Union budget. After providing for the aforesaid subsidy, the retail prices were to vary as per changes in the international oil prices. These subsidies were to be phased out in three to five years. The subsidies were based on international prices of Kerosene and LPG prevailing in Arab Gulf market during the month of March 2002, i.e. $23.65 per barrel and $194 per MT respectively.

It was decided that the subsidy per selling unit for any depot/ bottling plant effective 01/04/2002 shall be frozen and remain unchanged for the financial year 2002-03. The subsidy admissible under this scheme for 2003-04 was at 2/3rd level of the rates allowed during 2002-03. The subsidy admissible for 2004-05, 2005-06 and 2006-07 was at one-third (1/3rd) level of the rates of subsidy for 2002-03. The Government had decided that this subsidy at 1/3rd level of 2002-03, (average rate of subsidy on domestic LPG cylinder is Rs.22.58/cylinder and on PDS Kerosene is 82 paise per litre) will be allowed till 31/03/2010 .

3.2.2 Pricing of petrol and diesel post APM

Oil Marketing Companies (OMCs) procure petrol and diesel from refineries as per their agreements. The basic ex-storage selling prices of petrol and diesel are uniform at all refinery locations throughout the country. The retail selling price of petrol/diesel for the consumers is calculated by taking into account:

- Price paid to refinery on trade parity basis
- Inland freight from refinery to depot and depot to market
- Marketing cost
- Return on capital
- Dealers commission
- Excise duty
- Value Added Tax (State VAT) and local levies

However, as an administrative measure, the oil PSUs have been asked to modulate the price increase in petrol and diesel besides maintaining prices of subsidized products, i.e.,

i. Government allowed oil marketing companies to revise retail prices within a band of +/-10% of the mean of rolling average of last 12 months and of last 3 months international C&F (cost and freight) prices. In case of breach in this band, matter to be taken up with Ministry of Finance, GoI for adjustment of excise duty rates. Prices, based on this system, was revised for the first time effective 1st August 2004 leading to price increase of Rs. 1.10/ltr and Rs. 1.42/ltr for petrol and diesel respectively.

ii. However, price band mechanism could not be implemented on fortnightly basis due to steep increase in international prices. Government took back control of price setting for petrol and diesel as per the band mechanism and restrained the 'pass through' of the international prices to domestic consumers.

iii. Based on recommendations of the Rangarajan Committee, the Government changed the pricing of petrol and diesel to trade parity basis in June 2006. The principle of trade parity pricing was to be applied to the refinery gate price. Accordingly, since then, the industry has been adopting the trade parity-based refinery gate prices.

3.2.3 Trend of International oil prices

i. About 80% of crude oil processed by the domestic refineries is imported to service domestic demand. As the cost of crude, besides taxes, constitutes a substantive part of cost of the final products, international oil prices become the determining factors for pricing of domestic petroleum products.

ii. International oil prices have been rising continuously since 2004. Each year, annual oil prices in international markets have averaged more than those prevailing during the previous year. The Indian basket of crude oil, which averaged about $ 23/bbl at the time of dismantling of APM in March 2002, whereas it averaged about $79.25/bbl during 2007-08. It touched an all-time high of $142.04/bbl on 03/07/2008. The average price of Indian basket of crude oil during current year 2008-09 (upto 23rd July'08) stood at $122.17/bbl.

The trend of the international prices of crude oil and petroleum products during the period 2002-03 to July 2008, is given in Table 1 and 2 below :

3.2.4 Under recoveries of Oil Marketing Companies (OMCs)

i. Despite the increase in the international prices, particularly from 2004-05, the selling prices of petrol and diesel were not revised in the domestic market by the Oil Marketing Companies (OMC's) in tune with the international prices. The retail selling prices of Domestic LPG have been increased thrice since 2004, that is, by Rs.20 per cylinder on 16/6/04 and on 5/11/04, and by Rs. 50 on 5/6/2008. However, the price of SKO (PDS) has not been revised since March 2002. The widening gap between the retail prices based on the trade parity/import parity pricing principles and the actual retail prices have resulted in huge under-recoveries to the OMC's.

ii. Due to the incessant increase in the international oil prices, the gap between the input price and the retail prices of the sensitive petroleum products has been widening. The under recoveries of PSU OMCs on sensitive petroleum products were estimated to be around Rs.2.45 lakh crore for 2008-09 on account of continuous spike in international prices of crude oil. In order to provide some relief to the OMCs, the Government announced the following measures w.e.f. 5.6.2008:

- Increase the retail selling price of Petrol by Rs. 5/litre, Diesel bt Rs. 3/ litre and Domestic LPG by Rs. 50/ cylinder.

Table 1

International Prices of Crude Oil and Petroleum Products

(2002-03 to 2008-09)

	Crude oil (Indian Basket) $/bbl	Petrol $/bbl	Diesel $/bbl	Kerosene $/bbl	LPG $/MT
2002-03	26.65	30.04	28.86	29.24	279.67
2003-04	27.97	35.01	30.39	31.11	277.02
2004-05	39.21	48.97	46.91	49.51	368.57
2005-06	55.72	64.51	64.70	69.43	481.04
2006-07	62.46	72.62	74.12	77.03	499.67
2007-08	79.25	90.76	92.91	94.33	683.49
2008-09 (upto 23.07.08)	122.17	130.68	154.00	154.27	873.45
Apr'08	105.77	117.09	135.71	136.10	811.00
July'08 (upto 23.07.08)	135.56	139.00	166.18	167.23	932.00

- Reduction in Customs duty on crude from 5% to nil and on MS and HSD from 7.5% to 2.5% and on other products like ATF from 10% to 5%.
- Reduction in Excise duty by Re. 1/litre on unbranded MS and HSD.

3.2.5 Burden Sharing through Oil Bonds and Upstream Assistance

Since passing on the entire impact of the steep increase in the oil prices to the consumers would have resulted in sharp increase in the domestic prices to unaffordable levels, it was decided that the burden be shared by all the stakeholders, namely, the Government, the upstream oil companies, the oil marketing companies (OMC's) and the consumers. Besides the fiscal subsidy being provided on PDS Kerosene and Domestic LPG, the Government decided to provide relief through issue of oil bonds to OMCs which amounted to Rs. 35,290 crore for 2007-08, as compared to Rs. 24,121 crore for 2006-07 and Rs. 11,500 crore for 2005-06. Despite sharing of the financial burden by upstream companies (viz. ONGC, OIL & GAIL) and issue of oil bonds, there still remained a gap which has had to be absorbed by the Public Sector OMCs over and above the agreed-upon burden sharing.

3.2.6 Steps taken by the Government to control impact of high international prices

The Government has taken a number of measures to rationalize taxes and duties on petrol and diesel to keep the consumer prices of these sensitive petroleum products within reasonable limits. The details of rationalisation in duties on sensitive petroleum products since June 2004 are mentioned below :

a) Reduction in customs duties since 2004-05 :

   i. Customs duty on petrol was reduced from 15% in August 2004 to 2.50% in June 2008.

   ii. Customs duty on diesel was reduced from 15% in August 2004 to 2.50% in June 2008.

   iii. Customs duty on domestic LPG was reduced from 5% in August 2004 to NIL in March 2005.

   iv. Customs duty on PDS Kerosene was reduced from 5% in August 2004 to NIL in March 2005.

Table 2

Trend Analysis : Change in Price of Petroleum

(in %)

	Crude oil (Indian Basket) $/bbl	Petrol $/bbl	Diesel $/bbl	Kerosene $/bbl	LPG $/MT
Increase in current international prices of 2008-09 over March'02	424%	394%	562%	552%	350%
Increase in (domestic) current retail selling price(until July, 2008) over March'02 prices(basis : Delhi RSP)	-	90.7%	110.1%	1.2%**	26.7%
Percentage pass through of increase in international prices in retail selling prices (until July, 2008) over retail selling prices in March'02	-	23.0%	19.6%	0.2%	7.6%

Notes: Prices of crude oil, diesel, kerosene, LPG are for Arab Gulf market and Petrol for Singapore market.

** Increase mainly due to increase in dealer commission.

v. Customs duty on crude was reduced from 10% in August 2004 to NIL in June 2008.

b) Reduction in excise duties since 2004-05 :

i. Excise duty on petrol was reduced from 26% (ad valorem) plus Rs.7.50 per litre (specific) in June 2004 to Rs. 13.35 per litre (specific) in June 2008.

ii. Excise duty on diesel was reduced from 11% (ad valorem) plus Rs.1.50 per litre (specific) in June 2004 to Rs.3.60 per litre (specific) in June 2008.

iii. Excise duty on domestic LPG was reduced from 8% (ad valorem) in June 2004 to NIL in March 2005.

iv. Excise duty on PDS Kerosene was reduced from 16% (ad valorem) in June 2004 to NIL in March 2005.

c) LPG as "Declared Goods":

LPG (Domestic) became "Declared Goods" under CST Act and the maximum sales tax/ VAT rate of 4% effective 19.4.06 was introduced across all states/Union Territories. This reduced the rates of sales tax levied by most of the States at the rate of 12.5%.

d) Reduction in VAT by State Governments since 5th June 2008:

In order to cushion the burden of the recent price hike on petrol and diesel with effect from 5th June 2008, several State Governments like West Bengal, Bihar, Maharashtra, Gujarat, Uttar Pradesh, Kerala, Goa, Assam, Tamil Nadu (only on Diesel), Uttaranchal, Haryana (only on diesel), Jharkhand (only on diesel) and Chandigarh (only on petrol) had reduced the sales tax. State Governments of Maharashtra, Goa, Gujarat, Haryana, Chandigarh, Uttaranchal and Uttar Pradesh have reduced the VAT on LPG to Nil. State governments of Delhi and Andhra Pradesh have provided state subsidy on Domestic LPG.

3.3 Power

The Electricity Regulatory Commission Act was enacted in 1998 for creation of Regulatory Commissions at the Centre and in the States with powers, inter-alia, to regulate/ determine power tariffs. The Central Government accordingly created the Central Electricity Regulatory Commission (CERC) to regulate/ determine power tariffs of CPSEs engaged in generation and inter-state transmission of power. CERC also issues order on Availability Based Tariff for ensuring grid discipline.

The power sector reforms in recent years further necessitated the enactment of the Electricity Act, 2003 repealing the ERC Act, 1998. Currently, the regulatory powers of CERC constituted under the ERC Act, 1998 have been retained in respect of regulation/determination of tariff of the CPSEs involved in generation and inter transmission. The provisions of the Electricity Act, 2003 serve to consolidate the laws relating to generation, transmission, distribution, trading and use of electricity. The Act is aimed at taking measures conducive to development of electricity industry, promoting competition therein, protecting interest of the consumers (and supply of electricity to all areas), rationalization of electricity tariff, ensuring transparent policies regarding subsidies, promotion of efficient and environmentally benign policies, constitution of Central Electricity Authority, Regulatory Commissions and establishment of Appellate Tribunal as well as for matters connected therewith or incidental thereto.

In exercise of power conferred under Section 178 of the Electricity Act, 2003, the CERC regulates/determines tariff of CPSEs engaged in generation and inter-state transmission of power. In compliance with Section 3 of the Electricity Act 2003, the Central Government notified the National Electricity Policy (NEP) in February, 2005. In continuation to NEP, furthermore, the Central Government notified the Tariff Policy on 6.1.2006. As per the Electricity

Act, 2003, the Regulatory Commission is to be guided by the Tariff Policy of the Government of India for determining the tariff applicable to generating companies and for transmission. It also requires regulators to continue with the systems of setting norms for operations which would provide incentive for efficiency in operations.

The tariff for electricity supplied from the CPSEs is determined by the CERC based on the CERC (Terms and Conditions of Tariff) Regulations, 2004. The tariff consists of the following :

(b) Capacity charges comprising the following:

- Return on Equity – presently 14% post-tax return is allowed,
- Interest on loans – interest including foreign exchange variation on interest and loan repayment is allowed,
- Depreciation – 90% recovery of cost spread over asset life,
- Advance against depreciation – allowed for the purpose of loan repayment,
- Interest on working capital – paid on normative basis.

Full capacity charges are recovered at 80% availability and pro-rata recovery below 80%. For scheduled generation above 80%, plant load factor incentive @ Re. 0.25 /unit is allowed.

(c) Energy charges are levied on scheduled energy based on actual landed cost of fuel with normative operating parameters.

(d) Taxes, duties, and other levies, namely,

- Tax on Income derived from generation of electricity by CPSEs is computed as an expense and recovered from bulk power customers.
- Statutory taxes, levies, duties, royalty, cess or any other imposition by Central / State Governments / local bodies / authorities on generation of electricity (including auxiliary consumption or any other type of consumption including water, power, etc) are borne by consumers.

In furtherance of the objectives of the Electricity Act, 2003, the Rural Electricity Policy was also announced by the Government of India in August, 2006.

The pricing policy of nuclear power in the country and the associated tariffs are regulated by the Government of India in accordance with the provisions of the Atomic Energy Act, 1962.

3.4 Steel

The Indian steel industry was one of the first few major sectors to be comprehensively deregulated as part of the general economic reforms, market liberalization and progressive globalisation.

The erstwhile regime of controls was wholly dismantled in 1992 through the following policy changes :

(a) capacity controls and reservation on the BF-BOF sectors were withdrawn,

(b) prices and distribution (with the exception of a few strategic areas like SSIC) were freed,

(c) trade barriers came down with reduction in tariff rates and removal of physical restrictions (canalizing and licensing) on imports and exports,

(d) freight ceilings replaced freight equalization,

(e) FDI was granted automatic entry, and

(f) technology imports were made easier.

Steel pricing was deregulated and prices came to be determined by the free interplay of market forces of demand-supply. In order to contain the rising steel prices and the inflationary pressure in the economy, the Government has, nevertheless, taken a series of measures during the course of the last six months, such as exempting imports of most of the iron and steel items from customs duty, imposing export duty on such iron and steel items which have a high domestic demand including on iron ore.

The Ministry of Steel has also constituted a 'Steel Price Monitoring Committee' (SPMC). The Committee seeks to provide an interface between the producers and consumers of steel. The objective of the Committee is to keep a watch on the price movement. The Committee functions as a watchdog and ensures that a free and fair environment prevails in the market.

The selling prices of steel and steel products are, inter alia, based on the following factors :

(a) demand and Supply position,

(b) competitor pricing,

(c) landed cost of imports,

(d) levels of Inventory,

(e) freight from producing point to consuming point,

(f) market position for customers' end products.

3.5 Fertilizers

All varieties of fertilizers, except urea, were removed from price and distribution control in August, 1992. Urea is, however, the main nitrogenous fertilizer constituting about 60% of the total fertilizer consumption in the country. It is covered under statutory price (and partial distribution) control and is sold to the farmers at the notified sale price. The Government of India, furthermore, indicates the maximum retail price (MRP) in respect of major phosphatic and potassic fertilizers, namely, Di-Ammonium Phosphate (DAP), Muriate of Potash (MOP) and 11 grades of Complex Fertilizers. The MRPs for Single Super Phosphate (SSP) are indicated by the respective State Governments. The statutorily notified sale price of urea and indicative MRPs of decontrolled phosphatic and potassic fertilizers are generally less than the cost of production of these fertilizers. The difference between the normative cost of production and the selling price / MRP is paid as subsidy/concession to the manufacturers. As the consumer prices of both indigenous and imported fertilizers are fixed uniformly, financial support (being the difference between the cost of import and marketing / distribution and MRP) is also given by the Government in the form of subsidy on imported phosphatic and potassic fertilizers.

Until 31st March, 2003, fertilizer subsidy to urea manufacturers was being regulated in terms of the provisions of the Retention Price Scheme (RPS). Under RPS, the difference between retention price (cost of production as assessed by the Government plus 12% post tax return on net worth) and the MRP was paid as subsidy to the urea units. Under the RPS, retention price used to be determined unit-wise, which varied from unit to unit depending upon the technology, feedstock used, level of capacity utilization, power consumption, distance to be covered for sourcing of feedstock/raw-materials etc. Although the RPS achieved its objective of increasing investment in the fertilizer industry and thereby created new capacities and enhanced fertilizer production (along with increased use of chemical fertilizers), the pricing scheme was criticized on the grounds of being in the nature of 'cost plus' devoid of any incentives for achieving of better operational efficiency.

A 'group based' pricing scheme, namely the New Pricing Scheme (NPS) for urea units was introduced subsequently w.e.f. 1.4.2003, replacing the erstwhile RPS. The primary goal of the NPS is to encourage efficiency based on the usage of the most efficient feedstock, state-of-the-art technology etc. NPS is being implemented in stages. Stage-I was for one year duration i.e. from 1.4.2003 to 31.3.2004. Stage-II was of two and half years' duration i.e. from 1.4.2004 to 30.9.2006. Stage-III policy of the NPS has been made effective from 1.10.2006 and will continue till 31.3.2010.

The important features of the Stage-III Policy are :

(a) resumption of production by units under shutdown and

(b) conversion of non-gas based units to NG/ LNG.

Resumption of production by urea units currently not in production, viz, RCF-Trombay-V, FACT-Cochin and Duncans Industries Limited (DIL)-Kanpur is allowed based on natural gas/ LNG/CBM/Coal gas. Upon resumption, the base concession rate of these units will be the Stage-II concession rate of the group to which they belonged, or their own concession rate updated till 31.3.2003 for all costs and thereafter adjusted for the feedstock changeover, whichever is lower. Under the policy for 'conversion of non-gas based units to NG/LNG', all functional Naphtha and FO/ LSHS based units will be converted to gas based within a period of 3 years. Thereafter, Government will not subsidize the high cost urea produced by the non-gas based urea units. In order to provide incentives for conversion to gas, there will be no mopping up of energy efficiency for a fixed period of 5 years for Naphtha based as well as for FO/ LSHS based units. Capital subsidy will be considered for FO / LSHS based units for which Department of Fertilizers will notify a separate scheme in consultation with Department of Expenditure (DOE), Ministry of Finance.

With a view to encourage setting up of fertilizer plants abroad in countries where gas is available in abundance and is much cheaper through Joint Ventures (JV), such JVs for production of urea may be set up subject to the condition that the Government of India will enter into long term buy back arrangements with these JVs. Accordingly, suitable mechanisms can be evolved for securing long term fertilizer related supplies from abroad.

3.6 Telecommunications

Telecom Regulatory Authority of India (TRAI) is empowered under TRAI Act 1997 to notify rates at which telecommunication services within India and outside the country are to be charged. Telecommunication Tariff Order was notified for the first time in March, 1999 by TRAI. Tariff amendment Orders are issued from time to time to reflect changes in tariff framework.

Presently, tariff for telecom services is left to the discretion of telecom operators to decide in terms of market forces, except in the areas of :

(a) rental, free call allowance and local call charges for fixed line rural subscribers,

(b) leased circuits, and

(c) national roaming services in mobile telephony.

The recommendations and orders issued by TRAI are binding on CPSEs. Wherever applicable, the following are taken into consideration by CPSEs in the telecom sector for price determination:

(i) tariff ceiling prescribed by TRAI for different services,

(ii) tariff offered to consumers by competitors for similar services,

(iii) customers needs and preferences, and

(iv) affordability of customer segments.

3.7 Pharmaceuticals

Prices of pharmaceutical products in CPSEs is fixed based on the Drugs Price Control Order (DPCO), 1995. As per DPCO, pharmaceutical products are categorized as Scheduled and Non-Scheduled formulations. Prices of Scheduled products are fixed by the National Pharmaceutical Pricing Authority (NPPA); the Maximum Retail Prices (MRP) of Scheduled formulations are fixed and revised as per announcement/notification by the Government of India. In case of Non-scheduled formulations, prices are fixed by the managements of CPSEs on cost plus basis. On 27.7.2006, the Government approved the proposal with regard to preferential purchase of 102 drugs / pharmaceuticals produced exclusively by the CPSEs and their subsidiaries by the Government Departments, CPSEs and autonomous bodies of the Central Government at NPPA approved/ certified rates minus discounts up to 35%. The preferential purchase policy will remain valid for a period of 5 years, effective 7th August 2006.

3.8 Agriculture Products

3.8.1 Outputs : Wheat & Paddy

The Food Corporation of India (FCI) has

been intervening in the foodgrain market through price support policy for the farmers and through the public distribution system for the consumers. Price support policy is implemented by the FCI primarily in regard to wheat and paddy. The two main objectives of this market intervention are (a) to protect the farmers from volatility in grain markets, and (b) to correct the trade bias against agriculture vis-à-vis other sectors of the economy.

The initial recommendation in regard to procurement price is made by the Commission on Agricultural Costs and Prices (CACP) in the Ministry of Agriculture, Government of India. These prices are arrived at on the basis of cost of cultivation and several other specified factors rather than on demand-supply basis.

The distribution of foodgrains to the vulnerable sections of the population by FCI is done at Central Issue Price (CIP). Despite increase in the Minimum Support Prices for both wheat and paddy in successive years, there has been no revision of CIP of foodgrains (wheat and rice) for Below the Poverty Level (BPL) population since July 2000 and for Above the Poverty Level (APL) population since July, 2001.

3.8.2 Inputs : HYV Seeds

National Seeds Corporation Ltd. (NSC) and State Farms Corporation of India Ltd. (SFCI) are the two CPSEs engaged in production of quality high-yield variety (HYV) seeds. The Government has not issued any direction to these PSEs on fixation of prices of seeds, which are generally determined by market forces. NSC and SFCI are engaged mainly in production of high volume of low cost seeds of cereals and pulses and have been striving to make quality seeds available to Indian farmers at affordable prices to ensure national food security.

After globalization of the Indian economy, a number of private seed companies have entered Indian market. The Central PSEs are facing stiff competition from private sector seed companies, especially in case of hybrid seeds. In view of the above, the Government has left it entirely to the CPSEs to fix prices of their products, allowing them the freedom to maintain a balance between social objectives and commercial viability.

The Government does not provide any subsidy on seeds produced by NSC and SFCI. As regards recommendation of Price Regularity Commission, it is stated that there are no such recommendations binding on NSC/SFCI.

Seed pricing comprises of two stages i.e. (i) seed production/procurement, (ii) seed sale. Bulk of seed production, both foundation and certified, is largely arranged through regular registered contracts with seed growers.

For finalizing the sale price of hybrid/ high variety seed, the main factors taken into account are :

(a) the commercial produce price in the local mandis/market yards, especially in the ultimate end-use/seed sale areas,

(b) all the costs incurred in terms of processing, treatment, packing, labeling, tagging, sealing, transportation, storage, handling, losses in the process, publicity, sales promotion, interest burden, dealers discount, etc

Normally, procurement price and sale price are prescribed/adopted season-wise, region-wise and product wise.

4 HUMAN RESOURCE DEVELOPMENT AND WELFARE MEASURES

Effective utilization of human resources is one of the most important policy objectives before an organization. It has special significance in the management of central public sector enterprises (CPSEs) as they employ a large workforce. Successful operation of these enterprises to large extent depends on the skills and capabilities of the workforce. Due to advancement in the information technology and telecommunications, moreover, there have been significant changes in the financial and production techniques and management methods. This has led to improvement in every sphere of public sector activity and has increased productivity per worker. Human resource development is therefore accorded higher priority in CPSEs.

4.1 Organisational Structure of CPSEs

The Department of Public Enterprises formulates policy guidelines on the Board structure of public enterprises and advises on the shape and size of organizational structure of CPSEs. The CPSEs have been categorized into four Schedules namely ‘A’, ‘B’, ‘C’ and ‘D’ based on various quantitative, qualitative and other factors. The quantitative factors are: investment, capital employed, net sales, profit before tax, number of employees, number of units and value added per employee. Qualitative factors are: national importance, complexities of problems, level of technology, prospects for expansion, diversification of activities and competition from other sectors, etc. The other factors relate to issues, such as, strategic importance of the corporation. The pay scales of Chief Executives and full time Functional Directors in CPSEs are determined as per the Schedule of the concerned enterprise.

Proposals received from the administrative Ministries/Departments for categorization / upgradation of CPSEs are considered in DPE in consultation with Public Enterprises Selection Board (PESB). During 2007-08, DPE examined 19 proposals relating to categorization of CPSEs in appropriate schedule, upgradation of CPSEs/ personal upgradation, creation of posts in CPSEs, etc. As a result, 2 CPSEs were categorized in appropriate schedule, one CPSE was upgraded to higher schedule, one Chief Executive was granted personal upgradation and 5 posts of Functional Directors were created.

As on 31.3.2008, there were 242 CPSEs. Out of 242 there are 56 Schedule ‘A’, 74 Schedule ‘B’, 47 Schedule ‘C’ and 6 Schedule ‘D’ CPSEs. The rest are covered under ‘the uncategorized’ category. The details of the Board level posts (whole time) in the categorized CPSEs during 2007-08 and 2008-09 are given in the table below:

Table 4.1

Schedule	Chief Executives		Whole Time Directors	
	2007	2008	2007	2008
Schedule A	54	56	*	*
Schedule B	77	74	201	202
Schedule C	48	47	181	185
Schedule D	06	06	67	67
Total	185	183	449	454

Note: *Since wholetime Directors are one level below that of the Chief Executive, there are no Directors in Schedule A category.

4.2 Corporate Governance and CPSEs

The concept of Corporate Governance has generated extensive debate during the last few years due to the fast changing economic scenario all over the world. 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.

In India, all listed companies including listed CPSEs are covered by the SEBI guidelines. To further improve Corporate Governance standards in India, SEBI revised the code of Corporate Governance based upon the recommendations of N.R. Narayana Murthy Committee set up in 2002. Clause 49 of SEBI guidelines mandates a listed company to comply with various provisions relating to corporate governance. The Organization for Economic Cooperation and Development (OECD), which is a forum of the Governments of 30 democracies also took initiatives to address governance issues and it suggested principles of Corporate Governance. India is not a member of OECD. In September 2005, the OECD circulated guidelines on Corporate Governance of State-owned enterprises. These guidelines cover issues like (i) ensuring an effective legal and regulatory framework for State-owned enterprises; (ii) the State acting as an owner; (iii) equitable treatment of shareholders; (iv) relations with stakeholders; (v) transparency and disclosures; and (vi) responsibilities of the Boards of State-owned enterprises.

The post-1991 period has witnessed significant changes in the public sector policy. The areas reserved for public sector were reduced. The Central Public Sector Enterprises (CPSEs) were expected to look for internal resources and borrowings and concentrate on improvement in operations and efficiency on commercial lines of operation aimed at earning profit.

In pursuance of the Industrial Policy Statement of 24.7.1991, detailed guidelines on composition of Board of Directors were issued by the Department of Public Enterprises (DPE) in March 1992. These guidelines *inter-alia* provided that at least one-third of the Directors on the Board of a CPSE should be non-official Directors. The Navratna and Miniratna schemes evolved by the Government in 1997 provided that these CPSEs should set up Audit Committees. Based on the SEBI guidelines, further instructions were issued by DPE in November 2001 stating that at least half of the Board of listed CPSEs with executive Chairman should be Independent Directors.

The present policy of the Government towards Central Public Sector Enterprises is enunciated in the National Common Minimum Programme (NCMP). Among other things, NCMP commits (i) to devolve full managerial and commercial autonomy to successful, profit-making companies operating in a competitive environment and (ii) Public sector companies will be encouraged to enter the capital market to raise resources and offer new investment avenues to retail investors.

4.2.1 Formulation of Guidelines on Corporate Governance

In August, 2005, the Government enhanced the powers delegated to Navratna, Miniratna and other profit making PSEs. Further, 9 more CPSEs were granted Navratna status in 2007 and 2008. As a result the public accountability of the PSEs has increased. In this context, Government had approved the implementation of guidelines on corporate governance for CPSEs. These guidelines were formulated by DPE keeping in view relevant laws, instructions and procedures. The views of various stakeholders such as administrative Ministries/ Departments, CPSEs, nodal Ministries like Company Affairs, Finance (Expenditure), Comptroller and Auditor General (C&AG), Securities and Exchange of Board of India (SEBI), Institute of Chartered

Accountants of India (ICAI), Institute of Company Secretaries of India (ICSI), Institute of Cost & Works Accountants of India (ICWAI), National Foundation for Corporate Governance (NFCG), Institute of Public Enterprise, etc. were taken into account while formulating these Guidelines.

These guidelines are applicable to listed as well as un-listed CPSEs and cover issues like composition of Board, Audit Committee, Subsidiary companies, disclosures, Code of conduct and ethics, risk management and compliance.

Composition of Board

In respect of the Board composition, these Guidelines provide that the number of functional Directors should not exceed 50% of the actual strength of Board and the number of Government nominee Directors shall be restricted to maximum of two. In case of listed CPSEs with executive chairman, the number of non-official Directors shall be at least 50% of Board members. In case of unlisted CPSEs and listed CPSEs with non-executive chairman, 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. As in clause 49 of SEBI, relevant clauses have been incorporated in these guidelines to ensure 'independence' of non-official Directors and avoid potential conflict. 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.

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 in a year and all relevant information is required 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

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 chairman to be independent Director. The Audit Committee has been given extensive powers with regard to financial matters of company and it should meet at least 4 times in a year.

Subsidiary Companies

With regard to subsidiary companies, it has been provided that at least one independent Director of holding company should be Director on the Board of subsidiary company, and the Audit Committee of holding company should review the financial statements of subsidiary company. All significant transactions and agreements of subsidiary company are required to be brought to the notice of the Board of Directors of the holding company.

Disclosures

The provisions regarding disclosures require all transactions to be placed before the Audit Committee. The Guidelines mandate that while preparing financial statements, treatment of data 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 the Management is to make disclosures to the Board relating to all financial and commercial transactions where they have personal interest or may have a potential conflict.

Compliance

It has also been mandated in the Guidelines that there should be a separate section on Corporate Governance in Annual report of company 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.

Implementation and Grading

The DPE will grade CPSEs on the basis of their compliance with Guidelines and such grading will be used for MOU Awards. Keeping in view the importance of Corporate Governance in State level Public Enterprises, all States have also been advised to implement these Guidelines.

4.3 Appointment of Functional Directors of CPSEs

Functional Directors including Chief Executives of the CPSEs are appointed by the concerned Administrative Ministries/Departments on the basis of recommendations of Public Enterprises Selection Board (PESB). The Public Enterprises Selection Board is a high powered body constituted by the Government of India vide its Resolution dated 3.3.1987. The PESB has been set up with the objective of evolving a sound managerial policy for the Central Public Sector Enterprises and, in particular, to advise Government on appointments to their top management posts. As per GOI Resolution, the PESB shall consist of a part-time or full-time Chairperson and three full-time Members. The Chairperson and Members are persons who have had a long and distinguished career in management of public or private corporations or public in administration, and have had a proven record of achievements, preferably, in the field of personnel, finance, production or marketing. The Government has recently decided that candidates from State Level Public Sector Enterprises (SLPEs) and the Private sector will also be considered for selection to the port of functional directors in CPSEs as non internal candidates alongwith the candidates of Public Sector Enterprises subject to fulfilling the eligibility criteria.

4.3.1 Professionalization of Boards 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 on the Board structure of CPSEs in 1992 mention 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. The number of functional Directors on each Board moreover, should not exceed 50% of the actual strength of the Board.

In regard to selection and appointment of part-time non-official Directors on the Boards of CPSE, the following eligibility criteria is being adopted :

(a) Age: - 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.

(b) Qualification: - Minimum qualification for part time non official Directors would be graduate degree from a recognized university.

(c) Experience:- Persons of eminence with proven track record from industry, business or agriculture. CMD/MD in corporate sector/PSE; Professor level in an academic institution or professionals of repute like eminent Chartered Accountants/Cost Accountants at the level of Directors of Institutes/ Heads of Department; persons having experience of not less than 10 years at the level of Joint Secretary and above in the Government.

The proposals for appointment of non-official Directors are initiated by the concerned Administrative Ministries/Departments. In so far as Navratna and Miniratna CPSEs are concerned, the selection of non-official Directors is made by the Search Committee consisting of

Chairman, PESB, Secretary,DPE , Secretary of the administrative Ministry/Department of the CPSE, Chief Executive of the concerned CPSE and non-official Members. In the case of remaining CPSEs (other than Navratna/Miniratna CPSEs), Public Enterprises Selection Board (PESB) makes the selection of non-official Directors. The concerned Administrative Ministry/Department appoints the non-official Directors on the basis of recommendations of Search Committee/PESB after obtaining the approval of the competent authority.

The Navratna scheme provides that the Boards of these companies should be professionalised by inducting a minimum of 4 non-official Directors before their Boards can exercise the enhanced powers. Similarly, in the case of Miniratna CPSEs also induction of a minimum of 3 non-official Directors is a pre-condition for the exercise of delegated powers under the Miniratna Scheme.

During the last three years (2005, 2006 and 2007), the Search Committee and PESB have recommended the names of 425 persons for appointment as non-official Directors on the Boards of CPSEs. During the year 2008 (till October, 2008), the names of 112 persons have been recommended by the Search Committee/ PESB in this regard.

The Government Directors are appointed in ex-officio capacity and their choice vests with the concerned administrative Ministries/ Departments.

4.4 Wage & Salary policies in CPSEs

The Department of Public Enterprises (DPE) functions as the nodal Department, inter-alia, in respect of policy relating to wage settlements of unionized employees, pay revision of non-unionized supervisors and executives holding the posts below the Board level as well as at the Board level in CPSEs. The Department renders advice to the administrative Ministries/ Departments and the CPSEs in matters relating to the wage policy and revision in the scales of pay of the executives. The CPSEs are largely following Industrial Dearness Allowance (IDA) pattern scales of pay. In some cases, Central Dearness Allowance (CDA) pattern scales of pay is followed.

4.4.1 Industrial Dearness Allowance (IDA)

The Government policy regarding pay scales and pay pattern for all the employees of CPSEs is that these should be on IDA pattern and related scales of pay. Instructions have been issued by the DPE in July, 1981 and July, 1984 to all the administrative Ministries Department that as and when a new CPSE is created or established, IDA pattern and related scales of pay should be adopted ab-initio. There are 242 CPSEs (excluding Banks and Insurance Companies) under the administrative control of the Central Government. The CPSEs employ approximately 15.70 lakh workmen, clerical staff and executives. Out of this, around 96% of the workmen and executives are on IDA pattern and related scales of pay.

Pay Revision for Executives/ non-unionised supervisors under IDA pattern

The last pay revision for the IDA executives and non-unionized supervisors was done w.e.f 1.1.97 for a period of ten years based on the recommendations of Justice Mohan Committee. The periodicity of pay revision was for 10 years w.e.f. 01.01.1997. In the last pay revision effective from 01.01.1997, (i) House Rent Allowance (HRA) and City Compensatory Allowance (CCA) were allowed at the rates applicable to Central Government employees, (ii) Board of Directors of CPSEs were given flexibility to provide for adequate level of leased accommodation, (iii) Dearness Allowance was allowed under IDA pattern based on 100% neutralization of cost of living as in the case of Central Government employees and, (iv) Perquisites and allowances were allowed at the ceiling of 50% of basic pay. All other allowances including Productivity Linked Incentives (PLI) limited to 5% of the distributable profits of the CPSE as a whole, which should normally be within 50% ceiling. If the limit was not considered sufficient to reward the employees for their work, the CPSEs were allowed to go beyond the 50% of basic pay but within 5% of distributable profits of the CPSE as a whole in the form of PLI.

Procedure adopted for revision of pay in IDA pattern of scales w.e.f. 1.1.1997

Following procedure has to be adopted for revision of pay in the IDA pattern of scales w.e.f 01.01.1997:

(i) CPSEs which have been consistently making profit are allowed to adopt revised scales of pay in the IDA pattern in accordance with DPE's guidelines.

(ii) CPSEs which had incurred loss during any of the three financial years preceding to pay revision would also be allowed to revise the scales with the approval of the Government i.e. the administrative Ministry acting in consultation with DPE, provided they give an estimate as to how the resources would be generated by them to meet the extra expenditure.

(iii) In respect of sick enterprises referred to BIFR, revision of pay scales for all employees following IDA pattern would be strictly in accordance with the rehabilitation packages approved or to be approved by the BIFR and after providing for the additional expenditure on account of pay revision in this package.

(iv) CPSEs under construction or new CPSEs would submit their proposals for adoption of revised scales of pay to their administrative Ministries for approval in consultation with the DPE.

Second Pay Revision Committee

The Second Pay Revision Committee for the revision of scales of pay of Board level and below Board level executives including non-unionised supervisors of CPSEs following Industrial Dearness Allowance (IDA) pattern scales of pay w.e.f. 1.1.2007 was constituted vide the Government of India Resolution dated 30.11.2006. The Pay Revision Committee was headed by Mr. Justice M. Jagannadha Rao, retired Judge, Supreme Court of India as Chairman. Dr. Nitish Sengupta (Economist & former Secretary, Planning Commission, Government of India), Shri P.C. Parakh (former Secretary, Department of Coal, Government of India) and Shri R.S.S.L.N. Bhaskarudu (former Managing Director, Maruti Udyog Ltd. & ex-Chairman, Public Enterprises Selection Board) were Members. Secretary and Joint Secretary, Department of Public Enterprises were ex-officio Member and Secretary of the Committee, respectively. The Committee has submitted its report to the Government on 30.05.2008. The recommendations of 2nd Pay Revision Committee has been considered by Government and guidelines were issued by DPE on 26.11.08. The guidelines provide for the pay scale of 12600-32500 for the executives in E-0 grade, at minimum level while the pay scale of Rs. 80000-125000 at maximum level has been provided for CMD of Schedule-A CPSEs. A uniform fitment benefit @ 30% on Basic Pay + DA @ 68.8% as on 01.01.2007 has been provided. The implementation of pay revision is linked to affordability factor of the CPSEs subject to the condition that there should not be a dip of more than 20% in Profit Before Tax for the year 2007-08 in respect of executives and non-unionized supervisors. CPSEs which are not able to adopt these revised pay scales, may provide lower fitment of 10% or 20%, depending on affordability. Rate of annual increment will be @ 3% of the revised Basic Pay. Revised system of DA has been provided, with 100% DA neutralization on 01.01.2007, with link point of AICPI and with the periodicity of once in three months. The HRA to the employees of CPSEs will be @ 30%, 20%, 10% of the Basic Pay. Other allownaces/perks may be subject to a ceiling of 50% of the Basic Pay. Certain allowances have been kept outside the ceiling of 50% of the Basic Pay. The graded Variable Pay/Performance Related Pay (PRP) has been provided, which will range from 40% to 200%. The PRP would be determined based on the factors like MoU rating, individual performance, grade of the executive, constitution of Remuneration Committee headed by Independent Director. 60% of the PRP with ceiling of 3% of PBT will come out from the current year's profit and 40% of PRP will come from 10% of incremental profit. The total PRP will, however, be limited to 5% of year's PBT. 10% to 25% of the PRP may be paid as Employees' Stock Option Plan (E-SOP). The ceiling of Gratuity has been raised to Rs. 10 lakh w.e.f. 01.01.2007. CPSEs have been allowed 30% of Basic Pay as Superannuation Benefits.

Policy on 7th Round of Wage negotiations

DPE vide its OM dated 9.11.2006 has issued the policy guidelines for the 7th Round of Wage Negotiations (which falls due on a general basis from 01.01.2007) with the unionized workmen of CPSEs. The management of CPSEs have freedom to negotiate revision of pay scales for the workmen within certain conditions. The guidelines are broadly similar to the earlier policy on the Sixth Round of Wage Negotiations. The Guidelines, inter alia, broadly indicates that the wage settlement will be for a period of 10 years with 100% DA neutralization. The Government vide O.M. dt. 01.05.2008, furthermore, allowed the Administrative Ministries/Departments (concerned with the CPSEs) take a decision on a case by case basis for the periodicity of Wage Settlement below 10 years but not less than 5 years, with the approval of their Minister.

Pay revision of employees under CDA Pattern in CPSEs

CDA pattern pay scales are applicable to some of the clerical staff, unionized cadres and executives of the 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 CDA pattern pay scales during that time. A High Power Pay Committee (HPPC) was appointed by the Government, in pursuance of the Supreme Court directions dated 12.3.1986, which submitted its Report to the Government on 24.11.1988. Its recommendations were implemented in these CPSEs. In pursuance of the Supreme Court direction dated 3.5.1990 read with the subsequent directions dated 28.8.1991, IDA pattern and related scales of pay were introduced in these CPSEs with effect from 1.1.1989. Out of 69 CPSEs (covered under HPPC), at present there are 48 CPSEs, which are following both CDA and IDA pattern scales of pay. As per the recommendations of the High Power Pay Committee and Supreme Court directives thereon, the employees following CDA pattern of scales of the Central Public Sector Enterprises would get pay revision only as and when similar changes are effected for the Central Government employees. Accordingly, the recommendations of 5th Central Pay Commission w.e.f. 1.1.1996 had been extended to the employees of CPSEs following CDA pattern of scales. In addition, the employees of CPSEs following CDA pattern have also been allowed the benefit of merger of 50% of DA with basic pay w.e.f 1.4.2004. This benefit has been allowed to the employees of CPSEs that are not loss making and are in a position to absorb the additional expenditure on account of merger of DA with basic pay from their own resources without any budgetary support from the Government.

DPE vide its OM dated 14.10.2008, has revised the pay scales of the employees of CPSEs following CDA pattern w.e.f. 01.01.2006, based on Governments decision of the recommendation of both Central Pay Commission. The benefit of pay revision was allowed only to the employees of those CPSEs that are not loss making and are in a position to absorb the additional expenditure on account of pay revision from their own resources without any budgetary support from the Government. It has also been indicated that the Board of Directors would consider the proposal of pay revision of all the employees in the CPSE, keeping in mind the affordability and capacity of the CPSE to pay and submit a proposal to its Administrative Ministry/Department, which will approve the proposal with the concurrence of its Financial Advisor. In respect of Food Corporation of India, the concurrence of Department of Expenditure would also be required vide O.M. dtd. 20.1.2009 guideline revised allowances have been issued.

4.5 Executives Development Programme(EDP)

As the nodal Department for PSEs, the Department of Public Enterprises is supplementing the efforts of the public enterprises towards human resource development by organizing Executive Development Programmes (EDPs) for senior and middle level executives in collaboration with premier Management/Training Institutes in the country.

The CPSEs design their own human resources development programmes so as to upgrade the skills and knowledge of middle and senior level executives by giving them training in India. To supplement the efforts of CPSEs, some of the premier management / training institutes and CPSEs are conducting training programmes in collaboration with the Department of Public Enterprises. The EDPs are conducted for a duration of 2-5 days. During 2007-2008, 26 such programmes were conducted and for the year 2008-09, 20 such programmes are planned. These programmes are organized in collaboration with CMC Limited, Jawaharlal Nehru Institute for Development, Institute of Company Secretaries, the Institute of Cost and Works Accountants of India, National Institute of Micro Small and Medium Enterprises, National Institute of Financial Management, Institute of Chartered Accountants of India, Indian Society for Training and Development, Institute of Company Secretaries of India, Indian Society of Health Administration, etc.

The subjects covered under these programmes include financial management, leadership challenge, effective marketing management, total quality management, information technology & e-commerce, management information systems, communication skills, corporate governance, MOU principles & practices, project management, capital market reform & risk management, negotiation strategies & skills, health and stress management, industrial relations & labour issues, international taxation/ international finance and Workshop on Cluster Development Accounting Standards.

India is a founder member of International Centre for Promotion of Enterprises (ICPE), Ljubljana, Slovenia which is an inter-governmental organization. India has doubled its annual contribution to ICPE from the year 2007-2008. Currently, Indian nominee is the Director-General of ICPE. ICPE also conducts full year MBA Course every year. Secretary, DPE is a member on the Board of Governors of IIM, Kolkatta and the Institute of Public Enterprises, Hyderabad. DPE is also a member of the Executive Board of the Standing Conference of Public Enterprises (SCOPE), New Delhi.

4.6 Voluntary Retirement Scheme (VRS)

In the present globally competitive and deregulated scenario, in view of the ongoing restructuring in the industries including CPSEs, several measures for reforms and restructuring of PSEs have been taken up by the Governments, right sizing of manpower in the CPSEs is one of the measures adopted. In the process, the Voluntary Retirement Scheme, which was initially announced in October, 1988 for the first time was revised and a comprehensive package was notified by DPE in May 2000 so as to cater to the need of CPSEs to meet their objectives and also to protect the interests of the workers affected due to various restructuring models.

Considering the difficulties faced by the enterprises where the wage revision of 1992 or 1997, as the case may be, could not be effected, the Voluntary Retirement Scheme was liberalized by issuance of subsequent notification on 6th November, 2001, which inter alia provides for 100% additional compensation for the employees where wage revision of 1992 could not be effected and similarly 50% additional compensation for employees where the wage revision of 1997 could be made effective. The ex-gratia under VRS to employees following CDA pattern at 1986 scales has also been enhanced by 50% w.e.f. 26.10.2004. These increases in VR compensation are to be computed based on the existing pay of the employees.

From the introduction of the Voluntary Retirement Scheme initially in October 1988 to March 2008, approximately 5.94 lakh employees have been released under VRS.

VRS in CPSEs which can sustain the compensation themselves

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. However, such compensation will not exceed the salary for the balance period of service left.

VRS in Marginally Profit or Loss Making CPSEs

Marginally profit /loss making CPSEs as well as sick and unviable units may adopt:

(i) either the 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 superannuating subject to conditions that the compensation shall not exceed the sum of salary for the balance period left for superannuation

(ii) or the VRS package of Department of Heavy Industry (DHI model), under which ex-gratia payment 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, is applicable. 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 for service left.

4.7 Scheme of Counselling, Retraining and Redeployment(CRR)

Restructuring of enterprises is a global phenomenon, particularly in the context of liberalized economy. There has been thrust on restructuring the CPSEs, both at macro as well as micro level. In the process, rationalization of manpower has also become a necessity. But this affects in some cases the interest of the workers. As such, the policy of the Government has been to implement reforms with a human face and provide adequate safety net for the affected workers.

Considering the emerging need to have safety net, Government established the National Renewal Fund (NRF) in February, 1992 to cover broadly the expenses of VRS and to provide retraining to workers in the organized sector. In the wake of on going restructuring exercises in the central enterprises, focus was given on the need of CPSEs. The NRF was abolished in February, 2000. The retraining activity was administered earlier by the Department of Industrial Policy & Promotion until 31st March, 2001. The scheme for Counselling, Retraining and Redeployment (CRR) of rationalized employees of CPSEs is under implementation since 2001-02 by the Department of Public Enterprises.

The scheme for Counselling, Retraining and Redeployment (CRR), inter-alia, aims:

(i) to provide opportunity for self-employment,

(ii) to reorient rationalized employees through short duration programmes,

(iii) to equip them for new avocations,

(iv) to engage them in income generating self-employment,

(v) to help them rejoin the productive process.

The main elements of the CRR programme are Counselling, Retraining and Redeployment. Besides, a new element of sensitization programme has also been included under CRR programme.

Counselling helps the rationalized employees to absorb the trauma of leaving the organization, to properly manage their funds including compensation and to motivate them to face the challenges and to re-join the productive process. Similarly, retraining strengthens their skill/expertise. Selected training institutes impart need-based training of 20 days / 30 days / 40 days modules. The faculty support is both internal and external, and the approach is to provide classroom lectures as well as field experience. In the process, trainees interact with experts from various fields and are being helped in preparation/finalization of project reports. The retraining should lead to redeployment mostly through self-employment. In the present scheme, the objective is to maximize the rate of self-employment. The nodal agencies, therefore, provide need-based support, linkage with credit institutions and continuously follow up with the retrained personnel.

For monitoring the CRR programme, the in-built mechanism involves field visits and inspections by the concerned officers of DPE. Coordination Committees at local level have also been formed. The Scheme also provides for inter-ministerial Review Committee under Secretary,DPE with members from selected concerned Governments/agencies/CPSEs.

The Nodal Training Agencies are required to counsel VRS optees, impart training and reorientation programme, develop curriculum /materials, prepare feasibility report market survey, post training follow up, interface with credit institutions, support in self employment, regular liaison with CPSEs, convening meeting of Coordination Committee etc.

CPSEs are the key to the success of the scheme. They are supposed 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.

On the advice of Planning Commission, CRR Scheme has been reviewed and approved by EFC on 20.9.2007. The scheme continues with revised guidelines issued in November 2007 to all the operating nodal agencies, Chief Executives of CPSEs, concerned administrative Ministries/Departments and nodal ministries / Departments.

Following modifications have been incorporated in the revised CRR Scheme:

(i) Under the scheme, VRS optees (he/ she) would be given priority.

(ii) One dependent of VRS optee could be considered where the VRS optee himself is not interested.

(iii) Under the modified scheme, duration of training will be of 30, 45 and 60 days in place of 20, 30 and 40 days. Accordingly, Expenditure Norm has been modified as Rs. 7000/-, Rs.9000/- and Rs.11000/- respectively in place of Rs. 5300/-, Rs. 6600/- and Rs. 7900/- respectively.

(iv) Separate amount for "follow up" has been assigned in the expenditure norm to ensure higher re-deployment.

A Plan Fund of Rs. 8 crore was allocated initially during 2001-02, which was enhanced to Rs.10 crore during 2002-03 and 2003-04. The plan fund substantially increased to Rs. 30 crore during 2004-05 and 2005-06 and further enhanced to Rs. 31.50 crore during 2006-07. During 2007-08, plan fund of Rs. 7.70 crore was allocated for implementation of CRR scheme. In 2007-08, 17 nodal agencies were operational with 58 Employees Assistance Centres (EACs). Year wise number of persons trained under the scheme is shown as under:-

Year	No. of persons trained
2001-02	8064
2002-03	12066
2003-04	12134
2004-05	28003
2005-06	32158
2006-07	34398
2007-08	9728
Total	136551

Category	Group 'A' & 'B'	Group 'C'	Group 'D'
Scheduled Castes	15%	15%	15%
Scheduled Tribes	7.5%	7.5%	7.5%
Other Backward Classes	27%	27%	27%
Physically Handicapped Persons	3%	3%	3%
Ex-servicemen & Dependents of those killed in action	–	14.5%	24.5%

4.8 Employment under Reserved Categories

The Personnel and Recruitment Policies of CPSEs are formulated by the management of respective public sector enterprises. However, on matters of general importance, policy guidelines are issued by the Government to the enterprises which are to be kept in view by the latter while framing their individual corporate policies.

Apart from having formal Presidential Directives issued to CPSEs by the concerned administrative Ministries so as to ensure reservation in regard to employment for Scheduled Castes, Scheduled Tribes and Other Backward Classes (OBCs), on the same lines as applicable to the Central Government Ministries/Departments, the Department of Public Enterprises also keeps a watch on the reservation policies in the recruitment through calling for Annual Reports from the CPSEs and also by taking necessary follow-up action after scrutinizing these reports. In regard to details of implementation, however, the CPSEs generally follow the instructions from Department of Personnel & Training. A comprehensive Presidential Directive incorporating all important instructions on reservation for SCs and STs, was issued on 25th April, 1991 to all administrative Ministries/ Departments concerned by DPE for formal issuance of these instructions to CPSEs. The administrative Ministries/Departments have subsequently issued necessary instructions to CPSEs for information and compliance.

Based on the recommendation of the Second Backward Classes Commission (Mandal Commission) and in accordance with the Supreme Court Judgement in the Indira Sawhney case, instructions were issued for providing reservation of 27% of vacancies in favour of Other Backward Classes (OBCs) in Civil Posts and Services under the Government of India. Department of Personnel & Training (DOPT) who formulate the policy in respect of reservation in services, have 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. The DPE have been extending these instructions to CPSEs through their administrative Ministries for compliance. A comprehensive Presidential Directive incorporating all instructions was prepared by the DPE and issued to all administrative Ministries vide DPE's OM dated 27th July, 1995 for formal issuance to CPSEs under their control.

Athough the administrative Ministries/ Departments concerned have been made formally responsible for implementation of these Directives, the DPE also takes follow-up action on the recommendations made by the Parliamentary Committee on Welfare of Scheduled Castes and Scheduled Tribes and National Commission for SCs/STs/OBCs. The CPSEs have been advised by DPE to make necessary efforts to wipe out the backlog in vacancies so as to improve the representation of Scheduled Castes/Scheduled Tribes/OBCs in the services, particularly in Group 'A' & 'B' posts. CPSEs have been also advised to invariably associate an officer of appropriate level belonging to SC/ST with their Departmental Promotion Committee/Selection Board.

The present quota for reservation for candidates belonging to Scheduled Castes, Scheduled Tribes and OBCs where recruitment is made on All-India basis through open competition as well as for other categories of persons entitled to reservation of vacancies is discussed below:

The position regarding representation of Scheduled Castes and Scheduled Tribes in CPSEs as on 1.1.1971 (the earliest data available) and the comparative position as on the first day of the different years of 1980, 2007 and 2008 are shown at Annex 4.1.

There has been significant improvement in the representation of both Scheduled Castes and Scheduled Tribes in Group 'A' and Group 'B', posts over the years. The representation of SCs/ STs in Group 'A' posts has been rising steadily and went up from 2.90% and 0.66% respectively as on 1.1.1980 to 13.94% and 4.81% respectively as on 1.1.2008. Similarly, in regard to Group 'B' posts, the representation of SCs/STs has risen from 5.12% and 1.36% as on 1.1.1980 to 13.99% and 5.82% respectively as on 1.1.2008. Though the overall percentage of representation of SC/ST in services is good, the representation in Group 'A' and Group 'B' is not satisfactory. This is also on account of the CPSEs that were earlier in the private sector (and have been taken over), and did not have any scheme of reservation prior to nationalization. The shortfall in the representation of Scheduled Castes/Schedule Tribes in Group 'A' and Group 'B' posts in Public Enterprises is also on account of non-availability of suitable Scheduled Castes and Scheduled Tribes candidates in technical disciplines. Most of the CPSEs being in the manufacturing/ production sector, have preponderance of technical posts in Group 'A' and 'B' services. The representation of OBCs in Group 'A' and 'B' posts as on 1.1.2008 is 7.74% and 8.86% respectively. Though the representation of OBCs in all Groups 'A', 'B', 'C' and 'D' posts has improved, the overall percentage of OBCs in services is not satisfactory.

The need to ensure timely filling up of reserved posts and the backlog has been conveyed through various instructions issued from time to time. All administrative Ministries/Departments have been also 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. One of the agenda enunciated in National Common Minimum Programme (NCMP) is to launch a Special Recruitment Drive to fill up backlog of reserved vacancies for SC and ST in CPSEs. DPE has issued repeated instructions to all administrative Ministries/Departments dealing with CPSEs to fill up these vacancies at the earliest. The Special Recruitment Drive will continue till all the backlog vacancies are filled.

The DPE have extended the scheme for reservation for Ex-servicemen to the CPSEs through the administrative Ministries/ Departments, and instructions streamlining the procedure for recruitment of Ex-servicemen have been issued so as to augment the in-take in the various services of 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.

The DPE have also issued draft Presidential Directive on 22.4.1991 incorporating all instructions issued on the subject to all the administrative Ministries/Departments concerned for employment of physically handicapped persons in PSEs. With the enactment of the Persons with Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act, 1995, the reservation to physically handicapped persons stood extended to identified Group 'A' and 'B' posts filled through Direct Recruitment. As per the Act, not less than 3% shall be reserved for Persons with Disabilities of which 1% each shall be reserved for persons suffering from (i) blindness or low vision (ii) hearing impairment and (iii) locomotor disability or cerebral palsy. All CPSEs have been advised to comply with the provisions of the Act.

Annex. 4.1

RepresSentation of SCs and STs in CPSEs (1971 to 2008)

Group	Total No. of employees	Representation of SCs/STs				
		SCs No.	%age	STs No.	%age	
1	2	3	4	5	6	
As on 1.1.1971 (Based on information furnished by 85 enterprises)						
Group 'A'	31,311	163	0.52	53	0.17	
Group 'B'	35,751	549	1.54	57	0.16	
Group 'C'	3,51,347	19,302	5.59	4,519	1.29	
Group 'D'	1,29,220	20,626	15.96	7,680	5.94	
(Excluding Safai Karamcharis)						
Total	**5,47,629**	**40,640**	**7.42**	**12,309**	**2.25**	
Group 'D' (Safai Karamcharis)	5,551	4,547	81.75	77	1.39	
Grand Total	**5,53,180**	**45,187**	**8.17**	**12,386**	**2.24**	
As on 1.1.1980 (Based on information furnished by 177 enterprises)						
Group 'A'	93,984	2,726	2.90	623	0.66	
Group 'B'	97,756	5,003	5.12	1,329	1.36	
Group 'C'	12,74,581	2,30,505	18.08	98,329	7.71	
Group 'D' (Excluding Safai Karamcharis)	3,53,981	79,167	22.36	38,083	10.76	
Total	**18,20,302**	**3,17,401**	**17.44**	**1,38,364**	**7.60**	
Group 'D' (Safai Karamcharis)	36,030	23,309	64.69	1,492	4.14	
Grand Total	**18,56,332**	**3,40,710**	**18.35**	**1,39,856**	**7.53**	
As on 1.1.2007 (Based on information furnished by 210 Enterprises)						
Group 'A'	1,91,299	25,058	13.09	8,835	4.61	13,098
Group 'B'	1,69,191	22,860	13.51	10,739	6.34	14,526
Group 'C'	6,65,996	1,28,352	19.27	63,809	9.58	1,08,653
Group 'D' (excluding Safai Karamcharis)	2,31,640	50,142	21.64	37,012	15.97	49,960
Total	**1258126**	**226412**	**17.99**	**120395**	**9.56**	**186237**
Group 'D' (Safai Karamcharis)	14,553	11,509	79.08	439	3.01	476
Grand Total	**12,72,679**	**2,37,921**	**18.69**	**1,20,834**	**9.49**	**1,86,713**

Group	Total No. of Employees	Representation of SCs/STs/OBCs				
		SCs No.	%	STs No.	%	OBCs No.
As on 1.1.2008 (Based on information furnished by 206 Enterprises)						
Group ‘A’	196116	27353	13.94	9435	4.81	15192
Group ‘B’	218599	30597	13.99	12730	5.82	19369
Group ‘C’	836590	164411	19.65	72219	8.63	128660
Group ‘D’ (Excluding Safai karamcharis)	276445	57987	20.97	34409	12.44	50691
Total	1527750	280348	18.35	128793	8.43	213912
Group ‘D’ (Safai Karamcharis)	13012	9864	75.80	397	3.05	520
Grand Total	**1540762**	**290212**	**18.83**	**129190**	**8.38**	**214432**

Annex. 4.2

Statement Showing Total Employees, Salaries,Wages and Other Benefits Received by the Employees of Public Sector Undertaking

(Rs. in crore)

SI No.	Enterprise Group	Number of employees		Salary Wages and other Benefits Including bonus	
		2007-08	2006-07	2007-08	2006-07
1	Agro based Industries	4226	4350	74.76	60.47
2	Coal & Lignite	445637	457218	13319.38	1084861
3	Crude Oil	41570	42421	1925.49	2753.46
4	Other Minerals & Metals	35331	35539	1598.80	1136.21
5	Steel	148727	152920	9118.11	594362
6	Petroleum (Refinery & Marketing)	65780	65418	6013.79	5042,20
7	Fertilizers	15278	15232	722.19	570.31
8	Chemicals & Pharmaceuticals	7342	7475	236.64	232.81
9	Heavy Engineering	51334	50421	2775.16	2534.07
10	Medium & Light Engineering	67007	68624	2080.69	1759,54
11	Transportation Equipment	68852	65913	2929.21	2097.59
12	Consumer Goods	27890	28S29	92274.00	617 91
13	Textiles	17240	22813	322.51	360.65
14	Generation	56654	56996	2786.53	1906,02
15	Transmission	7645	7427	53732.00	349,93
16	Trading & Marketing	53237	55564	1812.05	161649
17	Transportation Services	61596	63939	4652.60	4151.86
18	Contract & Construction Services	16515	17354	419.55	370.73
19	Industrial Deveploment & Tech. Consultancy Services	13643	12604	1020.09	701.32
20	Tourist Services	4885	9906	256.83	221.20
21	Financial Services	3287	3289	312.57	177,10
22	Telecommunication Services	355850	369356	10468.85	9133.87
23	Enterprises Under Construction	410	308	0.00	000
	Grand Total	**1,569936.0**	**1613716.0**	**64305.86**	**52585.97**

Statement Showing Employment, Gross Block, Cost of Production and Labour Content in some of the Commodity Groups During 2007-08

SI No	Commodity Group	. Number of Employees	Gross Block (Rs. in Crore)	Gross Block (Per Employee) (Rs. in Thousand)	Cost of Production (Rs. in Crore)	Labour Content (Rs. in Crore)	Labour Content as % of Cost of Production
1	Agro Based Industries	4226	100.09	236.84	380.46	74.76	19.65
2	Coal & Lignite	445637	41,403.30	929.08	31,025.10	13,319.38	4293.00
3	Crude Oil	41570	140,460.00	33,788.87	49,209.90	1,925.49	3.91
4	Other Minerals & Metals	35331	14,255.30	4,034.80	8,415.66	1,598.80	19.00
5	Steel	148727	40,264.20	2,707.26	38,781.70	9,118.11	23.51
6	Petroleum (Refinery & Marketing)	65780	131,453.00	19,983.75	545,553.00	6,013.79	1.10
7	Fertilizers	15278	10,494.00	6,868.75	14,415.90	722.19	501.00
8	Chemicals & Pharmaceuticals	7342	1,380,36.00	1,880.09	1,695.06	236.64	1396.00
9	Heavy Engineering	51334	5,084.81	990.53	18,384.00	2,775.16	15.10
10	Medium & Light Engineering	67007	7,561.82	1,128.51	10,811.30	2,080.69	19.25
11	Transportation Equipment	68852	7,095.96	1,030.61	15,219.70	2,929.21	19.25
12	Consumer Goods	27890	4,784,72.00	1,715.57	4,304.64	922.74	21.44
13	Textiles	17240	725.50	420.82	2,024.05	322.51	15.93
14	Generation	56654	118,446.00	20,907.01	37,091.90	2,786.53	7.51
15	Transmission	7645	35,418.00	46,328.33	3,191.55	537.32	16.84
16	Trading & Marketing	53237	3,043.41	571.67	110,209.00	1,812.05	1.64
17	Transportation Services	61596	39,895.80	6,477.02	27,253.10	4,652.60	17.07
18	Contract & Construction Services	16515	4,609.75	2,791.25	8,134.76	419,55.00	5.16
19	Industrial Deveploment & Tech. Consultancy Services	13643	787.11	576.93	3,828.44	-1,02009.00	26.65
20	Tourist Services	4885	266.14	544.81	1,065.05	256.83	24.11
21	Financial Services	3287	866.91	2637.39	10042.30	312.57	3.11
22	Telecommunication Services	355850	141153.00	3966.65	38472.50	10468.85	27.21
23	Enterprises Under Construction	410	194.70	4748.78	0.00	0.00	0.00
	Grand Total	**1569936**	**749745.33**	**47756.43**	**979510.51**	**64305.86**	**6.57**

Annex. 4.4

Per Capita Emoluments of Public Sector Employees in relation to increase in Average All-India Consumer Price Index (1960=100)

Year	Employ. (in lakhs) (excl. Casual & daily rated workers)	Emoluments (Rs. in crore)	Per Capita Emoluments (Rupees)	%age increase over 1971-72 per capita	Average Index	Percentage increase over 1971-72
1971-72	7.01	415	5920	-	192	-
1972-73	9.32	541	5805	1.94	207	7.81
1973-74	13.44	749	5573	5.86	250	30.21
1974-75	14.32	1060	7402	25.03	317	65.10
1975-76	15.04	1352	8983	51.74	313	63.02
1976-77	15.75	1408	8940	51.01	301	56.77
1977-78	16.38	1646	10048	69.73	324	68.75
1978-79	17.03	1908	11210	89.36	331	72.40
1979-80	17.75	2213	12468	110.61	360	87.50
1980-81	18.39	2619	14239	140.52	401	108.85
1981-82	19.39	3133	16158	172.94	451	134.90
1982-83	20.24	3649	18029	204.54	486	153.13
1983-84	20.72	4485	21549	264.00	547	184.92
1984-85	21.07	5126	24328	310.95	582	203.13
1985-86	21.54	5576	25887	337.28	620	222.92
1986-87	22.11	6371	28820	386.82	674	251.04
1987-88	22.14	7193	32537	449.61	736	283.23
1988-89	22.09	8683	39415	565.79	803	318.23
1989-90	22.36	9742	43665	637.58	855	345.31
1990-91	22.19	10912	49179	730.73	951	395.31
1991-92	21.79	12311	56508	854.52	1079	461.98
1992-93	21.52	13983	64983	997.69	1185	517.1
1993-94	20.70	14913	72043	1116.94	1272	562.50
1994-95	20.62	17015	82517	1293.87	1402	630.21
1995-96	20.52	21931	106876	1705.34	1542	703.13
1996-97	20.08	22219	110662	1769.29	1687	778.65
1997-98	19.59	25385	129582	2088.89	1803	839.06
1998-99	19.00	26254	138179	2234.10	2039	961.98
1999-00	18.06	30402	168339	2743.56	2109	998.44
2000-01	17.40	38223	219672	3610.67	2190	1440.62
2001-02	19.92	38556	193554	3169.49	2284	1089.58
2002-03	18.66	42169	225986	3717.33	2375	1136.98
2003-04	17.62	43919	248481	4097.31	2467	1184.89
2004-05	17.00	48629	286053	4731.97	2561	1236.98
2005-06	16.49	46841	284057	4698.26	2674	1292.71
2006-07	16.14	52586	325869	5404.54	2853	1385.94
2007-08	15.70	64306	409609	6819.07	3030	1478.12

Annex. 4.5

Cognate Group-Wise Women Employement During 2007-08

(in Number)

SI No.	Commodity Group	Managerial and Supervisory	Workers	Total
1	Agro Based Industries	77.00	196.00	273.00
2	Coals, Lignite	2,614.00	28,351.00	30,965.0
3	Crude Oil	1,376.00	864.00	2,240.00
4	Other Minerals & Metals	282.00	1,900.00	2,182.00
5	Steel	1,112.00	6,748.00	7,860.00
6	Petroleum (Refinery & Marketing)	2,753.00	2,023.00	4,776.00
7	Fertilizers	307.00	588.00	895.00
8	Chemicals & Pharmaceuticals	163.00	396.00	559.00
9	Heavy Engineering	1,219.00	1,360.00	2,579.00
10	Medium & Light Engineering	1,951.00	9,952.00	11,903.00
11	Transportation Equipment	1,117.00	1,854.00	2,971.00
12	Consumer Goods	500.00	736.00	1,236.00
13	Textiles	193.00	644.00	837.00
14	Generation	1,405.00	2,513.00	3,918.00
15	Transmission	265.00	153.00	418.00
16	Trading & Marketing	1,128.00	829,00	1,957.00
17	Transportation Services	1,795.00	1,627.00	3,422.00
18	Contract & Construction Services	475.00	286 00	761 00
19	Industrial Deveploment & Tech. Consultancy Services	757.00	393.00	1,150.00
20	Tourist Services	123.00	65.00	188.00
21	Financial Services	488.00	270.00	758.00
22	Telecommunication Services	8,112.00	41,894.00	50006.00
23	Enterprises Under Construction	36.00	22.00	58.00
	Grand Total	**28248.00**	**103664.00**	**131912.00**

5 PRODUCTIVITY IN CPSEs

The Central Public Sector Enterprises have generally been technologically complex identities characterized by large scale production. These are capital intensive industries promising higher productivity per unit of input/hour. Both endogenous and exogenous factors influence 'productivity' of these enterprises. While endogenous factors may constitute of better technology, quality of labour, scale of output and management practice, the exogenous factors may comprise interest rates, tax policies, infrastructure facilities, weather conditions, law and order and the overall state of the economy.

Productivity, in turn, is the measure of efficiency in use of resources (or inputs) in the production of various goods and services. A comparison with the peer groups or over time throws light on if 'productivity' is high or low, or whether there is improvement/deterioration in condition during the period under consideration. Some of the important measurements of 'productivity' are capacity utilization, inventory in relation to sales and use of energy in the enterprise. The paragraphs below discuss each of these measurements of productivity in relation to CPSEs.

5.1 Capacity Utilization

Capacity utilization is one of the several indicators for measuring efficiency of any unit. Various factors, such as, state of the plant and machinery, technology used, inventory management, management practice, work ethics and external environment affect capacity utilization. Capacity utilization in this report has been derived based on installed/rated capacity. Wherever installed/rated capacity is not available for various reasons, assessment of the management vis-à-vis the capacity utilization of the enterprises has been used. In the case of multiple-product units, capacity utilizations have been worked out with reference to major products.

The detailed enterprises-wise statement, indicating the unit-wise major products and the capacity utilization, for the last three years is given at the end of this Volume (Statement No. 18). The paragraphs below discuss cognate group-wise rated capacity of the enterprises and extent of utilization.

5.1.1 Iron & Steel

The information on capacity utilization in respect of six CPSEs producing iron and steel, during the period 2005-06 to 2007-08 is given the table below:-

Sl. No.	Name of Enterprises	Product	Capacity Utilization (%) 2007-08	2006-07	2005-06
1.	Mishra Dhatu Nigam Ltd.	Super Alloys	70	49	45
2.	Maharashtra Electrosmelt Ltd	Ferro Alloys	122	126	120
3.	Rashtriya Ispat Nigam Ltd.	MMSM Products	11989	12763	12479
4.	Sponge Iron India Ltd.	Sponge Iron	72	90	81
5.	Ferro Scrap Nigam Ltd.	Recovery of scrap	97	98	100
6.	Steel Authority of India Ltd.	Average of Semis and Finished Steel	118	114	109

The capacity utilization improved in 2007-08 as compared to 2006-07 in respect of 3 CPSEs, and it declined in respect of 3 CPSEs. The Mishra Dhatu Nigam Ltd. produced 1919 MT of alloys during 2007-08 as against the production of 1337 MT in the previous year. The Rashtriya Ispat Nigam Ltd. produced 1015 MT of MMSM Products and 0.495 MT of Pig Iron during 2007-08 as against a production of 1077 MT of MMSM Products and 0.352 MT of Pig Iron during the previous year. Sponge Iron India Limited produced 43331 MT of Sponge Iron during the year 2007-08 as compared to 55,194 MT during the year 2006-07. Ferro Scrap Nigam Limited, processed 11.06 MT tonnes of scrap during the year 2007-08, as compared to 11.52 MT during the previous year. Maharashtra Electrosmelt Limited produced 104165 MT of Ferro Alloys during the year 2007-08 as compared to 107063 MT during the previous year.

5.1.2 Minerals and Metals

The information on capacity utilization in respect of six enterprises producing minerals and metals, during the period 2005-06 to 2007-08 is given in the table below: -

Sl. No.	Name of Enterprises	Product	Capacity Utilisation (%)		
			2007-08	2006-07	2005-06
1.	Bharat Refractories Ltd.	Bricks, Fireclay & Mortar	67	65	60
2.	Hindustan Copper Ltd.	Wire Rod	71	66	59
		Cathodes	94	84	76
		Sulphuric acid	18	17	-
3.	Indian Rare Earths Ltd.	Ilmenite	87	83	98
		Rutile	66	56	73
		Zircon	109	78	105
4.	Kudremukh Iron Ore Ltd.	Iron Ore Pellets	55	18	81
5.	Manganese Ore (India) Ltd.	Elect. Mon Diox	112	131	130
		Ferro Manganese	111	102	62
6.	National Aluminium Co. Ltd.	Alumina Hydrate	100	94	101
		Cast Metal	104	104	104

The capacity utilization increased in 2007-08 as compared to 2006-07 in respect of all 6 CPSEs. Bharat Refractories Limited produced 90951 MT bricks, fireclay and mortar in the year 2007-08 as against 88793 MT during the previous year. The National Aluminium Company Ltd. produced 15.76 lakh MT of alumina hydrate during the year 2007-08 as against 14.75 lakh MT during the previous year. The production of cast metal was 3.59 lakh tones, same as in the previous year.The Hindustan Copper Ltd. produced 44734 MT of cathode and 42536 MT of wire rods during 2007-08 as compared to 39785 MT of cathode and 39393 MT of wire rods during the previous year respectively. The Manganese Ore India Ltd. produced 13.65 lakh tonnes of manganese ore during 2007-08 against the production of 10.47 lakh tonnes during the previous year. The Indian Rare Earths Ltd. produced 403316 MT ilmenite, 15784 MT rutile and 26276 MT zircon during the year 2007-08. The corresponding figures for the previous year were 384814, 13481 and 18771 MT respectively.

The Kudremukh Iron Ore Co. Ltd. produced 1.927 million tonnes of iron ore pellets during 2007-08 as compared to 0.63 million tonnes in 2006-07. As the mining activities at Kudremukh have been stopped w.e.f 31.12.2005, there was no production of Iron Ore Concentrate during the year 2007-08. FCI Aravali Gypsum and Minerals Limited excavated 948000 MT of Gypsum during the year 2007-08 as compared to 858881 MT in the previous year.

5.1.3 Coal and Lignite

The information on capacity utilization in respect of seven units producing coal and lignite, during the period 2005-06 to 2007-08 is given in the table below:-

Sl. No.	Name of Enterprises	Product	Capacity Utilisation (%) 2007-08	2006-07	2005-06
1.	Bharat Coking Coal Ltd.	Raw Coal	65	67	68
2.	Eastern Coalfields Ltd.	Coal	71	79	89
3.	Northern Coalfields Ltd.	Coal	103	100	101
4.	South Eastern Coalfields Ltd.	Coal	106	107	110
5.	Western Coalfields Ltd.	Coal	105	99	103
6.	Neyveli Lignite Corpn. Ltd.	Lignite	90	88	85
7.	Coal India Limited	Coal	99	99	110

It may be noted from the table above that the capacity utilization has increased in 2007-08 as compared to 2006-07 in respect of 4 CPSEs and it has declined in respect of 3 CPSEs.

The Northern Coalfields Limited produced 59.62 MTe of Coal during the year 2007-08 as compared to 52.16 MTe in the previous year. The Bharat Coking Coal Limited produced 25.215 MT of Raw Coal (Departmental) during the year 2007-08 as compared to 24.205 MT during the year 2006-07. The South Eastern Coalfields Limited produced 93.719 MT of Coal during the year 2007-08 as compared 88.502 MT during the previous year. The Western Coalfields Limited produced 43.512 MT of Coal during the year 2007-08 as compared to 43.212 MT in the previous year. The Neyveli Lignite Corporation Ltd. produced 21.54 MT of lignite during 2007-08 as compared to 21.01 MT during the previous year. The Coal India Limited produced 11.01 MT of Coal in 2007-08 as compared to 10.50 MT in 2006-07.

5.1.4 Power and Energy

The information on capacity utilization in respect of five enterprises in the power and energy sector, during the year 2005-06 to 2007-08 is given in the table below : -

Name of Enterprises	Product	Capacity Utilisation (%) 2007-08	2006-07	2005-06
NTPC Limited	PLF	92	89	88
Neyveli Lignite Corporation Ltd.	Power Gross (MU)	80	72	74
Nuclear Power Corporation of India Ltd.	Electricity from Nuclear Energy	54	63	74
Satluj Jal Vidyut Nigam Ltd.	Power Generation	97	92	62
Tehri Hydro-Develop. Corporation	PLF	89	86	-

It may be observed from the above table that while the capacity utilization has increased in 2007-08 as compared to 2006-07 in respect of 4 CPSEs, it has declined in respect of one CPSE. The Satluj Jal Vidyut Nigam Limited generated 6448.977 MU of power during 2007-08 as against 6014.480 MU during the previous year. Neyveli Lignite Corporation produced 17457 MU of power during 2007-08 as compared to 15787 MU during the previous year. The Nuclear Power Corporation of India Ltd. generated 16956 MUs of electricity during the year 2007-08 as compared to 18801 MUs of electricity in the previous year. The NTPC Limited produced 200.863 MUs of electricity during the year 2007-08 as compared to 188.674 MUs in the year 2006-07. Tehri Hydro Development Corporation produced 2663.58 Kwh of power during the year 2007-08 as compared to 891.337 Kwh of power in the previous year.

5.1.5 Petroleum

The information on capacity utilization in respect of five enterprises in the petroleum sector, during the period 2005-06 to 2007-08 is given in the table below:

Sl. No.	Name of Enterprises	Product	Capacity Utilisation (%) 2007-08	2006-07	2005-06
1.	Bharat Petroleum Corporation Limited	Crude	107	101	88
2.	Chennai Petroleum Corpn. Ltd.	Crude	99	99	99
3.	Hindustan Petroleum Corporation Ltd.	Mumbai - Crude	134	135	114
		Visakh- Crude	125	123	101
4.	Numaligarh Refinery Limited	LPG, MS, ATF, SKO, HSD	86	83	71
5.	Mangalore Refinery Petrochemicals Limited	Crude	130	129	125

It may be observed from the table above that while the capacity utilization increased in 2007-08 in respect of 4 CPSEs,as compared to 2006-07 it declined in respect of one CPSE. The crude thruput for the Bongaigaon Refinery and Petrochemicals Ltd. during 2007-08 was 2.020 MMT as against 2.067 MMT during the previous year. The Chennai Petroleum Corporation Ltd. processed 10362 TMT of crude during the year 2007-08 as against 10402 TMT processed during the previous year. GAIL (India) Ltd. produced 10.42 lakh MT of LPG during 2007-08 as against a production of 10.26 lakh MT during the previous year. It also produced 385593 MT polymers as compared to 353921 MT in previous year.During 2007-08, Hindustan Petroleum Corporation Ltd. achieved 16.77 MMT thruput as against 16.66 MMT in the previous year. While Mumbai Refinery operated at 133.7% capacity utilization, the Visakhapatnam Refinery operated at 124.5% capacity utilization. The combined throughput by the seven refineries of the Indian Oil Corporation Ltd. during the year 2007-08 was 47.40 million tonnes as against the previous year's throughput of 44 million tonnes. NRL produced 2.568 MMTPA of Crude Oil throughput in 2007-08 as compared to 2.504 MMTPA in the previous year. MRPL has processed 12.55 MT of crude in 2007-08 as compared to 12.53 MT in 2006-07.

5.1.6 Fertilizers

The capacity utilization of the five enterprises producing fertilizers during the last 3 years , is given in the table below:-

Sl. No.	Name of Enterprises	Product	Capacity Utilisation (%) 2007-08	2006-07	2005-06
1	2	3	4	5	6
1.	Brahmaputra Valley Fertilizer Corporation Ltd.	Urea – Namrup-II	85	60	46
2.	Madras Fertilizers Ltd.	Ammonia	76	81	65
		Urea	90	97	75
		NPK	4	6	25
		Bio-fertilizer	97	57	59

1	2	3	4	5	6
3.	National Fertilizers Ltd.	Urea	101	104	104
		Methanol	20	68	45
		Bio-fertilizers	203	124	175
		Sulphur	50	58	50
		Argon Gas	84	93	106
4.	Rashtriya Chemicals and Fertilizers Ltd.	Thal -Urea	107	109	99
		Methanol	127	122	113
		Conc. Nitric acid	110	84	116
		Trombay Suphala	156	161	144
		Trombay ANP	0	10	62
5.	Fertilizers & Chemicals (Travancore) Ltd.	Caprolactam	13	83	77
		Factamfos 20:20	48	82	77

It may be noted from the table above that while the capacity utilization increased in 2007-08 as compared to 2006-07 in respect of one CPSE, it decreased in respect of 4 CPSEs.

The Brahmaputra Valley Fertilizer Corporation Ltd. produced 3.33 lakh MT urea during the year 2007-08 as compared to 3.08 lakh MT during the previous year. The Madras Fertilizers Ltd. produced 2.65 lakh MT ammonia, 4.40 lakh MT urea and 0.35 lakh MT NPK in 2007-08. The corresponding production figures for the previous year were 2.81 lakh MT ammonia, 4.73 lakh MT urea and 0.57 lakh MT NPK. The National Fertilisers Ltd. produced 32.68 lakh MT of urea during 2007-08 as against the production of 33.51 lakh MT during the previous year. The Rashtriya Chemicals and Fertilizers Ltd. produced 18.32 lakh MT Urea, 0.62 lakh MT Methanol, 4.68 lakh tonne Suphala and 0.22 lakh tonne Conc. Nitric acid during the year 2007-08 as against 18.53 lakh MT Urea, 0.60 lakh MT Methanol, 4.83 lakh tonne Suphala and 0.17 lakh tonne Conc. Nitric acid during the previous year.

5.1.7 Chemicals And Pharmaceuticals

The details of capacity utilization in respect of 10 enterprises are given below:-

Sl. No.	Name of Enterprises	Product	Capacity Utilisation (%) 2007-08	2006-07	2005-06
1	2	3	4	5	6
1.	Bengal Chemicals & Pharmaceuticals Ltd.	Phenol	93	84	92
		Hair Oil	56	44	79
		Tablet	123	191	82
		Capsule	54	98	34
		Ointment	96	133	110
		Naphthalene	87	123	135
2.	Bharat Immunologicals & Biologicals Corporation Ltd.	Oral Polio vaccine	2.1	0	11
3.	Hindustan Antibiotics Ltd.	Vials	84	56	47
		Tablets	80	50	30
		Capsules	59	23	13
		I.V. Fluids	88	68	50

1	2	3	4	5	6
4.	Hindustan Fluorocarbons Ltd.	PTFE	22	49	46
5.	Hindustan Insecticides Ltd.	DDT Technical	54	71	70
		Malathian (Technical)	76	72	53
		Endosulfan Tech	98	76	17
6.	Karnataka Antibiotics and	Capsules	61	48	49
	Pharmaceuticals Ltd.	Liquids/Parenterals	69	112	114
		Tablets	154	116	61
		Dry Powder Vials	75	76	89
7.	Rajasthan Drugs and	Tablets	108	125	214
	Pharmaceuticals Ltd.	Capsules	211	175	78
		Powder	98	117	116
		Liquids	64	89	83
		Vials	53	50	21
8.	Orissa Drugs & Chemicals Ltd.	Tablets	31	20	4
		Capsules	54	21	4
9.	Projects & Development India Ltd.	Catalyst	8	17	4
10.	Sambhar Salts Ltd.	Processed Salt	33	36	27

It may be observed from the table above that the capacity utilization increased in 2007-08 as compared to 2006-07 in respect of 5 CPSEs, and it has declined in respect of 5 CPSEs. The Bengal Chemicals & Pharmaceuticals Ltd. produced 2804 KL pheneol, 450 KL hair oil, 18 crores tablets, 266 lakh capsules and 57 MT ointment during 2007-08. The comparative figures for the previous year were 2510 KL, 349 KL, 29 crores, 490 lakh and 80 MT respectively. The Hindustan Antibiotics Ltd. produced 1943 lakh tablets, 1482 lakh capsules and 105.81 lakh I.V. fluids during 2007-08. The comparative figures for the previous year were 1215 lakhs, 575 lakhs and 82.36 lakhs respectively. The production of Aniline, Phenol and Acetone in HOC Ltd. during the year was 6210, 41908 & 26136 tonnes respectively as compared to previous year’s production of 7100, 40733 & 25463 tonnes respectively. The Hindustan Insecticides Ltd. produced 3441 MT of DDT (Tech) during the year 2007-08 as compared to 4495 MT of DDT (Tech) in the previous year. The Karnataka Anitbiotics and Pharmaceuticals Ltd. produced 2082 lakh tablets and 229 lakh capsules during 2007-08 as compared to 1568 lakh and 182 lakh respectively during the previous year. The Rajasthan Drugs and Pharmaceuticals Ltd. produced 520.87 million tablets during 2007-08 as compared to 602.20 million tablets during previous year. The production of liquids has decreased to 256.79 KL during 2007-08 from 356.32 KL of previous year. The production of PTFE in HFL during the year 2007-08 was 114 MT as compared to 245 MT in the previous year. ODCL produced 458 lakh tablets and 130 lakh capsules in 2007-08 as compared to 295 lakh tablets and 51 lakh capsules in 2006-07.

5.1.8 Heavy Engineering

The information on capacity utilization in respect of 6 companies during the year 2005-06 to 2007-08 is given below:

Sl. No.	Name of Enterprises	Product	Capacity Utilisation (%)		
			2007-08	2006-07	2005-06
1.	Bharat Heavy Plate & Vessels Limited	Process plants, Cryogenics, etc.	51	38	20
2.	Bharat Wagon & Engg. Co. Ltd.	Wagon	28	51	45
3.	Braithwaite & Co. Ltd.	Steel Castings	55	64	47
		Structurals	1	7	27
4.	Burn Standard Co. Ltd.	Basic Bricks	70	61	78
		DBM/Rock Sinter	177	278	205
5.	Heavy Engineering	Steel Casting	12	11	10
	Corporation Ltd.	Forging & Forged Rolls	33	33	30
6.	Tungabhadra Steel Products Ltd.	Hydro Mech. Equipments & steel structurals	2	1	1
		Hydel Power generation	116	65	88

It may be seen from the table above while the capacity utilization increased in 2007-08 as compared to 2006-07 in respect of 3 CPSEs, it declined in respect of 3 CPSEs. The Heavy Engineering Corporation Ltd. produced 3558 tones of steel castings (medium & heavy) was 3558 tons during 2007-08 as against the previous year's production of 3316 tons. The production of forging and rolls was 3153 tons during the year 2007-08 as compared to 3120 tons in the previous year. The Tungabhadra Steel Products Ltd. produced 123 MT hydro mechanical equipments & steel structurals and 58.18 lakh units of hydel power during the year 2006-07 as compared to 91 MT and 32.81 lakh units in the previous year.

5.1.9 Medium and Light Engineering

The details of capacity utilization in respect of 10 enterprises during the year 2005-06 to 2007-08 are given in the table below:

Sl. No.	Name of Enterprises	Product	Capacity Utilisation (%)		
			2007-08	2006-07	2005-06
1.	Andrew Yule and Co. Ltd.	Regulators	32	19	9
		Tea	83	83	80
		Transformers	144	101	89
2.	Balmer Lawrie & Co. Limited	Barrels & Drums	79	91	100
		Greases & Lubricants	54	45	48
		Leather Chemicals	146	144	155
3.	Biecco Lawrie Limited	Control & Switchgear	94	102	91
		Lube oil blending	16	22	39
4.	Bharat Pumps and	Pumps/compressors	21	17	17
	Compressors Ltd.	Gas Cylinders	32	29	24
5.	Central Electronics Limited	Solar PV Modules	28	86	106
6.	HMT Limited	Tractors	53	64	79
7.	HMT Watches Ltd.	Watches and components	4	8	7
8.	Rajasthan Electronics and	Electronic Milk Analyzers	158	167	158
	Instruments Ltd.	SPV Modules	74	60	43
9.	Richardson and Cruddas (1972) Ltd.	Fabrications	53	28	27
	Vignyan Industries Ltd.	Steel Castings	88	84	94

It may be noted from the table above that while the capacity utilization in respect of 5 CPSEs increased in 2007-08 as compared to 2006-07, it declined in respect of 5 CPSEs. The Tea Division of Andrew Yule and Co. Ltd. produced 92.84 lakh Kg of tea during the year with a capacity utilization of 82.9% as against a production and capacity utilization of 93.17 lakh Kg and 83.2% during the previous year. It produced 7,21,524 KVA transformers and 58,400 KVA regulators in 2007-08 as compared to 5,58,140 KVA transformers and 36,130 KVA regulators in 2006-07. Balmer Lawrie & Co. Limited produced 34.52 lakh barrels, 0.39 lakh MT of grease and lubricants and 4876 MT of leather chemicals during the year 2007-08 as compared to 35.96 lakh barrels, 0.32 MT of grease and lubricants and 4810 MT of leather chemicals in the previous year. Biecco Lawrie & Co. Limited produced 1297 control and switchgear and blended 1582 KL of lube oil in 2007-08 as compared to 1401 and 2253 KL in the previous year. Bharat Pumps and Compressors Ltd. produced 86 pumps and compressors as against its installed capacity of 306. The corresponding production in the previous year was 66. It produced 15387 gas cylinders in 2007-08 as against 14151 in 2006-07. The HMT Ltd. (Holding Company) produced 5303 tractors during the year 2007-08 as against 6401 during the previous year. The production of watches and components by HMT Watches Ltd. was 2.67 lakh as compared to 5.55 in the previous year. Rajasthan Electronics and Instruments Ltd. produced 7120 electronic milk analyzers and 1478 SPV modules systems during the year 2007-08. The corresponding figures for the previous year were 7515 and 1195 respectively. Richardson and Cruddas produced 16652 MT fabrications during 2007-08 against 8760 MT in the previous year.

5.1.10 Transportation Equipment

The position of capacity utilization in respect of six companies manufacturing transport equipments during the year 2005-06 to 2007-08 is given in the table below:

Sl. No.	Name of Enterprises	Product	Capacity Utilisation (%) 2007-08	2006-07	2005-06
1.	Cochin Shipyard Ltd.	Ship	117	121	73
2.	Garden Reach Shipbuilders and Engineers Ltd.	Shipbuilding fabrication	65	64	93
3.	Goa Shipyard Ltd.	Shipbuilding	85	88	66
4.	Hindustan Aeronautics Ltd.	Military and Civil Engg. Equipments Standard Man hours	105	101	97
5.	Scooters India Ltd.	3-Wheelers	70	92	95
6.	Hindustan Shipyard Ltd.	Shipbuilding	98	62	53

The table above reveals that while the capacity utilization in respect of 3 CPSEs increased in 2007-08 as compared to 2006-07, it declined in respect of 3 CPSEs. Cochin Shipyard Ltd. built 175536 DWT of ships during the year 2007-08 as compared to 181395 DWT in the previous year. Garden Reach Shipbuilding and Engineers Limited built 2101 tonnes of ships during 2007-08 as against 2068 tonnes in the previous year. The Hindustan Aeronautics Ltd. achieved the Standard Man Hours (SMH) output of 292 during 2007-08 as compared to 270 in the previous year. The Goa Shipyard Limited produced 4.96 standard ship units in 2007-08 as compared to 5.15 Standard ship units in the previous year. The Scooters India Ltd. produced 11512 three-wheeler scooters during 2007-08 as against 15162 in the previous year.

5.1.11 Consumer Goods

The information relating to capacity utilization in respect of 7 enterprises during the period of 2005-06 to 2007-08 is given in the table below:

Sl. No.	Name of Enterprises	Product	Capacity Utilisation (%)		
			2007-08	2006-07	2005-06
1.	Cement Corpn. of India Ltd.	Cement	24	27	24
2.	Hindustan Latex Ltd.	Contraceptive/ Condoms	80	105	99
		Blood Bags	121	110	92
		Copper T	50	51	62
3.	Hindustan Newsprint Ltd.	Newsprint	116	113	113
4.	Hindustan Paper Corpn. Ltd.	Newsprint	106	104	103
		Chlorine Gas (Liquified)	117	110	107
5.	Hindustan Photofilms Mfg.	Cine Films	0	0	0
	Co. Ltd.	X-Ray Films	3	3	4
6.	NEPA Ltd.	Newsprint	58	48	35
7.	Tyre Corporation of India Ltd.	Automotive Tyre	76	67	67

It may be noted from the above that while capacity utilization of 4 CPSEs increased during 2007-08, it decreased in respect of 3 CPSEs.

The Cement Corporation of India Ltd. produced 9.09 lakh MT cement during the year 2007-08 as compared to a production of 10.23 lakh MT during the previous year. The Hindustan Latex Limited produced 1048 million pieces of condoms during the year 2007-08 as compared to 1089 million pieces in the previous year. The production of writing & printing paper by Hindustan Paper Corporation Ltd. was 211746 MT as compared to 208315 MT during the year 2007-08 during the previous year.

The Hindustan Newsprint Ltd. produced 1161111 MT of newsprint during 2007-08 as against 112565 MT during the previous year. The Hindustan Photofilms Manufacturing Co. Ltd., produced 0.38 M. Sq. M during 2007-08 as against 0.47 M. Sq. M during the previous year. The NEPA Ltd. produced 51425 MT of newsprint during 2007-08 as against 42110 MT during the previous year. The Tyre Corporation of India produced 17754 MP automotive tyres as compared to 15623 MP during the previous year.

5.1.12 Agriculture

The information relating to capacity utilization in respect of 2 enterprises during the period 2005-06 to 2006-07 is given in the Table below:

Sl. No.	Name of Enterprises	Product	Capacity Utilisation (%)		
			2007-08	2006-07	2005-06
1.	National Seeds Corporation Ltd.	Seeds	111.95	104.67	80.29
2.	North Eastern Regional Agricultural Marketing Corporation Ltd.	Pineapple Juice Concentrate	0.85	0.50	0.25
		Cashewnut	9.00	6.30	3.70

The capacity utilization increased in 2007-08 as compared to 2006-07 in respect of above 2 CPSEs.

5.1.13 Crude Oil

Information relating to production in respect of 3 CPSEs for the period 2005-06 to 2007-08 is given in the Table below:

Sl. No.	Name of Enterprises	Product	Unit	Production 2007-08	2006-07	2005-06
1.	Oil and Natural Gas Corporation Ltd.	Crude Oil	MMT	27.84	27.89	27.16
		Natural Gas	BCM	25.12	24.90	24.89
2.	Oil India Ltd.	Crude Oil	000KL	3507	3513	3609
		Natural Gas	MSCM	2203	2118	2148
		LPG	MT	48147	43718	48312
		Condensate	KL	37991	35143	35072
3	ONGC Videsh Ltd.	Gas	BCM	1.962	2.148	1.955
		Crude Oil including Condensate	MMT	6.840	5.804	4.584

5.1.14 Transportation Services

The information relating to capacity utilization in respect of 2 enterprises is during the period of 2005-06 to 2007-08 given in the Table below:

Sl. No.	Name of Enterprises	Product	Capacity Utilisation (%) 2007-08	2006-07	2005-06
1.	Dredging Corporation of India Ltd.	Dredging sand, silt, clay, rock	85	96	91
2.	Pawan Hans Helicopters Ltd.	Helicopter Fleet	70	70	80

During the year 2007-08, Dredging Corporation of India Ltd. has dredged sand, silt, clay, rock, etc. to the tune of 677.30 Lakhs Cubic Metres as compared to 763.80 Lakhs Cubic Metres during the previous year.

5.1.15 Macro Picture of Capacity Utilisation for the last three years

The consolidated position of capacity utilization for the year under review along with that for the previous two years is presented in the table below:

Sl.No.	Description	2007-08	2006-07	2005-06
1.	Units which have recorded 75% or more capacity utilization	48(62%)	45(58 %)	44(58%)
2.	Units which have recorded 50% or more but less than 75%	16(21%)	16(21%)	13(17%)
3.	Units which have recorded less than 50% capacity utilization	13(17%)	16(21%)	19(25%)
	Total	77(100%)	77(100%)	76(100%)

(Figures in brackets show percentages)

It may be observed from the table above that 48 units recorded capacity utilization of 75% and more in 2007-08, as compared to 45 units in 2006-07.

5.2 MANAGEMENT OF INVENTROIES IN PUBLIC ENTERPRISES

5.2.1 Overall Analysis

Materials management plays a significant role in improving the operational efficiency and profitability of an enterprise. It helps in achieving higher return on investment by minimizing locked up working capital and also in improving the cash flow and liquidity position. Materials management, therefore, needs to be given due importance in the context of performance improvement. An attempt has been made in this chapter to present an overview position of inventory, cognate group-wise analysis and a company-wise.

Materials management in public enterprises has improved over the years. The inventory level, which was 72 days cost of production/turnover as on 31.3.1997 has declined to 49 days cost of production/turnover as on 31.3.2008. The overall position of inventory management during the last 12 years is shown in the Table 5.2.1 below:

Table 5.2.1

Year ending	Value of Inventory (Rs. in crore)	Cost of Production/ Turnover (Rs. in crore)	Inventory (No. of days) / Cost of Production / Turnover
31.3.1997	40815	206658	72
31.3.1998	41661	218940	69
31.3.1999	44404	278720	58
31.3.2000	52414	354446	54
31.3.2001	50717	425100	44
31.3.2002	52175	431362	44
31.3.2003	58282	466444	46
31.3.2004	59705	513334	42
31.3.2005	73642	626427	43
31.3.2006	90885	714841	46
31.3.2007	101527	836922	44
31.3.2008	128688	958346	49

The above figures do not include inventory held by the Food Corporation of India, the Cotton Corporation of India Ltd. and the Jute Corporation of India Ltd. as these corporations make large scale purchases and their stocks are a source of revenue, rather than cost. Public sector enterprises operating in Industrial Development and Technical Consultancy Services, Tourist Services, Financial Services and as Section 25 Companies have also been excluded from the review on materials management, in this chapter.

5.2.2 Cognate Groupwise Analysis

The central public sector enterprises have been grouped into various cognate groups, depending upon the nature of their activities. The analysis of inventory management is based on these groupings. The inventory position in each of the cognate groups, for the last two years, is shown in the Table 5.2.2 below:

Table 5.2.2

Cognate Group	As on 31.3.2008		As on 31.3.2007	
	Value (Rs. in crore)	Inventories (No. of days) / Cost of Production/ Turnover	Value (Rs. in crore)	Inventories (No. of days) / Cost of Production/ Turnover
(a) Agriculture Sector				
1. Agro-based Industries	104.00	105	79.53	118
Total	104.00	105	79.53	118
(b) Electricity Sector				
1. Power Generation	3900.80	30	3321.91	29
2. Power Transmission	248.22	20	184.13	19
Total	4149.02	29	3506.04	28
(c) Manufacturing Sector				
1. Chemicals & Pharmaceuticals	208.78	45	192.61	47
2. Consumer Goods	1332.20	113	1468.97	149
3. Fertilizer	1807.33	46	1700.78	47
4. Heavy Engineering	5974.82	119	4440.60	104
5. Medium & Light Engineering	2757.87	93	2588.57	89
6. Petroleum (Refinery & Mktg.)	64227.93	40	49264.16	35
7. Steel	8863.67	83	8085.27	88
8. Textiles	146.58	26	194.19	29
9. Transportation Equipments	17941.07	430	14263.45	340
Total	103260.25	55	82198.60	49
(d) Mining Sector				
1. Coal & Lignite	3827.32	45	3603.41	51
2. Crude Oil	4094.21	30	3635.55	31
3. Other Minerals & Metals	1742.77	76	1505.44	86
Total	9664.30	40	8744.40	43
(e) Services Sector				
1. Contract & Construction Services	4503.18	205	3165.99	211
2. Telecommunications and Information Technology Services	3381.56	33	2650.66	24
3. Trading & Marketing Services	2350.64	15	997.60	8
4. Transportation Services	1274.94	17	184.17	6
Total	11510.32	32	6998.42	24

The level of inventory in terms of number of days as cost of production/turnover in the Agriculture sector has come down from 118 days as on 31.3.2007 to 105 days as on 31.3.2008. In the case of electricity sector, however, the level of inventory which was 28 days as cost of production/turnover as on 31.3.2007 went up marginally to 29 days as cost of production/ turnover as on 31.3.2008. In 'manufacturing sector', there is an increase in the level of inventory from 49 days as on 31.3.2007 to 55 days as cost of production/turnover as on 31.3.2008. In the case of 'mining sector', the level of inventory in terms of number of days as cost of production/turnover has reduced from 42 days as on 31.3.2007 to 40 days as on 31.3.2008. However, in the case of 'services sector', the level of inventory, which was 24 days cost of production/turnover as on 31.3.2007 has gone up to 32 days cost of production/turnover as on 31.3.2008.

It is observed that there is reduction in the level of inventory in terms of number of days cost of production/turnover in sectors viz. Agro-Based Industries, Chemicals & Pharmaceuticals, Consumer Goods, Fertilizers, Steel, Textiles, Coal & Lignite, Crude Oil, Contract & Construction Services and Other Minerals & Metals. The level of inventory has gone up in sectors like Power Generation, Power Transmission, Heavy Engineering, Medium & Light Engineering, Petroleum (Refinery & Marketing), Transportation Equipments, Telecommunication & Information Technology, Trading & Marketing Services and Transportation Services.

Overall level of inventory has gone up during 2007-08 to the level of 49 days cost of production/turnover as compared to the previous year because of substantial increase in the level of inventory in sectors like Heavy Engineering, Medium & Light Engineering, Petroleum (Refinery & Marketing), Transportation Equipments, Telecommunications and Information Technology Services and Transportation Services.

5.2.3 Heavy Engineering

The value of inventory held by the eight public enterprises belonging to this group except the two holding companies viz. BBUNL and BYNL that do not have any inventory holding, was Rs.5974.82 crore representing 119 days cost of production as on 31.3.2008 as against a total inventory valued at Rs.4440.60 crore representing 104 days cost of production as on 31.3.2007. The value of inventory held by individual enterprises together with the level of inventory in terms of number of days as cost of production for the last two years is given in Table 5.2.3 below:

Table 5.2.3

Sl. No.	CPSE	Inventory (Rs. in crore)		Inventory/Cost of Production (No. of days)	
		2007-08	2006-07	2007-08	2006-07
1.	Bharat Heavy Electricals Ltd.	5736.40	4217.67	127	106
2.	Bharat Heavy Plate & Vessels Ltd.	48.48	45.50	86	83
3.	Bharat Wagon & Engg. Co. Ltd.	4.71	5.21	83	45
4.	Braithwaite & Co. Ltd.	20.46	15.89	151	111
5.	Burn Standard Company Ltd.	33.45	27.31	39	37
6.	Heavy Engineering Corpn. Ltd.	124.65	122.94	116	147
7.	Triveni Structurals Ltd.	6.03	5.11	38	36
8.	Tungabhadra Steel Products Ltd.	0.64	0.97	8	8
	Total	**5974.82**	**4440.60**	**119**	**104**

Of the 8 public enterprises, 7 could reduce the level of inventory during 2007-08 as compared to the previous year, while in the case of one company there has been increase in the level of inventory. It remained unchanged in the case of Tungabhadra Steel Products Ltd.

5.2.4 Medium & Light Engineering

The value of inventory held by 22 enterprises of this group as on 31.3.2008 was Rs.2757.87 crore representing 93 days cost of production as compared to Rs.2588.57 crore representing 89 days cost of production held by them as on 31.3.2007. The company-wise inventory position for the last two years is shown in the Table 5.2.4 below.

Table 5.2.4

Sl. No.	CPSE	Inventory (Rs. in crore)		Inventory/Cost of Production (No. of days)	
		2007-08	2006-07	2007-08	2006-07
1.	Andrew Yule & Co. Ltd.	27.33	25.38	44	39
2.	Antrix Corpn. Ltd.	0.00	0.00	0	0
3.	Balmer Lawrie & Co. Ltd.	86.36	80.28	23	24
4.	Bharat Dynamics Ltd.	434.24	338.92	259	313
5.	Bharat Electronics Ltd.	1351.57	1246.35	156	147
6.	BEL Optronics Ltd,	5.16	12.75	50	89
7.	Bharat Pumps & Compressors Ltd.	35.30	41.26	90	127
8.	Biecco Lawrie Ltd.	11.13	9.33	85	73
9.	Central Electronics Ltd.	25.96	21.55	64	64
10.	Electronics Corpn. of India Ltd.	68.84	68.56	32	33
11.	Hindustan Cables Ltd.	31.92	31.43	27	37
12.	HMT Bearings Ltd.	7.50	8.40	120	101
13.	HMT Chinar Watches Ltd.	7.24	7.05	52	59
14.	HMT Ltd.	52.40	32.87	69	41
15.	HMT Machine Tools Ltd.	104.35	113.45	130	99
16.	HMT Watches Ltd.	44.71	45.80	97	65
17.	I.T.I Ltd.	370.61	425.48	72	68
18.	IDPL (Tamilnadu) Ltd.	0.87	2.99	58	346
19.	Instrumentation Ltd.	66.46	58.72	87	81
20.	Rajasthan Electronics & Instruments Ltd.	10.89	7.78	52	42
21.	Richardson & Cruddas (1972) Ltd.	9.38	4.67	34	20
22.	Vignyan Industries Ltd.	5.65	5.55	79	95
	Total	**2757.87**	**2588.57**	**93**	**89**

Of the 22 pubic enterprises, 9 could reduce the level of inventory during 2007-08 as compared to the previous year while in the case of 11 companies there has been increase in the level of inventory. It remained unchanged in the case of Central Electronics Ltd. Antrix Corporation Ltd. did not hold any inventory.

5.2.5 Other Minerals & Metals

There were 10 companies operating in this group. The value of inventory held by these companies during the year 2007-08 was Rs.1742.77 crore representing 76 days cost of production. At the end of 2006-07, the value of inventory was Rs.1505.44 crore representing 86 days cost of production. The company-wise details are presented in the Table 5.2.5 below.

Table 5.2.5

Sl. No.	CPSE	Inventory (Rs. in crore)		Inventory/Cost of Production (No. of days)	
		2007-08	2006-07	2007-08	2006-07
1.	Bharat Refractories Ltd.	32.87	31.24	62	58
2.	FCI Aravali Gypum & Minerals (I) Ltd.	1.02	0.51	13	7
3.	Hindustan Copper Ltd.	386.12	408.54	98	113
4.	Indian Rare Earths Ltd.	55.00	48.29	75	66
5.	J&K Mineral Dev. Corpn. Ltd.	0.01	0.01	19	23
6.	Kudremukh Iron Ore Co. Ltd.	346.55	190.21	89	191
7.	Manganese Ore (India) Ltd.	22.69	31.32	30	52
8.	National Aluminium Co. Ltd.	686.65	634.96	81	84
9.	National Mineral Dev. Corpn. Ltd.	166.14	126.74	43	45
10.	Uranium Corporation of India Ltd.	45.72	33.62	59	49
	Total	**1742.77**	**1505.44**	**76**	**86**

Of the 10 public enterprises, 6 could reduce the level of inventory during 2007-08 as compared to the previous year while in case of 4 companies there has been increase in the level of inventory.

5.2.6 Fertilizers

There were seven companies engaged in the production of fertilizers. The value of inventory held by them as on 31.3.2008 was Rs.1807.33 crore representing 46 days cost of production as compared to an inventory value of Rs.1700.78 crore representing 47 days cost of production at the end of previous year. Company-wise analysis of inventory is given in Table 5.2.6 below.

Table 5.2.6

Sl. No.	CPSE	Inventory (Rs. in crore)		Inventory/Cost of Production (No. of days)	
		2007-08	2006-07	2007-08	2006-07
1	2	3	4	5	6
1.	Brahmaputra Valley Fertilizer Corpn.	40.02	45.60	40	47
2.	Fertilizers & Chem. (Travancore) Ltd.	318.45	346.16	126	75

1	2	3	4	5	6
3.	Fertilizer Corpn. of India Ltd.	42.32	42.33	10	11
4.	Hindustan Fertilizer Corpn. Ltd.	18.86	21.03	6	7
5.	Madras Fertilizers Ltd.	141.13	177.21	40	50
6.	National Fertilizers Ltd.	381.03	348.20	34	35
8.	Rashtriya Chemicals & Fertilizers Ltd.	865.52	720.25	62	72
	Total	**1807.33**	**1700.78**	**46**	**47**

The level of inventory has decreased in six enterprises during 2007-08 and increased in case of one enterprise.

5.2.7 Chemicals & Pharmaceuticals

The value of inventory held by 14 enterprises belonging to this group as on 31.3.2008 was Rs.208.78 crore representing 45 days cost of production as compared to Rs.192.61 crore representing 47 days cost of production held by them as on 31.3.2007. The company wise inventory position for the last two years is given in Table 5.2.6 below.

Table 5.2.7

Sl. No.	CPSE	Inventory (Rs. in crore)		Inventory/Cost of Production (No. of days)	
		2007-08	2006-07	2007-08	2006-07
1.	Bengal Chem. & Pharmaceuticals Ltd.	18.98	15.35	110	91
2.	Bharat Immunologicals & Biologicals Ltd.	0.22	0.25	4	14
3.	Hindustan Antibiotics Ltd.	29.57	15.09	82	47
4.	Hindustan Insecticides Ltd.	50.23	56.57	96	109
5.	Hindustan Flurocarbons Ltd.	2.27	2.54	55	37
6.	Hindustan Organic Chemicals Ltd.	58.73	62.67	38	44
7.	Hindustan Salts Ltd.	0.92	0.90	23	32
8.	Indian Drugs & Pharmaceuticals Ltd.	6.56	6.15	7	6
9.	Indian Medicines & Pharmaceuticals Corp. Ltd.	4.66	2.96	177	126
10.	Karnataka Antibiotics & Pharma. Ltd.	22.86	17.87	46	55
11.	Orissa Drugs & Chemicals Ltd.	0.38	0.36	31	71
12.	Projects & Development India Ltd.	3.04	3.78	27	48
13.	Rajasthan Drugs & Pharm. Ltd.	8.53	6.40	36	58
14.	Sambhar Salts Ltd.	1.83	1.72	44	54
	Total	**208.78**	**192.61**	**45**	**47**

Of the 14 public enterprises, nine could reduce the level of inventory during 2007-08 as compared to the previous year while in case of five enterprises there has been increase in the level of inventory.

5.2.8 Steel

The value of inventory held by six companies was Rs.8863.67 crore at the end of 2007-08 as compared to Rs.8085.27 crore held by them at the end of 2006-07. The level of inventory has come down from 88 days cost of production at the end of the previous year to 83 days cost of production at the end of 2007-08. The company-wise position is indicated in the Table 5.2.8 below.

Table 5.2.8

Sl. No.	CPSE	Inventory (Rs. in crore)		Inventory/Cost of Production (No. of days)	
		2007-08	2006-07	2007-08	2006-07
1.	Ferro Scrap Nigam Ltd.	10.38	10.72	30	36
2.	Maharashtra Elektrosmelt Ltd.	42.19	65.03	61	123
3.	Mishra Dhatu Nigam Ltd.	188.44	148.24	276	281
4.	Rashtriya Ispat Nigam Ltd.	1761.15	1203.24	88	69
5.	Sponge Iron India Ltd.	4.28	6.57	32	48
6.	Steel Authority of India Ltd.	6857.23	6651.47	81	91
	Total	**8863.67**	**8085.27**	**83**	**88**

The value of inventory has decreased in four enterprises during 2007-08 as compared to the previous year and increased in two enterprises.

5.2.9 Transportation Equipments

There are ten central public sector enterprises are engaged in the production of transportation equipments. The value of inventory held by these companies was Rs.17941.07 crore during the year 2007-08 as against Rs.14263.45 crore during 2006-07. The inventory level, which was 340 days cost of production at the end of previous year, has gone up to 430 days cost of production at the end of 2007-08. The company-wise details are given in the Table 5.2.9 below.

Table 5.2.9

Sl. No.	CPSE	Inventory (Rs. in crore)		Inventory/Cost of Production (No. of days)	
		2007-08	2006-07	2007-08	2006-07
1.	Bharat Earth Movers Ltd.	929.27	729.27	141	124
2.	Central Inland Water Transport Corp.	1.48	1.75	30	14
3.	Cochin Shipyard Ltd.	205.63	307.32	106	148
4.	Garden Reach Shipbuilders & Engrs. Ltd.	831.32	720.51	568	466
5.	Goa Shipyard Ltd.	112.36	47.27	140	75
6.	Hindustan Aeronautics Ltd.	8614.64	7222.52	377	307
7.	Hindustan Shipyard Ltd.	253.55	132.06	195	101
8.	Hooghly Dock & Port Engineers Ltd.	79.31	79.73	531	277
9.	Mazagon Dock Ltd.	6876.81	4975.58	1122	822
10.	Scooters India Ltd.	36.39	47.44	86	94
	Total	**17941.07**	**14263.45**	**430**	**340**

While two enterprises reduced the level of inventory during 2007-08 as compared to the previous year, the inventory levels increased in the case of eight enterprises during the year 2007-08.

5.2.10 Consumer Goods

The twelve CPSEs belonging to the consumer goods group held an inventory valued at Rs.1332.20 crore, representing 113 days cost of production during the year 2007-08, as against an inventory valued at Rs.1468.97 crore held by them during the previous year representing 149 days cost of production. The company-wise position is given in Table 5.2.7 below.

Table 5.2.10

Sl. No.	CPSE	Inventory (Rs. in crore)		Inventory/Cost of Production (No. of days)	
		2007-08	2006-07	2007-08	2006-07
1	Artificial Lims Mfg. Co. of India.	17.04	13.19	126	92
2.	Cement Corpn. of India Ltd.	102.13	101.81	137	137
3.	Hindustan Latex Ltd.	43.38	50.84	52	71
4.	Hindustan Newsprint Ltd.	70.24	70.69	93	94
5.	Hindustan Paper Corpn. Ltd.	135.32	160.76	73	92
6.	Hindustan Photo Films Manfg. Co. Ltd.	16.07	16.17	7	9
7.	Hindustan Vegetable Oils Corpn. Ltd.	0.00	1.79	0	26
8.	Hooghly Printing Co. Ltd.	0.09	0.09	8	8
9.	Nagaland Pulp & Paper Mills Ltd.	0.04	0.03	2	1
10.	NEPA Ltd.	9.67	12.83	22	36
11.	Security Printing & Minting Corpn. of India	935.28	1038.41	209	326
12.	Tyre Corpn. of India Ltd.	2.94	2.36	11	10
	Total	**1332.20**	**1468.97**	**113**	**149**

The level of inventory has decreased in six enterprises during 2007-08 and increased in three enterprises. In the case of Cement Corporation of India Ltd. and Hooghly Printing Co. Ltd., the level of inventory remained unchanged. Hindustan Vegetable Oils Corpn. Ltd. did not hold any inventory during 2007-08.

5.2.11 Petroleum (Refinery & Marketing)

There are eight companies operating in the petroleum (Refinery & Marketing) sector as on 31.3.2008. These companies have inventory valued at Rs.64227.93 crore as on 31.3.2008 as compared to Rs.49264.16 at the end of previous year. The level of inventory was 35 days cost of turnover as on 31.3.2007 as against 40 days cost of turnover as on 31.3.2008. The company-wise details of inventory is shown in the Table 5.2.11 below.

Table 5.2.11

Sl. No.	CPSE	Inventory (Rs. in crore)		Inventory/Cost of Production (No. of days)	
		2007-08	2006-07	2007-08	2006-07
1	2	3	4	5	6
1	Bharat Petroleum Copn. Ltd.	10603.84	8661.26	32	29
2.	Bongaigaon Refinery & Petrochemicals	1114.81	715.36	61	41

1	2	3	4	5	6
3.	Chennai Petroleum Corpn. Ltd.	4432.03	3214.77	49	40
4.	Gas Authority of India Ltd.	569.81	552.36	11	12
5.	Hindustan Petroleum Corpn. Ltd.	12020.28	8098.40	42	32
6.	Indian Oil Corpn. Ltd.	30941.48	24702.69	45	40
7.	Mangalore Refinery & Petrochemicals Ltd.	3624.30	2498.27	35	28
8.	Numaligarh Refinery Ltd.	921.38	821.05	38	38
	Total	**64227.93**	**49264.16**	**40**	**35**

The value of inventory increased in the case of six enterprises during 2007-08 as compared to the previous year and decreased in the case of one enterprise. In case of Numaligarh Refinery Ltd., the level remained unchanged.

5.2.12 Crude Oil

There are three companies operating in Crude Oil sector as on 31.3.2008. These companies had inventory valued at Rs.4094.21 crore as on 31.3.2008 as compared to Rs.3635.55 at the end of previous year. The level of inventory was 31 days cost of production as on 31.3.2007 as against 30 days cost of production as on 31.3.2008. The company-wise details of inventory are presented in the Table 5.2.12 below.

Table 5.2.12

Sl. No.	CPSE	Inventory (Rs. in crore)		Inventory/Cost of Production (No. of days)	
		2007-08	2006-07	2007-08	2006-07
1.	ONGC Videsh Ltd.	162.68	193.77	11	37
2.	Oil & Natural Gas Corpn. Ltd.	3480.64	3033.76	32	30
3.	Oil India Ltd.	450.89	408.02	40	42
	Total	**4094.21**	**3635.55**	**30**	**31**

The value of inventory increased in the case of one enterprise during 2007-08 and decreased in the case of two enterprises, compared to the previous year.

5.2.13 Agro-Based Industries

The value of inventory held by four companies belonging to this group was Rs.104 crore at the end of 2007-08 as compared to Rs.79.53 crore at the end of the previous year. The level of inventory has decreased to the level of 105 days cost of turnover at the end of 2007-08, as compared to 118 days cost of turnover at the end of previous year. Details of inventory held by these enterprises are given in the Table 5.2.13 below.

Table 5.2.13

Sl. No.	CPSE	Inventory (Rs. in crore)		Inventory/Cost of Production (No. of days)	
		2007-08	2006-07	2007-08	2006-07
1.	Andaman & Nicobar lsI. Forest & Plantation	0.78	0.94	84	88
2.	National Seeds Corpn. Ltd.	24.09	14.35	40	34
3.	North Eastern Regn. Agri. Mktg. Corpn. Ltd.	1.14	0.45	14	11
4.	State Farms Corpn. of India Ltd.	77.99	63.79	264	318
	Total	**104.00**	**79.53**	**105**	**118**

Of the four enterprises under this group, two could reduce the level of inventory during 2007-08 (as compared to the previous year). The level of inventory, however, increased in the case of two enterprises.

5.2.14 Coal & Lignite

The value of inventory held by nine public enterprises belonging to this group as on 31.3.2008 was Rs.3827.32 crore as compared to Rs.3603.41 crore at the end of previous year. The level of inventory was 45 days cost of production as on 31.3.2008 as compared to 51 days cost of production at the end of previous year. Company-wise details are given in Table 5.2.14 below.

Table 5.2.14

Sl. No.	CPSE	Inventory (Rs. in crore)		Inventory/Cost of Production (No. of days)	
		2007-08	2006-07	2007-08	2006-07
1	Bharat Coking Coal Ltd.	573.53	521.89	63	58
2	Central Coalfields Ltd.	991.18	813.64	95	88
3	Coal India Ltd.	10.44	23.69	5	15
4	Eastern Coalfields Ltd.	331.42	427.28	28	42
5	Mahanadi Coalfields Ltd.	354.90	263.60	48	42
6	Neyveli Lignite Corpn. Ltd.	448.05	455.49	75	89
7	Northern Coalfields Ltd.	297.74	225.72	32	27
8	South Eastern Coalfields Ltd.	518.63	508.13	32	44
9	Western Coalfields Ltd.	301.43	363.97	24	35
	Total	**3827.32**	**3603.41**	**45**	**51**

The value of inventory has decreased in the case of five enterprises during 2007-08 (as compared to the previous year) and increased in the case of four enterprises.

5.2.15 Textiles

There are five companies in textiles sector as on 31.3.2008. The value of inventory held by companies belonging to this group was Rs.146.58 crore at the end of 2007-08 as compared to an inventory of Rs.194.19 crore at the end of previous year. The level of inventory was 26 days cost of production during the year 2007-08 and 29 days at the end of previous year. All the subsidiary companies of National Textile Corporation Ltd. have been merged with the holding company during the year 2006-07. The company wise details are given in the Table 5.2.15 below:

Table 5.2.15

Sl. No.	CPSE	Inventory (Rs. in crore)		Inventory/Cost of Production (No. of days)	
		2007-08	2006-07	2007-08	2006-07
1.	Birds, Jute & Exports Ltd.	0.01	0.53	1	38
2.	British India Corpn. Ltd.	17.28	23.10	116	242
3.	Brushware Ltd.	0.04	0.04	209	209
4.	National Jute Manufacturers Corpn. Ltd.	0.00	0.00	0	0
5.	National Textile Corpn. Ltd.	129.25	170.52	23	41
	Total	**146.58**	**194.19**	**26**	**29**

Of the five Enterprises, three could reduce the level of inventory during the year 2007-08 as compared to previous year. The National Jute Manufacturers Corporation Ltd. did not hold any inventory during 2007-08. It remained unchanged in the case of Brushware Ltd.

5.2.16 Power Generation

The value of inventory held by eight power generating companies as on 31.3.2008 was Rs.3900.80 crore as compared to Rs.3321.91 crore at the end of previous year. The level of inventory was 30 days cost of turnover as on 31.3.2008 as against 29 days cost of turnover as on 31.3.2007. The company wise break-up of inventory is given in the Table 5.2.16 below.

Table 5.2.16

Sl. No.	CPSE	Inventory (Rs. in crore)		Inventory/Cost of Production (No. of days)	
		2007-08	2006-07	2007-08	2006-07
1.	National Hydroelectric Power Corpn. Ltd.	739.63	324.93	120	68
2.	National Thermal Power Corpn.	2675.69	2510.19	26	28
3.	North Eastern Electric Power Corpn. Ltd.	68.19	69.60	29	31
4.	Nuclear Power Corpn. of India	361.08	356.31	40	36
5.	Satluj Jal Vidyut Nigam Ltd.	53.63	58.71	13	13
6.	Narmada Hydro Electric Development Corpn.	2.58	2.17	1	1
7.	REC Power Distribution Co. Ltd.	0.00	0.00	0	0
8.	Tehri Hydro Development Corpn. Ltd.	0.00	0.00	0	0
	Total	**3900.80**	**3321.91**	**30**	**29**

Of the eight enterprises under this group, two could reduce the level of inventory during 2007-08 as compared to the previous year while in case of two enterprises there has been increase in the level of inventory. It remained unchanged in the case of Narmada Hydro Electric Development Corporation Ltd. and Satluj Jal Vidyut Nigam Ltd. REC Power Distribution Co. Ltd. and Tehri Hydro Development Corpn. Ltd. did not hold any inventory.

5.2.17 Transportation Services

There are 11 public sector enterprises operating in the transportation services sector. Of the 11 companies, Air India Air Transport Services Ltd. did not hold any inventory. The value of inventory held by remaining 11 companies was Rs.1274.94 crore as on 31.3.2008 as compared to an inventory valued at Rs.184.17 crore at the end of previous year. The level of inventory has increased from 6 days cost of turnover during the previous year to 17 days cost of turnover in the current year. The company-wise details are given in the Table 5.2.17 below.

Table 5.2.17

Sl. No.	CPSE	Inventory (Rs. in crore)		Inventory/Cost of Production (No. of days)	
		2007-08	2006-07	2007-08	2006-07
1	2	3	4	5	6
1.	Air India Air Transport Services Ltd.	0.00	0.00	0	0
2.	Air India Charters Ltd.	28.35	9.12	12	5

1	2	3	4	5	6
3.	Airline Allied Services Ltd.	7.09	9.21	10	10
4.	Airports Authority of India	59.83	25.45	6	3
5.	Container Corpn. of India Ltd.	4.81	4.61	1	1
6.	Dredging Corpn. of India Ltd.	29.56	22.59	15	14
7.	Ennore Port Ltd.	4.79	4.79	14	17
8.	Fresh & Healthy Enterprises Ltd.	11.56	0.06	260	5
9.	National Aviation Co. of India Ltd.	1001.61	0.00	27	0
10.	Pawan Hans Helicopters Ltd.	37.27	34.49	65	69
11.	Shipping Corpn. of India Ltd.	90.07	73.85	9	7
	Total	**1274.94**	**184.17**	**17**	**6**

Out of 11 enterprises in the Transportation Sector, two CPSEs could reduce the level of inventory during 2007-08 as compared to the previous year, while in the case of five enterprises there has been increase in the level of inventory. The level of inventory remained unchanged in two enterprises. No inventory was held by Air India Transport Services Ltd.

5.2.18 Trading & Marketing Services

There were 16 CPSEs in the Trading & Marketing Services group. Three companies namely Food Corpn. of India, Cotton Corpn. of India and Jute Corpn. of India have been excluded for the purpose of analysis as already mentioned before. As such, the analysis covers the remaining 13 companies only. These 13 companies held inventory valued at Rs.2350.64 crore representing 15 days cost of turnover at the end of 2007-08 as compared to an inventory of Rs. 997.60 crore representing 8 days cost turnover at the end of previous year. The company-wise details are given in the Table 5.218 below.

Table 5.2.18

Sl. No.	CPSE	Inventory (Rs. in crore)		Inventory/Cost of Production (No. of days)	
		2007-08	2006-07	2007-08	2006-07
1	2	3	4	5	6
1.	Central Cottage Industries Corpn.	5.87	5.85	25	20
2.	Central Railside Warehousing Co. Ltd.	0.00	0.00	0	0
3.	Central Warehousing Corpn.	5.02	2.98	3	2
4.	Handicrafts & Handlooms Exports Corpn.	36.87	2.01	19	10
5.	H.M.T. (International) Ltd.	0.33	1.10	5	13
6.	India Trade Promotion Organization	0.06	0.06	0	0
7.	Karnataka Trade Promotion Organisation	0.00	0.00	0	0
8.	MMTC Ltd.	553.21	177.69	8	3
9.	MSTC Ltd.	13.99	65.94	1	8
10.	National Handloom Development Corpn. Ltd.	0.77	0.60	0	1
11.	North Eastern Handicrafts & Handlooms Corpn. Ltd.	1.94	1.74	77	68
12.	NTPC Vidyut Vyapar Nigam Ltd.	0.16	0.46	0	0

1	2	3	4	5	6
13.	PEC Ltd.	1049.66	146.63	68	12
14.	STCL Ltd.	35.14	31.36	5	11
15.	State Trading Corpn. Ltd.	647.62	561.18	15	14
16.	Tamilnadu Trade Promotion Organization	0.00	0.00	0	0
	Total	**2350.64**	**997.60**	**15**	**8**

Of the 16 enterprises in this group, four could reduce the level of inventory during 2007-08 as compared to the previous year while in the case of seven enterprises, there has been increase in the level of inventory. The level of inventory remained unchanged in the case of two enterprises. No inventory was held by Central Railside Warehousing Co. Ltd. Tamilnadu Trade Promotion Organization and Karnataka Trade Promotion Organization.

5.2.19 Contract & Construction Services

There were 11 central public sector enterprises operating in the Contract & Construction Services group. Of the 11 companies, Mumbai Railway Vikas Corpn. Ltd. did not hold any inventory. The value of inventory held by 10 companies in this group was Rs.4503.18 crore as on 31.3.2008 as compared to Rs. 3165.99 crore held by them at the end of previous year. The level of inventory has decreased from 211 days cost of turnover to 205 days cost of turnover. The company-wise details are given in the Table 5.2.19 below.

Table 5.2.19

Sl. No.	CPSE	Inventory (Rs. in crore)		Inventory/Cost of Production (No. of days)	
		2007-08	2006-07	2007-08	2006-07
1.	BBJ Construction Co. Ltd.	18.95	18.49	81	100
2.	Bridge & Roof Co. (India) Ltd.	382.61	309.53	197	203
3.	Hindustan Prefab Ltd.	0.33	0.46	3	7
4.	Hindustan Steelworks Constn. Ltd.	3.00	1.63	2	1
5.	IRCON (International) Ltd.	159.02	89.43	29	22
6.	Konkan Railway Corpn. Ltd.	10.59	12.74	8	7
7.	Mineral Exploration Corpn. Ltd.	5.42	4.96	22	24
8.	Mumbai Railway Vikas Corpn. Ltd.	0.00	0.00	0	0
9.	National Bldg. Constn. Corpn. Ltd.	268.98	155.60	50	39
10.	National Projects Constn. Corpn. Ltd.	5.28	7.12	3	4
11.	Rail Vikas Nigam Ltd.	3649.00	2566.03	936	143211
	Total	**4503.18**	**3165.99**	**205**	**211**

Of the 11 enterprises, six could reduce level of inventory during 2007-08 as compared to the previous year while in the case of four enterprises, there has been increase in the level of inventory. It remained unchanged in the case of one enterprise. No inventory was held by Mumbai Railway Vikas Corporation Ltd.

5.2.20 Telecommunications and Information Technology Services

There were four public sector enterprises operating in this group. Millennium Telecom Ltd. did not hold any inventory during the current year. Mahanagar Telephone Nigam Ltd., Bharat Sanchar Nigam Ltd. and Railtel Corporation India Ltd., belonging to this group held an inventory valued at Rs.3381.56 crore as on 31.3.2008 as compared to Rs.2650.66 crore held by them at the end of the previous year. The level of inventory has gone up from 24 days cost of turnover during 2006-07 to 33 days cost of turnover in 2007-08. The company-wise details are given in the Table 5.2.20 below.

Table 5.2.20

Sl. No.	CPSE	Inventory (Rs. in crore)		Inventory/Cost of Production (No. of days)	
		2007-08	2006-07	2007-08	2006-07
1.	Bharat Sanchar Nigam Ltd.	3220.06	2428.47	36	26
2.	Mahanagar Telephone Nigam Ltd.	160.71	221.28	12	16
3.	Railtel Corporation India Ltd.	0.79	0.91	2	3
4.	Millennium Telecom Ltd.	0.00	0.00	0	0
	Total	**3381.56**	**2650.66**	**33**	**24**

Of the four enterprises in Telecommunications & Information Technology Services group, two CPSEs could reduce the level of inventory during 2007-08 as compared to the previous year, while in the case of one enterprise, there has been increase in the level of inventory. No inventory was held by Millennium Telecom Ltd.

5.2.21 Power Transmission

The value of inventory held two power transmission companies as on 31.3.2008 was Rs.248.22 crore as compared to Rs.184.13 crore at the end of previous year. The level of inventory was 19 days cost of turnover as on 31.3.2007 as against 20 days cost of turnover as on 31.3.2008. The company-wise breakup of inventory is given in the table 5.2.21 below.

Table 5.2.21

Sl. No.	CPSE	Inventory (Rs. in crore)		Inventory/Cost of Production (No. of days)	
		2007-08	2006-07	2007-08	2006-07
1.	Power Grid Corporation of India	248.22	184.13	20	19
2.	NTPC Electric Supply Co. Ltd.	0.00	0.00	0	0
	Total	**248.22**	**184.13**	**20**	**19**

Of the two CPSE, in this group, the level of inventory increased in the case of Power Grid Corporation of India Ltd. during the year 2007-08. The NTPC Electric Supply Co. Ltd. did not hold any inventory during the year.

5.3 Energy Conservation in Public Sector

Rapid increase in energy demand and consumption in all the sectors of the economy consequent to high economic growth has led to overall shortage of both peak and normal energy requirements. In this perspective, all the more, energy conservation has assumed much greater importance. Creating/building additional capacity is not only capital intensive but also time consuming. Additional investment for energy conservation measures, on the other hand, is more cost effective and yields results within a short period.

The main reasons for higher consumption of energy have been identified as obsolete technology, lower capacity utilization, casual monitoring of energy consumption, lower automation, low quality of raw material and poor operating / maintenance practices. The cognate group-wise pattern of energy consumption is given in Annex-5.1.

The CPSEs have a major role to play in this area. Energy conservation measures taken by some of the Central Public Sector Enterprises during the year 2007-08 are given in the following paragraphs.

5.3.1 Steel

5.3.1.1 The overall specific energy consumption in Steel Authority of India Limited (consisting of 5 integrated steel plants) during 2007-08 has been 6.95 G.cal/tcs, which is less then previous year figure of 7.16 G.cal/tcs. Some of the important energy conservation schemes implemented during the year 2007-08 are as under.

(i) Bhilai steel plant(BSP)

- (a) VVVF drive installed in sinter cooler & drum feeder of machines # 4 of SP-II
- (b) Multi-slit burners commissioned in machine #1 and #2 of SP-II
- (c) Coal dust injection rates at BF #1, BF#V and BF-VII enhanced
- (d) VVF drives for ID fans I& II and booster fans I, II & III of converter shop commissioned
- (e) Oxygen line form SMS-I to OP-I commissioned to utilize low purity oxygen for cold blast enrichment in last furnace.

(ii) Durgapur Steel Plant (DSP)

- (a) Thyristorization of intermediate stand drives at section mill
- (b) On-line sealing of steam, blast and gas leakages
- (c) Insulation of steam line and other hot surfaces

(iii) Rourkela Steel Plant (RSP)

- (a) Recuperator of plate mill repaired
- (b) Thyristorization of PM main drive
- (c) Damaged skid pipe of RH furnace-VI of HSM repaired and insulated
- (d) Battery-I mixing station stabilized

(iv) Bokaro Steel Plant (BSP)

- (a) Commissioning of coke oven battery # 5 after rebuilding
- (b) Changeover of battery # V from CO gas to Mixed gas
- (c) Supply of mixed gas in stoves of 3 blast furnaces
- (d) Minimization of operation of old pusher type furnace in HS mill

(v) IISCO steel plant (ISP)

- (a) Commissioning of blast furnace # II after rebuilding
- (b) Capital repair of blast furnace # III
- (c) Relining of stoves of BF No. IV

The details of consumption per tonne of saleable Steel production are as under.

Item	2007-08	2006-07
Purchased Electricity (KWH)	498	483
Fuel Oils(litres)	5	4
Coking Coal (kgs.)	1087	1056
Coke(kgs.)	50	47

5.3.1.2 NMDC Limited has taken the following steps in respect of Energy Conservation.

- Setting up a 9 MW wind energy project at Chitradurga in the state of Karnataka.
- NMDC is also undertaking energy audit studies through a consultant. M/s Electrical Research and Development Association, Vadodara, Gujrat who have addressed energy conservation issues of Donimalai and Kirandul Complex projects.
- Power factor is being maintained around 0.95 through proper demand management with static capacitor on HT & LT.
- Fluorescent lamps with electronic ballasts in the residential lamps have been installed as against conventional wire-wound regulators which is expected to reduce consumption.
- Timers are provided for automatic switching off of street lights, lights in public buildings, mine haul road lighting & equipment lighting, Plant illumination, etc.
- Overall energy consumption of township is being reduced progressively by reduction of wastage of energy in residential as well as public buildings.

5.3.2 Minerals and Metals

5.3.2.1 The details of energy consumption per tonne of production in respect of National Aluminum Company Limited are as under:

Description	Alumina		Aluminium	
	2007-08	2006-07	2007-08	2006-07
Power (KWH/MT)	338	348	14167	14953
Fuel Oil (KG/MT)	81.92	78.62	91	80
Coal (KG/MT)	619	626	-	-

The following energy conservation measures have been adopted by the company for optimal utilization of energy resources in different units of the company during the period under review.

(i) Alumina refinery

- Reduction in specific coal consumption in hydrate circuit.
- Reduction in specific fuel oil consumption in Calcination.
- Reduction in specific fuel oil consumption in Boilers.
- Reduction in specific Electrical energy consumption with respect to hydrate by 3.98%.

(ii) Smelter

- Stoppage of idle running of furnace hydraulic pump motors in cast house-A (for three motors).
- Stoppage of idle running of furnace hydraulic pump motors in induction furnace.
- Controlling operation hours of ICM pump house motors.
- Auto control of S/S-38 lighting with door proxy.
- Replacement of the existing cooling water pumps of cooling tower-2 in cast house-A area with correct head pumps.
- Reduction in bath (bubble) voltage drop by using slotted anode trial run in 6 pots.
- Reduction in anode pin to carbon voltage drop by increasing stub hole depth trial in potline-2.

(iii) Captive power Plant

- Installation of soft touch radial seals at the hot end of Unit # 5 APH-A&B.
- The ACW outlet line from CEP Thrust bearing was modified.
- Quality of DM water improved due to timely acid soaking & bring treatment of resins and providing make up of resins after rainy season.

5.3.2.2 The Hindustan Copper Limited took all possible energy conservation measures at various stages of its production processes right from mining of ore to extraction of copper metal and by-products by making special efforts to make all operations energy efficient. For improving energy efficiency in the four individual units (i.e. khetri copper complex, Indian copper complex, Malanjkhand copper project & Taloja copper project), an expert agency was appointed as technical consultants to carry out energy audit and to identify and recommend energy saving measures. Most of the recommendations have been implemented and the balance are in progress. Energy audit cells of all the units are also constantly monitoring energy consumption in mines, plants and townships for overall reduction in energy consumption. Constant thrust was also given to improve power factor. The achievements in regard to reduction in specific consumption over the previous year are as under.

Specific Consumption	**Unit**	**2006-07**	**2007-08**
KCC Smelter Power	KWH/T	1040.00	896.28
KCC Smelter Fuel	Ltr/T	699.80	652.78
ICC Refinery Power	KWH/T	284.82	278.30
TCP natural gas	Nm3/T	54.78	45.81

5.3.3 Coal & Lignite

5.3.3.1 The details of energy consumption per unit of production in respect of South Eastern Coalfields Limited are as under:

Description	2007-08	2006-07
Electricity (KWH/ton)	10.25	10.53
Diesel	0.65	0.66

Major energy conservation measures undertaken by the company during the year 2007-08 is mentioned below :

- Regular monitoring of power factor of all the connection points and reorganization of power supply.
- Strata bunkers were constructed in Hasdeo, Baikunthpur, sohagpur and Bhatgaon areas.
- Demand controllers have been installed at various points of supply to reduce maximum demand.
- Energy efficient lamps of low voltage have been used for underground lighting.
- Stage pumping has been eliminated by providing borehole in Bhatgaon and J&K area mines.
- Ventilation stopping were made in many mines of Sohagpur, Hasdeo and J&K areas.

The company has informed that by ensuring power factor above 0.95 at various points of supply, a bonus of Rs. 2.61 crore was earned and Specific energy consumption has come down from 6.43 KWH/M3 to 5.87 KWH/M3 (10.25 KWH/T of coal).

5.3.3.2 The energy consumption per unit of production in respect of Northern Coalfields Limited are as under:

Description	2007-08	2006-07
Power(KWH/ton)	6.52	7.28
Coal + OB (KWH/CUM)	2.10	2.07

The steps taken by the company for energy conservation during the year 2007-08 is mentioned below :

- Energy audits were conducted by CMPDIL for different projects and units of NCL. Report on Benchmarking of electrical consumption for Jayant, Dudhichua, Nigahi, Bina, Khadia Projects and headquarter were submitted by CMPDIl during the year 2007-08.
- NCL has earned a bonus of Rs. 3.71 crore both from MPSEB and UPPCL points of supply put together towards power factor and load factor rebate.
- In the domestic sub-station of Jayant project lighting energy saving device has been installed and its performance is under observation.
- Time switches have been installed in Street lights, mines, residential areas at Nigahi,

Jayant, Dudhichua, Bina, Khadia, Kakri, CWS Jayant and HQ of NCL.

- Compact fluorescent lamps have been installed at Bina, Dudhichua, Jayant, Nigahi, Khadia, Kakri, CWS Jayant and HQ of NCL.

5.3.4 Power

5.3.4.1 NTPC Limited undertook the following Energy conservation measures during the year 2007-08 in different areas.

Energy audits

105 in-house energy audits in the areas of auxiliary power consumption, water balance, cooling water system, compressed air, coal handling plant, MGR, lub oil system, air conditioning, ash handling system, GT compressors, GT open cycle efficiency, WHRB performance, lighting, etc. were carried out, during the year 2007-08, at different stations of the company. In addition, special APC audits in Badarpur and NCPP Dadri stations were carried out. Also, a workshop on energy conservation potential in feed water system was conducted at NTPC-NRHQ, Lucknow. During the year, the company has successfully completed external energy audits of auxiliary power consumption at Panipat thermal power station, Haryana. The company has also completed energy audit job of 15 units of different power plants in the kingdom of Saudi Arabia.

110 executives of the company have passed energy auditors examination of Bureau of energy efficiency to become accredited energy auditors. In addition, 34 executives have also qualified to be the certified energy managers.

Various measures taken during the year under various heads of energy conservation are as below:-

(i) Auxiliary power consumption

- Replacement of inefficient BFP cartridges
- Overhauling of BFPs and attending of recirculation valves of BFPs (at Korba, Kawas, Dadri, Kahalgaon, Ramagundam, etc.)
- Installation of FRP blades in cooling towers at Ramagundam
- Optimized running of HPBFP at Gandhar

(ii) Lighting

- Installation of timer switches in plant and township lighting at Simhadri
- Provision of group switching for 'ON/OFF" control at Farakka
- Replacement of conventional GLS lamps and conventional FTLs with CFLs
- Lighting voltage optimization at Dadri
- Replacement of HPMV and HPSV lamps at Singrauli, etc.

(iii) Heat energy

- Repair of thermal insulation and cladding
- Re-use of recovered coal from setting tank & yard at Dadri-Coal
- Cleaning & replacement of CT nozzles, fills, drift eliminators
- HP Turbine efficiency improvement by wet steam washing at Badarpur

(iv) Fuel oil

- Off line compressor washing of gas turbine at Kayamkulam
- Attending insulation hot spots in WHRB at Kayamkulam
- Optimizing oil consumption during starting

(v) Fuel gas

- Off line compressor washing of gas turbines at Auraiya
- Cleaning of condenser tubes and water box at Auraiya
- GT inlet air filter cleaning and replacement at Auraiya and Gandhar

(vi) Diesel/MGR fuel:- Reducing MGR cycle time and reduction in specific oil consumption at Korba and Singrauli, optimizing operation of locos, Dozers and pay loaders at Badarpur.

The company achieved Savings of Rs. 489.40 Million during 2007-08 on account of specific efforts made by it for energy conservation.

5.3.5 Petroleum

5.3.5.1 The details of energy consumption per unit of production in respect of Hindustan Petroleum Corporation Limited are as under:

Mumbai Refinery	2007-08	2006-07
Electricity(KWH/TMT)	49.55	45.62
Fuel Oil(Tonnes/TMT)	54.35	42.19
Gas (Tonnes/TMT)	12.86	10.43
Coke (Tonnes/TMT)	4.70	4.37

Visakh Refinery	2007-08	2006-07
Electricity(KWH/TMT)	31.91	33.34
Fuel Oil(Tonnes/TMT)	29.83	31.31
Gas (Tonnes/TMT)	11.44	11.70
Coke (Tonnes/TMT)	9.36	9.18

Mumbai and Visakh Refineries accorded highest priority to energy conservation and have undertaken following major energy conservations measures.

Mumbai Refinery

- Carried out on-line chemical cleaning of FRE-CDU/VDU and LR-VDU heaters by M/s GTC technology and improved efficiency of heaters by 1.5% to 2.3%.
- Installations of secondary seals on two numbers floating roof naphtha/MS tanks to reduce the tank emission.
- Carried out compressed air leak survey and implemented the recommendation, which helped to reduce air leak by 40%.
- Developed in-house economical schemes for firing the gas in the furnaces / boilers, Signed the gas transmission agreement (GTA) with GAIL to use the gas network.
- Processed approx. 4890 m3 of sludge by engaging external agency and recovered potential 3574 m3 oil through Mechanical oil recovery technology.
- Organized oil conservation fortnight during January 15 to 31, 2008 to generate mass awareness among public for conservation of petroleum products. During the fortnight, several activities like free PUC check up for vehicles, display of oil conservation posters and slogan/quiz & drawing competitions in various schools at Chembur area were conducted.
- Implementing the generation of low pressure flash steam from high pressure condensate in light ends units.
- Proposal has been developed to increase SEU-I furnace (F-202) CIT by installing two additional exchangers.
- It has been planned to improve Diesel Unifying Unit furnace preheat by installing the additional heat exchanger in raw diesel pre heat circuit.

Visakh refinery

- Visakh refinery achieved best ever specific energy consumption of 87.66 MBTU/BBL/NRGF as compared to previous best of 87.95 MBTU/BBL/NRGF during the year 20062007.
- Reduced specific fuel consumption in CPP from 0.371 MT/MWH in 2006-07 to 0.367 MT/MWH in 2007-08.
- Carried out frequent steam leak surveys and reduced steam leaks from 4.6 T/Hr to 1.84 T/Hr.
- Carried out air leak survey and reduced air leaks considerably.
- Routed hot well off gas to atmospheric furnace in CDU-II, which resulted into an estimated energy saving of -2530 SRFT.
- Carried out in-situ chemical processing of high oily crude sludge of tank 01E to recover oil.

- Carried out on-line chemical cleaning of Atmospheric & vacuum furnaces, resulting in fuel savings.

- Organized oil conservation fortnight during January 15 to 31, 2008 to generate mass awareness in public for conservation of petroleum products. During the fortnight, several activities like, display of oil conservation posters / slogans, distribution of literature on energy conservation and quiz / drawing competitions in schools were conducted.

- Conducted a training program on energy conservation alongwith M/s National Productivity council to create the awareness among employees and their families.

- Carried out joint oil conservation survey for "Furnace / Boiler insulation effectiveness" & "Furnace / Boiler Efficiency".

The company has informed that various measures undertaken during the year 2007-08 resulted in estimated energy savings of approx. 11247 SRFT, which is equivalent to Rs. 25.9 crore.

5.3.5.2 The details of energy consumption per unit of production in respect of Indian Oil Corporation Limited are as under:

	2007-08	2006-07
Electricity(KWH/MT)	66.140	66.171
Liquid Fuel(MT/MT)	0.033	0.036
Fuel Gas (MT/MT)	0.038	0.038
Natural Gas (MT/MT)	0.008	0.008

The company maintained its thrust on oil conservation at all its seven operating refineries through continuous in-house process monitoring and keeping abreast of latest technological developments. As a result of various energy conservation measures undertaken, the energy index in terms of million British thermal units/ barrel/energy factor of Indian oil refineries during the year improved to 67.0 as against 70.6 in the previous year. Similarly, energy conservation schemes implemented during the year resulted in fuel saving to the tune of about 27,000 MT/year valued at about Rs. 35 crore.

As a part of continued efforts towards energy conservation, a number of projects have been implemented during 2007-08 at refineries. Major investment proposals implemented for reduction of energy are as under.

Sl. No.	Item	Cost (Rs. in Lakh)	Fuel savings(standard fuel equivalent) (MT/year)
1.	Yield and pre-heat improvement in AVU-2 of Barauni Refinery	1733	3200
2.	Hydrogen recovery from CCRU off gas at Koyali refinery	4530	7154
3.	Air pre-heater in VBU furnace at Mathura refinery	957	1950
4.	Stepless controls for make-up gas compressor in OHCU at Mathura Refinery	208	1500

The following major schemes are under implementation.

- Yield and energy improvement in AVU-1 at Barauni refinery.

- Flare gas recovery at Barauni, Haldia and Guwahati refineries.

- Hydrogen recovery from CLPS off gas of HCU at Koyali refinery.

- Foggy cooler for gas turbine at Mathura refinery

The above schemes, on completion, are expected to result in savings of about 75,000 MT per annum of standard fuel.

5.3.6 Fertilizers

5.3.6.1 Brahamputra Valley Fertilizers Corporation Limited has engaged the services of an energy audit firm (M/s. TERI), New Delhi to carry out energy audit of Namrup-III plants. Based on their recommendation, energy conservation measures are being implemented.

5.3.6.2 The details of energy consumption per unit of production in respect of National Fertilizers are as under:

Gcal/MT Urea	2007-08	2006-07
Electricity (Mwh)	0.219	0.217
Fuel Oil (MT)	0.055	0.056
Coal (MT)	0.847	0.850
Gas (000M3)	0.072	0.066
Naptha (MT)	0.011	0.008

Commitment to achieve lowest possible energy consumption is one of the foremost goals of the company. The annual energy consumption per MT of urea in the year 2007-08 has been the lowest achieved so far, at Bathinda unit, the above has been possible due to following steps taken by the company.

- Improvements in operation, on-stream factor through better maintenance practices, monitoring and analysis of inputs and plant interruptions.
- Installation of pre-concentrator in Urea Plant at Vijaipur-I resulting in saving of energy.
- Off gases from MP inerts-washing towers in Urea plant, is proposed to be utilized as fuel in CPP boilers which shall save equivalent fuel consumption.
- Installation of solar lighting system on main factory gate.
- Replacement of incandescent bulbs with CFL & tube lights with electronic choke.

5.3.6.3 Rashtriya Chemicals & Fertilizers Limited has been undertaking several modifications in the plants which have resulted in significant reduction in the energy consumption. Modifications made in different plants, such as use of Air from PIC III in Ammonia Plant as Instrument air in Urea plant, passivation and stopping of blowers, coating of refractory by zirconium, installing high efficient energy motors and blowers, controlling excess oxygen in flue gas of service boiler, replacement of pumps, etc have resulted in conserving the energy by significantly brining down consumption. Continuous efforts viz. surveys and studies are regularly carried out by your company to meet the requirement of achieving energy efficient plant operations.

The details of energy consumption per unit of production for different products of company are as under.

Product	2007-08	2006-07
Ammonia Trombay I	0.504	0.559
Ammonia Trombay V	0.183	0.238
Ammonia Thal	0.0463	0.0441
Urea Thal	0.0498	0.051

5.3.7 Chemicals & Pharmaceuticals

5.3.7.1 The energy consumption per unit of production in respect of Hindustan Organic Chemicals Limited is as under:

	2007-08	2006-07
Nitrobenzene (Kwh/MT)	23	20
Aniline (Kwh/MT)	277	244
Sulfuric Acid (Kwh/MT)	94	97
Phenol (Kwh/MT)	463	505

Important energy conservation schemes undertaken by the Hindustan Organic Chemicals Limited during the year 2007-08 given below :

- Restart of concentrated nitric acid plant at Rasayani unit with replacement and modification in the inter stage coolers which has brought down the power consumption in nitric acid plant substantially.

- Measures like cleaning of choked effluent pipeline and replacing the damaged portion has resulted in reducing pressure drop in the transportation of the effluent from the lagoons to disposal point that is about 7 kilometers away at Rasayani unit. This has resulted in reduction of power consumption.
- Installation of variable frequency drive for boiler feed water pump, hydrogenation feed pumps and tampered water cooler at Kochi unit to reduce the power consumption.
- Modification in surface agitators in ETP at Kochi unit has resulted in saving of electrical power.

Future Plans of the company in this regard are as under.

- More variable frequency drives will be installed at DM water pump, instrument air compressors, cooling tower fans at Kochi unit to save electrical energy.
- The energy management information system will be expanded connecting LT loads also.
- LT capacitors will be provided to improve power factor at Kochi unit.
- Cooling tower fans will be replaced with FRP blades to reduce power consumption.

5.3.8 Engineering

5.3.8.1 The energy consumption per lakh rupees of production in respect of Bharat Electronics Limited was as under:

	2007-08	2006-07
Electricity	133	141

The major energy conservation measures undertaken by the Bharat Electronics Limited during the year 2007-08 were:

- Replacement of old reciprocating chillers in AC plants with energy efficient screw chillers.
- Networking of indirect AC plants with centralized chiller plants.
- Improvement of power factor from using automatic power factor controllers and distribution system load management.
- Incorporation of variable frequency drives for AHUs and centrifugal fans.
- Optimizing compressed air usage.
- Replacement with energy efficient motors.
- Incorporation of cyclic timers to bore-well pumps for efficient operation.
- Enhancing participation in renewable energy sources like wind & solar.
- Incorporation of wind driven roof ventilators based exhaust systems.

5.3.8.2 The energy consumption per unit of production in respect of Heavy Engineering Corporation Limited are as under:

	2007-08	2006-07
Electricity (KWH)	2695.45	2709.68
Coal (MT)	4.32	4.30
Diesel (liters)	18.93	19.66

The major steps taken to conserve energy during the year are as follows:

- Reduction in maximum demand of Power by proper load planning.
- The use of energy efficient high pressure sodium vapor lamps/tub lights.
- Use of producer gas instead of LPG.
- Replacement of MG sets by use of Static transformers and rectifiers.
- Reduction in fuel consumption by providing ceramic lining in furnaces and by installing programmable controller and electric pit furnace.
- Reduction in heat cycle time for melting

furnaces, etc.

- Synchronization of the operation of compressor units for optimum utilization of compressor air.
- Provision of transparent sheets at roof tops of production shops so as to utilize sunlight for illumination.

5.3.9 Transportation Equipment

5.3.9.1 The steps taken for energy conservation measures by the Cochin Shipyard Limited during the year 2007-08 are as under.

- Installed variable frequency drive for 80 KW ballast pump.
- Replaced electronic drain valve with zero loss drain assemblies and installed the same on manual drain valve thereby reducing wastage of air.
- Installed air receiver for portable air compressors replaced conventional ballasts with electronic ballasts.
- Replaced metallic pipes with flexible hoses at marine coating shop thereby eliminating grit accumulation inside the pipes and in turn reduced the suction time and operation of vacuum recovery unit.
- Leakages in the compressed air distribution system and other gas lines are regularly monitored and rectified.
- Replaced old and aged window type air conditioning units with energy efficient split type A/C units.
- Provided safety relays at the primary side of welding sets for controlling the switching ON of the sets thereby eliminating the no load losses.
- Rain water harvesting for industrial purposes thereby reducing the use of metered water and operation of water pumps.
- Limiting the long travel operation and also making use of pallets for handling group materials optimizing energy consumption for cranes.
- Optimization of use of lights and fans.
- Optimised loading of DGs.
- Displayed energy saving stickers for creating awareness among employees for optimum use of electrical equipments.

The company has informed that the following additional investment & proposals are being implemented for reduction of consumption of energy and thereby reducing the cost of production of goods.

- Modification of cooling water circulating system of main air compressors.
- Installation of dimming ballasts in street light circuits.
- Replacement of old reciprocating water-cooled main air compressor with new centrifugal air compressor.
- Conducting energy audit and implementing the recommendations to the extent possible.
- Installation of refrigerator dryer for compressors for getting better quality of air.

The Central Public Sector Enterprises (CPSEs) are conscious of the need to conserve energy and have been taking various steps for efficient use of energy. Regular maintenance of plant & machinery, replacement of energy inefficient equipments, effective recovery of waste-heat, prevention of leakage, modifications in the design of plant/machinery and other equipment, energy audit and creation of awareness among employees are the areas that needs renewed emphasis.

COGNATE GROUP-WISE PATTERN OF ENERGY CONSERVATION

Sl. No.	Cognate Group	Total Cost on Energy Consumption (Rs in crores)		Energy cost as percentage of total cost	
		31.3.08	31.3.07	31.3.08	31.3.07
1.	Agro Based Industries	7.44	7.45	1.96	2.86
2.	Coal & Lignite	1903.17	1886.79	6.13	7.25
3.	Crude Oil	234.54	245.56	0.48	0.58
4.	Other Minerals & Metals	1508.44	1250.24	17.92	19.46
5.	Steel	3217.68	2961.96	8.30	8.81
6.	Petroleum (Refinery & Marketing)	1219.07	1346.87	0.22	0.29
7.	Fertilizers	2722.17	2596.96	18.88	19.74
8.	Chemicals & Pharmaceuticals	108.45	100.85	6.40	6.73
9.	Heavy Engineering	343.11	328.14	1.87	2.10
10.	Medium & Light Engineering	128.27	117.72	1.19	1.11
11.	Transportation Equipment	187.34	171.11	1.23	1.12
12.	Consumer Goods	328.95	302.64	7.64	8.42
13.	Textiles	88.03	93.61	4.35	3.87
14.	Power Generation	22352.17	16733.80	60.26	51.20
15.	Transmission	47.90	34.87	1.50	1.32
16.	Trading & Marketing	41.16	30.58	0.04	0.03
17.	Transportation Services	7884.87	7272.73	28.93	26.91
18.	Contract & Construction Ser	139.04	119.63	1.71	2.06
19.	Industrial Dev & Tech.consy Ser	17.35	14.69	0.45	0.46
20.	Tourist Services	50.46	35.99	4.74	3.62
21.	Financial Services	5.05	4.97	0.05	0.06
22.	Telecommunication Services	1797.15	1684.82	4.67	4.64

Note * Energy implies expenditure on ‘Power & Fuels’

6 RESEARCH AND DEVELOPMENT

Research and Development (R&D) contribute substantially towards achieving the goals of cost-effectiveness and competitiveness in business. R&D also enables an enterprise to phase out products considering the product life cycle by introducing new designs, technologies, products and services.

A number of CPSEs have 'in-house' research and development (R&D) facilities. Increased use of information technology has significantly improved the sophistication of these facilities. There is, moreover, greater awareness of Intellectual Property Rights (IPR) and 'patenting' of new knowledge gained and discoveries made in the process of R&D.

The National Research Development Corporation (NRDC), a CPSE, is actively engaged in promoting, developing and commercializing technologies, knowhow, patents and processes generated through national R&D institutions, thus helping individual enterprises and institutions acquire IPR / Patents for commercial use. The main thrust of NRDC has been towards closing the gaps in the innovation chain through which ideas and inventions get converted into marketable products / services.

NRDC, through several measures of strategic initiative, facilitates trade and business in science and technology in India and abroad, encouraging and enabling advancement of research. It also propagates inventions and innovations enabling growth of indigenous technologies and providing commercial benefits to techno-entrepreneurs through IPR assistance. By leveraging technological advancement, it also strives to narrow the technology divide between rural and urban India.

The CPSEs who are not in a position to have in-house facility, but need to have competitive edge in the market, can adopt this route for acquiring new knowledge. The CPSEs can also go for sponsored research through collaborating with Universities and reputed R&D institutions. Sponsored research is cost effective and is suited to CPSEs who cannot afford to incur expenditure on in-house research. Technological collaboration with leading companies of the world has been another approach adopted by CPSEs for upgrading their technological know-how.

The CPSEs, during the past several years, have been focusing on different areas of applied research for development of new products, process and systems and for quality upgradation and cost reduction.

The following paragraphs provide brief details of select R&D activities undertaken by CPSEs in different cognate groups.

6.1 Power

6.1.1 NHPC Ltd.

A. Clean Development Mechanism:

NHPC has actively considered the Clean Development Mechanism (CDM), which is one of the three flexibility mechanisms under the Kyoto Protocol (KP), 1997, for its hydro power projects. Two Projects namely Nimoo Bazgo(3X15 MW) Chutak (4X11 MW) have been taken up for CDM benefits and likely Annual Green House Gas emission reduction will be 180074 tCO_2 & 159889 tCO_2 on commissioning of these two projects. Other hydropower projects under construction and under different stages of clearances are being pursued for Carbon credits through CDM as well as VER (Voluntary Emission Reduction) route.

B. R&D Activities and Projects

(i) 3.75 MW Durgaduani Mini Tidal Power Project

(ii) National R&D Project -Development of Silt Erosion Resistant Material for Turbines of Hydro Generators

NHPC is one of the participating agencies in conjunction with CPRI & SJVNL for this project, National Metallurgical Laboratories(NML), Jameshedpur being the lead implementing agency.

(iii) Solar Power as an alternative source

Nimmo Bazgo project was chosen as a Pilot project and 25 kWp Solar Power Plant and stand-alone lighting system was commissioned successfully.

(iv) Ecological Study of Teesta River:

Ecological Study of hydro reservoir has been taken up to assess the role of reservoir in GHG emission and its contribution to climate change. Phase-I Ecological study of Teesta river at Teesta Stage-V Hydroelectric Project has been got done by National Environmental Engineering Research Institute (NEERI), Nagpur and Phase-II ecological study is under review.

(v) Development of Geothermal Power

NHPC has been engaged as the nodal agency by Ministry of Non - conventional Energy Sources (MNES) for development of Geothermal Power in India. Six promising geothermal sites have been identified for development in order of following ranking and are at various stages of implementation:

- Tattapani in Chhattisgarh
- Puga in J&K
- Cambay Graben in Gujrat
- Manikaran in HP
- Surajkund in Jharkhand
- Chhumathang in J&K

6.1.2 NTPC Ltd. (NTPC)

NTPC established a R&D centre way back in 1980-81. A new R&D center was set up in Noida during 1993 at a cost of Rs.28 crore. R&D is one of the thrust areas of the company and has multi-pronged approach in this regard. While on one hand the company focused its attention to application oriented R&D to meet the immediate generic and specific needs of power stations spread over the country, it has also taken a long term approach of developing technologies through the mode of direct fundamental research coupled with technology oriented applied research in association with agencies like BARC, CPRI, IITs at Kharagpur, Delhi and Mumbai etc In addition, NTPC R&D Wing also plans to provide comprehensive range of high-end scientific services to stations to enable them to operate and maintain the plants at high performance levels including high availability & reliability. To carry out these in a structured manner Indian Institute of Science, Bangalore has been appointed as consultants for up-gradation of R&D center.

NTPC has also set up an Energy Technology Centre(ET Centre) with the mandate of becoming a world class research institute, for which a state-of-the-art complex is coming up on 75 acres of land in Greater Noida U.P. This will meet a long term need of such a research facility in the power sector in India. It will work in both fundamental and applied research with ultimate objective of developing new technologies both within and outside India. The Centre will develop technologies through collaborative research with the best of R&D and academic institutions in India. ET Centre has already networked with 8 research and academic institutes like National Chemical Laboratory, Pune, IITs at Mumbai and Kharagpur among others for 12 research projects in the areas of efficiency and environment with respect to power generation.

NTPC has recently signed MOU with BARC, Mumbai and Heavy Water Board, Mumbai for developmental project and transfer of technology respectively.

6.1.3 Nuclear Power Corp. of India Ltd. (NPCIL)

Technology has been assimilated and absorbed with respect to VVER, FBRs and BWRs. R&D requirements are met through in-house efforts as well as with other organizations including DAE units and academic institutions in the country. Thrust areas for R & D are Nuclear Systems and Electronic Systems.

6.1.4 Satluj Jal Vidyut Nigam Ltd. (SJVNL)

In order to reduce silt erosion to underwater parts of the turbine several research projects in joint venture with research organizations have been concluded. Also an in-house HVOF (High Velocity Oxy Fuel) robotic arm facility has been established to hard coat the underwater parts.

Full fledged quality control department of the company carries out quality checks in civil engineering by all standard testing machines of cement aggregate, reinforcement, structural steel and concrete.

6.2 Chemical & Pharmaceutical

6.2.1 Bengal Chemicals and Pharmaceuticals Ltd. (BCPL)

All formulations are developed in-house in BCPL. Help of Jadavpur University, Kolkata and Central Research Institute, Kasauli is being taken for development of production process, serum, vaccines, etc.

6.2.2 Karnataka Antibiotics and Pharmaceuticals Ltd.,(KAPL)

During the year, the Company has taken initiative to develop 6 new Formulations and also to improve the manufacturing process for two Dry Powder Parenteral Products.

6.2.3 Hindustan Organic Chemicals Ltd. (HOCL)

R&D division has focused its activities on the development of eco-friendly catalyst and process improvements for the production of organic chemicals of interest to HOC. Company is also collaborating for making re-use of spent aniline and formaldehyde catalysts which will result in substantial savings and disposal of the hazardous wastes in an eco-friendly way. It has also developed a specific fuel for ISRO.

6.3 Consumer Goods

6.3.1 Artificial Limbs Manufacturing Corporation of India (ALIMCO)

During the year, the company initiated development of Modular Above Knee Prosthesis with Four Bar Linkage Knee Joint, Active Prosthetic Leg, New Child Size Tricycle and Multi Utility Battery Operated Tricycle.

6.3.2 Hindustan Latex Limited (HLL)

During 2007-08, the Company carried out R&D based activities in the following areas.

- New range of condoms.
- New latex formulation with safer accelerator systems that scientifically reduces the concern regarding type IV allergy and nitrosamine.
- Products in easy to tear laminate.
- Formulation with low zinc (using active grade of zinc oxide) that reduces environmental pollution on product disposal.
- Now modulus latex formulation with liquid accelerator system.
- New formulations which are complying with stability study.
- Formulations developed for UNFPA requirement which are complying Bio equivalance study and obtained licence for 11 ARV formulations were obtained.
- Surgical Suture variants (PDS, PGLA and Monofilament PGA)

Ongoing R&D projects

(i) Application of Nanotechnology to develop new intra uterine devices and anti-bactorial sutures

(ii) Development of rubber bag device for the radiation treatment of cervical cancer

(iii) Develop latex formulation with thyrotrophic effect for better distribution of the latex film.

(iv) Development of new generation Iron and Calcium formulations and second generation ARV drugs

(v) New process route for centchroman in collaboration with CDRI

(vi) Technology Development of Rubber Moulds For Explosive Treatment and bone filling materials for biomedical application

(vii) Development of new formulation for PVC blood bags without plasticizers (collaboration with IIT KGP)

6.3.3 Hindustan Newsprint Ltd. (HNL)

In order to maximize production of high-yielding, disease-resistant clonal plantlets, HNL has established two mist chambers with production capacity of 6 lakh plantlets per annum; expanded the facilities like hardening units, open nursery and clonal multiplication area to cater to the increased need of mist chambers; and operationalized 3 more Quonset mist chambers of temporary nature to overcome frequent power failure.

6.3.4 Hindustan Paper Corporation Ltd (HPC)

The company engaged in R & D activities on bamboo dust based gasification plant, tissue culture based production facility for quality planting materials, alkaline sizing trial etc.

6.3.5 NEPA Limited (NEPA)

The economy quality newsprint was earlier manufactured with raw material mix of old newspaper and white material and standard quality newsprint with raw material mix of imported over issue newspaper, exercise note book, white material and bleaching chemicals, are now manufactured with solely old newspaper and with old newspaper, imported over issue newspaper and bleaching chemicals respectively.

6. 3. 6 Security Printing and Minting Corporation of India Ltd. (SPMCIL)

BNP, Dewas has indigenized the production of quickset intaglio ink. It has introduced an in-house developed bi-fluorescent ink for Indian Passport to be used by India Security Press, Nashik. India Security Press Unit has successfully designed and produced the first batch of E-Passport for M/o External Affairs.

The company is aiming to change production patterns so as to meet the advancement of information technology.

6.4 Fertilizer

6.4.1 Fertilisers and Chemicals (Travancore) Ltd. (FACT)

The R&D Centre of the Company functions with the aim of carrying out in-depth research, to provide specialized services to other divisions of the organization, and also involved in the production of environment friendly bio-fertilizers. It has been producing three kinds of biofertilizers viz. Rhizobium, Azospirillum and Bacillus Megatherium. After meeting all the production norms and regulations as stipulated in the Fertilizer (Control) Order 1985 as amended in 2006, the R&D Centrre has resumed production of all the three Bio-fertilizers. The other areas of research study were quality control, Zincated Factamfos, effect of particle size of carrier material in shelf life of Bio-fertilizers, etc

The benefits derived form the efforts of R&D Centre include :

(i) Production of 3 MT Bio-fertilizers as per the FCO specifications;

(ii) To reduce the P2O5 loss due to nutrient content in Factamfos 20:20:13; and

(iii) To ensure the production of Bio-fertilizers with change of carrier materials as per FCO specifications to meet the marketing requirement.

R&D Centre is planning to complete study on the effect of Phosphorus Solublising Bacteria (PSB) on Rock Phosphate and study on the incorporation of zinc in NP fertilizers 16:20:0:13 grade.

6.4.2 Rashtriya Chemicals and Fertilizers Ltd. (RCF)

R & D activities are carried out in the areas of agriculture, chemicals and poultry.

Agriculture Division :

Micronutrients, Biofertilizers and 100%

soluble fertilizers have been successfully developed with reference to soil and crop requirement, and products have been commercialized. Work is in progress on development of Tablet Fertilizer in various grades, undertaking trials for coffee plants in Karnataka and various other crops in Maharashtra, undertaking developmental work on Biopesticides using Karanj and Nilgudi, developing tissue culture for banana and zerbera, development of customized fertilizer for region/site & crop specific drip grades.

Chemical Division :

Development of 100% Water Soluble fertilizer MAP (12:61:0) in house R&D and installation of 10 MT/Day plant by April, 2009 based on generated data from bench scale plant are in progress.

Water soluble Calcium Nitrate (40%) suspension fertilizer has been prepared in R&D laboratory as value addition to by-product chalk. Further agronomical studies on efficacy and mode of application has been carried out in Konkan Krishi Vidyapeeth, Dapoli & Mahatma Phule Krishi Vidyapeeth, Rahuri for certain crops and vegetables. The results are encouraging and market potential is being studied.

Chickton :

In the field of Poultry, R&D has developed Liquid Feed Acidifier which helps in reducing mortality and improves weight gain on chickens. The product is also evaluated at CARI, a National Institute for Poultry. The results are encouraging and the product is currently under market trial.

6.5 Heavy Engineering

6.5.1 Bharat Heavy Plate & Vessels Ltd. (BHPV)

The in-house R&D Department of the company continued its efforts for designing and commercialization of new products after development and testing of prototypes. During 2007-08 following were the achievements :

- 46 Compact Heat Exchangers were fabricated, tested successfully and delivered to the customer.
- Successfully designed, developed, fabricated, tested and supplied 6 Pre cooler units for Tejas aircraft to ADA, Bangalore.
- Supplied aluminium Plate-fin Compact Heat Exchangers to Indira Gandhi Centre for Atomic Research, Kalpakkam after successfully completing design, development and testing.

6.5.2 Burn Standard Co. Ltd. (BSCL)

BSCL is trying to strengthen its concerned areas of operation in core competence. Salem Works is endeavouring to develop low cost Mag. Carbon Bricks and high Alumina Magnesium Carbon Bricks for ladles impact zone, low cost Magnesium Chrome Bricks for different applications and Magnesium Chrome Laddie Bricks in collaboration with CGRS and develop better quality of MCB Bricks in collaboration with RDCIS, Ranchi.

6.6 Medium & Light Engg.

6.6.1 Andrew Yule & Company Ltd. (AYCL)

The company has carried out R&D activities in different areas under Engineering Division and Electrical Division, which resulted in design and development of new products and substantial cost saving in the form of import substitution vis-à-vis augmentation of revenue earnings. Electrical Division carried out R&D activities in the areas of design upgradation and testing of 1600Amps. 11KV indoor VCB, design and upgradation of 33KC PCVCB, validation test for Yule HEAG make 11KV, 20KA, 630A Outdoor VCB for Capacitor Banks switching test; re-engineered design of 12KV VCB Indoor Panel for reduced width and distinct compartmentalized enclosure for internal ARC suitability; re-engineered design of 36KV Outdoor VCB for making provision of SF6 Gas filling; and re-engineered design of 36KV Outdoor VCB for value engineering and adopting ABB interrupter.

6.6.2 Balmer Lawrie & Co. Ltd. (BL)

One of the objective of the company is to leverage focused in-house R&D for technology upgradation / absorption and new product development in identified thrust areas, to supplement in-house capabilities through strategic association with scientific/technological institutions of repute.

R&D work has been carried out in development of lubricants, leather chemicals and industrial packaging. Based on R&D efforts in lubricants, superior performance specialities were developed for application in steel sector, railways, automobile sector etc. Two patent applications were filed during the year.

In leather chemicals, the thrust of development had been towards high performance fat liquors and syntans as well as on environment friendly tanning agents.

In industrial packaging, re-engineering of equipment developed in-house for conical drum manufacturing was taken up.

For future, the R&D efforts are directed to value engineering of existing product ranges; development of new ranges of speciality/high performance products in lubricants and leather chemicals and value added industrial packaging applications, and development of systems and equipment to aid in cost effective manufacturing.

6.6.3 Bharat Electronics Ltd. (BEL)

BEL has set up Central Research Laboratories at Bangalore and Ghaziabad for undertaking research in futuristic areas with a view to identify and realize latest technologies relevant to its products. It also closely works with DRDO Laboratories. During 2007-08, 83% of BEL's turnover was from the products manufactured with indigenous technology.

The company is currently working on new technology areas which include frequency hopping radios, encryption, software defined radio, mobile satellite terminals, c4i systems, phased array radars, new generation sonars, and electro-optical fire control system.

6.6.4 BEL Optronic Devices Ltd. (BELOP)

The company's in-house R&D Unit is involved in all the product and process developments and yield improvement activities. The R&D Unit is also involved in design & in-house fabrication of UHV Systems & Test Equipments for enhancement in production & testing capacity of I.I.Tubes and Power Supplies.

The company has derived the following benefits as a result of the above efforts:

- Supply of better quality Tubes to customers.
- Yield and productivity improvements leading to profit.
- Increase in production and test capacity.
- Export of products.

6.6.5 Central Electronics Ltd. (CEL)

The company makes efforts to retain its technological leadership in the area of SPV and chosen fields of electronics through in-house R & D as well as collaboration and cooperation with DRDO and CSIR Laboratories, Universities, IITs etc. During 2007-08, CEL started under the S&T Scheme a project for 'Point Zone Digital Axle Counter (PZDAC) with grants of Rs. 2.30 crore provided by DSIR and a project for production of CZT Substrates sponsored by Solid State Physics Lab (SSPL) was in progress.

6.6.6 HMT Ltd.

With a view to improve production process, the company has taken R&D initiative for reduction of wheelbase, improvement in Ceramic clutches and implementation. The company has also made investment for technology up-gradation in CAD / CAM facilities, testing facilities, implementation of ERP packages etc.

The company has developed 75HP naturally aspirated Engine and 4902 Genset Engine. Development of 7522 HP Tractor with 4WD & constant mesh gear box are under progress.

6.6.7 HMT Watches Ltd. (HWL)

The company has established its own R&D facilities for different products to meet its needs. The focus is on progressively achieving self-reliance in product technology. It has developed and launched new sub-brand HQ series watches and has introduced 34 new models during 2007-08.

6.6.8 ITI Limited (ITI)

During the year, the company undertook R&D initiative for Encryption-Secure Communication, Pouncing Panther, Media Secrecy Device (MSD), Flex Data Encryptor (FDE) and FAX Encryptor and Protocol Converter (for E1 to V.35). These devises are successfully inducted into customers network.

6.6.9 Vignyan Industries Ltd. (VIL)

As a part of Research and Development, the company has a plan to increase the production to 550MTs per month by introducing fast loop moulding system (no bake process); installation of heat treatment furnace and procurement of spectrometer. Expenditure on R&D is included under the manufacturing process.

Technology developed indigenously for manufacture of SG Iron and implemented by the in-house R&D Team. The company procured Foseco's new modified sleeves which resulted in increase in yield.

6.7 Petroleum (Refining & Marketing)

6.7.1 Bharat Petroleum Corporation Limited (BPCL)

BPCL has three in-house R&D Centres viz. Corporate R&D Centre at Greater Noida, UP, Product & Application Development Centre at Sewree, Mumbai and R & D Centre at Kochi Refinery. All these centres are recognized by the DSIR, Ministry of Science & Technology, Govt. of India. The areas of R&D activities being carried out include catalytic processes and catalyst development, fuel additives, corrosion & fouling, detailed crude evaluation and crude compatibility; energy efficiency improvement; alternate fuels, biotechnology including bio-ethanol, nano-technology for lubrication and gas storage, coal/resid to liquid (CTL) technologies, effluent treatment technologies, long life diesel engine oil for heavy commercial vehicles, passenger car engine oil for latest models; bio-degradable cutting oil, high performance grease, defence specific grade and alternate formulation for existing grades.

6.7.2 Bongaigaon Refinery and Petrochemicals Limited (BRPL)

BRPL in collaboration with IOC (R&D) had carried out field trial-run in its DCU & CCU plant for production of Needle coke of improved quality using suitable blend of feedstock. Based on the study, the Company has started regular production of Needle coke, which is an import substitute product.

Study was carried out to optimise the yields of diesel streams from Assam crude and blend Keor-I/Kero-II to the BS-II HSD pool so as to minimise the production non-BS-II diesel.

BRPL is producing a special grade BS-II diesel having (–) 12°C pour point by using pour point depressant.

Through an in-house study, Light Diesel Oil (LDO) quality has been improved for better customer satisfaction.

6.7.3 Chennai Petroleum Corpn. Ltd. (CPCL)

The company recognizes the need to develop cutting edge R&D technologies in the core area and commercializing the developed technologies and initiating research in new frontier areas such as residue gasification, coal-to-liquid, gas-to-liquid, alternative fuels, synthetic lubricants etc. The R & D Centre of CPCL continues to provide significant support to product quality improvement, evaluation of catalysts and additives, material failure analysis and improving the overall efficiency of the operations.

During 2007-08, the company commissioned a new ACE R+ Model MAT unit for carrying out studies related to FCC catalysts and additives (a state-of-art catalyst evaluation facility procured from Kayser Technologies USA) and also developed a Lube Hydrofinishing Catalyst formulation in collaboration with Sud Chemie India Ltd., which has been extensively evaluated, and fine tuning is in progress before commercial application.

6.7.4 GAIL (India) Limited (GAIL)

GAIL has carried out R&D activities in the following areas:-

- Leak detection software development for Natural Gas pipelines.
- Technology development for Adsorptive separation of Light hydrocarbons Gas mixtures.
- Development of Catalyst and Process for the conversion of Waste Plastics, LPW to Value added Liquid Fuels.
- Pilot scale testing of Coke inhibitors for Gas Cracker Furnaces.
- Exploration & Production of gas from Hydrates in Goa offshore under National Gas Hydrate program (NGHP)
- The indigenous leak detection software implemented in Lanco- Tatipaka Pipeline. Implementation in other pipelines planned. Typical cost savings per P/L is Rs: 30-50 Lakhs
- Energy savings to the tune of 40% is expected in this novel process of Adsorption separation compared to conventional distillation separations such as Methane-Ethane.
- This technology will convert waste plastics to value added hydrocarbon fuels and will also solve waste plastics disposal problem.
- Coke inhibitor will inhibit coke formation leading to less downtime on account of decoking of furnaces, less maintenance and higher output.
- Based on the Geo-Scientific investigations, Natural Gas Hydrate is the future energy source in the form of Methane if it can be economically produced.

6.7.5 Hindustan Petroleum Corporation Limited (HPCL)

HPCL has initiated action to set up a World Class R&D Centre at Bangalore for optimization of processes, development of new products, technology selection and knowledge upgradation.

The existing projects cover areas such as process intensification, bio-hydrogen production through algae, bioremediation of petroleum oils, product upgradation of lubricants using nano-technology, monolithic reactors, slurry bubble column hydrodynamics, supported ionic liquid catalysis, hydrodynamics in packed bed and Modeling of mass transfer effects in FCC Resid. Corporate R&D is having tie-up with institutes / organizations like IIT Kanpur, Indian Institute of Science Bangalore, TERI, GITAM and CIMFR to undertake research on the above areas. R&D is also venturing tie-ups with national / international groups in the areas of Resid upgradation, Bio-Butanol production and Cellulosic Ethanol technology development.

6.7.6 Indian Oil Corporation (IOC)

The company undertakes research in various areas in its R&D Centre established in 1972 at Faridabad. It lays thrust on cutting edge technologies keeping in view the changing/ emerging needs. With 12 patents granted during 2007-08, the total number of patents of IOC currently in force is 115 out of which 58 patents are registered in India. These technologies relate to refinery and pipelines, lube/fuel and marketing etc. Some of the technologies have been acquired through joint ventures .

During the year the company took various steps towards product diversification such as bio-diesel, hydrogen research, LNG, petrochemicals etc.

Over the years R&D Centre has developed skill sets and expertise in several areas of technologies and service including technical solutions. During 2007-08 the centre developed 186 lubricant formulations, and secured 46 product approvals from original equipment manufacturers.

6.7.7 Mangalore Refinery and Petrochemicals Ltd. (MRPL)

MRPL conducts R&D activities in its state-of-the-art laboratory. It is in the process of setting up a full fledged R&D centre. This will take up projects like Corrosion monitoring and inhibition (Water and Sulfide corrosion) in Refinery, Catalyst evaluation studies, additive efficacy, and further research in bio-based fuel or additives.

During the year 2007-08, specific R&D activities on crude assay, destroying odour causing phenolic compounds in spent caustic using Chlorine Dioxide, development of suitable Bio additive for HSD etc. have been undertaken.

6.8 Steel

6.8.1 Mishra Dhatu Nigam Limited (MIDHANI)

Midhani is offering its core competence for manufacturing alloys tailor-made to suit the specific requirements of customers for their critical applications. The R&D efforts at MIDHANI during 2007-08 resulted in the development of following five new products used for critical applications:

- High temperature corrosion resistant super alloy equalent to INCONEL 690 for nuclear applications;
- 'Ti' containing austenitic stainless steel for nuclear applications;
- Ultra high strength precipitations and hardenable stainless steel for aerospace applications;
- Single phase Ti alloy for cryogenic applications; and
- High strength austenitic stainless steel heavy forgings for nuclear applications.

In order to improve production design and processes the Company adopted new technologies which include pack and cold rolling trials for Titan 31, process improvement in MDN 403 and 440; modification of manufacturing route of Superni 690, development of air hardening quality Armour steel etc.

6.8.2 Rashtriya Ispat Nigam Ltd. (RINL)

Based on the information/survey, the company develops various new products to cater to the customer needs. During the year 2007-08, 5 new grades and 44 new products were developed. Further, 55 Carbonization tests were conducted in pilot coke Oven for optimization of coal blend. 17 pot sintering experiments were done to find out effect of Micro fines in various proportions ranging from 0 to 25% of Iron Ore. Trial usage of 12% Imported Boiler Coal in Thermal Power Plant, Industrial trial was completed to know the suitability of low ash, high VM Indonesian Boiler Coal for Coke making at Coke Oven Battery 3, and industrial trial for recycling of SMS gas cleaning plant sludge in the form of Briquettes was completed successfully.

6.8.3 Steel Authority of India Ltd. (SAIL)

SAIL has a well-equipped Research and Development Centre for Iron and Steel (RDCIS) at Ranchi, which helps to produce quality steel and develop new technologies for the steel industry. SAIL also has an in-house Centre for Engineering and Technology (CET).

6.9 Transportation Equipment

6.9.1 Cochin Shipyard Ltd. (CSL)

In-house R&D initiatives were undertaken by the company in the areas of welding and design. CSL has developed complete design of 1500 KW tug, 2400 KW tug and 3300 KW tug, hull model for platform supply vessels; complete production engineering design of above tugs in 3D hull and outfit modeling in Tribon, 3D hull modeling and outfit modeling of piping systems, ventilation, air-conditioning, cabling and structural items; structural drawings of ADS based on the inputs from Navy, propulsion systems integration for the ADS project, and Aircraft Facilities Complex for ADS.

Modernization of existing facilities in ship building & ship repairing, renewals and replacements and small ship division have been completed.

6.9.2 Goa Shipyard Limited (GSL)

All the vessels that are under construction have been designed with GSL in-house design capability. GSL has designed in-house and model tested 35 knots Fast Patrol Vessel (FPV) for Indian Coast Guard.

6.9.3 Hindustan Aeronautics Ltd. (HAL)

The major R&D programmes currently being pursued are Intermediate Jet Trainer (HJT-36), Light Combat Aircraft (Tejas), Weapon System Integration (WSI) on ALH, Sea Harrier upgrade, Light Combat Helicopter and development of accessories and avionics for different aircraft / helicopters.

The R&D expenditure of the company constituted 7.68% of the turnover during 2007-08.

6.10 COAL

6.10.1 Bharat Coking Coal Ltd. (BCCL)

During 2007-08 a total of 4 R&D projects / schemes were under implementation at total cost of Rs.19.53 crore.

6.10.2 Coal India Ltd. (CIL)

The Research & Development (R&D) efforts of Coal India Ltd. are promoted through the R&D Board of CIL, which sanctions R&D projects for funding from internal resources of the company. The key thrust areas of R&D activities are categorized as Production, Productivity and Safety, Coal Beneficiation, Coal Utilization and Environment & Ecology.

At present there are 15 ongoing projects which are in different stages of implementation. 3 Projects were completed during the year 2007-08. The R&D expenditure of the company was Rs.11.08 crore during the year, which constituted 4.07% of the total turnover of Rs. 272.31 crore of CIL.

6.10.3 Eastern Coalfields Ltd. (ECL)

The R&D work relating to different mines is handled centrally by CMPDI(HQ), another subsidiary of CIL at Ranchi. In order to improve production, latest underground mining technologies have been proposed in different mines of ECL. Efforts are being made to modernize the operation of UG mines by introduction of Intermediate Technology with the deployment of SDL/LHD, Universal Drilling Machine (UDM) and Pony Belt conveyor.

6.10.4 Neyveli lignite coporation ltd. (NLC)

The R & D projects initiated by the company include development of Integrated Farming System in the mine spoils area for its reclamation, development of high performance highways using fly ash composites, development of a process for the production of activated carbon from lignite, long term studies on utilization, popularization of fly ash in agriculture and. pilot plant feasibility studies for continuous production of various forms of potassium humate. The Company has developed a process for extracting humic acid from lignite where the lignite will have a diversified utility for growth of agriculture. Patent has been granted for this project and with a view to commercialise the process, MoU has been entered into with National Research Development Corporation New Delhi.

The Coal S&T project Development process for the production of activated carbon from lignite was completed. The activated carbon produced in the pilot plant is found to have good absorption capacity development and use of fly ash based pesticides.

6.10.5 Western Coalfields Limited(WCL)

R&D and technical studies on extraction of pillar, Wide & Stall method, design of support system, hydro-geological survey, slope stability test, controlled blasting are carried out in various mines of WCL through different scientific and research organisations on a regular basis, like :-

- Central Mining Research Institute
- National Institute of Rock Mechanics
- Central Mine Planning & Design Institute

6.11 CRUDE OIL

6.11.1 Oil India Ltd. (OIL)

During the year the company has taken R&D initiatives in 12 different areas like Oil to Oil and Oil to Source correlation studies using advance geochemical analysis of crude oils and source rocks from assam basin, reservoir fluid identification through geochemical analysis of sidewall cores, control of paraffin deposition in production tubing of producing wells, study on low injectivity problem in water disposal wells at a depth below 1000m, study of scale problem in ITF and shalmari OCS water flow lines, implementation of meor technology in oil's wells, evaluation of alkali surfactant and polymer (asp) flooding for eor, national gas hydrate programme(NGHP) in indian offshore, development of oilfield chemicals, flow assurance of barekuri-makum pipeline, studies on conversion of coal to liquid fuel, and ambient air quality monitoring in OIL's operational area.

6.11.2 Oil and Natural Gas Corporation Ltd. (ONGC)

ONGC is a technology focused and knowledge based organization. It has a well-established infrastructure for R&D. Ten institutes located throughout India are engaged in R&D work covering varied areas of E&P activities such as Exploration, Reservoir Management, Drilling, Production Technology and Offshore technology. These institutes provide essential support to keep pace with the latest developments in technology the world over, through procurement of state-of-the art technology, forming strategic alliances with world leaders and signing of MoUs with other R&D Institutes within India and abroad.

ONGC is taking giant leaps to leverage information technology for various business solutions. Best-in-class hardware infrastructure and software systems are in place. State-of-the-Art Technologies like Q-Marine Survey, 4D-seismic, Multi-Component Seismic Survey, GX Technology, Sea-Bed Logging, Air Borne Electro Magnetic(AEM), Multi-Transient Electro Magnetic (MTEM), and Virtual Drilling Seismic Channel Capacity Upgradation are absorbed by ONGC. Technologies like 4C-4D project and Accelerated Weight Drop (AWD) are under advanced stage of induction/absorption.

6.12 Other Mineral & Metals

6.12.1 Bharat Refractories Limited (BRL)

BRL's technologists are putting every effort in its fully equipped laboratories towards meeting the challenge of upgradation of process technology in the major consuming industries and continuous improvement of product quality.

Some of the products developed through in-house R & D work include Mullite bricks for high capacity Blast Furnace Tap Hole, Blast Furnace, Tap Hole Mass (both Tar bonded as well as resin bonded), and Zero Cement Castable.

6.12.2 FCI Aravali Gypsum & Minerals (India) Ltd. (FAGMIL)

During the year, the Company undertook R&D initiative to assign the research job, for assessing the impact of Gypsum for agriculture purpose, to the Agriculture Universities and to IBM Ajmer for beneficiation of Gypsum.

6.12.3 Hindustan Copper Ltd. (HCL)

Study on bio-leaching of lean grade copper ore of MCP continued in collaboration with Institute of Minerals and Metals Technology(IMMT), Bhubaneswar under a MOU in this regard.

HCL engaged Earth Resources Technology Consultants for optimization of blasting fragmentation at MCP for productivity improvement.

R&D Laboratory at ICC has been certified by National Accreditation Board for testing and calibration of Laboratories (NABL), following by accreditation in this regard.

6.12.4 Indian Rare Earths Ltd. (IREL)

The R&D activities carried out by the company in several areas resulted in improvement in grade and recovery of the mineral products, reduction of processing cost, value addition, product diversification, development of new process and technology and recovery of strategic products from new raw materials.

6.12.5 Kudremukh Iron Ore Co. Ltd. (KIOCL)

Process and technological modification for use of Hematite ore for pellet making and grinding facilities are under progress to improve production in consultation with reputed organizations like

Regional Research Laboratory (RRL), Bhubaneswar, M/s COREM, Canada, Metchem Canada Inc, Canada, KHD Humboldwag GMBH etc.

Possibility of using presser filters are being explored to filter the ultra fines and reduction of moisture. This will improve productivity and quality of pellets.

6.12.6 Manganese Ore (India) Ltd. (MOIL)

The company undertook R&D activities in exploratory drilling at mines and undertook studies on blasting, rock mechanics and stop design system etc.

6.12.7 National Aluminium Co. Ltd. (NALCO)

In-house R&D Activities are being carried out by the company in Alumina Plant and Smelter Plant which include Laboratory scale studies on Utilization of Fly Ash, setting up of a Pilot Plant for treatment of Sodiac Condensate, characterization of Baked Anode for process monitoring, setting up Anode Bench Scale Plant facilities, study on effect of Butts content on Green Anode quality etc.

Collaborative R&D activities being carried out by the company include development of effective technology for extraction of alumina from PLK in collaboration with MISA, Mosco(Russia), development of viable Flow Sheet to recover Titanium and Iron from the plant sand of Alumina Refinery, Damanjodi in collaboration with Institute of Minerals and Materials Technology (IMMT) (Bhubaneswar), decontamination and recovery of Carbon Value from SPL – a pilot plant study with IMMT; plasma smelting of Red Mud for production of Pig Iron/ Cast Iron and Alumina rich slag with IMMT, investigation and utilization of SPL as a co-fuel at CPP in collaboration with CFRI, Dhanbad; study on impurity build-up during bauxite processing and its effect on Bayer Liquor Chemistry with JNARDDC(Nagpur), evaluation of grain refining efficiency of commercially available grain refiner alloys with JNARDDC(Nagpur) etc.

6.12.8 National Mineral Development Corp. Ltd. (NMDC)

The R&D Centre of NMDC functions in various thrust areas such as upgradation of processing technology of existing process plants; development of technology for utilization of low grade minerals and mines wastes, development of value added products etc.

During 2007-08, the company undertook R&D activities such as (i) setting up pilot plant facilities for production of Carbon Free Sponge Iron powder and Nano Crystalline powder from Blue Dust, (ii) development of indigenous technology for production of value added products from Beach Sand, (iii) setting up pilot plant for commercialization of Precipitated Silica Sodium Silicate and Zeolite – A from Kimberlite, (iv) development of various grades of Ferrite powders etc.

6.13 Contract & Construction Services

6.13.1 BBJ Construction Co. Ltd. (BBJCC)

In order to promote R&D and upgradation of technology the Company has absorbed the sophisticated technology of Cable Stayed and Cable Suspension Bridges. In the field of Gauge Conversion, the company has developed the First Launching Method of Steel Girders, which has been successfully introduced in various bridges in the states of Assam, Uttar Pradesh and Andhra Pradesh.

6.13.2 Bridge & Roof Co. (India) Ltd. (B&R)

R&D activities of B&R include study of the existing business scenario as well as specific area where new products and services either by diversification or by upgradation of technology can be identified.

The Company has been developing new products and Technologies in diversified areas such as Furnaces and Heaters, LSTK Projects, Cross-country Pipeline, Highways and Expressways, Bailey bridge, Railway Wagons, Main Boiler for Thermal Power Stations, Metro Rail at Delhi, Storage Silos for Alumina, Water Supply and Sewerage Systems, Flyovers etc.

6.14 Industrial Development & Technical Consultancy Services

6.14.1 Engineers India Limited (EIL)

The R&D Division of the Company pursued its initiatives towards optimization of acquired technologies and betterment of open art technologies and development of new processes and equipment design. These developmental activities are undertaken at the R&D Centre in Gurgaon and in association with institutes/ organizations like IIP, CHT, IOC (R&D) etc..

During the year, two R&D projects relating to design methodology for oxygen enrichment and improved CFC based LPG treating process were completed. Besides, the CFC technology developed in association with IOC (R&D) was granted a US Patent. The R&D expenditure during the year was Rs.6.80 crore.

6.14.2 National Research Development Corporation (NRDC)

For the up-gradation of technology, NRDC is selecting few projects every year under its programe 'Priority Projects' with the following objectives :

- Selection on the basis of market potential, technology supply considerations and export potential.
- Sponsor time bound programmes for such R&D projects.
- Identify and associate Industry for collaboration for quick and effective utilization of technology to be developed.

6.14.3 RITES Limited

The company is improving its efficiency by way of technological upgradation. Steps taken towards technology upgradation at R&D stage are (i) design and development of Cape Gauge DMU Train sets for Angola, (ii) design and development of Cape Gauge Self – Propelled Accident Relief Train for Angola, (iii) detailed proposal for development of locomotive, crash worthiness and occupied protection (crew and passengers) for Indian Railways.

6.15 Telecommunication & I.T. Services

6.15.1 RailTel Corporation of India Ltd. (RailTel)

RailTel has provided cyber café at 26 Railway stations during the year. Further, RailTel has also targeted Wi-Fi, internet services at few Stations. 27 Railway stations have become operational with Wi-Fi in 2007-08.

6.16 TOURIST SERVICES

6.16.1 Indian Railway Catering and Tourism Corp. Ltd. (IRCTC)

The company carried out R&D in specific areas such as improvement in quality, identification of alternative raw materials and vendors, development of test method and application techniques essential for product development, process control and customer services etc.

6.17 Trading & Marketing Services

6.17.1 Handicrafts & Handlooms Exports Corp. India Ltd. (HHEC)

HHEC contributed significantly to the revival of languishing crafts through identification and development of varied crafts clusters in different regions of India. The company undertakes development of in-house samples on continuous basis and strives to ensure quality control and timely delivery. It has 21 procurement centres all over India.

6.17.2 Central Warehousing Corporation

CWC is fully committed to maintain scientific preservation of goods received in the warehouses. Code of storage practices are being formulated, which help in assessment of quality, methods of preservation, stacking pattern, nature of infestation, its control measures, etc. The Corporation has evolved storage practices for 207 commodities, which include agricultural produce, industrial chemicals and other notified commodities. The Corporation is also doing various trials on new chemicals in the field of pest control to evolve effective, less toxic and economic solutions to the pest problems. Earlier wooden crates were being used as dunnage in the warehouses. As a part of the eco-friendly approach to avoid deforestation, the Corporation has tried alternate dunnage in the form of poly pallets, flexible unbaked laminated PVC flooring, street pallets, eco wud pallets, etc. The results have been quite encouraging.

In a bid to evolve non-chemical methods of pest control, the Corporation has done successful trials on Neem Preparation "AZADIRACHTIN" 1500 PPM, which can be fitted as a part of integrated storage pest management system. R&D Division has also carried out successful trials on fumigation of high value agro products using carbon di-oxide. These non chemical methods are likely to be more eco-friendly and viable alternative in control of storage pests particularly in organic food, which cannot be treated with any other pesticide. Based on the field trials, Corporation has introduced multi-layered cross-laminated fumigation covers for effective and efficient fumigation.

6.18 Transportation Services

6.18.1 Shipping Corporation of India Limited

The Company has achieved the following developments after research and analysis:

(i) installation of equipments and systems on board vessels, like Inmarsat Fleet 77 for economic and speedy communication from ships to shore and vice versa using high speed data / MPDS (mobile packet data service) / ISDN lines,

(ii) installed ISDN telephones / video telephones on new vessels,

(iii) installed water ingress detection system for detection of presence of water in cargo holds on all existing bulk carriers in line with the requirement of IMO,

(iv) installation of ship security alert system on applicable coastal and foreign-going vessels as per ISPS code / DGS circulars, etc.

7 MoU System

7.1 Background

The Memorandum of Understanding (MoU) as applicable to public sector enterprises is a negotiated document between the government and the management of the enterprise specifying clearly the objectives of the agreement and the obligations of both the parties. It was first introduced in France in two phases, that is, as '*contracts de programme*' in 1970 and as '*contracts d' Enterprise*' in 1979 consequent to the Simon Nora Committee Report (1967). The main purpose of the MoU system is to ensure a level playing field to the public sector enterprises vis-à-vis the private corporate sector.

MoU system in India was first introduced in 1986 as a result of the recommendations of the Arjun Sengupta Committee Report (1984). The Committee laid emphasis on medium term contract between the Government and the Central Public Sector Enterprises (CPSEs) and recommended a five-year agreement that may be reviewed annually. Moreover, since the CPSEs have been set up as part of the national/central plan, the Committee favoured MoUs especially in respect of CPSEs in the core sectors of steel, coal, power, petroleum, fertilizer and petro-chemicals.

7.2 Performance Contract and Autonomy

In view of the technologically complex nature of these enterprises operating under dynamic market conditions and the need for co-ordination between the various production units, the CPSEs cannot afford external interference in their day to day functioning. Delay in approvals, for instance, has led to technological obsolescence and cost overruns. MoU is, therefore, aimed at providing greater autonomy to public sector enterprises vis-à-vis the control of the government. The 'management' of the enterprise is, nevertheless, made accountable to the government through promise for performance or 'performance contract'. The government, nevertheless, continues to have control over these enterprises through a priori supervision through setting targets in the beginning of the year and through a posteriori 'performance evaluation' at the end of the year.

In order to grant autonomy to public sector enterprises vis-à-vis control of the government, the Arjun Sengupta Committee identified three areas of Government-PSE interaction, namely (a) price fixation, (b) investment planning and (c) financial management. In regard to price fixation the Committee observed that price control/ administered price/ retention price may be retained only in areas where the nature of product so justifies. It further stated that wherever CPSEs are operating *under competitive market conditions*, the CPSEs should be left on their own to fix the price of their output. While fixing prices for products of CPSEs operating *under monopoly conditions*, these should be benchmarked with international prices. The gradual dismantling of Administered Price Mechanism (APM) since 1991 has increasingly helped these enterprises to fix the output prices on market principles without the need to seek the approval of the government.

In regard to autonomy for investment planning, greater powers were subsequently delegated to the Board of Directors as recommended by the Committee. The Board of Directors of MoU signing CPSEs can therefore sanction capital expenditure without the prior approval of the government, especially so if the required funds could be found from the internal resources of the enterprise. In regard to financial management especially with reference to 'auditing', the Committee was of the view that subsequent to evolving of appropriate accounting standards by the Comptroller and Auditor General of India (CAG), supplementary audit by CAG for the non-core sector should be given up. In the case of the enterprises in the core sector, however, the Committee recommended that company audit by the CAG may continue.

The Committee further observed that Ministries should not interfere in areas of decision making which are within the delegated powers of CPSEs. Accordingly numerous 'administrative controls' emanating from different 'government circulars' issued over the years and pertaining to public sector enterprises were dispensed with consequent to the review exercises undertaken in the Department of Public Enterprises in 1996 and in 2000.

7.3 Performance Evaluation under the MoU System

Performance evaluation at the end of the year indicates the extent to which the mutually agreed targets and objectives were achieved. The methodology of performance evaluation has, however, undergone several changes over the years as discussed below.

7.3.1 MoU Evaluation recommended by Sengupta Committee

The Arjun Sengupta Committee favoured appropriate financial return on all enterprises to be measured in terms of the financial ratio of *Gross Margin on Assets;* for 'service enterprises' it recommended the financial ratio of *Gross Margin on Sales.* In case of enterprises in the 'core sector' and operating under 'price control' (administered price mechanism), the Committee favoured normative financial return measurable in terms of the financial ratio of *Net Profit on Net Worth.* The Committee also attached importance to non-financial criterion like increase in productivity, technical dynamism and project implementation. No weights were, however, assigned to the different parameters.

7.3.2 Signaling system and Performance Evaluation

The extant MoU system prevalent since 1986 was revamped in 1989, and it moved closer to the "signaling system" of the Pakistani and the Korean model as developed by Prof. Leroy P. Jones (Director, Public Enterprises Programme, Boston University). 'Performance contract' under the MoU system, furthermore, got delinked from the medium-term agreement as recommended by Arjun Sengupta Committee. Under the new MoU system that was implemented from the financial year of 1989-90, performance evaluation came to be based on the *annual targets* agreed upon between the government and the CPSEs. Another novel feature of the new system has been finalization of MoU under the overall supervision of a third party, namely, the MoU Task Force constituted by the Department of Public Enterprises. The MoU Task Force is independent of both the administrative ministry and the CPSE.

In order to distinguish 'excellent performance' from 'poor performance' under the new system, (five) different targets are finalised against each of the evaluation parameters. On a 5-point scale these are shown as (1) for 'excellent', (2) for 'very good', (3) for 'good', (4) for 'fair' and (5) for 'poor'. The targets are fixed in two stages of (a) determining the basic target and (b) determining the percentage difference *or the spread* between one (target) level of performance and another. Each of the parameters is, furthermore, assigned weights to distinguish a more important evaluation parameter from a less important parameter (evaluation criterion). The final performance evaluation or 'the composite score' is arrived at by adding the weighted score of the actual achievements (at the end of the year) against each of the parameters, in comparison to the targets that have been finalized (in the beginning of the year) on the 5-point scale mentioned above.

Under the MoU Guidelines for CPSEs issued by the Department of Public Enterprises (Government of India), , *the basic target* (BT) is graded as '*Good'(having a score of 3)*. These have to be higher than the (actual) achievements of the previous year. *(Under the Korean system of MoU, however, the trend growth rate, for the year in consideration, is calculated based on the past five years of actual performance, which forms the basis of the basic target; the other targets are derived as deviations from the basic target).* If, however, a CPSE is operating at 'full capacity utilization', *the basic* (*MoU) target* is placed in *'Very Good'* column (having a score of 2). The d*fference in target values* between 'Very Good' and 'Good'; 'Good' and 'Fair' and 'Fair' and 'Poor' columns is uniform at 5%. The *difference* between '*Excellent*' and '*Very Good'* targets is, however, significantly higher than 5% (>5% to 10%) the decision vis-a-vis the actual percentage difference and is left to the discretion of the MoU Task Force.

The 'composite score' is thus an index of the performance of the enterprises. The *grading* of the 'composite score' is done in the following manner:

MoU Composite Score	Grading
1.00-1.50	Excellent
1.51-2.50	Very Good
2.51-3.50	Good
3.51-4.50	Fair
4.51-5.00	Poor

While both the French and the Korean systems of MoUs draw a distinction between the performance evaluation of the *enterprise* and those of the *management,* it is not so in the Indian case. The MoU system in India evaluates the performance of the enterprise; evaluation of the management is incidental as no concession is allowed for the exigencies of macro-economic factors outside the control of the management; no revision is either allowed for the targets that have been finalized in the beginning of the year.

7.4 NCAER study on MoU and Performance Evaluation

The Department of Public Enterprises assigned a study to the National Council of Applied Economic Research (NCAER) in 2003 to examine afresh the choice of criteria for performance evaluation and the allocation of weight to the different parameters. The NCAER finally came up with the following Principal Components of parameters for performance evaluation:

Principal Components of Parameters	Weight
I. Financial (Static) Parameters	50%
II. Non- financial Parameters	50%
(i) Dynamic Parameters	30%
(ii) Enterprise-specific Parameters	10%
(iii) Sector-specific Parameter	10%

While the performance evaluation under the earlier system allocated 60% weight to 'financial parameters' and 40% weight to 'non-financial parameters', the NCAER recommended equal weights (50%) to both 'financial' and 'non-financial' parameters. In this respect it is similar to the 'balanced score card' approach of performance evaluation. The 'non-financial parameters' were further sub-divided into 'dynamic parameters', 'enterprise-specific parameters' and 'sector-specific parameters'. Whereas the 'financial' parameters include primarily the ratios to reflect the capital, labour and total factor productivities, the 'dynamic' parameters refer to *project implementation*, *investment in R&D* and *extent of globalization* etc. Similarly, while the 'sector-specific' parameters refer to macro-economic factors like change in demand and supply, price fluctuations, variation in interest rates etc. beyond the control of the management, the 'enterprise-specific' parameters refer to issues such as safety and pollution etc.

Moreover, while the above mentioned *principal components* were recommended to be the same for all CPSEs, the individual items/ suggested as criteria for performance evaluation under each of these principal components were indicated to be different for different CPSEs classified as (a) 'social sector',(b) 'financial sector', (c) 'trading and consulting sector' and (d) 'other than financial trading/consulting and social sector'. Besides the above, *the new approach allowed discretion to the Task Force to change the weights* of the different criteria included under 'dynamic', 'enterprise-specific' and 'sector-specific' parameters depending on their perception of the CPSE under consideration. The recommendations of the NCAER were subsequently accepted by the Government and the new methodology for setting up performance targets came into force since financial year 2004-05.

7.4.1 Working Group on Review of MoU guidelines

In May, 2008, the Department of Public Enterprises set up a Working Group on Review of the MoU guidelines in CPSEs under the

Chairmanship of Shri Ashok Chandra, Chairman, Task Force to review the existing guidelines. The Committee submitted its Report in September, 2008. The various recommendations of the Working Group to further improve the MoU evaluation system is under consideration of the Government.

7.5 MOU System 'Process and Principles'

The process of finalizing the MoUs starts with the issue of detailed Guidelines by the Department of Public Enterprises (DPE) on the basis of which the CPSEs submit their draft MoU after getting them approved by the respective Boards and the Administrative Ministries. The draft MOUs indicate the (five) performance targets on a five point *scale for the ensuing financial year.* These draft MoUs are then discussed, improved and finalized during the MoU negotiation meetings of the Task Force Syndicates. The Department of Public Enterprises organizes these meetings, which is chaired by the Convener of the Task Force. Altogether there are eleven separate Syndicates for the different groups of CPSEs. Each Syndicate comprises the Convenor and six to eight members who are members of the MoU Task Force. Each Syndicate conducts the negotiations, which are attended by the Chief Executives of the CPSEs, Senior Officers from the administrative Ministries and the representatives of the nodal Government agencies such as Planning Commission and Ministry of Finance.

7.6 MoU Task Force

The MoU Task Force members who work as the honorary members of the various Syndicates are selected by the DPE and comprise former Civil Servants, CMDs of the Public Enterprise, financial and technical professionals, Chartered Accountants and academics. The rich experience and knowledge of the TF members in different fields provides the necessary technical input and enables the Syndicate in fixing more realistic targets The DPE issues the Minutes of MoU negotiation meetings to the CPSEs (and the Ministry/Department concerned) for finalizing the MoUs which are authenticated in the DPE to ensure that those are in accordance with the decisions on targets as agreed upon during the meeting. Subsequently, all MoUs have to be signed before 31st March for implementation during the succeeding financial year.

7.7 High Power Committee on MoU

The High Power Committee (HPC) on MoU is a Committee of Secretaries (COS) set up by the Government as the Apex Committee to assess the performance of MOU signing CPSEs with reference to the commitments made by them in the MOU and also to assess how far the Administrative Ministries/Departments have been able to give the necessary support as committed by them in the MOU. HPC is headed by the Cabinet Secretary. Secretary, Department of Public Enterprises is the Member-Secretary of this committee. The other members comprise Cabinet Secretary, Finance Secretary, Secretary (Expenditure), Secretary (Planning Commission), Secretary(Statistics & Programme Implementation). Chairman Public Enterprises Selection Board, Chief Economic Advisor, Department of Economic Affairs and Chairman Tariff Commission. The Apex Committee of Secretaries on MoU has been from time to time giving directions in regard to the determination of the *principles and parameters* for evaluating the performance of CPSEs.

7.8 Coverage and status of MoU negotiation meetings

The MoU system that was started with four CPSEs signing MoU in the year 1986-87 increased its coverage to 144 CPSEs in the year 2008-09. The table below provides the coverage of CPSEs over the years under the MOU system.

Table 7.1

Year	MOUs signed*	Year	MOUs signed*
1987-88	4	1998-99	108
1988-89	11	1999-2000	108
1989-90	18	2000-01	107
1990-91	23	2001-02	104
1991-92	72	2002-03	100
1992-93	98	2003-04	96
1993-94	101	2004-05	99
1994-95	100	2005-06	102

1995-96	104	2006-07	113
1996-97	110	2007-08	144
1997-98	108	2008-09	144*

*Most of these are 'holding' or independent companies.

Almost all CPSEs have been covered under the MoU system in 2008-09, since the subsidiary CPSEs sign MoUs separately with their holding companies.

7.9 Performance of the MoU signing CPSEs

MoU score for the year 2007-08 (on the basis of audited data) is given at Annexure 7.1 The CPSEs who could not send their self evlautuion Report may be seent at Annex 7.2. List of CPSEs who siged the MoU for the year 2008-09 is given an Annex7.3. MoU rating during the last five years shown in the table below:

Table 7.2

MoU Signing CPSEs

(in nos.)

Rating	*2003-04*	*04-05*	*05-06*	*06-07*	*07-08*
Excellent	54	45	44	46	55
Very Good	21	31	36	37	34
Good	10	12	14	13	15
Fair	11	10	08	06	08
Poor	00	01	00	00	00
Total	96	99	102	102	112

7.10 Excellence Awards under the MoU system

Performance evaluation under the MoU system is followed by 'performance incentive'. The incentive system takes two forms, namely, *monetary and non-monetary*. MoU scores have implications for monetary incentive as performance related payments are based on them. The non-monetary incentive is in the form of MoU Excellence Award and MoU Excellence Certificate.

7.11 Principles for MoU Excellence Awards

The basic principles for selecting the best performing CPSEs for MoU Excellence Awards as laid down by HPC in its meeting dated 10th March 1995 are the following:

(i.) The profit of the CPSE in the year should be higher compared to the previous year.

(ii.) It should not be loss-making enterprise.

(iii.) The composite score of the CPSE should not be more than 2.00.

7.12 New system of Excellence Awards (w.e.f. 2006-07 onwards)

The High Power Committee (HPC) on MoU during its meeting held on 15th December, 2006 decided to constitute a Committee under the Chairmanship of Shri N.K. Sinha to review the existing system of MoU Excellence Awards to CPSEs. The HPC considered the N.K.Sinha Committee report in July 2007 and decided that the total number of Excellence Awards will be 12, that is, 1 from each of 10 Syndicates, 1 from the listed CPSEs, 1 from amongst the turnaround sick and loss making Enterprises. All other excellent performing CPSEs will get merit certificates.

MoU Composite Score and Ratings of CPSEs for the year 2007-2008 on the basis of Audited Data

S.No.	Name of the CPSE	MoU Composite Score	Rating
(1)	(2)	(3)	(4)
1.	Bharat Petroleum Corporation Limited	1.20	Excellent
2.	Balmer Lawrie & Co. Limited	1.26	Excellent
3.	GAIL (India) Limited	1.13	Excellent
4.	Hindustan Petroleum Corporation Limited	1.17	Excellent
5.	Indian Oil Corporation Limited	1.01	Excellent
6.	Oil India Limited	1.68	Very Good
7.	Oil & Natural Gas Corporation Ltd.	1.81	Very Good
8.	North Eastern Electric Power Corporation Ltd.	2.11	Very Good
9.	NTPC Ltd.	1.68	Very Good
10.	Neyveli Lignite Corporation Ltd.	1.63	Very Good
11.	Nuclear Power Corporation of India Ltd.	1.95	Very Good
12.	NHPC Ltd.	1.42	Excellent
13.	Power Grid Corporation of India Limited	1.10	Excellent
14.	Satluj Jal Vidyut Nigam Limited	1.62	Very Good
15.	Tehri Hydro Development Corpn. Ltd.	3.02	Good
16.	Bharitya Nabhikiya Vidyut Nigam Ltd.	3.12	Good
17.	Coal India Limited	1.47	Excellent
18.	Bharat Heavy Electricals Limited	1.19	Excellent
19.	Bharat Earth Movers Limited	2.22	Very Good
20.	Bharat Dynamics Limited	2.15	Very Good
21.	Hindustan Aeronautics Limited	1.16	Excellent
22.	Andrew Yule & Co. Ltd.	2.94	Good
23.	Hindustan Paper Corporation Ltd.	1.02	Excellent
24.	NEPA Ltd.	1.71	Very Good
25.	Hindustan Latex Ltd.	2.40	Very Good
26.	Tyre Corporation of India Ltd.	2.91	Good
27.	Cement Corporation of India Ltd.	1.85	Very Good
28.	Hindustan Salts Ltd.	3.40	Good
29.	Hindustan Insecticides Ltd.	1.36	Excellent
30.	Hindustan Organics Chemicals Ltd.	3.58	Fair
31.	Ferro Scrap Nigam Limited	3.46	Good
32.	NTC Ltd.	4.20	Fair
33.	Indian Rare Earths Limited	2.45	Very Good

(1)	(2)	(3)	(4)
34.	Kudremukh Iron Ore Co. Limited	2.49	Very Good
35.	Manganese Ore India Limited	1.32	Excellent
36.	Mishra Dhatu Nigam Limited	1.20	Excellent
37.	National Mineral Development Corpn. Limited	1.48	Excellent
38.	National Aluminum Co. Limited	2.18	Very Good
39.	Mineral Exploration Corpn. Limited	1.46	Excellent
40.	Rashtriya Ispat Nigam Limited	1.67	Very Good
41.	Steel Authority of India Limited	1.13	Excellent
42.	Uranium Corporation of India Limited	3.83	Fair
43.	Hindustan Copper Ltd.	1.59	Very Good
44.	Sponge Iron India Limited	3.03	Good
45.	Bharat Electronics Limited	1.65	Very Good
46.	Bharat Sanchar Nigam Limited	3.46	Good
47.	Electronics Corporation of India Limited	1.45	Excellent
48.	Central Electronics Limited	2.06	Very Good
49.	Mahanagar Telephone Nigam Limited	2.07	Very Good
50.	Rajasthan Electronics & Instruments Limited	1.47	Excellent
51.	RailTel Corporation of India Limited	2.17	Very Good
52.	Telecommunication Consultants India Limited	3.31	Good
53.	ITI Ltd.	3.68	Fair
54.	Hindustan Cables Ltd.	4.30	Fair
55.	Airport Authority of India Limited	1.20	Excellent
56.	Cochin Shipyard Limited	1.28	Excellent
57.	Container Corporation of India Limited	1.08	Excellent
58.	Dredging Corporation of India Limited.	2.36	Very Good
59.	Garden Reach Shipbuilders & Engineers Limited	1.92	Very Good
60.	Goa Shipyard Limited	1.35	Excellent
61.	Hindustan Shipyard Limited	1.25	Excellent
62.	Konkan Railway Corporation of India Limited	2.05	Very Good
63.	Mazagaon Dock Limited	1.50	Excellent
64.	Mumbai Railway Vikas Corporation Limited	2.43	Very Good
65.	Shipping Corporation of India Ltd.	1.56	Very Good
66.	Ennore Port Limited	1.39	Excellent
67.	Rail Vikas Nigam Ltd.	2.61	Good
68.	Central Cottage Industries Corpn. of India Ltd.	2.04	Very Good
69.	Cotton Corporation of India Limited	2.55	Good
70.	Handicrafts & Handlooms Export Corpn. Ltd.	4.18	Fair

(1)	(2)	(3)	(4)
71.	Hindustan Steelworks Construction Limited	2.57	Good
72.	India Trade Promotion Organization	1.62	Very Good
73.	Indian Railway Catering & Tourism Corporation Ltd.	3.25	Good
74.	MMTC Limited	1.20	Excellent
75.	MSTC Limited	1.20	Excellent
76.	PEC Limited	1.00	Excellent
77.	State Trading Corporation of India Limited	1.00	Excellent
78.	National Handlooms Development Corporation Limited	1.77	Very Good
79.	Antrix Corporation Ltd.	1.15	Excellent
80.	Brahamputra Valley Fertilizers Corpn. Ltd.	3.73	Fair
81.	FCI Aravali Gypsum & Minerals (India) Ltd.	1.79	Very Good
82.	National Seeds Corporation	1.43	Excellent
83.	National Fertilizers Limited	1.33	Excellent
84.	Rashtriya Chemicals & Fertilizers Limited	1.26	Excellent
85.	State Farms Corporation	1.83	Very Good
86.	North Eastern Regional Agricultural Marketing Corporation Ltd.	3.35	Good
87.	Fatilizers & Chemicals (Travancore)	4.05	Fair
88.	Madras Fertilizers Limited	2.24	Very Good
89.	Central Warehousing Corporation	1.47	Excellent
90.	Ed. CIL (India) Ltd.	2.04	Very Good
91.	National Research Development Corporation	1.32	Excellent
92.	Engineering Projects (I) Limited	1.08	Excellent
93.	HSCC (India) Limited	1.32	Excellent
94.	IRCON International Limited	1.35	Excellent
95.	MECON Limited	1.31	Excellent
96.	National Small Industries Corporation Ltd.	1.46	Excellent
97.	National Building Construction Corporation Ltd.	1.02	Excellent
98.	Engineers India Limited	1.40	Excellent
99.	RITES Limited	1.00	Excellent
100.	WAPCOS (India) Ltd.	1.00	Excellent
101.	Projects & Development India Limited	1.27	Excellent
102.	Export Credit & Guarantee Corporation of India Ltd.	1.48	Excellent
103.	Housing & Urban Development Corporation Ltd.	2.20	Very Good
104.	Indian Renewable Energy Development Agency Ltd.	1.47	Excellent
105.	Indian Railway Finance Corporation Ltd.	1.00	Excellent

(1)	(2)	(3)	(4)
106.	National Scheduled Caste Finance & Development Corporation	1.32	Excellent
107.	National BC Finance & Development Corporation	1.00	Excellent
108.	National Minorities Finance & Development Corporation	1.33	Excellent
109.	Power Finance Corporation	1.00	Excellent
110.	Rural Electrification Corporation Ltd.	1.08	Excellent
111.	National Scheduled Tribes Finance & Development Corporation	2.89	Good
112.	National Safai Karmcharis Finance & Development Corporation	1.45	Excellent

The ratings of the composite score is as under:

MOU Composite score	Grading
1.00 - 1.50	Excellent
1.51 - 2.50	Very Good
2.51 - 3.50	Good
3.51 - 4.50	Fair
4.51 - 5.00	Poor

CPSEs who have not submitted their self evaluation report for the year 2007-2008

1. Bharat Refractories Ltd.
2. Scooters India Ltd.
3. Heavy Engineering Corporation Ltd.
4. Bridge & Roof Co (India) Ltd.
5. Bharat Pumps & Compressors Ltd.
6. Bharat Heavy Plates & Vessels Ltd.
7. Richardson & Cruddas Ltd.
8. Instrumentation Ltd.
9. National Instruments Ltd.
10. Hindustan Photofilms Manu. Co Ltd.
11. Bharat Bhari Udyog Nigam Ltd.
12. Bharat Immunological and Biological Corporation Ltd.
13. Hindustan Salts Ltd.
14. Indian Medicines Pharmaceutical Corp. Ltd.
15. Bengal Chemicals & Pharma. Ltd.
16. Biecco Lawrie Ltd.
17. Indian Drugs and Pharmaceuticals Ltd.
18. British India Corporation Ltd.
19. National Jute Manufacturer Corpn. Ltd.
20. National Informatics Center Services Incorporated
21. Ennore Port Ltd.
22. Pawan Hans Helicopters Ltd.
23. Indian Tourism Development Corporation Ltd.
24. Jute Corporation of India Ltd.
25. Dedicated Freight Corridor Corpn. of India
26. Food Corporation of India
27. Broadcast Engg. Consultants India Ltd.
28. Hindustan Prefabs Ltd.
29. Sethusumundaram Corporation Ltd.
30. Andamand & Nicobar Islands Forest & Plantation Dev. Corpn. Ltd.
31. National Film Development Corpn. Ltd.
32. National Security Printing & Minting Corpn. Ltd.

CPSEs who signed MoU for the year 2008-2009

Syndicate – Petroleum

1. Bharat Petroleum Corporation Ltd.
2. Balmer Lawrie & Co. Ltd.
3. GAIL (India) Ltd.
4. Hindustan Petroleum Corporation Ltd.
5. Indian Oil Corporation Ltd.
6. Oil India Ltd.
7. Oil & Natural Gas Corporation Ltd.

Syndicate – Energy

8. North Eastern Electric Power Corporation Ltd.
9. NTPC Ltd.
10. Neyveli Lignite Corporation Ltd.
11. Nuclear Power Corporation of India
12. National Hydro-electric Power Corporation Ltd.
13. Power Grid Corporation of India Ltd.
14. Satluj Jal Vidyut Nigam Ltd.
15. Tehri Hydro Development Corpn Ltd.
16. Bharitya Nabhikiya Vidyut Nigam Ltd.
17. Coal India Ltd.

Syndicate– Industrial Sector-I

18. Bharat Earth Movers Ltd.
19. Bharat Dynamics Ltd.
20. Bharat Refractories Ltd.
21. Bharat Heavy Electricals Ltd.
22. Hindustan Aeronautics Ltd.
23. Scooters India Ltd.
24. Heavy Engineering Corporation Ltd.
25. Bridge & Roof Co (India) Ltd.
26. Bharat Pumps & Compressors Ltd.
27. Bharat Heavy Plates & Vessels Ltd.
28. Richardson & Cruddas Ltd.
29. Instrumentation Ltd.
30. Andrew Yule & Co. Ltd.
31. National Instruments Ltd.
32. Hindustan Paper Corporation Ltd.
33. NEPA Ltd.
34. Hindustan Latex Ltd.

35. Tyre Corporation of India Ltd.
36. Hindustan Photofilms Manufacturing Co. Ltd.
37. Bharat Bhari Udyog Nigam Ltd.

Syndicate– Industrial Sector-II

38. Bharat Immunological and Biological Corporation Ltd.
39. Cement Corporation of India
40. Hindustan Antibiotics Ltd.
41. Hindustan Salts Ltd.
42. Indian Medicines Pharmaceutical Corp. Ltd.
43. Hindustan Insecticides Ltd.
44. Bengal Chemicals & Pharma. Ltd.
45. Biecco Lawrie Chemicals Ltd.
46. Hindustan Organics Ltd.
47. Indian Drugs and Pharmaceuticals Ltd.
48. Ferro Scrap Nigam Ltd.
49. NTC Ltd.
50. British India Corporation Ltd.
51. National Jute Manufacturer Corpn. Ltd.

Syndicate–Mining & Metals

52. Indian Rare Earths Ltd.
53. Kudremukh Iron Ore Co. Ltd.
54. Manganese Ore India Ltd.
55. Mishra Dhatu Nigam Ltd.
56. National Mineral Development Corpn. Ltd..
57. National Aluminum Co. Ltd.
58. Mineral Exploration Corpn. Ltd.
59. Rashtriya Ispat Nigam Ltd.
60. Steel Authority of India Ltd.
61. Uranium Corporation of India Ltd.
62. Hindustan Copper Ltd.
63. Sponge Iron India Ltd.

Syndicate– Electronics &Communication

64. Bharat Electronics Ltd.
65. Bharat Sanchar Nigam Ltd.
66. Electronics Corporation of India Ltd.
67. Central Electronics Ltd.
68. Mahanagar Telephone Nigam Ltd.
69. Rajasthan Electronics & Instrument Ltd.
70. Rail Tel Corporation of India Ltd.
71. Telecommunication Consultants India Ltd.
72. ITI Ltd

73. Hindustan Cables Ltd,
74. National Informatics Center Services Incorporated

Syndicate– Transport

75. Airport Authority of India Ltd.
76. Cochin Shipyard Ltd.
77. Container Corporation of India Ltd.
78. Dredging Corporation of India Ltd..
79. Garden Reach Shipbuilders & Engineers Ltd.
80. Goa Shipyard Ltd.
81. Hindustan Shipyard Ltd.
82. Konkan Railway Corporation of India Ltd.
83. Mazagaon Dock Ltd.
84. Mumbai Railway Vikas Corporation Ltd.
85. Shipping Corporation of India Ltd.
86. Ennore Port Ltd.
87. National Aviation Company of India Ltd.
88. Pawan Hans Helicopters Ltd.
89. Rail Vikas Nigam Ltd.

Syndicate– Trading & Service Sector

90. Central Cottage Industries Corpn of India Ltd.
91. Cotton Corporation of India Ltd.
92. Handicrafts & Handlooms Export Corpn of India Ltd.
93. Hindustan Steelworks Construction Ltd.
94. India Trade Promotion Organization
95. Indian Tourism Development Corporation Ltd.
96. Indian Railway Catering & Tourism Corpn. Ltd.
97. MMTC Ltd.
98. MSTC Ltd.
99. PEC Ltd.
100. State Trading Corporation of India Ltd.
101. North Eastern Handicraft & Handlooms Development Corporation Ltd..
102. National Handloom Dev. Corpn. Ltd.
103. Jute Corporation of India Ltd.
104. Antrix Corporation Ltd.
105. Dedicated Freight Corridor Corpn. of India

Syndicate– Fertilizers & Agro Industries

106. Brahamputra Valley Fertilizers Corpn. Ltd.
107. FCI Aravali Gypsum & Minerals (India) Ltd.
108. National Seeds Corporation
109. National Fertilizers Ltd.

110. Rashtriya Chemicals & Fertilizers Ltd.
111. State Farms Corporation of India
112. North Eastern Regional Agricultural Marketing Corporation Ltd.
113. Fertilizer & Chemicals (Travencore) Ltd.
114. Madras Fertilizers Ltd.
115. Central Warehousing Corporation
116. Food Corporation of India

Syndicate– Consultancy

117. Broadcast Engg. Consultants India Ltd.
118. Ed. CIL (India) Ltd.
119. National Research Development Corporation of India
120. Engineering Projects (I) Ltd.
121. HSCC (India) Ltd.
122. IRCON International Ltd.
123. MECON Ltd.
124. National Small Industries Corporation Ltd.
125. National Building Construction Corporation Ltd.
126. Engineers India Ltd.
127. RITES Ltd.
128. WAPCOS (India) Ltd.
129. Projects & Development India Ltd.
130. National Projects Construction Corporation Ltd.
131. Hindustan Prefabs Ltd.

Syndicate– Financial Services

132. Export Credit Guarantee Corporation of India Ltd.
133. Housing & Urban Development Corporation
134. Indian Renewable Energy Development Agency Ltd.
135. Indian Railway Finance Corporation Ltd.
136. National Scheduled Caste Finance & Development Corporation
137. National Backward Finance & Development Corporation
138. National Minorities Finance & Development Corporation
139. National Film Development Corporation
140. Power Finance Corporation
141. Rural Electrification Corporation Ltd.
142. National Scheduled Tribes Finance & Development Corporation
143. National Handicapped Finance & Development Corporation
144. National Safai Karmcharis Finance & Development Corporation

8 DELEGATION OF ENHANCED FINANCIAL POWERS TO CPSEs

Under the Articles of Association, the Board of Directors of CPSEs enjoy certain amount of financial powers and autonomy in respect of recruitment, promotion and other service conditions of below Board level employees. The Board of Directors of a CPSE exercises the delegated powers subject to broad policy guidelines issued by Government from time to time. The Government has granted enhanced powers to the Boards of Navratna, Miniratna and other profit making enterprises.

Keeping in view the pledge made in the National Common Minimum Programme (NCMP) that full managerial and commercial autonomy will be devolved to successful profit making companies operating in a competitive environment, the Government reviewed the powers delegated to the Board of Directors of Navratna, Miniratna and other profit making CPSEs and substantially enhanced the delegated powers in August 2005.

8.1 Navratna scheme

Under this scheme, the Government has delegated enhanced powers to CPSEs having comparative advantage and the potential to become global players. Presently, there are 18 Navratna CPSEs as under:

(i) Bharat Electronics Limited

(ii) Bharat Heavy Electricals Limited

(iii) Bharat Petroleum Corporation Limited

(iv) Coal India Limited

(v) GAIL (India) Limited

(vi) Hindustan Aeronautics Limited

(vii) Hindustan Petroleum Corporation Limited

(viii) Indian Oil Corporation Limited

(ix) Mahanagar Telephone Nigam Limited

(x) National Aluminium Company Limited

(xi) NMDC Limited

(xii) NTPC Limited

(xiii) Oil & Natural Gas Corporation Limited

(xiv) Power Finance Corporation Limited

(xv) Power Grid Corporation of India Limited

(xvi) Rural Electrification Corporation Limited

(xvii) Shipping Corporation of India Limited

(xviii) Steel Authority of India Limited

The powers presently 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) **Organizational Restructuring**

The Navratna CPSEs have the powers to effect organizational restructuring including establishment of profit centers, opening of offices in India and abroad, creating new activity centers, etc.

(iv) **Human Resources Management**

The Navratna CPSEs have been empowered to create 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

(viz., 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.

(iv) **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.

(v) **Joint ventures and Subsidiaries**

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 amounts : -

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.

(vi) **Mergers & Acquisitions (M&A)**

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(M&A) are to be exercised in such a manner that it should not lead to any change in the public sector character of the concerned CPSE.

(vii) **Creation/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.

The above mentioned delegation of powers is subject to the following conditions and guidelines:-

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 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

8.2 Miniratna scheme

In October 1997, the Government had also 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, belong to two categories, namely, Category- I and Category-II. The eligibility conditions and criteria are:

(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 orCategory-II company before the exercise of enhanced powers.

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(JVs) and Subsidiaries:

(a) Category I CPSEs: The power 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 networth of the CPSE or Rs. 500 crore, whichever is less. The overall ceiling on such investment in all projects put together is 30% of the networth of the CPSE.

(b) Category II CPSEs: The power 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 networth of the CPSE or Rs. 250 crore, whichever is less. The overall ceiling on such investment in all projects put together is 30% of the networth of the CPSE.

(iii) Mergers and Acquisitions(M&A):

The Board of Directors of these CPSEs have the powers for Mergers and Acquisitions (M&A), 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(M&A) 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

The power 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 (viz., 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:

The power 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 :

The power 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

8.3 Other profit making CPSEs

Those CPSEs which have earned profit in each of the 3 preceding accounting years and have a positive net worth are categorized as 'other profit making CPSEs'. These CPSEs have been delegated enhanced powers as under:-

(i) **Capital Expenditure**:

These CPSEs have the power to incur capital expenditure up to Rs. 150 crore or equal to 50% of the net worth, whichever is less. The above delegation is subject to the following conditions:

(a) inclusion of the project in the approved Five Year and Annual Plans and outlays provided for the same ;

(b) the required funds can be found from the Internal Resources(IR) of the company or from Extra Budgetary Resources (EBR), and the expenditure is incurred on schemes included in the capital budget approved by the Government.

(ii) **Tours 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. In all other cases including those of Chief Executive, tours abroad would continue to require the prior approval of the Minister of the Administrative Ministry/ Department.

9

CPSEs UNDER CONSTRUCTION

There are 28 new Central Public Sector Enterprises (CPSEs) that have been established in recent years and are in the various stages of construction as on 31.3.2008. Table 10.1 below provides the year of incorporation, of these companies, their status as independent company, subsidiary company or joint-venture as well their authorized and paid-up capital. A large majority of these CPSEs are subsidiary companies with very small authorized capital. Some of these subsidiaries are 'shell companies', especially in the power sector. Shell companies are formed to undertake preliminary survey work, identification of route, preparation of feasibility report, initiation of process of land acquisition, initiation of process of seeking forest clearance (if required) and to conduct bidding process, etc.

Only six of these CPSEs, under construction, have their authorized capital more than Rs. 50 crore. In terms of paid-up capital, moreover the really significant CPSEs under construction have been Bharat Petroresources Ltd., Bharatiya Nabhikiya Vidyut Nigam Ltd., Dedicated Freight Corridor Corporation of India Ltd., NTPC Hydro Ltd and Sethusamudram Corporation Ltd. The paragraphs below discuss briefly each of these CPSEs.

1. Air India Engineering Services Ltd. (AIESL)

Air India Engineering Services Limited (AIESL), a wholly owned subsidiary company of National Aviation Company of India Limited (erstwhile Air India Limited), was incorporated in March 2004 with a view to undertake engineering and other allied activities. It is aimed to develop this subsidiary company to provide Maintenance Repair and Overhaul (MRO) facility. As on 31.3.2008, the authorised share capital and paid-up capital of the Company was Rs.10 crores and is Rs.0.05 crore respectively. The Certificate for Commencement of Business was received on 17th January 2006. However, pending Government approval, no business transactions has taken place till date.

2. Akaltara Power Limited (APL)

Akaltara Power Limited, a wholly owned subsidiary of Power Finance Company (PFC) Ltd. has been established to develop an Ultra Mega Power Project in the state of Chhattisgarh. Both authorized capital and paid up capital of the company as on 31.3.2008 was Rs. 0.05 crore. The activities at project site have started. The Central Electricity Authority (CEA) has identified one site near village Salka and Khamaria in Surguja district for the proposed project. The Government of Chhattisgarh has confirmed the availability of land and water required for the project. The preliminary Water Availability Study carried out by the State Irrigation Department confirms estimated availability of 188 MCM of water from Rehar river, subject to creation of reservoirs by constructing four hydro structures on river Rehar and its tributary. The State Irrigation Department has, however, suggested that their preliminary study may be revalidated by engaging another consultant. Accordingly, a contract has been awarded to IIT Roorkee to ascertain availability of water and to prepare the Project Report..

3. Bharat Petroresources Ltd. (BPRL)

Bharat Petroresources Limited (BPRL) was incorporated in October 2006 as a wholly owned subsidiary of Bharat Petroleum Corporation Limited (BPCL) to implement BPCL's projects in Exploration and Production (E&P) sector. The authorized and paid up capital of the company as on 31.3.2008 stood at Rs. 110 crore and Rs. 102.55 crore respectively. BPCL Board in its meeting of 31.10.2006 approved transfer of all E&P Assets, Liabilities and Investments along with the commitments & expenditures and also assignment of BPCL's participating interest in Production Sharing contracts to BPRL.

Table 10.1

CPSEs Under Construction

S. No.	Name of CPSE	Status	Year of Incorporation	Authorised Capital (Rs. in lakh)	Paid up capital
1.	Air India Engineering Services Ltd.	Subsidiary	2006	1000	5
2.	Akaltara Power Ltd.	Subsidiary	2006	5	5
3.	Bharat Petroresources Ltd.	Subsidiary	2006	100	102
4.	Bharat Petroresources JPDA	Subsidiary	2006	100	5
5.	Bharatiya Nabhikiya Vidyut Nigam Ltd.	Independent Company	2003	500000	978
6.	Bharatiya Rail Bijlee Company Ltd.	Subsidiary	2007	1000	10
7.	Bihar Drugs & Organic Chemicals Ltd.	Subsidiary	1994	200	-
8.	Brahmputra Cracker & Polymer Ltd.	Subsidiary	2007	120000	5
9.	Byrnihat Transmission Company Ltd.	Independent Company	2007	5	5
10.	Coastal Karnataka Power Ltd.	Subsidiary	2006	5	5
11.	Coastal Maharashtra Mega Power Ltd.	Subsidiary	2006	5	5
12.	Coastal Tamil Nadu Power Ltd.	Subsidiary	2007	5	5
13.	Dedicated Freight Corridor Corporation of India Ltd.	Independent Company	2007	400000	8800
14.	East-North Interconnection Co. Ltd.	Subsidiary	2007	5	5
15.	IL Power Electronics Limited	Independent Company**	2000	100	2
16.	Indian Vaccine Corporation Limited.	J V Company	1988	5000	19
17.	Iiminstrumentation Control Valves Ltd.	Independent Company**	2000	425	3
18.	Instrumentation Digital Controls Ltd.	Independent Company**	2000	125	2
19.	Jharkhand Integrated Power Limited	Subsidiary	2007	5	5
20.	Kanti Bijlee Utpadan Nigam Limited*	Subsidiary	2006	10000	10
21.	North Karanpura Transmission Co. Ltd.	Independent Company	2007	5	5
22.	NTPC Hydro Limited	Subsidiary	2003	50000	56
23.	Orissa Integrated Power Limited	Subsidiary	2006	5	5
24.	PFC Consulting Limited	Subsidiary	2008	5	-
25.	Punjab Ashok Hotel Company Limited	J V Company	1998	300	2
26.	REC Transmission Projects Co. Ltd.	Subsidiary	2006	5	5
27.	Sethusamudram Corporation Ltd.	Independent Company	2004	100000	30
28.	Talcher-II Transmission Co. Ltd.	Independent Company	2007	5	-

* Previously known as Vaishali Power Generating Company Limited.
** Now integrated with Instrumentation Ltd. Kota.

4. **Bharat Petroresources JPDA (BRPL-JDPA)**

Bharat Petroresources JPDA Ltd. (BPCL-JDPA) was incorporated on 28.10.2006 as a Special Purpose Vehicle of BRPL. Bharat Petroresources Ltd. (BPRL) had joined the Consortium of OILEX (Operator), Videocon Industries Ltd.(VIL) and Gujarat State Petroleum Corporation Ltd.(GSPCL) to participate in joint petroleum development area between East Timor and Australia through BPCL-JDPA. It is a wholly owned subsidiary of Bharat Petroleum Corporation Ltd.

5. **Bharatiya Nabhikiya Vidyut Nigam Ltd (BHAVINI).**

Bharitiya Nabhikiya Vidyut Nigam Ltd. (BHAVINI) was incorporated as an independent company in October, 2003. The authorized and paid up capital of the company as on 31.3.2008 was Rs. 5000 crore and Rs. 978.15 crore respectively. The company is responsible for construction, commissioning and operation of 500 MWe Prototype Fast Breeder Nuclear Reactor Project at Kalpakkam, Tamil Nadu.

6. **Bhartiya Rail Bijlee Company Limited (BRBCL)**

Bhartiya Rail Bijlee Company Limited (BRBCL) was incorporated on 22nd November, 2007 as a Joint Venture (JV) of NTPC Ltd. and the Ministry of Railways, to undertake various activities related to setting up of a 1000 MW Coal Based Thermal Power Project (4x250 MW), and thereafter Operation and Maintenance(O&M) for meeting traction and non-traction requirement of electricity for Railways and other consumers. The project is to be located at Nabinagar (Aurangabad) in the state of Bihar. The authorized and paid up capital of the company as on 31.3.2008 stood at Rs. 10 crore and Rs. 0.10 crore respectively. BRBCL is a subsidiary company of NTPC Ltd. as NTPC holds 74% and Ministry of Railways 26% equity stake in the company. All requisite studies, investigations, clearances (including environmental clearances) have been obtained and land for the project has been acquired.

7. **Bihar Drugs & Organic Chemicals Limited (BDOC)**

Bihar Drugs & Organic Chemicals Limited (BDOC) was set up in 1994 as a wholly owned subsidiary of the Indian Drugs & Pharmaceuticals Limited to manufacture Acetic Acid and other related products. The authorized capital as on 31.3.2008 was Rs. 2 crore. The Company's Registered, Corporate/Head Office and manufacturing unit are located at Belagarh (Muzaffarpur) in Bihar. The Company is sick and closed since 1996 and there is no production activity and fund generation. However, as on 31.3.2008, there were 14 employees on the roll of the company.

8. **Brahmputra Cracker and Polymer Limited (BCPL)**

Brahmputra Cracker and Polymer Limited (BCPL) was incorporated on 08.01.07 as a subsidiary of GAIL with equity participation from GAIL (70%), OIL(10%), Government of Assam (10%) and NRL(10%), for setting up 2,80,000 MT Gas Cracker Project at Lepetkata (Dibrugarh) in Assam requiring a total investment of Rs. 5,460 crores. The authorized capital and paid up capital of the company was Rs. 1200 crore and Rs. 0.05 crore respectively as on 31.3.2008.

9. **Byrnihat Transmission Company Limited (BTCL)**

Byrnihat Transmission Company Limited (BTCL) was incorporated on 23rd March, 2006 as a 'Shell Company' to take up the implementation of Misa-Byrnihat Transmission Project. It is a Joint Venture (JV) Company between POWERGRID and Meghalaya State Electricity Board (MeSEB) with POWERGRID having 89% equity and MeSEB having 11% equity. Both authorized and paid up capital of the company as on 31.3.2008 was Rs. 0.05 crore. The Company has so far not applied for the Certificate of Commencement of Business.

10. **Coastal Karnataka Power Limited (CKPL)**

Coastal Karnataka Power Limited was

incorporated on 10th February, 2006 under The Companies Act, 1956 as a wholly owned subsidiary of Power Finance Corporation (PFC) Limited for the development of Tadri Ultra Mega Power Project in the state of Karnataka. The authorized and paid up capital of the company as on 31.3.2008 was Rs. 0.05 crore. Although, identification of land and water resources was finalized, due to agitation by the local people further progress could not be made. A request has been made to the State Government to resolve the issues raised by local people. However, since it has not yielded any result, the project is kept under abeyance.

11. Coastal Maharashtra Mega Power Limited (CMMPL)

Coastal Maharashtra Mega Power Ltd, a wholly owned subsidiary, of Power Finance Corporation Ltd., was established in 2006 to facilitate the development of Ultra Mega Power Project in Maharashtra (UMPP). The authorized and paid up capital of the company as on 31.3.2008 stood at Rs. 0.05 crore respectively. The site for the development of UMPP in Maharashtra is, however, yet to be finalized by Government of Maharashtra.

12. Coastal Tamil Nadu Power Limited (CTNPL)

Coastal Tamil Nadu Power Ltd., a wholly owned subsidiary of Power Finance Corporation Ltd was established for setting up of an UMPP in Tamil Nadu. The authorized and paid up capital of the company as on 31.3.2008 stood at Rs. 0.05 crore respectively. Cheyyur, (Kancheepuram) in Tamil Nadu has been identified as one of the potential sites for development of an integrated coastal power project of 4000 MW capacity. The Government of Tamil Nadu has conveyed its in 'principle' approval for the proposed UMPP; the Central Electricity Authority (CEA) has cleared this site. CTNPL has initiated the action for appointment of Technical Consultant for preparation of DPR and other related works.

13. Dedicated Freight Corridor Corporation of India Limited (DFCCIL)

Dedicated Freight Corridor Corporation of India Limited (DFCCIL) was incorporated as an independent Company in 2007. The authorized and paid up capital of the company as on 31.3.2008 stood at Rs. 4000 crore and Rs. 88 crores respectively. DFCCIL has been created to undertake planning and development, mobilization of financial resources, construction, maintenance and operation of dedicated freight lines covering about 3236 route kms on two Corridors, anmely, Eastern Corridor (1767 kms), from Ludhiana to Dankuni and Western Corridor (1469 kms), from Jawahar Lal Nehru Port, Mumbai to Tughlakabad/Dadri (along with interlinking of two corridors at Dadri). It envisages 'state-of-the-art' construction technology, upgradation of transportation systems, increase in productivity and reduction in unit transportation cost.

The company has set up eight field units at Mumbai, Vadodra, Ahmedabad, Jaipur, Kanpur, Ludhiana, Allahabad, Ajmer at both the Eastern and Western Corridors during the year. Contracts have been awarded for detailed engineering survey. Tender notices for construction of DFC lines on Sonnagar-Mughalsarai (102 kms) on Eastern Corridor for Rs. 568 crores and construction of major bridges in Vaitarna-Surat section of Western Corridor for Rs. 419 crores have been issued. The Corporation expects construction work to start on both the Corridors during Oct/Nov 2008.

14. East-north Interconnection Company Limited (ENICL)

East-North Interconnection Company Limited (ENICL) is a shell company of PFCL. The main aim of ENICL is development of transmission system for enabling import of NER/ ER surplus Power. ENICL was incorporated on 1st February, 2007 under Companies Act, 1956 as a wholly owned subsidiary of Power Finance Corporation Limited. The authorized and paid up capital of the company as on 31.3.2008 was Rs.

0.05 crore respectively. The bidding process for short-listing the potential developers shall begin after approval of the project specific RFQ by the Empowered Committee and approval and notification of Standard RFP & TSA by Ministry of Power.

15. IL Power Electronics Limited (ILPEL)

IL Power Electronics Limited (ILPEL) was incorporated in September 2000 to take over the business of Jaipur unit of Instrumentation Ltd., Kota. The authorized and paid up capital of the company as on 31.3.2008 stood at Rs. 1.00 crore and Rs. 0.02 crore respectively. The Company till date has carried out no commercial activity. ILPEL is to be wound up on receipt of Government of India (GOI) approval. GOI has been requested for permission for winding up of the Company.

16. Indian Vaccine Corporation Ltd. (IVCOL)

Indian Vaccines Corporation Limited (IVCOL) was incorporated in March 1988 as a joint venture (JV) company of Indian Petrochemicals Corporation Ltd. (IPCL) and Pasteur Merieux Serums and Vaccines (PMSV), France to undertake research and development as well as to manufacture viral vaccines. The authorized and paid up capital of the Company as on 31.3.2008 was Rs. 50.00 crore and Rs. 18.79 crore respectively. Due to problems arising out of change in product mix and technology transfer, the company is on "HOLD" since February, 1992; this status continued in 2007-08. In their efforts for finding a solution for optimum utilization of the infrastructure already created at project site, the promoters of the company have decided to give the balance 69.40 acres of land available with IVCOL to Reliance Life Sciences Private Ltd. on a commercial lease for forty years to develop an Integrated Life Science Centre. The Company has no manufacturing activity as of now, and transactions mainly relate to incurring of the expenditure on establishment. As on 31.3.2008, there were 14 employees on the roll of the company.

17. Instrumentation Control Valves Limited (ICVL)

Instrumentation Control Valves Limited (ICVL) was incorporated on 16.11.2000 with the object to take over the business of Palakhad Unit of Instrumentation Ltd., Kota. The authorized and paid up capital of the company as on 31.3.2008 stood at Rs. 4.25 crore and Rs. 0.03 crore respectively. The Company till date has carried out no commercial activity. As per modified revival scheme of the Holding Company namely, Instrumentation Limited, the ICVL is to be wound up on receipt of GOI approval.

18. Instrumentation Digital Controls Ltd (IDCL)

Instrumentation Digital Controls Limited (IDCL) was incorporated in September, 2000 with the object to take over the business of PDDC Unit of Instrumentation Ltd., Kota. The authorized and paid up capital of the company as on 31.3.2008 stood at Rs. 1.25 crore and Rs. 0.02 crore respectively. Since no expression of interest has been received for the P-DDC Unit, the manufacturing facilities of P-DDC Unit was integrated with the main Unit at Kota during 2002-03, as per the directives of Department of Heavy Industry, Government of India. No commercial activity has been carried out by the Company till date. The Company is to be wound up on receipt of GOI approval.

19. Jharkhand Integrated Power Limited (JIPL)

Jharkhand Integrated Power Limited (JIPL) is one of the Shell companies of Power Finance Corporation Limited (PFCL) for the development of Tilaya Ultra Mega Power Project in the state of Jharkhand. The Company was incorporated on 2nd January 2007. The authorized and paid up capital of the company as on 31.3.2008 was Rs. 5 crore respectively. The Company obtained the Certificate for Commencement of Business on 9th February 2007.

The project site identified by the Central Electricity Authority (CEA) in consultation with the Government of Jharkhand is near Tilaiya village in Hazaribagh district. JIPL has taken up the initial developmental activities for the project including tariff based International Competitive Bidding (ICB) process for selection of developer for the implementation of the project. JIPL shall be transferred to the selected bidder in accordance with share Purchase Agreement.

20. Kanti Bijlee Utpadan Nigam Limited (KBUNL)

The Company changed its name from Vaishali Power Generating Company Limited to Kanti Bijlee Utpadan Nigam Limited w.e.f. 10.04.2008 in order to give the correct impression of location of the plant. It is a subsidiary company of NTPC Limited. The authorized and paid up capital of the company, as on 31.3.2008 stood at Rs. 100 crore and Rs.0.10 crore respectively. Company has test synchronized unit #2 of 2x110 MW of Muzaffarpur Thermal Power Station on 17.10.2007. The coal firing for Unit #2 had started from 29.01.2008. Since then the unit is under stabilization and the infirm power generated from the unit is being supplied to Bihar State Electricity Board. The Company has also taken up expansion of Muzzffarpur Thermal Power Station with installation of 2x250 MW additional units for which the Board has approved the Feasibility Report.

21. North Karanpura Transmission Company Limited (NKTCL)

North Karanpura Transmission Company Limited (NKTCL) was set up in the year 2007. The authorized and paid up capital as on 31.3.2008 was Rs. 0.05 crore respectively. The Company has not commenced its business operations.

22. NTPC Hydro Limited

NTPC Hydro Limited was set up as a wholly owned subsidiary of NTPC Limited, in the year 2002 to undertake development of small hydro electric projects i.e. upto 250 MW capacities. The authorized and paid up capital of the company, as on 31.3.2008, stood at Rs. 500 crore and Rs.56.28 crore respectively. The Company's maiden project namely Lata-Tapovan Hydro Electric Project (171 MW Capacity), located in Chamoli District of Uttarakhand State, is making steady progress. The statutory clearances including Techno-Economic clearance of Central Electricity Authority and Environment clearance of Ministry of Environment and Forests have been obtained. The land for the project has been acquired and various project works are under tendering stages.

The other project undertaken is Rammam Stage-III Hydro Electric Power Project(120 MW Capacity) located in Darjeeling District of West Bengal State. All major clearances including Techno Economic clearance of Central Electricity Authority, Environment clearance of Ministry of Environment and Forests have been obtained and formal forest clearance is under progress. Land acquisition activities and infrastructural development works for the project are being carried out.

23. Orissa Integrated Power Limited (OIPL)

Orissa Integrated Power Limited was set up in the year 2006 as a subsidiary company of Power Finance Corporation Limited (PFCL). The authorized and paid up capital of OIPL, as on 31.3.2008, was Rs. 0.05 lakh. Central Electricity Authority (CEA) has selected the site for the power plant land in district Sundergarh, and requested Government of Orissa to furnish the consent letter for the selected site. The Government of Orissa in April, 2008 had conveyed in principle agreement for setting up of UMPP in Orissa subject to allocation of 50% power from the proposed power plant.

The Government of India, subsequently, requested the Government of Orissa not to insist for 50% allocation of power as the entire power of the project has been already allocated to various states long back in consultation with them; therefore, it is not possible now to re-open the issue of enhancement of power allocation. The Government of Orissa was also requested to issue unconditional letter of consent that is still awaited. Further the allocation of 150 cusecs of water for the project is also awaited from the Government of Orissa.

24. PFC Consulting Ltd.

PFC Consulting Ltd is a wholly owned subsidiary of Power Finance Corporation. The company was incorporated on 25.3.2008, and the commencement of Business Certificate has been issued on 25th April 2008.

25. Punjab Ashok Hotel Company Limited (PAHCL)

Punjab Ashok Hotel Co. Ltd., (PAHCL) which is a joint venture (JV) of India Tourism Development Corporation Limited and Punjab Tourism Development Corporation Ltd. It was incorporated on 11th November 1998 and is located at Anandpur Sahib in Punjab. The main objectives of the company are to own, manage, construct-purchase and operate hotels, restaurants, motels etc and to manage transport unit for tourism in Punjab. The authorized and paid up capital of PAHCL, as on 31.3.2008 stood at Rs. 3.00 crore and Rs.2.50 crore respectively. The equity contribution is in proportion of 51:49 between Indian Tourism Development Corporation and Punjab Tourism Development Corporation Limited respectively. The registered office of the company is located in Chandigarh.

26. REC Transmission Projects Company Limited (REC TPC)

The Government of India in the year 2006-07, initiated a scheme that involved inviting private sector investment in major transmission projects. The scheme entailed private developers becoming transmission service providers on a "Build, Own and Operate" (BOO) basis. Out of the 14 projects identified under this scheme, a subsidiary company of REC was set up as Bid Process Coordinator for two of the projects namely, North Karanpura Transmission System and Talcher Augmentation Transmission System. REC, accordingly set up a separate subsidiary company (Shell) by name "REC Transmission projects Company Limited" for this purpose. The authorized and paid up capital of the Company, as on 31.3.2008, stood at Rs. 0.05 lakh, respectively.

27. Sethusamudram Corporation Limited (SCL)

The Sethusamudram Ship Channel Project was incorporated in 2004. The authorized and paid up capital as on 31.3.2008 stood at Rs. 1000 crore and Rs. 685.14 crore respectively. Dredging is the major component of the project accounting for about two third of the project cost. The total length of the channel is 167 kms. Dredging is required for a length of 89 Kms in two stretches viz Adam's Bridge and Palk Strait involving a total quantity of 82.5 million cum. The designed depth of the channel is 12m below chart datum. The entire dredging works involving an estimated cost of Rs. 2427.40 crore, in the proposed channel (at Palk Strait and Adam's bridge area) have been entrusted to M/s Dredging Corporation of India, a Government of India undertaking.

28. Talcher-II Transmission Company Limited (TTCL)

Talcher-II Transmission Company Limited was incorporated in 2007. The authorized and paid up capital as on 31.3.2008 stood at Rs. 0.05 crore respectively. The Company has yet to commence its business operations.

13 INTERNATIONAL OPERATIONS OF CPSEs

The CPSEs are increasingly into 'international trade' in goods and services, which has a direct bearing on earnings and expenditure of foreign exchange. During the year 2007-08, as many as 154 CPSEs had either foreign exchange earnings (FEE) or foreign exchange expenditure/ utilization (FEU) out of the 214 operating CPSEs. As many as 33 CPSEs were net foreign exchange earners (Annex 13.1). Out of these 33 CPSEs, seven CPSEs, namely, ONGC Videsh Ltd., NALCO, Airport Authority of India Ltd., Kudremukh Iron Ore Co. Ltd., STCL Ltd., RITES Ltd. and Cotton Corporation of India Ltd. earned (net) foreign exchange more than Rs. 100 crore during 2007-08.

13.1 Foreign Exchange Earnings

Table 13.1 below shows the CPSEs that had gross foreign exchange earnings more than Rs. 1000 crores, during 2006-07 and 2007-08.

Table 13.1

Gross Foreign Exchange Earnings of Select CPSEs

(more than Rs. 1000 crores)

S.No.	CPSE Name	2006-07	2007-08
1	Indian Oil Corporation Ltd.	9126.23	11453.93
2	Mangalore Refinary & Petrochemicals Ltd.	11615.27	11141.45
3	Bharat Petroleum Corpn. Ltd.	5585.13	7440.16
4	Hindustan Petroleum Corpn. Ltd.	5198.84	6930.17
5	National Aviation Co. Of India Ltd.	NA	6623.12
6	Ongc Videsh Ltd.	9232.83	6435.49
7	M M T C Ltd.	3436.93	3906.59
8	Oil & Natural Gas Corporation Ltd.	2990.66	3794.72

Export of merchandise was the major source of foreign exchange earnings in both the years of 2006-07 and 2007-08. Its share in total earnings improved further from 86.70 percent (Rs 61477 crores) in 2006-07 to 95.14 percent (Rs 70676 crores) in 2007-08 (Table 13.2)

Table 13.2

Sourced of Foreign Exchange Earnings, of all CPSEs

(2006-07 and 2007-08)

(Rs. in crore)

Sr. No.	Items	2007-08	2006-07
(i)	Export of Goods on FOB basis	70675.55 (95.14)	61477.43 (86.70)
(ii)	Royalty, Know-how, Professional and Consultancy fee	1177.26 (1.58)	1080.25 (1.52)
(iii)	Interest and Dividend	117.32 (0.16)	64.29 (0.09)
(iv)	Other Income	2313.21 (3.11)	8284.25 (3.11)
	Grand Total (i) to (iv)	74283.34 (100)	70906.22 (100)

13.2 Foreign Exchange Expenditure/ Utilization

Table 13.3 shows the CPSEs that had gross foreign exchange expenditure more than Rs. 1000 crore during 2006-07 and 2007-08.

The Oil Marketing Companies (i.e IOCL, HPCL, BPCL, MRPL and ONGC), SAIL, BHEL, HAL, RINL, NTPC and BEL have been the CPSEs that had large gross foreign exchange expenditure (utilization), during the year 2006-07 and 2007-08. This was mainly on account of import of goods and services from the rest of the world. Table 13.4 below, moreover, shows the utilization (expenditure) of foreign exchange under different heads of import of goods (raw material/plants & machinery), consultancy fee and other payments. Import of 'raw materials' and 'capital goods'were the major items of foreign exchange expenditure.

The share of 'raw materials' /crude oil claimed the largest share (around 75%) of gross foreign exchange expenditures in both the years of 2006-07 and 2007-08. Exchange rate fluctuation and change in commodity prices have been also impacting the earnings and expenditures of CPSEs.

Table 13.3

Gross Foreign Exchange Expenditure of CPSEs

(more than Rs. 1000 crores)

S.No.	CPSE Name	2006-07	2007-08
1.	Indian Oil Corporation Ltd.	99373.20	123323.86
2.	Hindustan Petroleum Corpn. Ltd.	55408.11	58558.11
3.	Bharat Petroleum Corpn. Ltd.	29321.92	34560.75
4.	Mangalore Refinary & Petrochemicals Ltd.	18629.87	25309.37
5.	M M T C Ltd.	18444.58	20947.07
6..	Chennai Petroleum Corporation Ltd.	17606.42	19966.50
7.	State Trading Corpn. Of India Ltd.	7821.01	11143.24
8.	Oil & Natural Gas Corporation Ltd.	9176.33	10052.92
9.	National Aviation Co. Of India Ltd.	NA	7679.81
10.	Steel Authority Of India Ltd.	7379.20	6912.61
11.	Hindustan Aeronautics Ltd.	6859.51	6536.32
12.	P E C Ltd.	3169.27	5027.29
13.	M S T C Ltd.	2657.49	4851.03
14.	Ongc Videsh Ltd.	9560.52	4830.73
15.	Bharat Heavy Electricals Ltd.	2603.84	3743.46
16.	Shipping Corporation Of India Ltd.	2874.62	2697.85
17.	Nuclear Power Corpn. Of India Ltd.	1372.35	2042.80
18.	Rashtriya Ispat Nigam Ltd.	2129.64	1889.72
19.	Ntpc Ltd.	1146.66	1632.46
20.	Stcl Ltd.	659.85	1512.32
21.	Bongaigaon Refinery & Petrochemicals Ltd.	1279.88	1333.55
22.	Bharat Electronics Ltd.	1494.26	1177.11

Table 13.4

Items of Foreign Exchange Expenditure of all CPSEs

(2006-07 and 2007-08)

(Rs. in crore)

	Particulars	2007-08	2006-07
1.	*Imports (CIF Basis)*		
1.1	Raw materials/Crude oil	276140.01	234784.32
		(75%)	(74.26%)
1.2	Stores, Spares & Components	10036.45	8316.16
		(2.73%)	(2.63%)
1.3	Capital Goods	16266.31	7775.08
		(4.42%)	(2.46%)
	Sub Total (a)	302442.77	250875.56
		(82.14%)	(79.35%)
2.	*Expenditure on account of :*		
2.1	Royalty and Consultancy fee	6572.62	6026.81
		(1.79%)	(1.91%)
2.2	Interest payment	2073.73	2677.22
		(0.56%)	(0.85%)
2.3	Others	57107.33	56581.47
		(15.51%)	(17.90 %)
	Sub Total (b)	65753.68	65285.50
		(17.86%)	(20.65%)
	Grand Total (a + b)	368196.45	316161.06
		(100%)	(100%)

13.3 International Finance & Investment

Finance mainly relates to external commercial borrowings and raising of resources through the equity market abroad. Investment comprises off-shore investment by CPSEs by way of joint venture, merger and acquisition and for operation of Indian subsidiaries abroad. Annex 13.3 shows funds in the form of secured and unsecured loans , raised by CPSEs cognate group-wise, during the year 2007-08 are shown at Annexure – 13.2.

13.3.1 Listing of Securities of CPSEs abroad

Indian companies both in the public and private corporate sectors are increasingly focusing on niche areas to avail newer opportunities and to enhance their strengths through cross border mergers and acquisitions. There is an increasing realization among Indian companies that mere organic growth is not enough to propel them towards growth, in view of the liberalization of the Indian economy. Several CPSEs like ONGC, IOC, GAIL, BHEL, NTPC, RITES, MECON, WAPCOS and others are already in the race for forming joint ventures, or have set up subsidiaries abroad for broad based business activities. Shares of MTNL (ADR) are listed on the New York Stock Exchange and GAIL and SAIL (GDR) are listed on the London Stock Exchange.

13.4 International Operations of Select CPSEs

The paragraphs below discuss briefly the international operations of select CPSEs :

13.4.1 Indian Oil Corporation Ltd. (IOC)

Indian Oil is actively pursuing upstream integration through exploration & production (E&P) activities both within and outside India. During the year, IOC with its consortium partners bagged a block in Libya. The year also marked oil and gas discovery in Farsi block in Iran which was awarded to the Company as a consortium partner. With this IOC has now eight oil & gas blocks overseas. Further, Indian Oil and Oil India Limited have incorporated a special purpose vehicle Ind-OIL Overseas Ltd in Mauritius to jointly undertake activities related to the acquisition of overseas E&P assets.

Indian Oil (Mauritius) Ltd. (IOML) and Lanka IOC Ltd. ((LIOC) are subsidiaries of IOC. The main activities of these companies relate to imports, sale and distribution of petroleum products in Mauritius and Sri Lanka respectively. IOC Middle East FZE is a wholly owned subsidiary of IOC operating in Dubai, and is engaged in marketing of lubricants and other petroleum products in the Middle East, Africa and CIS regions.

During the year 2007-08, the Company imported 45.73 million tones (MT) crude oil valuing Rs. 106261 crores and 4.52 MT petroleum (fuel) products and lubricants valuing Rs. 13602 crores through a carefully selected diversified mix of supply sources. It also exported 3.33 MT petroleum products valuing Rs. 11422 crores. The net foreign exchange earnings stood at (-) Rs. 111869.93 crore during 2007-08.

13.4.2 Oil and Natural Gas Corporation Ltd. (ONGC)

The Company recorded a foreign exchange earnings of Rs. 3795 crores during 2007-08 against the foreign exchange expenditure of Rs. 10052 crore. The net foreign exchange earnings of the company thus stood at (-) Rs. 6258 crore during 2007-08.

13.4.2.1 ONGC Videsh Limited (OVL)

ONGC Videsh Ltd. (OVL) is a wholly owned subsidiary of ONGC. It is engaged in overseas Exploration and Production (E&P). The Company has six subsidiaries namely, ONGC Nile Ganga B.V., ONGC Narmada Ltd., ONGC Amazon Alaknanda Ltd., ONGC Do Brasil Exploracao Petrolifera Ltda., ONGC Compos Ltda., ONGC Nile Ganga (Cyprus) Ltd. and ONGC Nile Ganga (san Cristobal) BV., and one Joint Venture company ONGC Mittal Energy Ltd.. During the year the Group recorded consolidated production of oil and oil-equivalent gas (O+OEG) of 8.8 MMTOE, consolidated gross revenue of Rs. 16934 crores, and consolidated net profit of Rs. 2397 crores. During the year 2007-08, the foreign exchange earning of the company was Rs. 6435 crores, while the foreign exchange outgo was Rs. 4831 crores. ONGC Videsh Ltd., therefore, had a net foreign exchange earnings of Rs. 1605 crore during 2007-08.

During 2007-08, the Company (including group companies) acquired stakes in 11 oil and gas projects in Egypt, Colombia, Myanmar, Brazil, Congo and Turkmenistan. As on 31.3.2008, therefore, the Company had participating interest in 37 E&P projects in 17 countries, mentioned above as well as in Vietnam, Russia, Iraq, Iran, Libya, Syria, Sudan, Qatar, Cuba and Nigeria. Overseas offices of the Company are located in Vietnam, Dubai, Russia, Iraq, Iran, Libya, Qatar, Cuba, Venezuela, Kazakhstan, Brazil and Colombia. Its subsidiaries, moreover, have offices in Amsterdam (Netherlands), Khartoum (Sudan) Damascus (Syria), Lagos (Nigeria) and Bermuda.

13.4.3 Shipping Corporation of India (SCI)

SCI is one of the pioneering enterprises providing diversified services in almost all areas of ship transportation management in India as well as in overseas operations including Liner Passenger Services, Bulk Career and Tanker Services, Technical and Off-Shore services etc. SCI has a JV company in Iran (Irano-Hind Shipping Co.) in which SCI holds 49% share that continued to perform well during the Iranian year 1386 ended on 19.3.2008 and earned a net profit after tax of

Iranian Rials 19.285 Billion (US$ 2.087 million). The aggregate provisional net profit after tax of the JV company and its subsidiaries for the Iranian year stood at Iranian Rials 265.050 billion (US$ 28.685 million).

The JV company and its subsidiaries as on 19.03.2008, had a fleet of 8 ships with an aggregate of 0.494 million dead weight tonnage (DWT). During the Iranian year 1386, the JV Company took delivery of one newbuilding Suezmax Tanker of 159,000 DWT and contracted a newbuilding Suezmax tanker of Class 159000 DWT with Hyundai Samho Heavy Industries with delivery slated for January, 2011. There were no deletions to the company's fleet during the current year. The Company also operates a LNG tanker each through two JV companies incorporated in Malta, viz. India LNG Transport Company (No. 1) Ltd and India LNG Transport Company (No. 2) Ltd. The foreign exchange earnings of Shipping Corporation of India amounted to Rs. 3777.60 crores against the foreign exchange expenditure of Rs. 2698 crore during 2007-08. The net foreign exchange earnings of the company, during the year, stood at (-) Rs. 1328 crore.

13.4.4 MMTC Ltd (MMTC)

MMTC (earlier known as Minerals & Metals Trading Corporation) is engaged in providing services in the field of international trading of minerals and metals, coal, fertilizer, diamonds, gems, jewellery and other products. It has a wholly owned subsidiary namely MMTC Transitional Pte. Ltd. (MTPL) registered in Singapore. During the year 2007-08, MTPL achieved its highest ever business turnover of US$ 557 million as against US$ 545 million in the previous year. MTPL posted a profit before tax of US$ 2.12 million (previous year US $ 1.64 million) and profit after tax of US$ 1.95 million (US$ 1.53 mln) during 2007-08. MTPL continues to enjoy prestigious 'Global Trader' status awarded to it by IE Singapore since the FY 2000. The foreign exchange earning of MMTC Ltd. amounted to Rs. 3907 crores during the year 2007-08, and the foreign exchange outgo was Rs. 20947 crores.

13.4.5 Bharat Petroleum Corporation Ltd. (BPCL)

Out of 20.95 MMT (million metric tones) of crude oil processed during the year, 13.90 MMT was imported crude valuing Rs. 33827 crores. The Company also imported 96.90 TMT (thousand metric tones) of Diesel and 172 TMT of LPG during the year. Export of the Company's products increased to 1804 TMT as compared to 1714 TMT during the previous year. While export of Fuel oil dipped to 472 TMT from 908 TMT in the previous year, Naphtha exports grew to 1154 TMT from 735 TMT in the previous year. Metal cutting gas entered foreign markets with a tie up with 'Bahrain Gas' for production of 'Bharat metal cutting Gas' (BMCG). In view of the growing international market for bunker fuels, joint ventures in Singapore are in the making. For cooperation in biofuels, a MoU was signed with Petrobas, Brazil. Bharat PetroResources Ltd. (BPRL), a wholly owned subsidiary of BPCL, was incorporated to implement BPCL's plans in the exploration and production sector. BPRL has joined a consortium of companies through a Special Purpose Vehicle namely Bharat PetroResources JPDA Ltd.(BPR-JPDA LTD). The foreign exchange earnings of the company, during 2007-08, stood at Rs. 7440 crore against the foreign exchange outgo of Rs. 34561 crore. The net foreign exchange earnings of BPCL was, therefore, (-) Rs. 27120 crore during 2007-08.

13.4.6 National Aluminium Company Ltd. (NALCO)

There was lower realization from export of alumina during 2007-08, which was also affected by substantial appreciation of Rupee against US dollar. The export turnover comprised of Rs. 1075 crores from Aluminium, Rs. 1050 crores from Alumina, and Rs. 10 crores from Rolled Products during 2007-08. The 'Outside India' geographic segment asset (export debtors) increased from Rs. 16 crores in 2006-07 to Rs. 36 crores in 2007-08. NALCO launched Special Products Alumina (NSPL) – 102, during the year, in the overseas market that was mainly (41 MT) exported to Vietnam. Against a foreign exchange earnings of Rs. 6435 crore during 2007-08, the foreign exchange outgo of the company was Rs. 4831 crore. NALCO had, therefore, a net foreign exchange earning of Rs. 1605 crore during the year.

13.4.7 Steel Authority of India Ltd. (SAIL)

The Company maintained its presence in existing and new markets with exports of 4.72 lakh tonnes of products during 2007-08. Export products primarily were Billets, Wire rods, Plates, HR coils and CRNO coils. New export markets entered during the year were Argentina, Brazil, Malaysia and the European Union. A special purpose vehicle (SPV) comprising five companies including SAIL has been approved by the Government for facilitating acquisition of coking coal assets overseas with the aim to make PSUs self-reliant in the area of coking coal. Earnings in foreign exchange on account of export sales stood at Rs. 1234 crores in 2007-08. As against foreign exchange earning, foreign exchange outgo stood at Rs. 6913 crore. The company, therefore, had a net foreign exchange earnings of (-) Rs. 5679 crore during 2007-08.

13.4.8 State Trading Corporation Ltd. (STC)

Major lines of export of STC have been iron ore, steel raw materials, chemicals and pharmaceuticals, gold and jewellery, sugar and maize/rice bran. During the year, the Corporation signed offset agreements with Boeing and GE for monitoring offset obligation worth Rs. 5676 crores arising out of purchase of civilian aircrafts by Indian / Air India, the national airlines (now known as NACIL).

Bullion was the single largest item of import valuing about Rs. 4000 crores, followed by petrochemicals valuing Rs. 2200 crores. The import turnover of wheat declined from over Rs. 5000 crores in 2006-07 to Rs. 1876 crores in the current year. The total import turnover of hydrocarbons, minerals and metals during 2007-08 amounted to Rs. 1438 crores, while that of edible oils / vanaspati amounted to Rs. 661 crores. The total foreign exchange earnings of the Corporation by way of exports, trade margins, etc was Rs. 3562 crores while the foreign exchange outgo by way of imports and other expenses was Rs. 11143 crores. It recorded its highest-ever export and import turnover of Rs. 4002 crores and Rs. 10773 crores respectively. The net foreign exchange earnings of the company stood at (-) Rs. 7582 crore during 2007-08. STC, being a trading company and also a channelizing agency for meeting the demand-supply deficits in the domestic economy earned a profit after tax (PAT) of Rs. 196 crore during 2007-08.

Annex. 13.1

Foreign Exchange Earnings (FEE) & Foreign Exchange Utilization (FEU) by CPSEs

(Rs. in Lakhs)

S.No	CPSEs	FEE	FEU	Net FEE
1.	ONGC Videsh Ltd.	643549	483073	160476
2.	National Aluminium Company Ltd.	209526	71932	137594
3.	Airports Authority Of India Ltd.	91179	35396	55783
4.	Kudremukh Iron Ore Co.Ltd	72445	18745	53700
5.	STCL Ltd.	178765	151232	27533
6.	RITES Ltd.	25813	2468	23345
7.	Cotton Corpn. Of India Ltd.	12374	88	12286
8.	Air India Charters Ltd.	7309	954	6355
9.	Indian Rare Earths Ltd.	6596	1429	5167
10.	Antrix Corporation Ltd.	12680	8232	4448
11.	Engineers India Ltd.	10016	5569	4447
12.	IRCON International Ltd.	22145	18410	3735
13.	Central Cottage Industries Corpn. Of India Ltd.	3306	2	3304
14.	Telecommunications Consultants (India) Ltd.	16534	13580	2954
15.	Educational Consultants (India) Ltd.	1051	103	948
16.	HMT(International) Ltd.	1111	413	698
17.	Hindustan Insecticides Ltd.	2084	1409	675
18.	Hindustan Paper Corporation Ltd.	1569	1071	498
19.	Export Credit Guarantee Corpn.Of India Ltd.	698	202	496
20.	Burn Standard Company Ltd.	754	316	438
21.	Bharat Bhari Udyog Nigam Ltd.	397	0	397
22.	Mahanagar Telephone Nigam Ltd.	667	341	326
23.	Indian Renewable Energy Devt.Agency Ltd.	3704	3423	281
24.	Hotel Corpn. of India Ltd.	177	0	177
25.	Scooters India Ltd.	188	16	172
26.	Karnataka Antibiotics & Pharmaceuticals Ltd.	608	450	158
27.	WAPCOS Ltd.	3631	3544	87
28.	National Film Dev. Corpn. Ltd.	111	33	78
29.	Sponge Iron India Ltd.	47	0	47
30.	Indian Railway Catering And Tourism Corpn. Ltd.	45	12	33
31.	BBJ Construction Company Ltd.	28	0	28
32.	Certification Engineers International Ltd.	131	104	27
33.	Ranchi Ashok Bihar Hotel Corpn. Ltd.	2	0	2
34.	Central Inland Water Transport Corpn. Ltd.	0	1	-1
35.	Ennore Port Ltd.	0	1	-1
36.	Hmt Chinar Watches Ltd.	0	1	-1
37.	Indian Oil Technologies Ltd.	0	1	-1
38.	Maharashtra Elektrosmelt Ltd.	0	1	-1

S.No	CPSEs	FEE	FEU	Net FEE
39.	NTPC Vidyut Vyapar Nigam Ltd.	0	1	-1
40.	State Farms Corporation Of India Ltd.	0	1	-1
41.	HMT Bearings Ltd.	0	2	-2
42.	Hooghly Dock And Port Engineers Ltd.	0	4	-4
43.	India Infrastructure Finance Co. Ltd.	23	27	-4
44.	FCI Aravali Gypsum & Minerals (India) Ltd.	0	5	-5
45.	Central Warehousing Corpn.	61	70	-9
46.	Mecon Ltd.	307	316	-9
47.	Manganese Ore(India) Ltd.	0	13	-13
48.	National Seeds Corpn. Ltd.	0	17	-17
49.	National Textile Corpn. (Holding Co.) Ltd.	0	25	-25
50.	Artificial Limbs Mfg. Corpn. Of India	10	36	-26
51.	Konkan Railway Corporation Ltd.	0	26	-26
52.	Hindustan Fluorocarbons Limited	0	29	-29
53.	HMT Ltd.	0	38	-38
54.	National Research Devp. Corpn.	3	42	-39
55.	Rail Vikas Nigam Ltd.	0	50	-50
56.	Mineral Exploration Corpn. Ltd.	0	52	-52
57.	Andrew Yule & Company Ltd.	5	58	-53
58.	National Small Industries Corpn. Ltd.	217	285	-68
59.	Projects & Development India Ltd.	73	143	-70
60.	India Trade Promotion Organisation	1433	1518	-85
61.	Biecco Lawrie Ltd.	0	145	-145
62.	Central Mine Planning & Design Institute Ltd.	0	153	-153
63.	HMT Watches Ltd.	0	164	-164
64.	Hindustan Antibiotics Ltd.	449	645	-196
65.	Hooghly Printing Company Ltd.	0	218	-218
66.	Hindustan Organic Chemicals Ltd.	17	311	-294
67.	Madras Fertilizers Ltd.	0	295	-295
68.	Housing & Urban Dev. Corpn. Ltd.	1030	1365	-335
69.	Bridge & Roof Co.(India) Ltd.	0	345	-345
70.	Hindustan Photo Films Manufacturing Co. Ltd.	0	358	-358
71.	Braithwaite & Co. Ltd.	0	379	-379
72.	Central Coalfields Ltd.	0	421	-421
73.	Engineering Projects (India) Ltd.	0	470	-470
74.	National Mineral Development Corpn. Ltd.	0	545	-545
75.	Bharat Coking Coal Ltd.	0	579	-579
76.	North Eastern Electric Power Corporation Ltd.	0	593	-593
77.	Uranium Corporation Of India Ltd.	0	610	-610
78.	Hindustan Latex Ltd.	4446	5068	-622
79.	NEPA Ltd.	0	643	-643
80.	Cochin Shipyard Ltd.	47796	48481	-685

S.No	CPSEs	FEE	FEU	Net FEE
81.	Mahanadi Coalfieldls Ltd.	0	775	-775
82.	Mumbai Railway Vikas Corporation Ltd.	0	789	-789
83.	Rajasthan Electronics And Instruments Ltd.	773	1592	-819
84.	Railtel Corporation India Ltd.	0	1014	-1014
85.	Bharat Immunologicals & Biologicals Corp. Ltd.	0	1061	-1061
86.	Western Coalfields Ltd.	0	1075	-1075
87.	Hmt Machine Tools Ltd.	0	1409	-1409
88.	National Fertilizers Ltd.	0	1629	-1629
89.	Bharat Refractories Ltd.	0	1896	-1896
90.	Bel Optronics Ltd.	402	2362	-1960
91.	Instrumentation Ltd.	13	2038	-2025
92.	Bharat Pumps & Compressors Ltd.	0	2065	-2065
93.	Central Electronics Ltd.	803	2970	-2167
94.	Satluj Jal Vidyut Nigam Ltd.	0	2989	-2989
95.	National Bldg. Constn. Corpn. Ltd.	1082	4145	-3063
96.	Heavy Engineering Corpn. Ltd.	0	3121	-3121
97.	South Eastern Coalfields Ltd.	0	3278	-3278
98.	Narmada Hydroelectric Development Corpn. Ltd.	0	3382	-3382
99.	Hindustan Newsprint Ltd.	0	3866	-3866
100.	Tehri Hydro Development Corp. Ltd.	0	4137	-4137
101.	Bharat Heavy Plate & Vessels Ltd.	0	4350	-4350
102.	Container Corporation Of India Ltd.	0	4596	-4596
103.	Broadcast Engg. Consultants India Ltd.	27	4866	-4839
104.	Eastern Coalfields Ltd.	0	5367	-5367
105.	National Informatics Centre Services Incorporated	0	6160	-6160
106.	Coal India Ltd.	674	7190	-6516
107.	Mishra Dhatu Nigam Ltd.	119	8244	-8125
108.	Dredging Corpn.Of India Ltd.	0	8287	-8287
109.	Airline Allied Services Ltd.	340	8700	-8360
110.	Garden Reach Shipbuilders & Engineers Ltd.	0	11169	-11169
111.	Power Finance Corporation	108	12737	-12629
112.	Numaligarh Refinary Ltd.	0	13329	-13329
113.	Balmer Lawrie & Co. Ltd.	1474	15444	-13970
114.	Indian Railway Finance Corporation Ltd.	0	14291	-14291
115.	Goa Shipyard Ltd.	0	14674	-14674
116.	Pawan Hans Helicopters Ltd.	2732	20626	-17894
117.	Hindustan Shipyard Ltd.	953	18952	-17999
118.	Electronics Corpn. Of India Ltd.	309	20796	-20487
119.	Northern Coalfields Ltd.	0	21316	-21316
120.	Neyveli Lignite Corpn. Ltd.	0	21916	-21916
121.	Oil India Ltd.	5	24360	-24355
122.	NHPC Ltd.	1793	26621	-24828

S.No	CPSEs	FEE	FEU	Net FEE
123.	Bharat Sanchar Nigam Ltd.	13460	41355	-27895
124.	Bharat Dynamics Ltd.	71	28774	-28703
125.	Rashtriya Chemicals And Fertilizers Ltd.	13	28937	-28924
126.	Security Printing & Minting Corpn. India Ltd.	0	36529	-36529
127.	Fertilizers & Chemicals (Travancore) Ltd.	3245	46583	-43338
128.	I T I Ltd.	912	44474	-43562
129.	Hindustan Copper Ltd.	7546	59149	-51603
130.	Power Grid Corporation Of India Ltd	266	58176	-57910
131.	Beml Ltd.	3362	64558	-61196
132.	Handicrafts & Handloom Exports Corp. Of India Ltd.	2589	70627	-68038
133.	Gail (India) Ltd.	687	81219	-80532
134.	Mazagon Dock Ltd.	3768	93999	-90231
135.	National Aviation Co. Of India Ltd.	662312	767981	-105669
136.	Bharat Electronics Ltd.	5345	117711	-112366
137.	Shipping Corporation Of India Ltd.	136969	269785	-132816
138.	Bongaigaon Refinery & Petrochemicals Ltd.	0	133355	-133355
139.	Rashtriya Ispat Nigam Ltd.	55609	188972	-133363
140.	NTPC Ltd.	349	163246	-162897
141.	Nuclear Power Corpn. Of India Ltd.	8	204280	-204272
142.	Bharat Heavy Electricals Ltd.	93909	374346	-280437
143.	P E C Ltd.	59453	502729	-443276
144.	M S T C Ltd.	1370	485103	-483733
145.	Steel Authority Of India Ltd.	123399	691261	-567862
146.	Hindustan Aeronautics Ltd.	34110	653632	-619522
147.	Oil & Natural Gas Corporation Ltd.	379472	1005292	-625820
148.	State Trading Corpn. Of India Ltd.	356163	1114324	-758161
149.	Mangalore Refinary & Petrochemicals Ltd.	1114145	2530937	-1416792
150.	M M T C Ltd.	390659	2094707	-1704048
151.	Chennai Petroleum Corporation Ltd.	0	1996650	-1996650
152.	Bharat Petroleum Corpn. Ltd.	744016	3456075	-2712059
153.	Hindustan Petroleum Corpn. Ltd.	693017	5855811	-5162794
154.	Indian Oil Corporation Ltd.	1145393	12332386	-11186993
		7428334	36819645	-29391311

Note : * Net FEE = Foreign Exchange Earnings – Foreign Exchange Expenditure/Utilization.

Annex. 13.2

Sector wise Secured & Unsecured Loans for 2007-08 and 2006-07

(Rs. in crore)

Sr. No.	Cognate Groups	2007-08 Secured Loan	2007-08 Unsecured Loan	2006-07 Secured Loan	2006-07 Unsecured Loan
I. Agriculture					
1.	Agro Based Industries	0.00	0.00	0.00	0.00
	Sub Total	0.00	0.00	0.00	0.00
II. Mining					
2.	Coal & Lignite	0.00	3494.57	0.00	3526.27
3.	Crude Oil	0.00	0.00	0.00	49.37
4.	Other Minerals & Metals	0.00	0.00	0.00	0.00
	Sub Total	0.00	3494.57	0.00	3575.64
III. Manufacturing					
5.	Steel	0.00	515.65	0.00	535.65
6.	Petroleum(Refinery&Marketing)	153.11	8941.21	267.79	8873.47
7.	Fertilizers	16.04	0.00	0.00	0.00
8.	Chemicals & Pharmaceuticals	0.00	0.00	0.00	0.00
9.	Heavy Engineering	0.00	0.00	0.10	0.00
10.	Medium & Light Engineering	0.00	0.00	0.00	0.00
11.	Transportation Equipment	0.00	35.67	0.00	25.72
12.	Consumer Goods	0.00	0.00	2093.59	0.00
13.	Textiles	0.00	0.00	0.00	0.00
	Sub Total	169.15	9492.53	2361.48	9434.84
IV. Electricity					
14.	Generation	818.60	8497.69	1003.33	9961.22
15.	Transmission	5541.52	1147.35	2655.64	3093.87
	Sub Total	6360.12	9645.04	3658.97	13055.09
V. Services					
16.	Trading & Marketing	0.00	0.03	0.00	0.00
17.	Transport Services	1055.58	55.88	786.01	269.79
18.	Contract &Construction Services	0.00	0.00	0.00	0.00
19.	Industrial Development & Tech. Consultancy Services	0.00	64.19	0.00	60.92
20.	Tourist Services	0.00	0.00	0.00	0.00
21.	Financial Services	168.00	6384.34	195.89	8012.52
22.	Telecommunication Services	0.00	0.00	0.00	0.00
	Sub Total	1223.58	6504.44	981.90	8343.23
VI. Under Construction					
23.	Enterprises Under Construction	0.00	0.00	0.00	0.00
	Sub Total	0.00	0.00	0.00	0.00
	Total	7752.85	29136.58	7002.35	34408.80

14 PERFORMANCE OF PUBLIC SECTOR INSURANCE COMPANIES

Since the opening up of the insurance sector in 1999 with the enactment of Insurance Regulatory Development Act, the number of participants in the sector has been steadily going up. From six insurers in the year 2000, the number of players has gone up to 42 insurers operating in the life, non-life and reinsurance segments (as in October, 2008). There is much greater competition, to-dayin the market, although there is a vast potential of expansion in India. As many as seven insurance companies (life and non-life insurance) are functioning as public sector enterprises viz., the Life Insurance Corporation of India, the New India Assurance Company Limited, the National Insurance Company Limited, the Oriental Insurance Company Limited, the United India Insurance Company Limited, the General Insurance Corporation of India and the Agriculture Insurance Company of India Limited. The Public Sector Insurers are offering a variety of insurance policies ranging from Life insurance to Crop insurance.

14.1 Life Insurance Corporation of India (LIC)

The Life Insurance Corporation of India (LIC) was established in 1956 as a Statutory Corporation under the Life Insurance Act, 1956 to carry out life insurance business. The LIC has its Central Office in Mumbai and eight Zonal Offices at Mumbai, Kolkata, Delhi, Chennai, Hyderabad, Kanpur, Bhopal and Patna.

The Corporation also transacts business abroad and has branch offices in Fiji, Mauritius and United Kingdom. LIC also operates in overseas insurance markets through Joint Venture companies namely Life Insurance Corporation (International) B S C (C), registered in Bahrain, Kenindia Assurance Company Ltd. registered in Nairobi, Life Insurance Corporation (Nepal) Ltd registered in Kathmandu, in collaboration with Vishal Group Ltd (Nepal) and Life Insurance Corporation (Lanka) Ltd registered in Colombo, in partnership with M/S Bartleet Transcapital Pvt. Ltd, Sri Lanka. An offshore company, Life Insurance Corporation (Mauritius) Offshore Ltd. registered in Nairobi is a Joint Venture Company of LIC of India and GIC of India with focus on non-life reinsurance business with active participation of GIC. LIC along with Life Insurance Corporation (International) B S C (C), Bahrain, New India Assurance Company Ltd. & Al Hokair group of Saudi Arabia have registered a Joint Venture Company, namely, Saudi Indian Company for Co-operative Insurance in the Kingdom of Saudi Arabia to transact both Life and Non-Life Insurance business. The operating License for this Joint Venture has now been granted by the local Regulator. A Representative Office in Singapore, for which approval from local Regulator has already been obtained, is being opened shortly. Through International Operations, LIC covered a total number of 63,546 policies and also generated a total premium income worth Rs.550 crores in the F.Y. 2007-08 thereby showing a growth of 10.4% and 8.5% respectively.

The Life Fund of LIC as on 31.3.2008 amounts to Rs.6,86,616.45 crore. During 2007-08 the Corporation made payments of Rs.5,250.40 crore under Death Claim cases, Rs.31,955.18 crore under Maturity Claims and Rs.2,393.24 crore under Annuities. Under Varishtha Pension Bima Yojana, the Corporation made payments of Rs.101.56 crore under Death Claim and Rs.561.41 crore under Annuities.

Table – 14.1
Benefits under Janashree Bima Yojna

Sl No.	Item	Amount
1	On Natural Death	Rs.30,000
2	On Death or Total Permanent Disability due to accident	Rs.75,000
3	On Partial Permanent Disability	Rs.37,000

14.2 Janashree Bima Yojana launched on 10th August 2000 is also administered by Life Insurance Corporation of India. The scheme replaced the Social Security Group Insurance Scheme (SSGIS) and Rural Group Life Insurance Scheme (RGLIS). The premium for the scheme is Rs.200/- per member per annum. 50 per cent of the premium is borne by the Social Security Fund maintained with LIC and balance 50 per cent premium is borne by the member and / or Nodal Agency.

As on 31st March 2008, about 1.21 crore persons have been covered under the scheme.

14.2.1 **Shiksha Sahayog Yojana** is a scheme to provide scholarship of Rs.600/- per half year to the children of members of Janashree Bima Yojana who are studying in classes 9th to 12th (including ITI courses) as a free add on benefit. This benefit is limited to two children per family.

Table 14.2

Benefits under Aam Admi Bima Yojna

Sl No.	Item	Amount
1	On Natural Death	Rs.30,000
2	On Death or Total Permanent Disability due to accident	Rs.75,000
3	On Partial Permanent Disability	Rs.37,000

14.3 Aam Admi Bima Yojana launched on 2nd October 2007 is a new Social Security Scheme for Rural Landless Households. The Head of the family or one earning member in the family of rural landless household would be covered under the scheme. The premium of Rs.200/- per person per annum is shared equally by the Central Government and the State Government.

As on 31st March 2008, about 42.61 lakh persons were covered under the scheme. Scholarship of Rs.600/- per half year is available to the Children of members of Aam Admi Bima Yojana who are studying in classes 9th to 12th (including ITI courses) as a free add on benefit. This benefit is limited to two children per family.

The highlights of LIC's performance the financial year 2007-08 are shown below (Table 14.3).

Table – 14.3

Performance of LIC during the year 2007-08

Sl No.	Item	Amount
1	Individual Policies Sold (Nos. in crs.)	3.76
2	Total Income (Rs. in crore)	2,06,362
3	Total Premium Income (Rs. in crore)	1,49,705
4	Market Share in terms of number of Policy	73.93%
5	Total No. of Death Claims settled (in lacs)	6.73
6	Total No. of Maturity Claims settled (in lacs)	134.22
7	Total No. of Agents as on 31.3.2008	11,93,744

14.4 Non-Life Insurance Companies

The non life insurance companies in the public sector are National Insurance Company Ltd. (NICL), New India Assurance Company Ltd. (NIACL), Oriental Insurance Company Ltd.,

Table – 14.4

Performance of non-life Insurance Companies

(2006-07 and 2007-08)

(Rs. in crore)

Sl No.	Company	2006-07			2007-08		
		GDPI	ICR (in%)	Net Profit	GDPI	ICR (in%)	Net Profit
1	GIC	7404	69	1531	9316	83	996
2	National	3827	84	418	4022	89	163
3	New India	5937	77	1460	6151	85	1401
4	Oriental	4021	82	497	3900	90	9
5	United India	3499	85	529	3740	87	632

(OICL) and United India Insurance Company Ltd. (UICL) providing insurance coverage for variety of purposes such as car insurance; medical insurance, insurance against fire etc. The over all performance of these companies (along with GIC) during the year in terms of Gross Direct Premium Income (GDPI) and Net Incurred Claim Ratio (ICR) are discussed below.

14.5 General Insurance Corporation of India (GIC)

The General Insurance Corporation of India (GIC) was set up as a Government company under the General Insurance Business (Nationalisation) Act, 1972 for the purpose of superintending, controlling and carrying on the business of 'General Insurance'. The GIC was authorised to carry out the general insurance business through its four subsidiaries viz., National Insurance Company Ltd., New India Assurance Company Ltd., Oriental Insurance Company Ltd., and United India Insurance Company Ltd. With the notification of the General Insurance Business (Nationalisation) Amendment Act, 2002, the GIC was designated as the 'Indian Reinsurer' on 3rd November 2000 and its supervisory role over its subsidiaries ended. The ownership of these subsidiaries companies now rests with the Government of India.

The Registered Office of the Corporation is in Mumbai. The Corporation has two therefore liaison/area offices in New Delhi, Kolkata and Chennai to cater to the needs of clients in these metro cities. The Corporation has its presence in foreign reinsurance business through its Branch offices in Dubai and London, and a Representative Office in Moscow. Apart from reinsurance business, GIC continues to participate in the share capital of Kenindia Assurance Company Ltd (Kenya), India International Insurance Pte Ltd., Singapore, LIC (Mauritius) Offshore Limited and Asian Reinsurance Corporation, Bangkok. During the year, the Corporation made strategic investment in the shares of East Africa Reinsurance Company Ltd., in Kenya.

GIC has a dominant presence in the domestic business, primarily on account of the obligatory cessions. The compulsory cessions have been gradually reduced to 10% from 20%. GIC Re is now competing for business on the basis of price, service and expertise. It has diversified its area of operation by accepting new lines such as life reinsurance, off-shore energy and liability business. Risk management and assessment capabilities are being enhanced to provide value added services to clients.

During the year 2007-08, the net premium of the Corporation has grown to Rs. 8,311.14 crore as against Rs. 6,420.87 crore in the previous year. Profit before tax was Rs.1,070.37 crore as on 31st March 2008 compared to Rs.1,789.46 crore as on 31st March 2007. The Corporation has recorded a profit after tax of Rs. 995.86 crore as against Rs. 1,531.34 crore in the previous year. The networth has gone up to Rs. 6,689.62 crore as on 31st March 2008 against the paid up capital of the Corporation equal to Rs.430.00 crores.

14.6 Agricultural Insurance Company of India Limited (AICIL)

A new Company namely "Agricultural Insurance Company of India Limited" (AICIL) was registered under the Companies Act 1956 with equity participation from NABARD, General Insurance Corporation of India and its four erstwhile subsidiary companies. It has a paid up share capital of Rs. 200 cores. It has been setup with the objective to exclusively implement various crop insurance schemes (and products and other allied agricultural insurance business) in India. The assets and liabilities of Central Crop Insurance Department (CCID), Delhi were transferred to the new company with effect from 1.4.2003.

The company enjoys the distinction of being the largest crop insurance provider in the world in terms of the number of farmers insured annually. During 2007-08, the Scheme insured around 184 lakh farmers constituting 15% of the total farm holdings in the country.

The main product i.e. "National Agricultural Insurance Scheme" (NAIS) is presently implemented by 24 States and 2 Union Territories. Since the inception of the scheme and until rabi 2007-08 about 1155 lakh farmers have been covered. The coverage area is 184 million ha and the sum insured is Rs.1,21,606 crore. Claims to the tune of about Rs.11,607 crore have been reported against the premium income of about Rs. 3,626 crore benefiting nearly 302 lakh farmers. The Company is making efforts to bring the remaining States/UTs into the fold of NAIS.

14.6.1 Weather Based Crop Insurance Scheme (WBCIS)

The Honorable Union Finance Minister while presenting the Budget for 2007-08 announced Weather Based Crop Insurance Scheme (WBCIS) as a pilot scheme in a few States as an alternative to the NAIS. The Scheme operates on an actuarial basis with an element of subsidy from Union and State Governments.

AICL launched the pilot scheme on Weather Based Crop Insurance Scheme (WBCIS) during Kharif 2007 season in Karnataka for eight crops. About 50,000 hectares of crops were insured for a risk value of Rs. 53 crore with a premium of Rs. 7.03 crore under the scheme, out of which the farmers' share of premium was Rs. 1.42 crore. The remaining premium of Rs.5.61 crore was subsidized by the Central & State Governments equally. Payouts amounting to Rs. 5.24 crore were settled promptly.

For Rabi 2007-08, AICL implemented this pilot scheme in 4 States, viz. Bihar, Chhattisgarh, Madhya Pradesh and Rajasthan. In all, the pilot scheme was implemented in about 120 Tehsils / Blocks of 22 Districts for the major crops and covered about 6.27 lakh farmers growing crops in over 9.84 lakh hectares against a sum insured of Rs. 1,705 crore, with a gross premium of Rs. 139 crore, of which the farmers' share of premium was Rs. 43 crore. The remaining premium of Rs.96 crore was subsidized by the Central and State Governments equally. Total claims for this season has been worked out to Rs. 101 crores. The Gross Direct Premium of the Company is Rs. 835.00 crore which includes 150.74 crore from non-NAIS products.

The net worth of the company stood at Rs. 523 crore during 2007-08 while net incurred claims during the year was Rs. 530 crore. During the year 2007-08, the Company focused on developing its distribution channels through utilizing the services of NGOs, Self-Help Groups (SHGs) and Micro Insurance Agents to expand the Company's operations in rural areas.

14.6.1 Awareness & Publicity Program

Reaching out to the poorest and the remotest farmers has always been a challenge to the company. To this end, the Company has undertaken various intensive awareness and publicity activities, both direct and indirect. A number of awareness workshops were organized at the State and District levels where farmers, bank officials, district level government functionaries and others were briefed about the services on offer. A special effort was made to give wide publicity to the newly launched schemes. Publicity has been done through various media like newspaper, radio, TV, fairs and exhibitions etc.