

CHAPTER - IV

INFRASTRUCTURE INDUSTRIES

REVIEW OF INDUSTRIAL PERFORMANCE

- 4.1 Annual Growth Rates of Six Infrastructure Industries viz. electricity, coal, finished steel, crude petroleum and petroleum refinery products and their overall Growth Rates are given in Table No. 4.1 and Figure 4.1. Item wise representation are shown in Figure 4.2 to Figure 4.7

Table No. 4.1
CUMULATIVE GROWTH RATES OF SIX INFRASTRUCTURE INDUSTRIES
(IN PERCENT)

Period	Crude Petroleum	Petroleum Refinery Products	Electricity	Coal	Finished Steel	Cement	Overall
Weight (%)	(4.17)	(2.0)	(10.17)	(3.22)	(5.13)	(1.99)	(26.68)
1994-95	19.3	5.9	8.5	3.0	17.3	8.8	11.0
1995-96	7.1	3.9	8.3	6.4	21.9	11.5	10.6
1996-97	-4.7	7.0	3.8	5.7	5.8	9.6	3.7
1997-98	2.9	3.7	6.6	3.6	6.3	9.1	5.7
1998-99	-3.4	5.2	6.6	-2.1	1.3	5.7	2.8
1999-00	-2.4	25.4	7.2	3.1	15.0	14.3	9.1
2000-01	1.4	20.3	3.9	3.5	6.4	-0.9	5.1
2001-02	-1.2	3.7	3.1	4.2	3.6	7.4	3.2
2002-03	3.4	4.9	3.2	4.6	7.3	8.8	5.0
2003-04	0.7	8.2	5.1	4.1	9.8	6.1	6.1
2004-05	1.8	4.3	5.2	6.2	8.4	6.6	5.8
2005-06	-5.2	2.1	5.1	6.6	10.8	12.4	6.1
2006-07	5.6	12.9	7.3	5.9	13.1	9.1	9.2
2007-08	0.4	6.5	6.3	6.0	5.1	8.1	5.6
Annual Average (1994-95 to 2007-08)	1.8	8.1	5.7	4.3z	9.4	8.3	6.4

N.B. Data for 2007-08 are provisional. Weights are as per Index of Industrial Production Base 1993-94=100

Source: Data compiled by Office of the Economic Adviser, Department of Industrial Policy and Promotion, Ministry of Commerce & Industry.

**TABLE 4.2
POWER GENERATION IN THE COUNTRY (1991-92 TO 2007-08)**

(In Million Unit)

Year	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	Apr-March	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Thermal	1991-92	16984	17282	15444	16137	14825	15586	17887	17677	18851	20045	18350	19483	208551
	2001-02	35290	36090	32905	32566	32374	34277	35161	35285	37430	37636	34399	38574	421987
	2004-05	42180	40276	37654	40287	36632	38754	39042	39811	43277	43708	39786	44668	486075
	2005-06	42430	43089	41597	38335	36955	35369	41422	40400	43686	45203	42241	46487	497214
	2006-07	44404	45127	42473	41266	37968	39690	44230	43723	46675	48775	44100	49118	527547
	2007-08	47310	49145	44904	40908	41333	40786	46564	46502	49929	50856	48632	52120	558990
Nuclear	1991-92	397	445	440	323	443	403	507	556	461	531	514	541	5561
	2001-02	1588	1485	1478	1581	1617	1375	1589	1726	1864	1551	1738	1735	19320
	2004-05	1440	1335	1269	1253	1179	1267	1556	1533	1500	1432	1434	1645	16845
	2005-06	1463	1456	1495	1507	1546	1636	1397	1342	1390	1391	1166	1449	17239
	2006-07	1446	1564	1490	1639	1476	1332	1567	1431	1682	1721	1564	1696	18607
	2007-08	1652	1791	1633	1266	1307	1198	1246	1404	1354	1370	1218	1339	16777
Hydro	1991-92	5625	5512	5764	6951	8134	7640	6534	5142	5526	4861	5010	5900	72599
	2001-02	4429	5795	6265	8113	8685	7495	5868	5584	5356	5288	4692	6350	73940
	2004-05	5251	6311	7590	8686	10659	9102	7880	6464	5762	5385	4795	6610	84495
	2005-06	6520	8397	7857	9939	13645	11689	9398	7663	7181	7166	6818	6784	103057
	2006-07	7545	8940	9488	11319	14852	13268	11495	8591	8669	7701	6238	8262	116369
	2007-08	9068	9885	10541	16127	16638	14658	11892	8940	7953	8106	7129	7765	128702
Total	1991-92	23006	23239	21648	23411	23402	23629	24928	23375	24838	25437	23874	25924	286711
	2001-02	41307	43370	40648	42260	42676	43147	42638	42595	44650	44475	40829	46652	515247
	2004-05	48871	47922	46513	50226	48470	49123	48478	47808	50540	50526	46016	52924	587416
	2005-06	50413	52943	50949	49781	52145	48695	52218	49405	52257	53760	50225	54720	617510
	2006-07	53395	55631	53451	54224	54296	54289	57292	53745	57025	58197	51902	59075	662523
	2007-08	58031	60822	57078	58301	59278	56641	59403	56846	59236	60332	56978	61224	704469

Source: Central Electricity Authority.

TABLE 4.3
REGION-WISE GENERATION OF ELECTRICITY DURING
(2005-06 TO 2007-08) UTILITIES

Region/ Category	Generation (MU)			% Change 2006-07/ 2005-06	% Change 2007-08/ 2006-07
	2005-06	2006-07	2007-08		
NORTHERN					
Thermal	131504	141661	146847	7.7	3.7
Hydro41714	44758	50735	7.3	13.4	
Nuclear	6444	4520	3154	(-) 29.9	(-) 30.2
Total (NR)	179663	190939	200736	6.3	5.1
WESTERN					
Thermal	164959	170603	187933	3.4	10.2
Hydro15831	18194	18341	14.9	0.8	
Nuclear	6082	8944	9375	47.1	4.8
Total (WR)	186872	197742	215649	5.8	9.1
SOUTHERN					
Thermal	108244	117297	123225	8.4	5.1
Hydro33506	38888	39515	16.1	1.6	
Nuclear	4713	5142	4247	9.1	(-) 17.4
Total (SR)	146463	161328	166987	10.1	3.5
EASRTERN					
Thermal	88793	94057	96886	5.9	3.0
Hydro6189	8495	9836	37.5	15.8	
Total (ER)	94981	102552	106722	8.0	4.1
NORTH-EASTERN					
Thermal	3714	3928	4099	5.8	4.4
Hydro4054	3024	4998	(-)25.4	65.3	
Total (NER)	7768	6952	9097	(-)10.5	30.9
ALL INDIA					
Thermal	497214	527547	558990	6.1	6.0
Hydro101293	113359	123424	11.9	8.9	
Nuclear	17239	18607	16777	7.9	(-) 9.8
Bhutan Import	1764	3010	5278	70.6	75.3
Grand Total	617510	662523	704469	7.3	6.3

MU : Million Unit

Source : Central Electricity Authority

TABLE 4.4
STATEWISE GENERATION OF ELECTRICITY AND PLANT LOAD
FACTOR OF THERMAL AND NUCLEAR PLANTS (UTILITIES)

States	Thermal Generation (MU)			Nuclear Generation (MU)			Hydro Generation (MU)			Thermal ** & Nuclear Plant Load Factor(%)		
	2005-06	2006-07	2007-08	2005-06	2006-07	2007-08	2005-06	2006-07	2007-08	2005-06	2006-07	2007-08
Delhi	10979	10561	10935	-	-	-	-	-	-	71.9T	71.4T	75.2T
Haryana	11915	13356	13332	-	-	-	259	256	270	66.3T	78.0T	78.2T
Himanchal Pradesh *	-	-	-	-	-	-	11470	13514	13945	-	-	-
Jammu & Kashmir	9	0.0	0.0	-	-	-	6985	7306	8920	-	-	-
Punjab *	14834	15435	16457	-	-	-	5014	4396	4603	79.9T	83.1T	87.7T
Rajasthan	21494	21715	22975	4306	3496	2480	763	1116	1400	90.8T	91.4T	90.4T
Uttar Pradesh	72274	80594	83148	2138	1024	674	1285	1417	923	75.9T	78.2T	79.3T
Uttarakhand	-	-	-	-	-	-	4291	6689	9715	55.5N	26.6N	17.4N
Chattisgarh	24945	25728	28342	-	-	-	367	388	263	68.7T	67.6T	76.7T
Goa	303	355	327	-	-	-	-	-	-	61.4N	63.4N	52.7N
Gujarat	49682	49827	51887	2367	2446	2036	2751	4870	5672	80.0T	81.6T	81.5T
Madhya Pradesh	31845	34160	40397	-	-	-	5166	5698	6170	75.1T	75.7T	79.0T
Maharashtra	58184	60535	66981	3715	6499	7339	7547	7237	6236	63.8N	61.8N	59.7N
Andhra Pradesh	55597	56875	59616	-	-	-	8322	9822	9872	84.3T	88.1T	88.4T
Karnataka	11045	13899	13325	2860	2524	2495	11535	15189	14785	71.2T	89.2T	84.2T
Kerala	553	1591	2487	-	-	-	7539	7593	8425	74.2N	65.5N	42.9N
Lakshdweep	27	28	29	-	-	-	-	-	-	-	-	-
Podnicherry	257	278	275	-	-	-	-	-	-	-	-	-
Tamil Nadu	40767	44626	47494	1853	2618	1752	6110	6284	6433	73.3T	77.3T	80.9T
A & N Island	152	182	196	-	-	-	7	9	8	54.3N	70.6N	45.3N
Bihar	6693	6617	6977	-	-	-	75	67	58	55.4T	54.7T	48.7T
Jharkhand \$	4264	5331	4623	-	-	-	51	208	211	21.5T	30.2T	38.0T
Orrisa	28723	31500	31907	-	-	-	5028	7204	7875	84.3T	89.6T	91.6T
Sikkim	0.2	0.2	0.2	-	-	-	386	236	477	-	-	-
West Bengal \$	36575	36679	38381	-	-	-	468	413	756	69.9T	70.4T	74.0T
Arunachal Pradesh	-	-	-	-	-	-	1412	966	1552	-	-	-
Assam	2655	2758	2851	-	-	-	1102	817	1555	16.1T	16.8T	20.4T
Manipur	0.0	3	0.9	-	-	-	586	475	605	-	-	-
Meghalaya	-	-	-	-	-	-	707	538	888	-	-	-
Mizoram	0.0	4	3	-	-	-	-	-	-	-	-	-
Nagaland	-	-	-	-	-	-	183	182	362	-	-	-
Tripura	1059	1164	1245	-	-	-	63	46	36	-	-	-
Central Sector												
BBMB	-	-	-	-	-	-	11647	10064	10960	-	-	-
NTPC	176257	189661	-	-	-	-	-	-	-	87.4T	89.3T	90.4T
NHPC	-	-	-	-	-	-	12561	13049	14811	-	-	-
Naptha Jhakri	-	-	-	-	-	-	4054	6001	6405	-	-	-
Indira Sagar	-	-	-	-	-	-	2573	2606	3425	-	-	-
Tehri	-	-	-	-	-	-	-	890	2664	-	-	-
DVC	12384	13749	-	-	-	-	175	357	451	54.2T	60.4T	62.8T
NLC	16246	15793	-	-	-	-	-	-	-	74.5T	72.4T	79.8T
NEEPCO	2361	2458	-	-	-	-	2895	2100	3091	-	-	-

Note: State Generation includes generation from Central Sector Projects located in the respective state excluding BBMB Projects(*) and DVC Projects(\$) (**). PLF of coal/lignite based stations. T= Thermal N= Nuclear MU= Million Unit

Source : Central Electricity Authority

TABLE 4.5
REGIONWISE PROFILE OF THE ELECTRICITY SECTOR (2006-07)

Region States/ U.Ts	No. of Industries Covered	Total Gross Generation (GWH)	Auxiliary Consumption (GWH)	Net Generation GWH (3-4)	Energy Sold to utilities	Energy used in the Industry out of self Generation (5-6)
1	2	3	4	5	6	7
Northern Region						
Haryana	103	1158.37	26.59	1131.77	48.04	1083.74
Himanchal pradesh	24	81.64	2.31	79.33	5.11	74.22
Jammu & Kashmir	3	2.03	0.00	2.03	0	2.03
Punjab	119	880.03	84.71	795.32	0	795.32
Rajasthan	90	3427.42	231.90	3195.52	27.52	3168.01
Uttar Pradesh	98	7431.34	641.95	6789.38	84.56	6704.82
Uttarakhand	14	437.51	2.88	434.63	0	434.63
Chandigarh	3	1.34	0.00	1.34	0	1.34
Delhi	1	0.85	0.00	0.85	0	0.85
Sub- Total	455	13420.54	990.35	12430.19	165.23	12264.96
Western Region						
Gujarat	265	15958.72	695.33	15263.38	545.76	14717.62
Madhya Pradesh	140	3940.04	388.12	3551.91	60.72	3491.19
Maharashtra	227	4700.33	187.45	4512.88	103.99	4408.89
Goa	23	127.01	5.50	121.51	0.22	121.29
Daman & Diu	0	0	0.00	0.00	0	0
D & N Haveli	17	32.55	0.67	31.88	0	31.88
Chhattishgarh	33	8157.55	689.48	7468.07	309.36	7158.7
Sub-Total	705	32916.18	1966.55	30949.63	1020.05	29929.58
Southern Region						
Andhra Pradesh	275	5464.74	618.08	4846.66	781.61	4065.05
Karnataka	226	3914.44	315.01	3599.43	537.81	3061.62
Kerala	81	472.8	33.38	439.42	0.16	439.26
TamilNadu	603	6825.61	561.54	6264.07	1605.13	4658.94
Pondicherry	35	148.24	4.86	143.38	0	143.38
Lakshdweep	0	0	0.00	0.00	0	0
Sub-Total	1220	16825.83	1532.87	15292.96	2924.71	12368.25
Eastern Region						
Bihar	18	0.86	0.00	0.86	0	0.86
Orissa	52	11096.15	1320.45	9775.70	1069.83	8705.87
West Bengal	129	2029.53	158.23	1871.29	5.86	1865.43
A & N Islands	0	0	0.00	0.00	0	0
Sikkim	0	0	0.00	0.00	0	0
Jharkhand	39	4445.71	618.98	3826.73	35.73	3791
Sub-Total	238	17572.25	2097.67	15474.58	1111.42	14363.16
Northern Eastern Region						
Assam	19	971.28	58.84	912.44	0	912.44
Manipur	0	0	0.00	0.00	0	0
Meghalaya	4	93.67	9.11	84.56	0	84.56
Nagaland	1	0	0.00	0.00	0	0
Tripura	0	0	0.00	0.00	0	0
Arunachal Pradesh	0	0	0.00	0.00	0	0
Mizoram	0	0	0.00	0.00	0	0
Sub-Total	24	1064.95	67.94	997.01	0	997.01
Total (All India)	2642	81799.75	6655.38	75144.36	5221.41	69922.96

Note: GWH: Giga Watt hours

Source: Central Electricity Authority

TABLE 4.6
TRENDS IN PRODUCTION OF INFRASTRUCTURE INDUSTRIES
(Base : 1993-94)

1 Sl.No	2 Industry	3 Unit	4 Weight	5 Production during April-March			7
				2005-06	2006-07	2007-08	
1	Electricity	Mill. KWH	10.17	617510 (5.1)	662523 (7.3)	704441 (6.3)	
	Hydro	Mill. KWH	-	101293 (19.9)	113359 (11.9)	123421 (8.9)	
	Thermal including Nuclear	Mill. KWH	-	514453 (2.3)	546154 (6.2)	575742 (5.4)	
2	Coal	Mill tonnes	3.22	401.4 (6.6)	425.1 (5.9)	450.5 (6.0)	
3.	Finished steel	Th. tonnes	5.13	44390.0 (10.8)	50196.0 (13.1)	52762.0 (5.1)	
4	Crude petroleum	Th. Tonnes	4.17	32198 (-5.2)	33986 (5.6)	34116 (0.4)	
5	Petroleum refinery	Th. Tonnes	2.00	120750 (2.1)	136292 (12.9)	145167 (6.5)	
6.	Cement	Th. Tonnes	1.99	147808 (12.4)	161310 (9.1)	174310 (8.1)	
7	Index of total Infrastructure industries		26.68	204.7 (6.1)	223.6 (9.2)	236.1 (5.6)	

Figures in bracket indicate percentage variation over the corresponding figures of the previous year.

Source: Data compiled by Office of the Economic Adviser, Department of Industrial Policy and Promotion, Ministry of Commerce & Industry.

TABLE 4.7
REVENUE EARNING GOODS TRAFFIC ON INDIAN RAILWAYS

		A: TRAFFIC ORIGINATING (Million tonnes)									
S. No.	Commodity	1950-51	1960-61	1970-71	1980-81	1990-91	2000-01	2003-04	2004-05a	2005-06a	2006-07(P)a
1	Coal	20.2	30.9	47.9	64.1	135.2	223.7	251.7	271.4	294.3	313.3
2	Raw materials for steel Plants (excl. Coal)	NA	10.5	16.1	20.2	25.9	38.8	43.9	44.3	51.4	53.2
3	Pig iron and finished steel from steel plants	NA	3.8	6.2	7.5	10.0	11.8	14.3	15.2	17.7	21.0
4	Iron ore for exports	NA	2.6	9.8	11.1	13.1	14.6	26.7	36.4	41.2	38.8
5	Cement	2.5	6.5	11.0	9.6	28.9	42.9	49.5	53.8	61.2	73.1
6	Food grains	7.8	12.7	15.1	18.3	25.4	26.7	45.4	46.5	41.7	41.8
7	Fertilizers	NA	1.4	4.7	8.1	18.4	27.1	25.8	28.8	32.7	34.3
8	Mineral oils	2.7	4.7	8.9	15.0	25.0	36.3	32.0	32.0	33.5	31.7
9	Other goods	40.0	46.7	48.2	42.1	36.6	51.8	68.0	73.8	92.9	120.4
10	Total revenue earning-traffic	73.2	119.8	167.9	195.9	318.4	473.5	557.4	602.1	666.5	727.8
		B: GOODS CARRIER (Billion tonne-km)									
1	Coal	11.3	20.5	27.8	36.4	85.9	133.4	147.9	161.9	170.3	191.5
2	Raw materials for steel Plants (excl. Coal)	NA	2.0	2.7	4.3	7.5	13.5	15.4	15.8	17.4	16.8
3	Pig iron and finished steel from steel plants	NA	3.3	6.2	8.6	11.6	12.1	13.9	14.2	18.7	22.4
4	Iron ore for exports	NA	NA	5.5	7.3	7.5	7.9	13.2	19.0	21.0	19.9
5	Cement	NA	2.5	7.0	7.2	18.9	24.9	27.6	28.9	32.8	41.1
6	Food grains	4.0	9.6	14.5	24.3	35.6	33.1	67.9	62.6	55.1	47.9
7	Fertilizers	NA	NA	3.8	8.9	17.3	23.0	22.1	21.7	25.7	25.5
8	Mineral oils	NA	2.6	5.3	11.7	15.1	19.9	18.7	21.0	24.3	21.9
9	Other goods	22.3	31.9	37.9	39.1	36.4	44.5	54.5	62.3	73.3	94.0
10	Total revenue-earning - traffic	37.6	72.3	110.7	147.7	235.8	312.4	381.2	407.4	439.6	481.0

P: Provisional a: Excluding KRCL loading NA: Not Available

Source: Ministry of Railway, Economic Survey.

