tons of hot metal projected in the SAIL Hot Metal Production Schedule for the year 2000 then 21.0 million tons of feed coal will be required. If a 5% blend ratio of SRC is adopted the daily SRC requirement will be 3000 tons. Taking the yield of SRC from coal to be 67.9% it will require 4,700 tons of coal daily to meet SRC production.

Reduction of necessary amount for SRC should be carried out by promoting projects for uses of non-coking coal other than in SRC and by other measures to improve coking strengths. It is therefore considered quite sufficient to plan for one Commercial Plant on a 3000 ton per day scale.

The results of the present Pre-Feasibility Report sufficiently prove that the use of SRC will result in an increased coking strength and that non-coking coal can be used for coke production. It is also shown that this will allow for a reduction in the quantity of imported coal and thereby serve to improve the international balance of payments.

However, if SRC and non-coking coal are substituted for imported coal, the coke production cost is higher than that of presently produced coke, which results in quite low values in financial and economic internal rates of return. Further evaluations such as the case of 20% premium against imported coal and the case of 55% imported coal and 45% domestic low volatile medium coking coal, etc. were undertaken, however, in each case coke price became higher than that of the coke presently used and thus, financial and economic internal rates of return revealed that these failed to reach the reasonable standard. Therefore, under the present economic conditions, the Team considers that it is difficult to proceed to implement a full stage F/S including bench scale plant.

It could be necessary to reconsider SRC Development Project when the substantial changes on conditions occur in various cases such as difficulty in getting imported coal and possibility of rapid price hike in imported coal, substantial fluctuation of foreign exchange rate, as well as finding non-coking coal suitable for coke production to be substituted for Samla coal and getting

confirmation on the blending ratio of 1:3 in SRC and newly found non-coking coal.

Present Pre-Feasibility Study covers to prove coking strength using SRC and to evaluate technical and economical viability in utilizing non-coking coal and SRC for coke production, but SRC technology relates to other developments in coal liquification and coal chemistry technology, and in coal liquification world-wide research has been undertaken as a countermeasure against future petroleum supply.

Thus, it is also necessary to consider SRC development in conjunction with above technology developments.

As stated above, for SRC development project, it is desirable to proceed with step-wise progress such as full stage F/S including bench scale plant and then construction and operation of demonstration plant since there exists no commercial plant in SRC production in the world and since the raw materials are coals which have very complicated nature.

The period required for each stage is that 3 years for a full stage F/S involving the construction of the bench scale plant, testing of SRC production and coke production, design of a demonstration plant and economic evaluation and then another 3.5 years for the construction of a demonstration plant.

Taking due account of preparatory period in each stage, it may take at least 9 - 10 years for initial start-up of SRC production in a demonstration plant.

The capacity of a commercial plant after a demonstration plant stage, depending upon SRC blending ratio, progress in improvements of coke strength other than SRC would be in a technical viewpoint, smaller than 3,000 ton per day per unit.

ANNEX

Annex 1.1.1 BASIC ECONOMIC DATA IN INDIA

Year	Total Population Million	GNP @ Factor Cost 1988 price (Rs 10million)	GNP Current Price (Rs 10million)	Per Capital GNP		Exchange Rate Rs/US$	Per Capital 1980 Price US$	GNP Current Price US$
				1980 Price (Rs)	Current Price (Rs)			
1975-76	603.5	104660	70946	1734	1176	8.43	206	140
76-77	617.2	105996	76303	1717	1236	9.08	189	136
77-78	631.3	113903	87118	1804	1380	8.82	205	156
78-79	645.7	120302	93724	1860	1452	8.28	225	175
79-80	660.3	114379	102595	1732	1554	8.02	216	194
80-81	675.2	122772	122772	1818	1818	7.91	230	230
81-82	690.1	129928	143256	1883	2076	8.97	210	231
82-83	705.2	133299	158761	1890	2251	9.67	195	233
83-84	720.4	143861	185779	1997	2579	10.34	193	251
84-85	735.6	149292 +	207153 +	2030	2816	11.89	171	237
85-86	750.9	155399 +	232047 +	2070	3090	12.24	169	252
86-87	766.1	160975 +	257250 +	2117	3358	12.78	164	263
87-88	781.4	167703 +	291647 +	2155	3732	12.97	165	288
88-89	796.6	185543 +	349105 +	2337	4382	14.48	161	303
89-90	811.0	195237 *	392524 *	2405	4835	16.65	144	290
90-91	827.1					17.94		

+ Provisional

* Quick estimates

Annex 1.1.2 BASIC ECONOMIC DATA IN INDIA

Year	Index No. pf Industrial Production		Price Index No.			
			Consumer (Industrial worker)		Wholesales (All commodities)	
	Mining 1980-81 = 100	Manufacturing 1980-81 = 100	General Index 1960=100	Index 1982=100	1970-71 = 100	1981-82 = 100
1976-77	90.5	90.0	301		176.6	64.2
77-78	92.5	93.3	324		185.8	67.4
78-79	95.2	99.7	331		185.8	67.4
79-80	95.9	99.1	360		217.6	79.1
80-81	100.0	100.0	401		256.2	93.1
81-82	117.70	107.90	451		281.3	100.0
82-83	128.9	110.1	486		288.7	104.9
83-84	147.8	115.6	547	111	316.0	112.8
84-85	160.80	124.80	582	118	338.4	120.1
85-86	167.50	136.90	620	126	357.8	125.4
86-87	177.9	149.7	674	137	376.8	132.7
87-88	184.6	161.5	736	149	405.4	143.6
88-89	199.1	175.6	803	166	435.4	154.3
89-90	211.6	190.7	855	173		165.7
90-91 *	219.1	208.2	947	193		182.7

* Provisional

Note: The new series of CPI for Industrial Workers with 1982 base has been introduced w.e.f. October, 1988. The earlier series on base 1960=100 has been simultaneously discontinued. The conversion factor from the new to the old series is 4.93 in regard to the General Index.

Annex 1.1.3 GROSS DOMESTIC PRODUCT AT FACTOR COST BY INDUSTRY OF ORIGIN
(At 1980-81 prices)
(Annual Growth Rates)

Years	Agriculture, forestry and logging, fishing, mining and quarring	Manufacturing, construction, electricity, gas and water supply	Transport, communi-cation and trade	Banking and insurance, real estate and ownership of dwellings and business services	Public administration and defence and other services	Gross domestic product at factor cost (2 to 6)
1	2	3	4	5	6	7
1951-52	1.7	4.2	2.6	2.3	3.0	2.3
1952-53	3.1	1.1	3.3	4.2	2.1	2.8
1953-54	7.6	6.8	3.7	1.4	3.1	6.1
1954-55	3.0	8.1	6.5	3.7	3.6	4.2
1955-56	-0.8	10.2	7.3	4.0	3.1	2.6
1956-57	5.4	8.4	7.3	1.6	3.8	5.7
1957-58	-4.3	0.4	3.1	3.8	4.5	-1.2
1958-59	9.9	6.6	4.9	2.8	4.1	7.6
1959-60	-0.9	7.1	6.3	3.8	4.3	2.2
1960-61	6.9	9.9	8.6	2.1	4.9	7.1
1961-62	0.2	7.6	6.5	4.3	4.7	3.1
1962-63	-1.6	6.7	5.8	3.4	7.1	2.1
1963-64	2.4	10.3	7.1	3.1	6.6	5.1
1964-65	9.0	7.2	6.8	2.7	6.6	7.6
1965-66	-10.4	2.5	1.7	3.0	4.0	-3.7
1966-67	-1.3	2.8	2.6	1.8	4.6	1.0
1967-68	14.5	2.5	4.2	2.7	3.9	8.1
1968-69	-0.1	5.4	4.5	4.9	4.5	2.6
1969-70	6.4	8.8	5.4	4.2	5.5	6.5
1970-71	6.6	2.0	4.9	4.2	5.5	5.0
1971-72	-1.7	2.9	2.3	5.2	4.5	1.0
1972-73	-4.7	3.6	2.1	3.9	3.3	-0.3
1973-74	7.0	2.0	4.2	2.4	2.6	4.6
1974-75	-1.3	1.8	5.9	-0.3	4.7	1.2
1975-76	12.9	5.1	9.1	6.9	3.5	9.0
1976-77	-5.5	9.2	4.4	7.9	2.8	1.2
1977-78	9.8	6.9	6.8	4.9	2.7	7.5
1978-79	2.3	9.2	8.2	7.1	4.3	5.5
1979-80	-12.3	-3.3	-0.9	1.0	7.3	-5.2
1980-81	12.5	2.7	5.6	2.4	4.1	7.0
1981-82	6.0	7.6	6.1	4.7	3.5	6.0
1982-83	-1.0	4.3	5.3	7.6	7.8	3.0
1983-84	10.3	9.5	5.6	5.3	3.6	8.1
1984-85	0.1	6.3	5.7	6.6	7.3	3.9
1985-86	0.5	7.1	8.3	7.2	7.5	4.9
1986-87	-1.0	7.2	6.2	7.4	7.9	4.2
1987-88	0.7	5.6	5.1	5.8	8.0	4.1
1988-89	16.9	7.7	7.6	7.3	5.6	10.4

Source : Economic Survey 1989-90

Annex 1.1.4 GROSS DOMESTIC PRODUCT AT FACTOR COST BY INDUSTRY OF ORIGIN
(At 1980-81 prices) (Rs 10million)

Years	Agriculture, forestry and logging, fishing mining, and quarring	Manufacturing, construction, electricity, gas and water supply	Transport, communi-cation and trade	Banking and insurance, real estate and ownership of dwellings and business service	Public administration and defence and other services	Gross domestic product at factor cost (2 to 6)
1	2	3	4	5	6	7
1950-51	24204	6451	4718	3870	3628	42871
1951-52	24615	6719	4842	3959	3737	43872
1952-53	25387	6790	5001	4125	3814	45117
1953-54	27309	7250	5188	4184	3932	47863
1954-55	28119	7839	5527	4337	4073	49895
1955-56	27890	8642	5931	4511	4199	51173
1956-57	29404	9372	6365	4585	4360	54086
1957-58	28149	9408	6560	4758	4557	53432
1958-59	30941	10025	6884	4893	4744	57487
1959-60	30670	10732	7315	5080	4948	58745
1960-61	32793	11790	7945	5185	5191	62904
1961-62	32866	12685	8462	5408	5435	64856
1962-63	32329	13532	8956	5590	5821	66228
1963-64	33091	14932	9592	5763	6203	69581
1964-65	36068	16013	10244	5921	6612	74858
1965-66	32310	16418	10420	6100	6874	72122
1966-67	31892	16874	10692	6207	7191	72856
1967-68	36501	17288	11146	6376	7474	78785
1968-69	36478	18219	11650	6687	7807	80841
1969-70	38805	19821	12280	6965	8238	86109
1970-71	41385	20209	12884	7256	8692	90426
1971-72	40661	20793	13175	7630	9080	91339
1972-73	38752	21545	13449	7925	9377	91048
1973-74	41468	21966	14014	8119	9625	95192
1974-75	40919	22361	14843	8093	10081	96297
1975-76	46183	23507	16190	8651	10437	104968
1976-77	43656	25658	16902	9337	10727	106280
1977-78	47929	27437	18044	9794	11015	114219
1978-79	49039	29959	19529	10486	11491	120504
1979-80	43005	28963	19349	10588	12331	114236
1980-81	48366	29747	20437	10841	12835	122226
1981-82	51280	32000	21684	11354	13282	129600
1982-83	50745	33369	22826	12215	14314	133469
1983-84 †	55976	36541	24109	12859	14825	144310
1984-85 †	56030	38844	25475	13714	15903	149966
1985-86 †	56321	41619	27599	14708	17101	157348
1986-87 †	55760	44625	29298	15791	18450	163924
1987-88 †	56164	47121	30799	16706	19926	170716
1988-89@	65639	50734	33140	17925	21043	188481

† Provisional
@ Quick Estimates

Source: Central Statistical Organisation

Annex 1.1.5 PROJECTED GROWTH OF EMPLOYMENT : 1984-85 - 1989-90

Sl. No.	Sector	Employment in million standard person year			Annual growth of employnment (%)
		1984-85	1989-90	Increase	
1.	Agriculture	96.108	114.092	17.984	3.49
	(a) Crop sector	58.750	65.720	6.970	2.26
	(b) Non-crop sector	37.358	48.372	11.014	5.30
2.	Mining and quarrying	1.153	1.494	0.341	5.32
3.	Manufacturing	26.790	33.466	6.676	4.55
4.	Construction	10.427	12.624	2.197	3.90
5.	Electricity	1.031	1.498	0.467	7.76
6.	Railways	1.544	1.688	0.144	1.80
7.	Other transport	9.440	11.810	2.370	4.58
8.	Communication	0.951	1.224	0.273	5.18
9.	Other services	39.261	49.165	9.904	4.60
	TOTAL	186.705	227.061	40.356	3.99

Annex 1.1.6 INFORMATION ON MARKET SURVEY

BASIC ECONOMIC DATA IN INDIA

(Rs 10million)

Year	External Trade		Balance of payment	Foreign* Exchange Reserves (Excl. Gold & SDR)
	Gross Value of Imports (CIF)	Gross Value of Exports (FOB)		
1980-81	12549.2	6710.7	(-) 2639.5	4822.1
81-82	13608.0	7806.0	(-) 4067.4	3354.5
82-83	14292.7	8803.4	(-) 3428.6	4265.3
83-84	15831.5	9770.7	(-) 2507.9	5497.9
84-85	17134.2	11743.7	(-) 1243.9	6816.8
85-86	19657.7	10894.6	(-) 3187.1	7384.4
86-87	20096.0	12452.4	(-) 3788.4	7645.2
87-88	22244 R	15674 R	(-) 5410.1	7287.1
88-89	28235 R	20231 R	(-) 6308.9	6604.6
89-90	35416 P	27681 R		5787.0 P
90-91	43171 P	32527 P		4388.0 P

P - Provisional R - Revised

Annex 1.1.7 IMPORTS OF PRINCIPAL COMMODITIES - QUANTITY AND VALUE

(Rs million)

Commodity	1986-87 V
Food and live animals chiefly for food	7,502.5
Beverages and Tobacco	30.3
Crude materials inedible except fuel	16,245.6
Textile fibres and their waste	2,236.3
Fertilizers crude	1,450.2
Minerals fuels lubricants and related materials	30,294.2
Animal and vegetable oils, fats and waxes	6,562.5
Chemicals and related Products, n.e.s.	26,366.6
Manufactured goods classified chiefly by materials	43,569.1
Textile yarn metallic mineral manufactures n.e.s.	16,181.6
Iron and steel	15,563.6
Machinery and Transport equipment	62,785.0
Miscellaneous manufactured Articles	6,724.9

Q-Quantity

V-Value

(a) POL Pvt. Imports Rs 22.5 million for March 1987 and Rs 376.6 million for April '86 to March '87.

(b) POL Pvt. Imports Rs 44.1 million for March 1986 and Rs 289.9 million for April '85 to March '86.

Note: - Figures relate to Financial Year 1 April to 31 March.

Source : Directorate General of Commercial Intelligence & Statistics, Ministry of commerce.

Source : Basic Statistics Relating to the Indian Economy 1989

Annex 1.2.1 LIST OF INDUSTRIES IN RESPECT OF WHICH INDUSTRIAL LICENSING WILL BE COMPULSORY

1. Coal and Lignite
2. Petroleum (other than crude) and its distillation product
3. Distillation and brewing of alcoholic drinks
4. Sugar
5. Animal fats and oils
6. Cigars and cigarettes of tobacco and manufactured tobacco substitutes
7. Asbestos and asbestos-based products
8. Plywood, decorative veneers, and other wood based products such as particle board, medium density fibre board, block board
9. Raw hides and skins, leather, chamois leather and patent leather
10. Tanned or dressed furskin
11. Motor cars
12. Paper and Newsprint except bagasse-based units
13. Electronic aerospace and defence equipment; All types
14. Industrial explosives, including detonating fuse, safety fuse, gun powder nitrocellulose and matches
15. Hazardous chemicals
16. Drugs and Pharmaceuticals (according to Drug Policy)
17. Entertainment Electronics (VCRs, Colour TVs, C.D. players, Tape Recorders)
18. White Goods (Domestic Refrigerators, Domestic Dishwashing Machines, Programmable Domestic Washing Machines, Microwave ovens, Airconditioners)

Note: The compulsory licensing provisions would not apply in respect of the small-scale units taking up the manufacture of any of the above items reserved for exclusive manufacture in small-scale sector

Annex 1.2.2 PROPOSED LIST OF INDUSTRIES TO BE RESERVED FOR THE PUBLIC SECTOR

1. Arms and ammunition and allied items of defence equipment, defence aircraft and warships
2. Atomic Energy
3. Coal and lignite
4. Mineral oils
5. Mining of iron ore, manganese ore, chrome ore, gypsum, sulphur, gold and diamond
6. Mining of copper, lead, zine, tin, molybdenum and wolfram
7. Minerals specified in the Schedule to the Atomic Energy (Control of Production and Use) Order, 1953
8. Railway transport

Annex 1.2.3 (1/4)

LIST OF INDUSTRIES FOR AUTOMATIC APPROVAL OF FOREIGN TECHNOLOGY AGREEMENTS AND FOR 51% FOREIGN EQUITY APPROVALS

1. Metallurgical Industries

   (1) Ferro alloys
   (2) Castings and forgings
   (3) Non-ferrous metals and their alloys
   (4) Sponge iron and pelletisation
   (5) Large diameter steel welded pipes of over 300 mm diameter and stainless steel pipes
   (6) Pig iron

2. Boilers and Steam Generating Plants

3. Prime Movers (Other Than Electrical Generators)

   (1) Industrial turbines
   (2) Internal combustion engines
   (3) Alternate energy systems like solar wind etc. and equipment therefor
   (4) Gas/hydro/steam turbines upto 60 mw

4. Electrical Equipment

   (1) Equipment for transmission and distribution of electricity including power and distribution transformers, powerrelays, HT-switch gear synchronous condensers
   (2) Electrical motors
   (3) Electrical furnaces, industrial furnaces and induction heating equipment
   (4) X-ray equipment
   (5) Electronic equipment components including subscribers' end telecommunication equipments
   (6) Component wires for manufacture of lead-in wires
   (7) Hydro/steam/gas generators/generating sets upto 60 mw
   (8) Generating sets and pumping sets based on internal

combustion engines
(9) Jelly-filled telecommunication cables
(10) Optic fibre
(11) Energy efficient lamps
(12) Midget carbon electrodes

5. Transportation

(1) Mechanised sailing vessels upto 10,000 DWT including fishing trawlers
(2) Ship ancillaries
(3) (a) Commercial vehicles, public transport vehicles including automotive commercial three wheeler jeep type vehicles, industrial locomotives
(b) Automotive two wheelers and three wheelers
(c) Automotive components/spares and ancillaries
(4) Shock absorbers for railway equipment and
(5) Brake system for railway stock and locomotives

6. Industrial Machinery

(1) Industrial machinery and equipment

7. (1) Machine tools and industrial robots and their controls and accessories
(2) Jigs, fixtures, tools and dies of specialised types and cross land tooling, and
(3) Engineering production aids such as cutting and forming tools, patterns and dies and mining tools

8. Agricultural Machinery

(1) Tractors
(2) Self-propelled Harvestor Combines
(3) Rice transplanters

9. Earth Moving Machinery

(1) Earth moving machinery and construction machinery and components thereof

10. Industrial Instruments

(1) Indicating, recording and regulating devices for pressure, temperature, rate of flow weights levels and the like

11. Scientific and Electromedical Instruments and Laboratory Equipment

12. Nitrogenous & Phosphatic Fertilizers Falling Under

(1) Inorganic fertilizers under '18-Fertilizers' in the First Schedule to IDR Act, 1951

13. Chemicals (Other Than Fertilizers)

(1) Heavy organic chemicals including petrochemicals
(2) Heavy inorganic chemicals
(3) Organic fine chemicals
(4) Synthetic resins and plastics
(5) Man-made fibres
(6) Synthetic rubber
(7) Industrial explosives
(8) Technical grade insecticides, fungicides, weedicides and the like,
(9) Synthetics detergents
(10) Miscellaneous chemicals (for industrial use only)
    (a) Catalysts and catalyst supports
    (b) Photographic chemicals
    (c) Rubber chemicals
    (d) Polyols
    (e) Isocyanates, urethanes, etc
    (f) Speciality chemicals for enhanced oil recovery
    (g) Heating fluids
    (h) Coal tar distillation and products therefrom

(i) Tonnage plants for the manufacture of industrial gases
(j) High altitude breathing oxygen/medical oxygen
(K) Nitrous oxide
(l) Refrigerant gases like liquid nitrogen, carbondioxide etc, in large volumes
(m) Argon and other rare gases
(n) Alkali/acid resisting cement compound
(o) Leather chemicals and auxiliaries

14. Drugs and Pharmaceuticals

According to Drug Policy

15. (1) Paper and pulp including paper products
(2) Industrial laminates

16. (1) Automobile tyres and tubes
(2) Rubberized heavy duty industrial beltings of all types

Annex 1.3.1 COAL PRODUCTION : 1988 - 89

(million tons)

	Production between April '88 Feb. '89		Projected Production for year as a whole (1988-89)	
	Target	Actual	Target	Actual
(A) Coal India Ltd.	150.95	151.72	170.08	170.08
(B) Singareni Collieries Company Ltd.	18.69	16.69	20.50	19.29
(C) Others (TISCO, IISCO and DVC)	4.57	4.12	5.70	4.50
Total	174.21	172.53	196.28	193.87

Source : Report 1988-89, Government of India, Ministry of Energy, Department of Coal

Annex 1.3.2 COAL PRODUCTION : 1985 - 90

(million tons)

Company	1985-86	1986-87	1987-88	1988-89 (anticipated)	1989-90 (Target)
A. Coal India Ltd.:					
ECL	24.03	25.62	27.99	30.10	31.90
BCCL	21.08	24.01	25.11	26.10	27.50
CCL	24.13	25.11	27.30	28.00	28.50
NCL	11.61	13.60	16.50	19.40	23.00
WCL	18.10	19.34	21.20	21.86	22.70
SECL	34.25	36.15	39.95	43.72	49.00
NEC	0.84	0.91	1.00	0.90	0.90
Total CIL:	134.11	144.74	159.05	170.08	183.50
B. SCCL	15.66	16.58	16.40	19.29	22.00
C. TISCO/ IISCO/DVC	4.43	4.45	4.30	4.50	4.50
Total (A + B + C)	154.20	165.77	179.75	193.87	210.00

Source : Report 1988-89, Government of India, Ministry of Energy Department of Coal

Annex 1.3.3 SIGNIFICANT STATISTICS ABOUT COAL AND LIGNITE

Production	Units	1986-87	1987-88	1988-89 (Apr.-Dec.)
PRODUCTION				
(a) Coking Coal				
(i) For Metallurgical purpose	million tons	27.90	26.34	17.72
(ii) For non-metallurgical purpose	million tons	11.63	14.74	6.67
(a) Total Coking Coal	million tons	39.53	41.08	24.39
(b) Non-Cokig Coal	million tons	126.24	138.67	108.47
(c) Total Coal Production	million tons	165.77	179.75	132.86
(d) Lignite-NLC	million tons	8.52	10.15	8.34
Gujrat	million tons	0.91	1.01	N.A.
Total Lignite	million tons	9.43	11.16	8.34
(e) Washed Coal	million tons	10.90	11.15	8.61
(f) Hard Coke (CIL)	Lakh tons	5.85	4.88	2.92
(g) Soft Coke (CIL)	million tons	1.53	1.42	1.00
(h) Leco (NLC)	Lakh tons	1.89	2.34	1.87
(i) Urea (NLC)	Lakh tons	1.28	1.26	1.05
(j) Power Generation MW (Gross) (NLC)	MW	5111	6465	5746
OUTPUT PER MANSHIFT				
(a) Coal India Ltd.	ton	0.99	1.08	1.05
(b) SCCL	ton	0.80	0.95	0.89
DESPATCHES				
(a) Coking Coal				
(i) Metallurgical	million tons	21.53	21.77	16.56
(ii) Non-metallurgical	million tons	14.41	16.84	10.90
Total Coking Coal	million tons	35.94	38.61	27.46
(b) Non-Coking Coal	million tons	122.76	131.89	106.04
EXPORT	million tons	0.16	0.17	0.11
PITHEAD STOCK				
(a) Metallurgical Coking	million tons	7.45	8.18	6.61
(b) Non-Metallurgical	million tons	3.56	4.22	
(c) Non-Coking	million tons	17.77	21.34	21.79
(d) Total Coal	million tons	28.78	33.74	28.40

Source : Report 1988-89, Government of India, Ministry of Energy, Department of Coal

Annex 1.3.4 COAL PRODUCTION : 1984 - 90

(OMS in tons)

Year	Coal India Ltd.	Singareni Collieries
1984-85	0.87	0.70
1985-86	0.92	0.81
1986-87	0.98	0.80
1987-88	1.08	0.95
1988-89 (Est.)	1.11	0.96
1989-90 (Target)	1.18	1.04

Source : Report 1988-89, Government of India,

Ministry of Energy, Department of Coal

Annex 1.3.5 YEARWISE POSITION OF CAPACITY UTILISATION IN COAL INDUSTRY

Company	1985-86			1986-87			1987-88			1988-89		
	Capa-city	Actual produc-tion	%	Capa-city	Actual produc-tion	%	Capa-city	Actual produc-tion	%	Capa-city	Anticipated produc-tion	%
ECL	29.39	22.20	76	29.71	25.62	85	31.01	27.96	90	32.60	30.10	92.33
BCCL	26.67	20.24	76	27.13	24.01	87	29.36	25.10	85	30.65	26.10	85.15
CCL	27.67	19.48	70	27.01	25.14	93	29.80	27.29	92	31.40	28.00	89.17
NCL	13.86	11.61	84	15.90	13.60	84	18.05	16.25	90	20.50	19.40	94.63
WCL	20.14	18.17	90	21.37	19.34	89	22.92	20.70	90	23.50	21.86	93.02
SECL	36.20	34.25	95	38.37	36.15	93	42.47	39.70	93	45.60	43.72	95.37
NEC	1.00	0.84	84	1.08	0.91	90	1.00	1.00	100	1.00	0.90	0.90
TOTAL CIL	154.93	126.79	81.83	160.57	144.77	90.18	174.61	158.00	90.48	185.25	170.08	91.81
SCCL	-	-	-	-	-	-	19.17	16.40	85.53	20.20	19.29	95.50

Source: Capacity assessments by CMPDIL

Annex 1.3.6 COAL DEMAND : 1989 - 90

Consuming sector	(Demand for 1989-90) million tons
COKING COAL	
1. Steel & Coke ovens	32
2. Steel (DR)	1
NON-COKING COAL	
3. Power (Utility)	118
	(3)
4. Railway	6.5
5. Cement	11.5
6. Fertlizer	5.5
7. LTC/S. Coke	3.5
8. Export	0.3
9. Other industries	
(a) Captive Power	12.7
	(1)
(b) Brick & Others	27
	(0.70)
10. Colliery consumption	4
Total	222
	(4.7)

(Figures in brackets indicate washery middlings)

Source : Report 1988-89, Government of India,
Ministry of Energy, Department of Coal

Annex 1.3.7 STATEMENT NO. 10.1
EXPORT AND IMPORTS OF COAL, COKE & LIGNITE
(QUANTITY IN TONS AND VALUE IN Rs THOUSAND)

Country	Exports					
	1983-84		1984-85		1985-86*	
	Quantity	Value	Quantity	Value	Quantity	Value
1	2	3	4	5	6	7
Australia	—	—	—	—	—	—
Bangladesh	27,253	12,971	51,628	29,642	91,658	59,968
Canada	—	—	—	—	—	—
Finland	—	—	—	—	—	—
France	—	—	—	—	—	—
G.F.R.	—	—	1	1	—	—
Italy	—	—	—	—	—	—
Japan	—	—	10	29	—	—
Korea Rep.	—	—	—	—	35,393	15,982
Netherland	—	—	—	—	—	—
Nepal	27,775	6,926	48,548	17,303	68,956	25,213
Norway	—	—	—	—	—	—
Poland	—	—	—	—	—	—
U.S.A.	—	—	—	—	—	—
U.K.	—	—	—	—	—	—
Total	55,028	19,897	100,187	46,975	196,007	101,163

Source : Directorate-General of Commercial Intelligence & Statistics, 1, Council House Street, Calcutta-1.

STATEMENT NO. 10.1-contd.

Country	Imports					
	1983-84		1984-85		1985-86	
	Quantity	Value	Quantity	Value	Quantity	Value
1	8	9	10	11	12	13
Australia	180,470	133,728	691,477	474,246	2,336,319	2,126,148
Bangladesh	—	—	—	—	—	—
Canada	—	—	—	—	38,003	29,368
Finland	—	—	—	—	33,935	31,851
France	503	1,927	—	—	—	—
G.F.R.	100	410	1	3	86	428
Italy	16	46	—	—	—	—
Japan	10,476	11,313	819	3,833	12,284	19,892
Korea Rep.	—	—	—	—	—	—
Netherland	—	—	—	—	6	51
Nepal	169	62	24	8	11	54
Norway	—	—	—	—	301	1,479
Poland	16	46	—	—	28,895	27,121
U.S.A.	31	267	3	7	3	197
U.K.	—	—	16,526	14,663	10	56
Total	191,781	147,799	708,850	492,760	2,449,853	2,236,645

*Provisional

Source : Statistics of Mines in india, vol. 1 (Coal) 1987

Annex 1.3.8 WORLD COAL PRODUCTION
1984 TO 1988

thousand tons

Country	1984	1985	1986	1987	1988
Argentina	516	396	370	372	
Australia (1)	124,548	138,960	149,746	147,768	
Belgium	6,300	6,216	5,556	4,428	2,484
Botswana	396	432	437	576	
Brazil	7,524	7,716		6,888	
Bulgaria	228	228	204	192	192
Canada (2)	32,064	34,200	30,171	32,652	38,580
Chile	1,236	1,236	1,347	1,296	2,112
China (3)	736,200	813,000	835,100	898,920	946,464
Czechoslovakia	26,424	26,220	25,236	25,740	25,908
France	18,276	15,120	14,455	13,488	12,144
German (4)	84,864	88,848	87,132	82,380	79,356
Hungary (5)	2,568	2,640	2,328	2,364	2,256
Federal Republic					
India*	143,900	149,700	162,600	176,976	188,000
Indonesia	1,080	1,500	1,457	1,884	
Ireland	72	60	53	48	48
Japan (6)	16,644	16,380	16,135	13,056	11,220
Republic of Korea	20,640	23,292	24,965	23,040	22,668
Morocco	840	870	807	696	
Mozambique	396				
NewZealand	2,292	2,184	2,202	2,100	
Nigeria	48			144	
Norway (7)	468	564	576	456	276
Pakistan (3,8)	2,064	2,184	2,260	2,136	2,724
Phillippines	1,200	1,224	1,193	1,104	1,332
Poland	191,592	191,640	192,084	193,008	193,020
Portugal	182	240	234	264	228
Romania (5)	8,460	8,652		8,796	
South Africa	140,004	170,910	177,598	174,876	
Spain (5)	15,624	16,152	15,880	14,412	14,316
Turkey (1)	7,104	7,260	7,476	3,456	3,720
USSR (3)	482,292	494,400	511,200	594,996	599,004
United Kingdom (5)	51,180	91,884	107,892	104,436	103,788
United States	750,264	741,312	713,976	761,100	
Venezuela	48	36	68	60	
Yugoslavia	384	396	384	384	360
Zambia	468	516	564	468	
Zimbabwe	3,132	3,120	3,701	4,848	5,064
Total**	2,881,532	3,059,688	3,095,387	3,299,808	2,255,264

Note: Production relates to all grades of anthracite and bituminous coal but excludes recoverd slurries, lignite and brown coal, except where otherwise stated.
Annual figures are compiled on the basis of latest monthly averages available.
*Actuals
**Total represents the summation of the figures shown in the columns of the table.
(1)Gross Production
(2)Bituminous Coal
(3)Including Lignite and Wsate
(4)Low grade Coal at its hard-coal equivalent
(5)Including Slurries
(6)Including Brown Coal
(7)Svalbard Norwegian operated mines only
(8)Average of twelve months ending 30 June

Source: Statistics for Iron & Steel, Industry in India 1990

Annex 1.3.9 PRICE OF COAL WITH EFFECT FROM 00.00 HRS. OF 01.01.1989

GRADE	BASIC PRICE			ROYA-LTY	CESS 40% OF BASIC PRICE			SED	TOTAL			WITH 4% SALES TAX			WITH 8% SALES TAX		
	STEAM	SLACK	ROM		STEAM	SLACK	ROM		STEAM	SLACK	ROM	STEAM	SLACK	ROM	STEAM	SLACK	ROM
									NON-COKING (LONG FLAME)								
A	434.00	427.00	424.00	6.50	173.60	170.80	169.60	3.50	617.60	607.80	603.60	642.30	632.11	627.74	667.01	656.42	651.89
B	399.00	392.00	389.00	6.50	159.60	156.90	155.60	3.50	568.60	558.80	504.66	591.34	581.15	576.78	614.09	603.50	598.82
C	353.00	346.00	343.00	5.50	141.20	138.40	137.20	3.50	503.20	493.40	439.20	523.33	513.14	508.77	543.46	532.87	528.34
D	287.00	290.00	277.00	4.30	114.80	112.00	110.80	3.50	409.60	399.80	395.60	425.98	415.79	411.42	442.37	431.78	427.25
									NON-COKING								
A	409.00	402.00	399.00	6.50	163.60	160.80	159.60	3.50	582.60	572.80	568.60	605.90	595.71	591.34	629.21	618.62	614.09
B	374.00	367.00	364.00	6.50	149.60	146.80	145.60	3.50	533.60	523.80	519.60	554.95	554.75	540.38	576.29	564.84	561.17
C	328.00	321.00	319.00	5.50	131.20	128.40	127.20	3.50	468.20	458.40	454.20	486.92	476.74	472.37	505.66	495.07	490.54
D	262.00	255.00	252.00	4.30	104.80	102.00	100.80	3.50	374.60	364.80	360.60	389.68	379.39	375.02	404.57	393.98	389.45
E	210.00	203.00	200.00	4.30	84.00	81.20	80.00	3.50	301.80	292.00	287.80	313.87	303.68	299.31	325.94	315.36	310.82
F	170.00	163.00	160.00	2.50	68.00	65.20	64.00	3.50	244.00	234.20	230.00	253.76	243.57	239.20	263.52	252.94	248.40
G	124.00	117.00	114.00	2.50	49.60	46.80	45.60	3.50	179.60	169.80	165.60	186.78	176.59	172.22	193.97	183.38	178.85
									COKING								
St.I	661.00	654.00	651.00	7.00	264.40	261.60	260.40	4.25	936.65	926.85	922.65	974.11	963.92	959.56	1011.58	1001.00	996.46
St.II	553.00	546.00	543.00	7.00	221.20	218.40	217.20	4.25	785.45	775.65	771.45	816.87	806.68	802.31	848.29	837.70	833.17
W-I	480.00	473.00	470.00	7.00	192.00	189.20	188.00	4.25	683.25	673.45	669.25	710.58	700.39	696.02	737.91	727.33	722.79
W-II	400.00	393.00	390.00	6.50	160.00	157.20	156.00	4.25	570.75	560.95	556.75	593.58	583.39	579.02	616.41	605.83	601.29
W-III	310.00	303.00	300.00	6.50	124.00	121.20	120.00	4.25	444.75	434.95	430.75	462.54	452.35	447.98	480.33	469.75	465.21
W-IV	290.00	283.00	280.00	6.50	116.00	113.20	112.00	4.25	416.75	406.95	402.75	433.42	423.23	418.86	450.09	439.01	434.97

Source : Mecon

Annex 1.3.10 RESERVES OF NON-COKING COAL-ALL INDIA (1/2)

Name of the Coalfield	State	million tons Reserves
Gondwana Coalfields		
Raniganj	West Bengal	25,428.15 *
Barjora	West Bengal	70.00
Darjeeling	West Bengal	15.00
Jharia	Bihar	11,318.60
East Bokaro	Bihar	102.64
North Karanpura	Bihar	8,460.90
South Karanpura	Bihar	5,610.34
Auranga	Bihar	1,782.60
Hutar	Bihar	187.47
Daltonganj	Bihar	150.73
Deogarh	Bihar	399.84
Rajmahal	Bihar	8,061.16
Pench-Kanhan	Madhya Pradesh	650.89
Tawa Valley	Madhya Pradesh	47.39
Pathakhera	Madhya Pradesh	375.17
Sonhat	Madhya Pradesh	154.51
Umaria	Madhya Pradesh	40.33
Korar	Madhya Pradesh	9.68
Sendurgarh	Madhya Pradesh	246.73
Hasdo-Araund	Madhya Pradesh	3,025.38
Mand Raigarh	Madhya Pradesh	2,224.38
Jobilla	Madhya Pradesh	206.95
Bisrampur	Madhya Pradesh	1,669.74
Jhilimili	Madhya Pradesh	250.77
Chirimi	Madhya Pradesh	312.11
Korba	Madhya Pradesh	3,775.32
Sohagpur including Jharkhand	Madhya Pradesh	834.93
Lakhanpur	Madhya Pradesh	250.98
Mahpani	Madhya Pradesh	—
Singrauli	Madhya Pradesh	10,171.37
Talcher	Orissa	19,023.72
Ib River	Orissa	12,294.73
Chanda-Wardha	Maharashtra	2,207.78
Urnrer	Maharashtra	88.30
Kamtee	Maharashtra	797.21
Bander	Maharashtra	90.06
Godavari Valley	Andhra Pradesh	9,000.40
Total Non-Coking Coal of Gondwana Coalfields		129,336.48

* Excludes 240.83 million tons of additional reserves (Not categorised).

Annex 1.3.10 RESERVES OF NON-COKING COAL-ALL INDIA (2/2)

Name of the Coalfield	State	million tons Reserves
Tertiary Coalfields		
Namchik-Namphuk	Arunachal Pradesh	91.00
Makum	Assam	235.66
Dilli-Jaypore	Assam	41.37
Mikir Hills	Assam	3.00
West Darangiri	Meghalaya	127.00
Balpakkram-Pendengru	Meghalaya	132.72
Sijua with its eastern extension-Khasi Jaintia Hills	Meghalaya	134.00
Langrin	Meghalaya	50.00
Mawlong Shella	Meghalaya	1.50
Minor Coalfields of Khasi Hills	Meghalaya	13.72
Borjan	Nagaland	10.00
Minor Coalfields of Nagaland	Nagaland	2.05
Total Non-Coking Coal of Tertiary Coalfields		842.02
Grand Total		130,178.50

Source : Statistics for Iron & Steel, Industry in India 1990

Annex 1.3.11 RESERVES OF COKING COAL*-ALL INDIA

million tons

Name of the Coalfield	State	Reserves		
		Prime	Medium	Total
East Bokaro	Bihar	—	4,905.93	4,905.93
Giridih**	Bihar	—	**	**
Jharia	Bihar	6,063.96	2,322.58	8,386.54
North Karanpura	Bihar	—	3,357.41	3,357.41 @
Ramgarh	Bihar	—	245.65	245.65
West Bokaro	Bihar	—	2,092.02	2,092.02
Pench-Kanhan Tawa Valley	Madhya Pradesh	—	369.33	369.33
Raniganj	West Bengal	—	288.31	288.31
Total Coking Coal of Gondwana Coalfields		6,063.96	13,581.23	19,645.19

** No reserves estimated as resources have practically exhausted.

@ High ash

RESERVES OF SEMI/WEAKLY-COKING COAL*-ALL INDIA

million tons

Name of the Coalfield	State	Reserves
Raniganj	Bihar and West Bengal	1,938.23
Ramgarh	Bihar	813.55
West Bokaro	Bihar	1,812.28
Sonhat (Churcha Block)	Madhya Pradesh	73.82
Total Semi/Weakly-Coking Coal of Gondwana Coalfields		4,637.88

* Position as on 1.6.1985

Source : Statistics for Iron & Steel, Industry in India 1990

Annex 1.3.12 PRODUCTION OF MAJOR COKING COAL WASHERIES 1984-85 TO 1988-89 (1/2)

thousand tons

Unit		Production	1984-85	1985-86	1986-87	1987-88	1988-89
Coal India Limited							
(a)Bharat Coking Coal Limited (B.C.C.L.)	Dugda-I	Raw Coalfeed	1,294.3	1,023.3	1,132.6	1,244.7	1,312.5
		Clean Coal	629.4	445.1	522.3	550.1	613.4
	Dugda-II	Raw Coalfeed	1,355.7	943.2	1,054.4	1,213.6	1,185.8
		Clean Coal	668.7	427.4	504.2	574.1	598.7
	Bhojudih	Raw Coalfeed	1,689.4	1,337.7	1,617.2	1,633.5	1,626.7
		Clean Coal	1,162.5	886.8	1,123.1	1,099.1	1,088.8
	Patherdih	Raw Coalfeed	1,391.1	1,127.1	1,040.9	1,065.6	1,123.5
		Clean Coal	854.9	622.0	631.0	597.5	688.2
	Sudamdih	Raw Coalfeed	933.4	733.0	926.9	1,076.2	1,088.6
		Clean Coal	466.3	347.0	470.0	565.1	569.2
	Moonidih	Raw Coalfeed	657.3	715.2	888.1	884.3	
		Clean Coal	411.6	455.6	620.4	566.9	669.2
	Lodna	Raw Coalfeed	241.2	271.9	281.1	241.9	261.3
		Clean Coal	154.9	171.5	77.2	151.6	163.0
	Barora	Raw Coalfeed	208.4	153.9	227.7	254.1	271.2
		Clean Coal	45.4	32.7	54.8	99.4	111.9
Sub-Total (B.C.C.L.)		Raw Coalfeed	7,770.8	6,305.3	7,168.9	7,703.0	7,925.8
		Clean Coal	4,393.7	3,388.1	4,103.0	4,203.8	4,502.4
(b)Cental Coalfields Limited (C.C.L.)	Kargali	Raw Coalfeed	2,485.5	2,533.9	2,383.1	2,254.4	2,130.1
		Clean Coal	1,639.8	1,650.4	1,345.6	1,268.5	1,233.7
	Kathera	Raw Coalfeed	2,085.8	2,088.6	1,817.5	1,827.4	1,301.4
		Clean Coal	1,222.9	1,245.0	987.0	806.0	585.0
	Swang	Raw Coalfeed	922.4	924.8	872.6	929.8	1,050.3
		Clean Coal	616.7	595.4	572.0	640.4	682.6
	Gidi	Raw Coalfeed	1,665.5	1,666.2	1,539.4	1,722.1	1,542.9
		Clean Coal	946.0	969.7	845.5	900.1	698.9
	Rajrappa	Raw Coalfeed	—	—	—	272.9	1,049.1
		Clean Coal	—	—	—	185.8	641.7
Sub-Total (C.C.L.)		Raw Coalfeed	7,159.2	7,213.5	6,612.6	7,006.6	7,073.8
		Clean Coal	4,425.4	4,460.5	3,750.1	3,800.7	3,841.8
(c)Western Coalfields Limited	Nandan	Raw Coalfeed					
		Clean Coal	180.5	142.1	165.9	235.2	318.0
Total Coal India Limited (a+b+c)		Clean Coal	8,999.6	7,990.7	8,019.0	8,239.7	8,662.2

Annex 1.3.12 PRODUCTION OF MAJOR COKING COAL WASHERIES 1984-85 TO 1988-89 (2/2)

thousand tons

Unit		Production	1984-85	1985-86	1986-87	1987-88	1988-89
Tata Iron and Steel Company Limited (TISCO)	West Bokaro	Raw Coalfeed	2,197.0	2,327.9	2,411.2	2,474.5	2,318.2
		Clean Coal	995.3	1,019.1	1,035.8	1,074.9	1,017.3
	Jamadoba	Raw Coalfeed	1,326.5	1,339.5	1,351.2	1,306.8	1,355.5
		Clean Coal	912.7	915.2	954.1	965.3	892.7
Total (TISCO)		Raw Coalfeed	3,523.5	3,667.4	3,762.4	3,781.3	3,673.7
		Clean Coal	1,908.0	1,934.3	1,989.9	2,040.2	1,964.0
Steel Authority of India Limited	Durgapur	Raw Coalfeed	565.3	617.0	703.7	858.0	835.2
		Clean Coal	431.7	464.8	532.0	643.3	592.2
	Chasnalla (IISCO)	Raw Coalfeed	854.0	762.7	636.1	676.0	1,054.0
		Clean Coal	621.5	448.3	326.7	299.5	467.9
Sub-Total (SAIL)		Raw Coalfeed	1,419.3	1,379.7	1,339.8	1,534.0	1,889.2
		Clean Coal	1,053.2	913.7	858.7	942.8	1,060.1
Total		Clean Coal	11,960.8	10,838.7	10,867.6	11,222.7	11,686.3

Source : Statistics for Iron & Steel, Industry in India 1990

Annex 1.3.13 COKING COAL WASHERIES

Name of the Washery	Name of the Owner	Year of Completion/ Commissioning	Raw Coal Feed*	Clean Coal Output*	Principal Washing System	Feed Size (mm)	Final Product Size (mm)
Dugda-I	BCCL	1961	2,400	1,440	H.M.Washer(Tromp) & Baum Jig	76-0	Cleans(76-0),Middlings (76.6) & Rejects(76.6)
Dugda-II	BCCL	1968	2,400	1,200	H.M.Cyclone & Hydrocyclone	13-0	Cleans(13-0)& Sinks(13-0)
Bhojudih	BCCL	1962 (Expansion 1964)	2,000	1,400	H.M.Washer(Leeber) Baum Jig & H.M. Cyclone	76-0	Cleans(76-0)& Sinks(13-0)
Patherdih	BCCL	1964	2,000	1,300	H.M.Washer(Barvoys), Baum Jig & H.M. Cyclone	76-0	Cleans(76-0),Middlings (76-0.5) & Rejects (76-0)
Durgapur	SAIL	1960	1,500	900	H.M.Washer (Drewboy)Feldspar Jig.	76-0	Cleans(76-0),Middlings (76-0.5) & Rejects (76-0.5)
Chasnalla	SAIL IISCO	1968	2,000	1,400	H.M.Washer(Leeaber) & H.M.Cyclone	76-0	Cleans(76-0),Middlings (76-0.6) & Rejects (76-0.6)
West Bokaro	TISCO	1951	630	400	H.M.Washer(Chance)	76-0	Cleans(76-0),Middlings (25-3) & Rejects(76-0)
Jamadoba	TISCO	1952	1,440	1,080	H.M.Washer(Chance) H.M.Cyclone	76-0	Cleans(76-0),Middlings (76-6) & Rejects(25-0)
Lodna	BCCL	1955	400	300	Feldspar Jig.(Acco.)	13-0	Cleans(13-0),Middlings (13-0) & Rejects(13-0)
Kargil	CCL	1958 (Expansion 1966)	2,720	1,900	H.M.Washer(Wemco), Baum Jig & H.M. Cyclone	76-0	Cleans(76-0),Middlings (76-1) & Rejects(76-1)
Kathara	CCL	1969	3,000	1,500	H.M.Washer (Drewboy)	76-0	Cleans(13-0),Middlings (13-0) & Rejects (76-13)
Gidi	CCL	1970	2,840	1,562	H.M.Washer(Disa) & Baum Jig	150-0	Cleans(76-0),Middlings (150-0.5) & Rejects (25-0)
Swang	CCL	1970	750	500	H.M.Cyclone & Hydro-cyclone	20-0	Cleans(20-0)& Sinks(20-0)
Durgapur	DPL	1967			H.M.Cyclone	13-0	Cleans(13-0)& Sinks(13-0)

* Capacity in thousand tons

Source : Statistics for Iron & Steel, Industry in India 1990

Annex 1.3.14 COKING COAL REQUIREMENT OR STEEL SECTOR (1/2)

(FIGS. IN M.T.)

A. HOT METAL PRODUCTION AND COKING COAL REQUIREMENT

	SAIL	VSP	TISCO	DCOP	FCI	TOTAL
Hot Metal Production	11.95	1.40	2.30			15.65
Total Coking Coal Requirement	15.37	1.87	2.60	0.10	0.15	20.09
Import	2.71	0.39	0.50			3.60
Indigenous Coal	12.66	1.48	2.10	0.10	0.15	16.49
a) Prime Coking	5.80	0.65	1.00	0.10	0.06	7.61
b) Medium Coking	6.01	0.83	1.10		0.09	8.03
c) Semi Coking	0.85					0.85

B. WASHERY-WISE CLEANCOAL PRODUCTION AND RAW COKING COAL REQUIREMENT

(i) Prime Coking

Sl.No.	Washery	Clean Coal Production	Raw Coal Requirement
1.	Dugda	1.23	2.56
2.	Bhojudih	1.14	1.85
3.	Patherdih	0.67	1.22
4.	Sudamdih	0.60	1.15
5.	Moonidih	0.70	1.17
6.	Lodna	0.25	0.48
7.	DCOP	0.10	0.16
8.	DSP	0.45	0.75
9.	Chasnalla	0.72	1.20
10.	Jamadoba	1.00	1.50
11.	Direct Feed (BCCL)	0.20	0.20
12.	Hard Coke Manufacture	0.00	1.76
		7.06	14.00

Source : Government of India, Ministry of Energy, Department of Coal, Annual Plan 1990-91

Annex 1.3.14 COKING COAL REQUIREMENT OR STEEL SECTOR (2/2)

ANNEXURE-II.B
(FIGS. IN M. T.)
(ii) Medium Coking

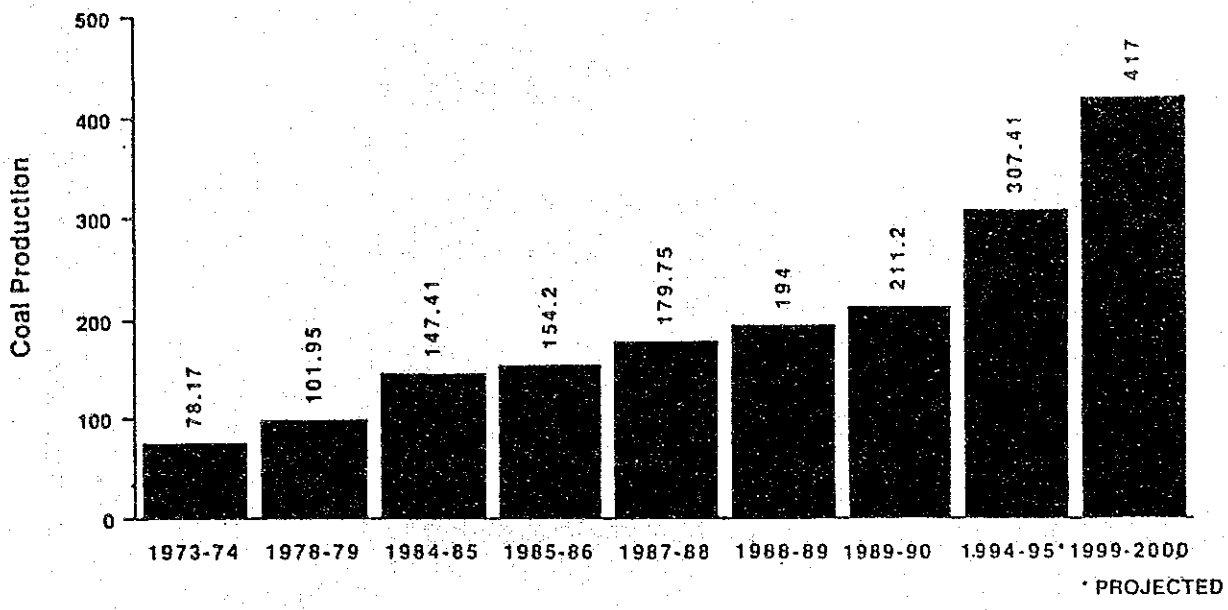
Sl.No. Washery	Clean Coal Production	Raw Coal Requirement
1. Kargali	0.84	1.64
2. Kathara	0.73	1.61
3. Sawang	0.50	0.81
4. Gidih	1.00	2.20
5. Rajarappa	1.03	1.86
6. Barora	0.11	0.30
7. Mohuda	0.33	0.52
8. DSP	0.27	0.45
9. Nandan	0.34	0.56
10. West Bokaro (TISIO)	1.10	2.50
11. Direct Feed (BCCL)	0.15	0.15
	6.40	12.60

(iii) Semi Coking
(Direct Feed Only)

NEC	0.30	0.30
ECL	0.30	0.30
	0.60	0.60
TOTAL	14.06	27.20

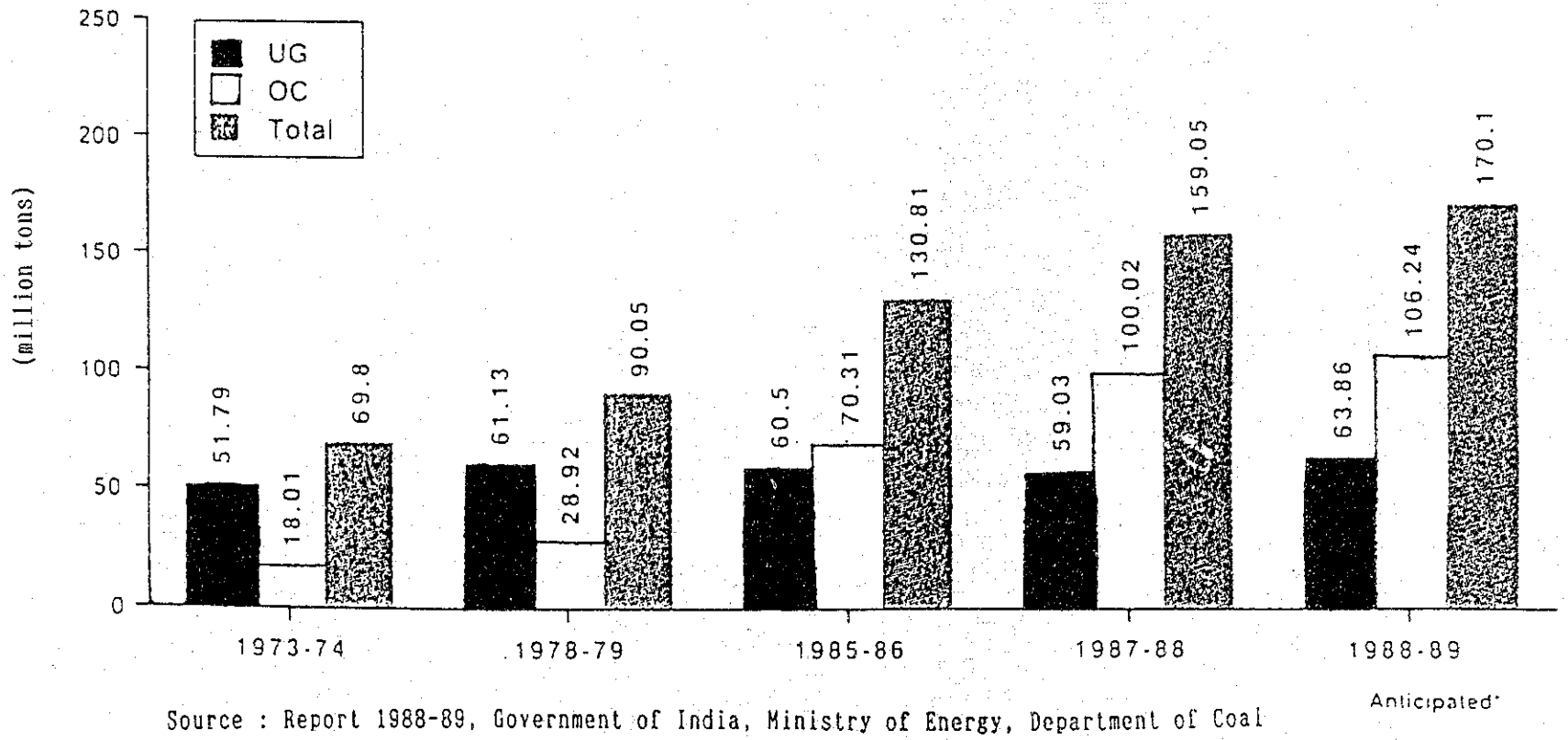
Deficit in Prime Coking :	-	0.55
Deficit in Medium Coking:	-	1.63
Deficit in Semi Coking :	-	0.25
Total Deficit :	-	2.43
Import Equivalent :		1.60
Total Import :		5.20

Quality	NEC	ECL	BCCL	CCL	WCL	CIL	OTHERS	TOTAL
PRIME COKING			11.90			11.90	2.10	14.00
MEDIUM COKING			1.42	8.12	0.56	10.10	2.50	12.60
SEMI-COKING	0.30	0.30				0.60	0.00	0.60
	0.30	0.30	13.32	8.12	0.56	22.60	4.60	27.20



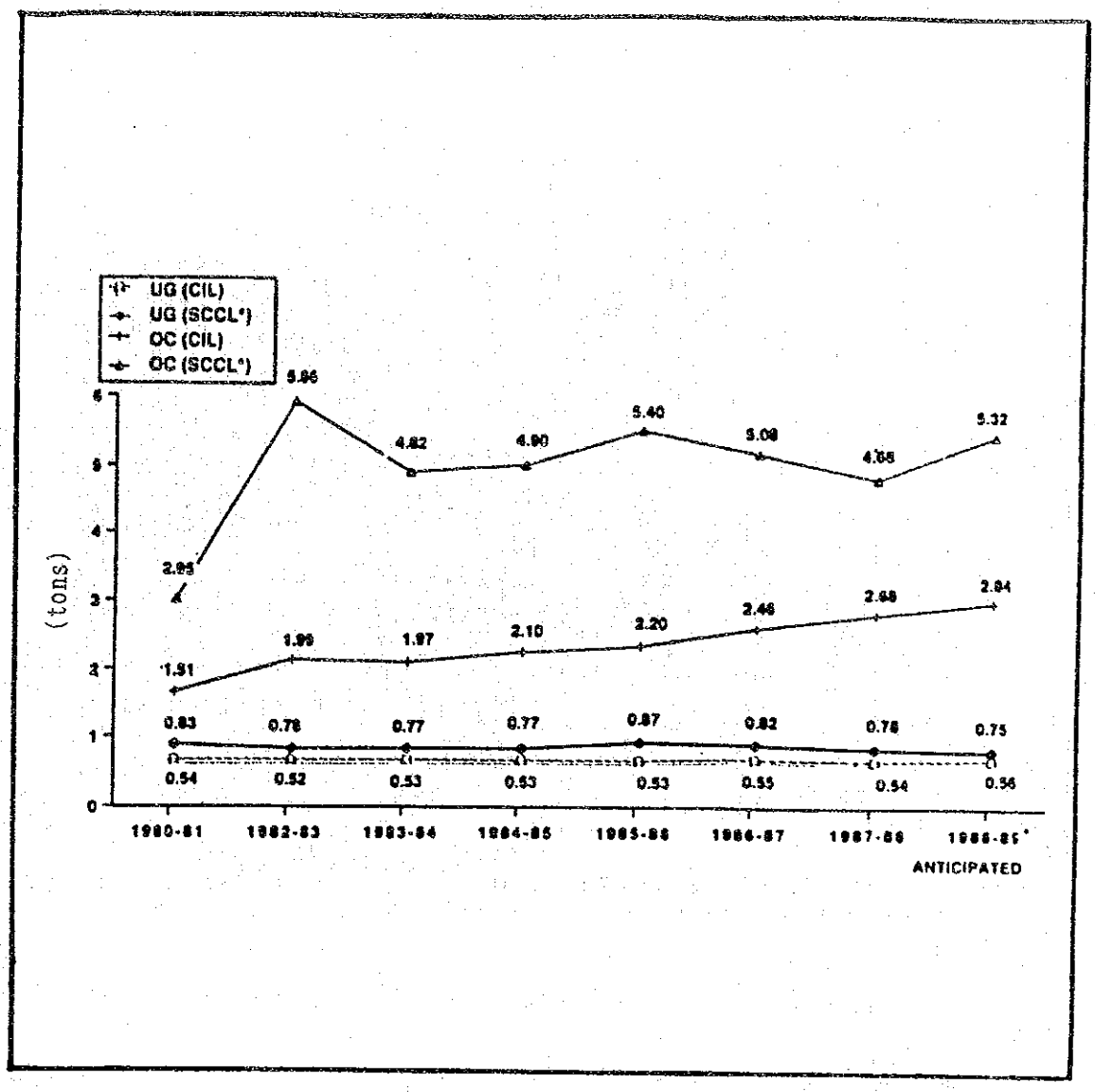
Source : Report 1988-89, Government of India, Ministry of Energy, Department of Coal

Annex 1.3.15 ALL INDIA COAL PRODUCTION (IN MILLION TON)



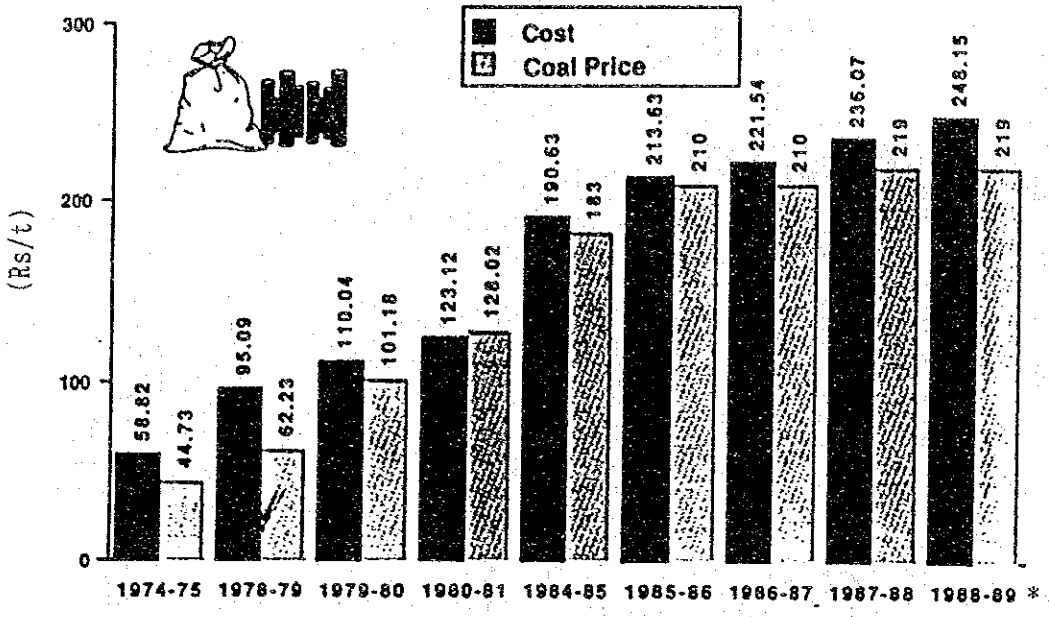
Source : Report 1988-89, Government of India, Ministry of Energy, Department of Coal

Annex 1.3.16 COAL PRODUCTION IN CIL FROM OPENCAST UNDERGROUND MINES



Source : Report 1988-89, Government of India, Ministry of Energy, Department of Coal

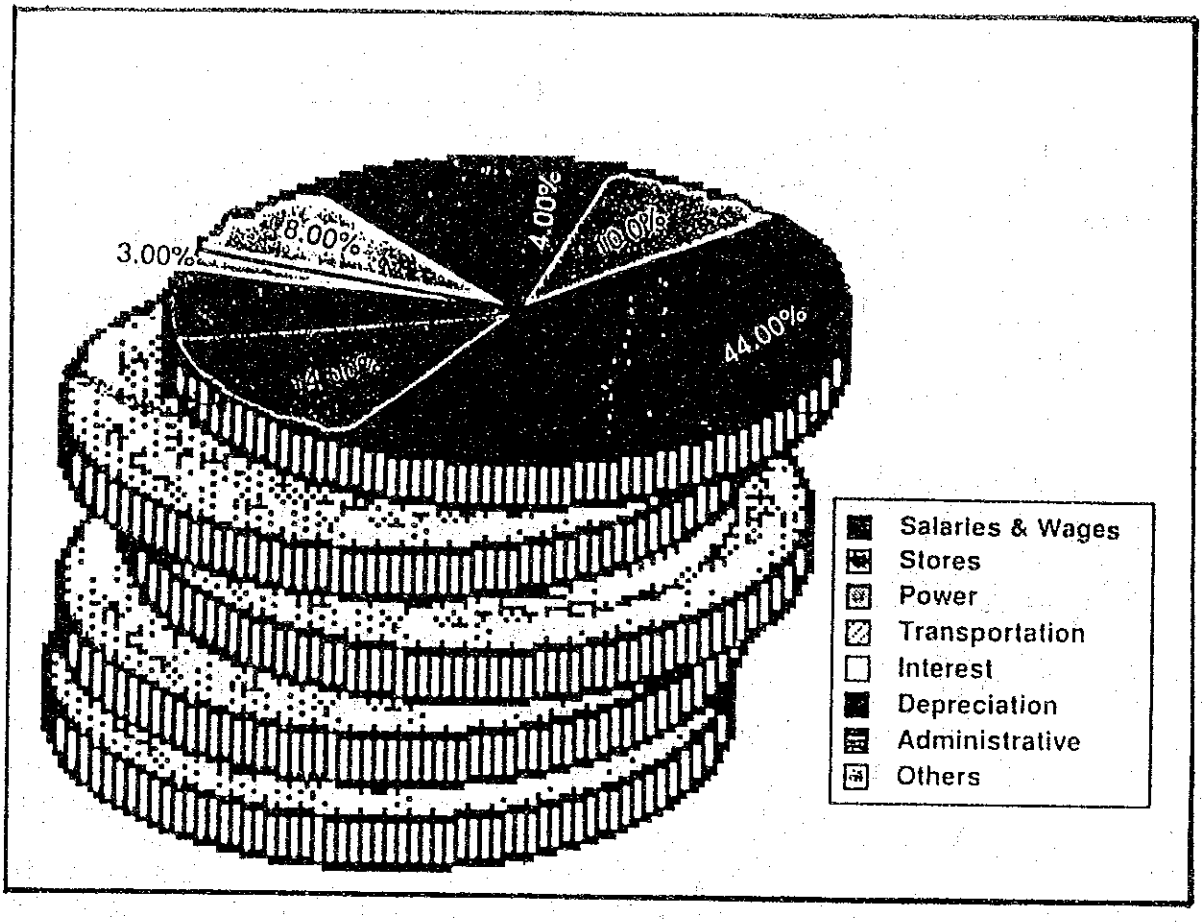
Annex 1.3.17 COAL PRICE AND COST OF PRODUCTION IN CIL



* Price has now been revised wef.1.1.89 to 249 Rs/t

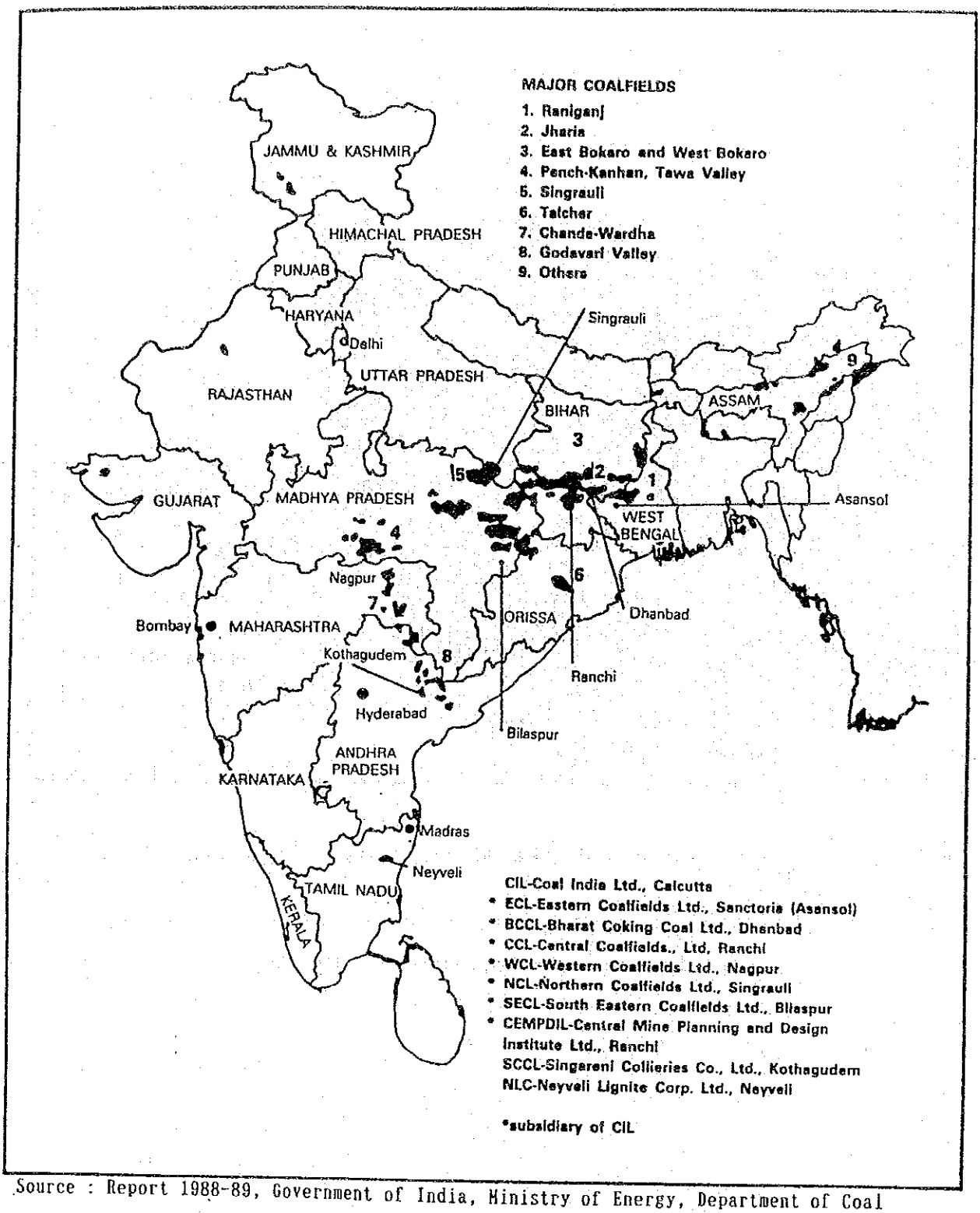
Source : Report 1988-89, Government of India, Ministry of Energy, Department of Coal

Annex 1.3.18 PRODUCTIVITY FROM UG AND OC MINES IN CIL/SCCL



Source : Report 1988-89, Government of India, Ministry of Energy, Department of Coal

Annex 1.3.19 UNIT COST PRODUCTION (PER TON)



Source : Report 1988-89, Government of India, Ministry of Energy, Department of Coal

Annex 1.3.20 THE MAJOR COALFIELDS OF INDIA

Annex 1.4.1 CATEGORYWISE AVAILABILITY
IRON AND STEEL (MILD)-ALL INDIA
1988-89

thousand tons

Category	Production			Imports	Exports	Domestic Availability of Saleable Iron & Steel	Estimated Output of Finished Steel by Re-rollers*	Domestic Availability of Finished Steel
	Main Producers	Mini Steel Plants	Total					
1	2	3	4=2+3	5	6	7=4+5-6	8	9
A Pig Iron	1,003.7	124.1	1,127.8	164.4	-	1,292.2	-	-
B Steel								
RE-rollable Materials	1,862.1	2,706.0	4,568.1	107.4	-	4,675.5	-	-
Finished Steel								
Bars and Rods	1,295.8	-	1,295.8	26.6	22.0	1,300.4	3,721.0	5,021.4
Structurals	780.7	-	780.7	23.5	-	804.2	800.0	1,604.2
Plates	1,327.1	-	1,327.1	117.2	96.7	1,347.6	32.0	1,379.6
Hot Rolled Coils/Skelp	1,449.5	-	1,449.5	330.1	-	1,779.6	85.0	1,864.6
Hot Rolled Sheets	399.2	-	399.2	49.9	-	449.1	-	449.1
Cold Rolled Sheets/Coils	631.0	-	631.0	455.2	-	1,086.2	486.0	1,572.2
Galvanised Plain/ Corrugated Sheets	202.3	-	202.3	5.6	-	207.9	208.0	415.9
Electrical Steel Sheets	83.0	-	83.0	68.1	-	151.1	-	151.1
Tin Plates	76.4	-	76.4	186.1	-	262.5	78.0	340.5
Pipes (Large Diameter)	85.6	-	85.6	-	-	85.6	-	85.6
Railway Materials	571.4	-	571.4	173.8	-	745.2	32.0	777.2
Total (B)	8,764.1	2,706.0	11,470.1	1,543.5	118.7	12,894.9	5,442.0	13,661.4

* Including Scrap Re-rollers.

Explanatory Note:

1. This table refers to Saleable Mild Steel only.
2. Production excludes the quantity transferred to Sister Plants for further processing.
3. Imports are the actual Import arrivals of Iron and Steel materials at major Indian Ports less the quantity for further processing by different main producers. The quantity is 84.9 thousand tons of Tin Mill Black Plate Coils transferred to Rourkela Steel Plant.
4. 78.3 thousand tons of Tin Mill Black Plate Coils (after deducting 84.9 thousand tons transferred to Rourkela Steel Plant) supplied to secondary producers have been included in Re-rollable materials.

Source : Statistics for Iron & Steel, Industry in India 1990

Annex 1.4.2 PRODUCTION SUMMARY
HOT METAL, INGOT STEEL AND FINISHED STEEL-ALL INDIA
1948 TO 1988-89

thousand tons

Year	Hot Metal	Ingot Steel*	Finished Steel@	Year	Hot Metal	Ingot Steel*	Finished Steel@
1948	1,488	1,254	866	1968-69	7,306	6,564	4,801
1949	1,637	1,351	938	1969-70	7,416	6,536	4,986
1950	1,687	1,437	1,019	1970-71	7,030	6,302	4,793
1951	1,829	1,503	1,091	1971-72	6,800	6,410	4,790
1952	1,843	1,576	1,118	1972-73	7,527	6,954	5,430
1953	1,798	1,505	1,040	1973-74	7,912	6,633	4,889
1954	1,951	1,682	1,264	1974-75	7,815	7,142	5,161
1955	1,913	1,673	1,280	1975-76	8,559	8,251	5,746
1956	1,960	1,723	1,359	1976-77	10,071	9,656	6,802
1957	1,932	1,693	1,438	1977-78	9,537	9,765	6,970
1958	2,109	1,795	1,439	1978-79	9,523	10,067	7,653
1959	3,130	2,420	1,795	1979-80	8,649	9,807	7,642
1960-61	4,405	3,418	2,337	1980-81	8,554	9,385	7,903
1961-62	5,156	4,285	2,939	1981-82	9,691	10,764	9,384
1962-63	6,229	5,395	3,864	1982-83	9,630	10,023	9,128
1963-64	6,589	5,945	4,347	1983-84	9,236	10,433	8,497
1964-65	6,728	6,138	4,508	1984-85	9,365	10,648	8,782
1965-66	7,208	6,526	4,604	1985-86	10,159	12,031	10,025
1966-67	7,090	6,610	4,551	1986-87	10,535	12,029	10,541
1967-68	6,958	6,347	4,078	1987-88	10,968	12,951	11,882
				1988-89	11,997	13,938	13,297

* Inclusive of production from Electric Furnaces.

@ Finished Steel from Main Producers, Secondary Producers and Tool & Alloy Steels other than TISCO, ASP, SSP & VISL.

Source : Statistics for Iron & Steel, Industry in India 1990

Annex 1.4.3 PRODUCER WISE PRODUCTION OF HOT METAL

(thousand tons)

Year	Bhilai	Bokaro	Durgapur	Rourkela	IISCO	Total SAIL	TISCO	Total Main Produ-cers	Secon-dary Produ-cers	Total
1976-77	2,796.3	1,738.0	1,220.2	1,461.6	939.1	8,155.2	1,754.0	9,909.2	162.0	10,071.2
77-78	2,696.4	1,547.3	1,135.0	1,324.8	908.2	7,611.7	1,762.0	9,373.7	163.2	9,536.9
78-79	2,520.2	1,900.2	1,052.3	1,324.1	857.7	7,654.5	1,671.8	9,326.3	196.6	9,522.9
79-80	2,338.5	1,694.0	985.0	1,250.8	689.8	6,958.1	1,516.3	8,474.4	175.0	8,649.4
80-81	2,214.1	1,677.9	820.5	1,227.3	788.1	6,727.9	1,648.1	8,376.0	178.0	8,554.0
81-82	2,376.8	2,192.3	1,022.7	1,335.8	800.0	7,727.6	1,773.9	9,501.5	190.0	9,691.5
82-83	2,330.3	2,193.8	1,056.2	1,202.7	912.1	7,695.1	1,792.8	9,487.9	141.9	9,629.8
83-84	2,124.1	2,275.1	977.4	1,150.0	843.6	7,370.2	1,745.7	9,115.9	119.9	9,235.8
84-85	2,338.7	2,400.2	883.9	1,139.3	676.8	7,438.9	1,804.8	9,243.7	121.2	9,364.9
85-86	2,604.0	2,523.6	1,064.5	1,229.2	861.6	8,282.9	1,752.7	160,035.6	123.1	10,158.7
86-87	2,510.0	2,812.5	1,125.1	1,223.0	824.5	8,495.1	1,940.4	160,435.5	99.6	10,535.1
87-88	2,556.1	3,122.9	1,138.4	1,212.0	818.4	8,847.8	2,018.2	10,866.0	102.2	10,968.2
88-89	3,306.2	3,220.8	1,096.0	1,252.0	768.1	9,643.1	2,238.9	11,882.0	115.4	11,997.4
89-90	3,486.0	3,200.0	997.0	1,261.0	677.0	9,621.0	2,269.0	11,935.0	NA	11,935.0
90-91	3,549.0	3,257.0	972.0	1,326.0	711.0	9,815.0	2,314.0	e 12,175.0	NA	12,175.0

NA- Not Available
e - estimate

Annex 1.4.4 PROJECTED PRODUCTION OF HOT METAL (INTEGRATED STEEL PLANTS)

(million tons)

Year	BSP	BSE	RSP	DSP	IISCO	Total SAIL	VSP	TISCO	Main Producers Total
1990-91	4.08	4.58	1.41	1.20	0.67	11.9	1.4	2.3	15.6
91-92	4.08	4.58	1.59	1.20	0.67	12.1	2.55	2.55	17.2
92-93	4.08	4.58	1.65	1.54	0.67	12.5	3.4	2.6	18.5
93-94	4.25	4.65	1.72	1.88	0.95	13.5	3.4	2.6	19.5
94-95	4.41	4.72	1.84	1.88	0.95	13.8	3.4	2.6	19.8
1999-2000	5.12	5.25	3.18	2.40	2.20	18.2	5.7	2.6	26.4

Source: Working Group on Iron & Steel for Ministry of Steel & Mines Report, Oct, 1989.

HOT METAL CAPACITY OF PLANTS BY 1994-95

(million tons)

Plants	Capacity
Bokars	4.73
Rourkela	1.84
Durgapur	1.89
IISCO	0.95
Bhilai	4.41
ALL SAIL PLANTS	13.82
TISCO	2.60
VSP	3.40
Grand Total (Integrated steel plants)	19.82

Source: W.G. 1989 Oct.

Annex 1.4.5 CAPACITY UTILISATION PATTERN IN SAIL PLANTS

(Unit : thousand tons)

(A) HOT METAL

PLANT	DPR CAPACITY	76-77	77-78	78-79	79-80	80-81	81-82	82-83	83-84	84-85	85-86	86-87
BHILAI	2,970 4,080	2,793 (94.0)	2,696 (90.77)	2,502 (84.2)	2,338 (78.0)	2,214 (74.55)	2,376 (80.0)	2,330.3 (78.46)	2,124.1 (71.51)	2,338.7 (78.72)	2,604 (87.67)	2,510 (80)
BOKARO	2,735 4,585	1,738	1,547	1,900	1,694	1,677	2,192 (80.75)	2,193 (80.2)	2,275 (83.2)	2,400 (65.4)	2,524 (65.0)	2,813 (61.3)
DURGAPUR	1,700	1,220 (71.76)	1,135 (66.8)	1,052 (61.9)	984.9 (57.9)	820.5 (48.2)	1,022.7 (60.12)	1,056.2 (62.1)	977.4 (57.5)	883.9 (52.0)	1,064 (62.5)	1,125 (66)
ROURKELA	1,600	1,461.6 (91.35)	1,324.8 (82.8)	1,324.1 (82.7)	1,250.8 (78.12)	1,227.2 (76.7)	1,335.8 (83.5)	1,202.7 (75.2)	1,150.0 (71.78)	1,139.3 (71.2)	1,230 (77.0)	1,223 (76)
BURNPUR	1,300	939.1 (72.23)	908.3 (69.8)	857.7 (65.97)	689.8 (53.06)	788.1 (60.62)	800.0 (61.53)	912.1 (70.16)	843.6 (64.89)	676.8 (52.06)	862 (66.0)	825 (63)
SAIL	10,305 13,265	8,155 (79.13)	7,611.8 (73.86)	7,654.5 (74.27)	6,958.1 (67.52)	6,727.8 (65.28)	7,727.6 (75.0)	7,695.9 (74.68)	7,370.2 (71.52)	7,438 (66.20)	8,284 (72.24)	8,495 (69)

(FIGURES IN THE BRACKET INDICATES % UTILISATION OF CAPACITY)

— BSP Capacity utilisation with respect to 2,970 upto 85-86 and 3,150 in 89-87. Capacity 4,080 after commissioning of Blast Furnace 7 (Expected 87-88).

— BSL Capacity utilisation upto 83-84 with respect to 2,735. In 84-85 with respect to 3,668 and 85-86 with respect to 3,877. 86-87 with respect to 4,585. This is because of progressive commissioning of blast furnaces.

— SAIL Capacity utilisation upto 83-84 with respect to 10,305, in 84-85 with respect to 11,238 and 85-86 with respect to 11,447 and 86-87 with respect to 12,335.

Source : Corporate Plan upto 2000 AD

Annex 1.4.6 PRODUCTION SUMMARY
HOT METAL, CRUDE STEEL & SALEABLE STEEL
SINCE INCEPTION TATA IRON & STEEL COMPANY LIMITED

thousand tons

Year	Hot Metal	Crude Steel	Saleable Steel	Year	Hot Metal	Crude Steel	Saleable Steel
1911-12	37	3	1	1950-51	1,130	1,078	796
1912-13	130	31	19	1951-52	1,147	1,074	812
1913-14	157	79	50	1952-53	1,171	1,078	803
1914-15	164	98	68	1953-54	1,168	1,084	793
1915-16	160	125	92	1954-55	1,146	1,857	796
1916-17	149	141	101	1955-56	1,168	1,076	812
1917-18	191	184	126	1956-57	1,169	1,088	812
1918-19	161	141	104	1957-58	1,109	1,122	799
1919-20	223	173	124	1958-59	1,149	1,166	899
1920-21	258	174	124	1959-60	1,591	1,555	1,237
1921-22	274	185	128	1960-61	1,586	1,625	1,263
1922-23	246	159	117	1961-62	1,645	1,646	1,318
1923-24	450	239	166	1962-63	1,764	1,801	1,413
1924-25	562	376	252	1963-64	1,809	1,894	1,507
1925-26	582	479	325	1964-65	1,885	1,958	1,568
1926-27	623	539	380	1965-66	1,917	1,981	1,568
1927-28	654	610	436	1966-67	1,926	2,003	1,568
1928-29	505	402	293	1967-68	1,798	1,934	1,534
1929-30	753	590	432	1968-69	1,717	1,818	1,465
1930-31	725	635	450	1969-70	1,626	1,710	1,440
1931-32	818	612	463	1970-71	1,665	1,718	1,375
1932-33	683	600	438	1971-72	1,631	1,710	1,387
1933-34	856	733	544	1972-73	1,682	1,690	1,458
1934-35	906	847	620	1973-74	1,436	1,514	1,200
1935-36	914	894	672	1974-75	1,669	1,722	1,461
1936-37	840	865	691	1975-76	1,652	1,788	1,486
1937-38	936	913	685	1976-77	1,755	1,909	1,550
1938-39	1,036	962	726	1977-78	1,762	1,969	1,601
1939-40	1,158	1,034	789	1978-79	1,672	1,868	1,516
1940-41	1,199	1,101	847	1979-80	1,516	1,782	1,448
1941-42	1,257	1,099	852	1980-81	1,648	1,875	1,537
1942-43	1,124	1,017	740	1981-82	1,774	1,963	1,606
1943-44	1,166	1,109	844	1982-83	1,793	1,957	1,621
1944-45	874	969	759	1983-84	1,746	1,973	1,626
1945-46	1,022	1,030	758	1984-85	1,805	2,050	1,714
1946-47	1,092	1,045	765	1985-86	1,753	2,095	1,772
1947-78	971	915	675	1986-87	1,940	2,250	1,907
1948-49	932	918	682	1987-88	2,018	2,276	1,914
1949-50	1,047	1,021	739	1988-89	2,239	2,314	1,944

No Pig Iron is available for sale from TISCO.
Crude Steel includes Continuous Cast billets L.D. and O.H. Steel for casting.

Source : Statistics for Iron & Steel, Industry in India 1990

Annex 1.4.7 PRODUCTION SUMMARY
HOT METAL, SALEABLE PIG IRON, INGOT STEEL & SALEABLE STEEL
PRODUCTWISE & PLANTWISE SUMMARY SINCE INCEPTION
STEEL AUTHORITY OF INDIA LIIMITED INTEGRATED STEEL PLANTS

thousand tons

Year	Hot Metal						
	Bhilai	Bokaro	Durgapur	Rourkela	Sub-Total	IISCO	Total
1958-59	37		-	21	58		58
1959-60	448		70	255	773		773
1960-61	736		420	412	1,568		1,568
1961-62	1,014		764	457	2,235		2,235
1962-63	1,182		1,108	773	3,063		3,063
1963-64	1,296		1,302	829	3,427		3,427
1964-65	1,257		1,313	986	3,556		3,556
1965-66	1,632		1,280	1,054	3,966		3,966
1966-67	2,052		897	934	3,883		3,883
1967-68	2,080		959	936	3,975		3,975
1968-69	1,935		1,148	1,243	4,326		4,326
1969-70	2,140		1,166	1,187	4,493		4,493
1970-71	2,152		971	1,146	4,269		4,269
1971-72	2,126		960	970	4,056		4,056
1972-73	2,328	333	986	1,241	4,889	699	5,588
1973-74	2,103	740	838	1,159	4,840	673	5,513
1974-75	2,245	782	922	1,203	5,152	762	5,914
1975-76	2,412	973	1,028	1,382	5,795	917	6,712
1976-77	2,796	1,738	1,220	1,462	7,216	939	8,155
1977-78	2,696	1,547	1,135	1,325	6,703	908	7,611
1978-79	2,520	1,900	1,052	1,324	6,796	858	7,654
1979-80	2,339	1,694	985	1,251	6,269	690	6,959
1980-81	2,214	1,678	821	1,227	5,940	788	6,728
1981-82	2,377	2,192	1,023	1,336	6,928	800	7,728
1982-83	2,330	2,194	1,056	1,203	6,783	912	7,695
1983-84	2,124	2,275	978	1,150	6,527	844	7,371
1984-85	2,339	2,400	884	1,139	6,762	677	7,439
1985-86	2,604	2,524	1,064	1,229	7,421	862	8,283
1986-87	2,510	2,813	1,125	1,223	7,671	824	8,495
1987-88	2,556	3,123	1,138	1,212	8,029	818	8,848 *
1988-89	3,306	3,221	1,096	1,252	8,875	768	9,643

* IISCO was taken over by the Government during 1972-73. The production date of IISCO from that year is included in this Adjusted.

Source : Statistics for Iron & Steel, Industry in India 1990

Annex 1.4.8 LARGEST STEEL PRODUCING COMPANIES OF THE WORLD AND THEIR RANKING 1985 TO 1988 (1/2)

(Production of Crude Steel in million tons)

Companies	1988		1987		1986		1985	
	Rank	Tonnage	Rank	Tonnage	Rank	Tonnage	Rank	Tonnage
Nippon Steel	1	28.3	1	26.0	1	26.3	1	28.6
USINOR SACILOR	2	17.6	2	16.7	-	-	-	-
British Steel	3	14.7	3	13.6	3	11.4	4	13.3
USX	4	14.1	10	10.4	12	8.8	2	15.1
Pohang	5	13.1	5	11.3	-	-	-	-
NKK Corporation	6	12.0	6	11.3	4	11.2	5	12.2
ILVA SpA	7	11.8	4	12.5	-	-	-	-
Thyssen	8	11.8	7	10.7	5	11.1	6	11.9
Bethlehem	9	11.7	8	10.5	11	9.5	11	9.5
Sumitomo	10	11.0	12	10.1	6	10.1	9	11.0
Kawasaki	11	10.9	11	10.1	7	10.1	7	11.0
LTV	12	9.5	9	10.4	8	10.1	8	11.0
SAIL	13	8.4	13	7.3	14	6.9	14	6.9
Kobe Steel	14	6.5	15	5.9	17	5.9	15	6.5
ISCOR	15	6.3	14	6.5	15	6.6	16	6.3
BHP	16	6.0	16	5.8	16	6.4	17	6.3
Inland Steel	17	5.6	18	5.0	18	5.2	18	5.5
Hoogovens	18	5.3	19	4.8	19	5.1	19	5.3
Armco	19	5.2	17	5.4	20	5.0	20	4.9
China Steel	20	4.9	27	3.7	31	3.6	33	3.3
National	21	4.9	20	4.7	21	4.5	26	4.3
Cockerill-Sambre	22	4.5	22	4.3	27	3.9	25	4.5
Voest Alpine	23	4.4	23	4.2	25	4.1	24	4.5
Peine-Salzgitter	24	4.3	32	3.4	33	3.5	31	3.8
Krupp Stahl	25	4.3	26	3.8	24	4.1	27	4.2
Mannesmann	26	4.3	30	3.6	39	2.9	32	3.7
USIMINAS	27	4.2	40	2.9	37	3.1	38	3.0
Hoesch	28	4.1	25	3.9	28	3.7	28	4.1

Annex 1.4.8 LARGEST STEEL PRODUCING COMPANIES OF THE WORLD AND THEIR RANKING 1985 TO 1988 (2/2)

(Production of Crude Steel in million tons)

Companies	1988		1987		1986		1985	
	Rank	Tonnage	Rank	Tonnage	Rank	Tonnage	Rank	Tonnage
Stelco	29	4.1	21	4.5	22	4.4	21	4.5
CSN	30	3.9	24	4.1	32	3.6	37	3.1
Dofasco	31	3.7	29	3.7	30	3.7	29	4.0
ARBED	32	3.7	36	3.3	29	3.7	30	3.9
Klockner	33	3.6	33	3.4	23	4.1	23	4.5
SIDMAR	34	3.5	41	2.9	36	3.1	36	3.1
Tokyo Steel	35	3.4	37	3.2	-	-	-	-
ENSIDESA	36	3.3	28	3.7	26	3.9	22	4.5
Nisshin Steel	37	3.2	34	3.4	35	3.2	34	3.3
CST-Side rurgica de Tubarao	38	3.2	31	3.5	34	3.4	35	3.2
CVG-Siderurgica del Orinoco	39	3.2	35	3.3	38	3.0	40	2.7
Weirton	40	3.2	39	2.9	-	-	-	-
AHMSA	41	3.0	38	3.0	40	2.9	43	2.6
Svenskt Stal	42	3.0	42	2.8	41	2.7	39	2.9
COSIPA	43	2.9	47	2.3	42	2.6	42	2.6
Saarstahl Volkingen	44	2.8	45	2.3	45	2.3	41	2.7
Rouge Steel	45	2.8	43	2.4	-	-	-	-
Rautaruukki	46	2.3	50	2.0	-	-	-	-
TATA	47	2.3	46	2.3	46	2.2	45	2.1
Algoma	48	2.3	44	2.3	79	2.2	44	2.5
Co.Steel Inc.	49	2.2	48	2.2	44	2.4	-	-
Nakayama	50	2.2	49	2.2	-	-	-	-
United Engineering Steels	51	2.2	51	2.0	48	1.9	-	-
ACOMINAS	52	2.1	52	1.8	-	-	-	-

Source : Statistics for Iron & Steel, Industry in India 1990

Annex 1.4.9 MAJOR STEEL PRODUCING COUNTRIES OF THE WORLD AND THEIR RANKING 1985 TO 1988

(Production of Crude Steel in million tons)

Countries	1988		1987		1986		1985	
	Rank	Tonnage	Rank	Tonnage	Rank	Tonnage	Rank	Tonnage
USSR	1	163.0	1	161.9	1	160.5	1	154.7
Japan	2	105.7	2	98.5	2	98.3	2	105.3
United States	3	90.1	3	80.9	3	73.8	3	80.1
China	4	59.2	4	56.0	4	51.9	4	46.7
F.R.Germany	5	41.0	5	36.2	5	37.1	5	40.5
Brazil	6	24.7	7	22.2	7	21.2	7	20.5
Italy	7	23.7	6	22.8	6	22.9	6	23.9
Rep. of Korea	8	19.1	11	16.8	12	14.6	15	13.5
France	9	19.1	8	17.7	8	17.9	8	18.8
United Kingdom	10	19.0	10	17.1	11	14.8	10	15.7
Poland	11	16.7	9	17.1	9	17.2	9	16.1
Czechoslovakia	12	15.3	12	15.4	10	15.1	11	15.0
Canada	13	15.2	14	14.7	14	14.1	12	14.6
Romania	14	14.5	13	15.0	13	14.3	14	13.8
India	15	14.3	15	13.1	16	11.9	16	11.5
Spain	16	11.8	16	11.7	15	12.0	13	14.2
Belgium	17	11.2	17	9.8	17	9.7	17	10.7
South Africa	18	8.7	18	8.9	18	9.1	18	8.5
Taiwan (ROC)	19	8.5	24	5.9	24	5.5	24	5.1
G.D.R.	20	8.1	19	8.2	20	7.9	20	7.9
Turkey	21	8.1	21	7.0	23	5.9	25	4.9
Mexico	22	7.8	20	7.6	21	7.2	21	7.3
DPR Korea (E)	23	6.8	22	6.7	19	9.0	19	8.4
Australia	24	6.4	23	6.1	22	6.7	22	6.6
Netherland	25	5.5	25	5.1	25	5.3	23	5.5
Sweden	26	4.8	26	4.6	26	4.7	27	4.7
Austria	27	4.6	28	4.3	28	4.3	26	4.8
Yugoslavia	28	4.5	27	4.4	27	4.5	28	4.5
Luxemburg	29	3.7	32	3.3	30	3.7	29	3.9
Venezuela	30	3.7	29	3.7	31	3.4	31	3.1
Argentina	31	3.6	31	3.6	32	3.2	32	2.9
Hungary	32	3.6	30	3.6	29	3.7	30	3.6
Finland	33	2.8	34	2.7	34	2.6	34	2.5
Bulgaria	34	2.5	33	3.0	33	2.8	33	2.9
Egypt	35	2.0	36	1.7	-	-	-	-
Indonesia	36	1.9	35	2.1	-	-	-	-
Other Countries	-	17.6	-	16.2	-	17.7	-	16.8
WORLD TOTAL		778.4		736.1		714.5		719.5

This table lists all countries producing more than 2 million tons of crude steel in either year shown.

Source : Statistics for Iron & Steel, Industry in India 1990

Annex 1.4.10 APPARENT STEEL CONSUMPTION PER HEAD
1984 TO 1988

(kg Crude Steel Equivalent)

Country	1984	1985	1986	1987	1988
Bangladesh	3.6	5.0	4.3	4.0	4.4
Hongkong	335.3	344.4	382.6	389.5	393.1
India	16.6	19.2	19.6	19.7	20.5
Indonesia	12.3	14.2	11.1	10.1	8.0
Republic of Korea	262.1	275.5	293.2	357.6	369.1
Malaysia	161.2	127.9	76.1	82.5	101.5
Pakistan	12.9	17.2	17.2	16.5	17.9
Philippines	16.1	11.9	15.8	26.6	24.7
Singapore	901.6	746.0	707.7	699.2	811.2
Taiwan (R.O.C)	320.1	328.0	402.7	477.9	572.1
Thailand	45.9	53.2	44.0	45.5	58.2
Other	9.6	10.3	10.6	12.9	13.5
Total Asia	31.1	33.1	33.7	37.1	39.8
Total Developing Cts.	41.2	42.8	41.3	41.8	40.7
Total Western World	134.4	130.8	124.9	126.6	135.0
Albania	48.4	47.2	45.9	44.7	43.6
Bulgaria	333.2	344.3	337.1	482.3	619.2
Czechoslovakia	708.2	717.0	720.4	707.4	694.1
German Dem.Rep.	520.7	551.1	545.9	539.7	538.9
Hungary	313.4	316.8	329.3	323.4	296.0
Poland	413.3	405.2	426.7	420.1	409.4
Romania	523.8	493.4	532.3	550.3	531.6
U.S.S.R.(E)	579.4	566.3	576.4	575.9	575.0
Total Eastern Europe	546.1	536.3	548.0	550.4	549.5
Cuba	102.4	114.4	113.5	112.6	115.9
China	58.1	68.3	69.8	65.8	64.6
Other Asian C.P.E's	90.7	88.7	87.9	87.4	86.6
Total C.P.E's	185.7	189.8	193.1	190.6	188.9
World Total	150.7	149.5	146.5	146.6	151.7

Source : Statistics for Iron & Steel, Industry in India 1990

Annex 1.4.11 NET STEEL PLANT REALISATION BY INTEGRATED STEEL PLANTS WITH VARIOUS ELEMENTS OF BASE SELLING PRICES AS ON 2.6.1989

(Rs/t for standard tested)

Product	Base Selling Prices as on 2-6-1989	Excise Duty	Freight Element	J.P.C.C. (a)	S.D.F (b)	EGEAF (c)	Total Deduc-tion	Net Plant Realisa-tion
A. Pig Iron* (Grade III)	3,890	210	540	-	-	75	825	3,065
B. Steel								
Blooms IS 2830	5,260	525	805	3	100	200	1,633	3,627
IS 2831	5,190	525	805	3	100	200	1,633	3,557
Slabs IS 2830	5,460	525	805	3	100	200	1,633	3,827
IS 2831	5,390	525	805	3	100	200	1,633	3,757
Billets, R.C.Squares and CC Billets IS 2830.6914	5,660	525	805	3	100	200	1,633	4,027
IS 2831.6915	5,590	525	605	3	100	200	1,633	3,957
Shell Blooms	6,160	525	805	3	100	200	1,633	4,527
Shell Bars	6,730	525	805	3	100	200	1,633	5,097
Joists	7,660	525	805	3	100	200	1,633	6,027
Channels	7,460	525	805	3	100	200	1,633	5,827
Unequal Angles,'Z' Sections. & 'Z' Piling & 'T's	8,360	525	805	3	100	200	1,633	6,727
Crossing Sleeper Bars & Bearing Plate Bars	8,110	525	805	3	100	200	1,633	6,477
All Other Structurals Bars & Rods in Coils/ Straight Lengths	7,160	525	805	3	100	200	1,633	5,527
5.5-12 mm	6,610	525	805	3	100	200	1,633	4,977
Over 12-36 mm	6,360	525	805	3	100	200	1,633	4,727
above 36 mm	6,410	525	805	3	100	200	1,633	4,777
Flats								
5mm & below thickness	6,740	735	805	3	100	200	1,843	4,897
-Above 5mm	6,700	525	805	3	100	200	1,633	5,067
Sleeper Bars-32 kg	10,320	525	805	3	100	200	1,633	8,687
Heavy Rails (T-12/T-18)								
37 kg T-12	8,215	262	805	3	100	200	1,370	6,845
T-18	8,035	262	805	3	100	200	1,370	6,665
45 kg T-12	9,845	262	805	3	100	200	1,370	8,475
T-18	9,665	262	805	3	100	200	1,370	8,295
52 kg T-12	9,125	262	805	3	100	200	1,370	7,755
T-18	8,945	262	805	3	100	200	1,370	7,575
60 kg T-12	10,495	262	805	3	100	200	1,370	9,125
T-18	10,305	262	805	3	100	200	1,370	8,935
Light Rails (Untested)								
12 kg	9,540	525	805	3	100	200	1,633	7,907
15 kg	9,530	525	805	3	100	200	1,633	7,897

* In addition to the above elements, BIPF (Balancing Import Pool Fund) at the rate of 200 Rs/t in respect of Pig Iron is to be added.

Source : Statisticsw for Iron & Steel, Industry in India 1990

Annex 1.4.12 TREND OF MARKET PRICES OF SELECTED ITEMS ON DIFFERENT DATES BETWEEN MARCH 1985 AND MARCH 1989

(Rs/t)

Category/Size	31.3.1985		31.3.1986		31.3.1987		31.3.1988		31.3.1989	
	Stockyard Price	Market Price	Stockyard Price	Market Price	Stockyard Price	Market Price	Stockyard Price	Market Price	Stockyard Price	Market Price
Tor Steel										
10 mm	5,950	6,325	5,950	5,988	5,950	5,650	6,885	6,750	7,380	8,325
12 mm	-	6,200	-	5,813	-	5,975	-	-	-	-
16 mm	5,770	6,200	5,770	5,812	5,770	5,475	6,570	7,550	7,065	8,400
25 mm	5,610	6,125	5,610	5,713	5,610	5,350	6,545	6,362	7,040	8,000
Rounds										
16 mm	5,370	5,875	5,370	5,700	5,370	5,600	6,270	6,187	6,765	8,000
25 mm	5,210	5,525	5,210	5,550	5,210	5,238	6,245	5,700	6,740	7,575
50 mm	5,210	5,500	5,410	5,600	5,410	5,350	6,160	6,162	6,655	7,925
Angles										
50×50×6 mm	6,620	6,400	6,620	6,100	5,620	5,525	6,985	6,100	7,480	8,150
75×75×6 mm	6,540	6,513	6,540	6,050	6,540	5,425	6,945	5,912	7,440	7,700
Channels										
100×50 mm	6,700	7,500	6,700	7,075	6,700	640	7,270	6,150	7,765	8,225
150×75 mm	6,890	7,100	6,880	8,250	6,880	6,925	7,675	7,125	8,170	8,631
Joists										
125× 70 mm	6,960	6,850	6,960	7,500	6,960	7,125	7,560	7,100	8,055	8,400
200×100 mm	6,960	7,275	6,950	7,400	6,950	6,575	7,560	7,175	8,055	8,502
300×140 mm	6,960	6,775	6,950	6,525	6,950	6,650	7,610	7,225	8,305	8,775
Plates										
10 mm	7,310	7,850	7,310	7,125	7,310	6,725	8,735	7,925	9,915	9,800
25 mm	7,380	6,650	7,380	6,875	7,380	6,600	9,055	8,150	10,235	8,625
Hot Rolled Sheets										
2.5 mm	6,920	8,100	6,920	7,075	6,920	7,600	8,475	8,600	10,195	10,051
3.15 mm	6,920	7,975	6,920	6,950	6,920	6,950	8,365	8,262	9,995	9,375
Cold Rolled Sheets										
1.00 mm	9,245	9,525	9,245	9,100	9,245	9,525	10,460	12,175	12,105	13,650
0.63 mm	9,745	9,850	9,745	9,950	9,745	10,725	10,960	12,925	12,735	14,650
Galvanised Sheets										
GPS 0.63 mm	12,075	12,700	11,895	13,225	12,250	14,425	13,575	14,500	16,600	16,250
GCS 0.63 mm	12,125	12,675	11,945	12,525	12,300	13,650	13,625	14,100	16,650	15,375
Pig Iron										
LM Grade IV	2,865	2,775	2,865	2,913	2,895	2,863	3,375	3,800	3,930	4,900

Note: The market price is an average of the prices prevailing in Bombay, Calcutta, Delhi and Madras.

Source : Statistics for Iron & Steel, Industry in India 1990

Annex 1.4.13 PROJECTED AVAILABILITY FROM SAIL INTEGRATED PLANTS

(thousand tons)

Year	Hot Metal	Crude Steel	Saleable Steel	Saleable Pig Iron
89-90	12,200	11,230	9,100	1,452
94-95	14,620	13,950	12,340	908
99-2000	19,650	17,000	15,200	3,000

Source : Corporate Plan upto 2000 AD

Annex 1.4.14 PROPOSED PRODUCTION IN SAIL INTEGRATED PLANTS (1989-90) (1/3)

(thousand tons)

Plants	Hot Metal	Crude Steel	Saleable Steel	Pig Iron
BHILAI	4,080	4,000 *	3,153	512
BOKARO	4,620	4,000	3,156	698
ROURKELA	1,350	1,400	1,200	26
DURGAPUR	1,200	1,150	991	53
IISCO	950	680	600	163
SAIL	12,200	11,230	9,100	1,452

BSP 100% capacity utilisation & completion of priority I of Debottlenecking

BSL Schemes & Additional oxygen plant at BSL.

RSP As per base capacity given by Dastur & Co in the modernisation Feasibility report, 98% capacity utilisation in the mills with external inputs.

DSP The hot metal production is projected after considering shut down of a blast furnace for modernisation.

IISCO KORF in one pair of OH furnances.

1989-90:

INTER-PLANT TRANSFERS

BSP to RSP (Slabs)	153,000	tons
BSP to IISCO (Billets)	44,500	tons
RSP/BSL to IISCO (CR Sheets)	20,000	tons
BSP to DSP (Skelp Bar)	69,500	tons
ASP to DSP (Axle Blooms)	12,000	tons
Imports for RSP (CRGO Coils)	36,000	tons
(Slabs)	17,000	tons
(Black Plates)	43,500	tons

* Ingots + liquid steel for continuous casting

Annex 1.4.14 PROPOSED PRODUCTION IN SAIL INTEGRATED PLANTS (1994-95) (2/3)

(thousand tons)

Plants	Hot Metal	Crude Steel Ingot	Crude Steel Cast Semis	Crude Steel Total	Seleable Steel	Pig Iron
BHILAI	4,410	2,500	1,900	4,400	3,745	368
BOKARO	4,725	-	4,500	4,500	4,175	219
ROURKELA	2,000	240	1,660	1,900	1,612	54
DURGAPUR	1,885	1,029	570	1,599	1,383	222
IISCO	1,600	295	1,255	1,550	1,425	45
SAIL	14,620	4,064	9,885	13,949	12,340	908*

*Additional 0.3 MT from M.E.L. by KR Process

Inter Plant Transfers: (tons)

TMBP Coils from BSL to RSP:43,500
Forged Axle Blooms from ASP to DSP:15,700

1994-95:

BSP : Production from SMS-II to go upto 2.0 MT liquid steel. Additional Steel to be cast as slabs through the existing casters by regular sequence casting. Arising of Saleable Slab can be slit and supplied to Re-rollers or the Plate Mill capacity can be raised to 1.2 MT. Capacity expansion along with D.B. and technological upgradation scheme expected to be completed by 1993-94.

BSL : Crude Steel output to go upto 4.5 MT by expanding SMS-II to 2.5 MT & operating SMS-I to 2.0 MT. Introduction of 100% continuous castling by 1993-94 in two stages and strengthening HSM to 4.4 MT are envisaged.

RSP : Figures as per RSP Modernisation FR (1987). Expected completion by 1993-94.

DSP : Figures as per the latest investment note to Government. Expected completion by 1991-92.

IISCO : Figures as per the Draft Feasibility report submitted by Japan International Cooperation Agency (JICA) in March 1987. Stage-I (1 MT) completion by 93-94. Stage II completion by 94-95 and assuming 50% capacity build up in 1st year.

Note : Additional 0.3 MT of Pigs by KR Process will be available from MEL by 1994-95.

Annex 1.4.14 PROPOSED PRODUCTION IN SAIL INTEGRATED PLANTS (1999-2000) (3/3)

(thousand tons)

Plants	Hot Metal	Crude Steel Ingot	Crude Steel Cast Semis	Crude Steel Total	Saleable Steel	Pig Iron
BHILAI	5,500	-	5,035	5,035	4,566 *	620
BOKARO	5,600	-	4,850	4,850	4,525 *	790
ROURKELA	3,430	-	2,565	2,565	2,160	815
DURGAPUR	2,600	85	2,385	2,470	2,210 *	391
IISCO	2,520	295	1,855	2,150	2,039	328
SAIL	19,650	380	16,690	17,070	15,200	2,944

*Total saleable steel for SAIL is calculated after considering conversion of 2600 slabs from BSP, BSL and DSP in the proposed new hot strip mill at Bokaro/Bhilai/Salem or in a green field site in the west coast.

Inter Plant Transfer:

Forged Axle Blooms form ASP to DSP:15,000 tons

1999-2000

BSP: Conversion of one 1033 m3 BF of 1719 m3 and increase in BF Productivity.

- Replacement of the OH Shop by 2/3 150 ton BOF shop producing 3.0 MT liquid steel with Bloom & slab casters & utilising full potential of SMS II.

- Expansion of plate mill to 1.2 MT capacity.

- Transfer of 1.1 MT slabs to the new Hot strip Mill.

- Conversion of Soaking pits to Reheating Furnaces for rolling in Billet Mill.

- Expected completion by 1998-99.
  Increase in BF Productivity.

- Capacity expansion of the 300 ton BOF Shop to 3.0 MT liquid steel by reduction in tap to tap time & increase in Heat Weight.

Source : Corporate Plan upto 2000 AD

Annex 1.4.15 TECHNOLOGICAL PARAMETERS ENVISAGED (1/5)

BHILAI STEEL PLANT

PARAMETERS	UNIT	1989-90	1994-95	1999-2000
BF Coke Yield	%	66	68	70
Coke Ash	%	22.5	22.5	20
M10 Index of Coke		10	9	8
Sinter Machine Area	m2	500	525	675
SP. Productivity (S.P.)	t/m2/h	1.34	1.34	1.34
Sinter in BF Burden	%	60	70	70
SP. Productivity (B.F.)	t/m3/d	1.136	1.23	1.3/1.6
Coke Rate	kg/THM	700	650	600/500
Natural Gas Injection with O2 enrichment	NM3/THM	-	-	50-80 (5FCS)
CDI WITH O2 enrichment	kg/THM	50-100(1FCE)	50-100(1FCE)	50-100(5FCE)
H.M. Consumption in O.H.	kg/t	790	780	-
Heat Time in O.H.	hours	8.5/12.5	8.0/12.0	
H.M. Consumption in BOF	kg/t	935	925	900
Tap to Tap Time in BOF	minutes	60	55	50
Overall Yield in BOF	%	88.5	89.0	90.0
Primary Mill Yield	%	86	88.7	-
Crude to Saleable Yield	%	78.8	85.1	90.7
Specific Energy Consumption	Gcal/t of Crude Steel	8.0	7.1	6.2

Annex 1.4.15 TECHNOLOGICAL PARAMETERS ENVISAGED (2/5)

BOKARO STEEL PLANT

PARAMETERS	UNIT	1989-90	1994-95	1999-2000
BF Coke Yield	%	66	68	70
Coke Ash	%	22.5	22.5	20
M10 Index of Coke		10	9	8
Sinter Machine Area	m2	756	756	936
SP. Productivity (S.P.)	t/m2/h	1.3	1.3	1.3
Sinter in BF Burden	%	70	70	70
SP. Productivity (B.F.)	t/m3/d	1.32	1.35	1.60
Coke Rate	kg/THM	680	650	600/550
Natural Gas Injection with O2 enrichment	NM3/THM	-	-	50-80 (3FCE)
CDI WITH O2	kg/THM	-	50-100(1FCC)	50-100(2FCE)
HM. Consumption in BOF	kg/t	923	910	900
Tap to Tap Time in BOF	minutes	60/80	50/60	50
Overall Yield in BOF	%	88	89	90
Primary Mill Yield	%	85	-	-
Crude to Saleable Yield	%	78.9	92.8	93.3
Specific Energy Consumption	Gcal/t of Crude Steel	9.7	8.7	7.6

Annex 1.4.15 TECHNOLOGICAL PARAMETERS ENVISAGED (3/5)

ROURKELA STEEL PLANT

PARAMETERS	UNIT	1989-90	1994-95	1999-2000
BF Coke Yield	%	66	68	70
Coke Ash	%	22.5	22.5	20
M10 Index of Coke		10	9	8
Sinter Machine Area	m2	250	412	412
SP. Productivity (S.P.)	t/m2/h	1.21	1.3(1.0)	1.3
Sinter in BF Burden	%	48	70(80)	70
SP. Productivity (B.F.)	t/m3/d	1.0	1.1(1.13)	1.3/1.6
Coke Rate	kg/THM	750	680(700)	625/575
Coal Dust Injection with O2 enrichment	kg/THM	-	50-100 (ONE FCE)	50-100 (2FCE)
Natural Gas Injection with O2 enrichment	NM3/THM	-	-	50-80(3FCE)
Tap to Tap Time in O.H	hours	8.0	-	-
HM. Consumption in BOF	kg/t	990	940 (961)	900
Tap to Tap Time in BOF	minutes	60	60	50
Overall Yield BOF	%	85	86	88
Primary Mill Yield	%	86	86	-
Crude to Saleable Yield	%	69	83.0	84.2
Specific Energy Consumption	Gcal/t of Crude Steel	10.0	8.9	7.8

Figures given in parenthesis are as per RSP.
Modernisation feasibility (D'CO) report.

Annex 1.4.15 TECHNOLOGICAL PARAMETERS ENVISAGED (4/5)

DURGAPUR STEEL PLANT

PARAMETERS	UNIT	1989-90	1994-95	1999-2000
BF Coke Yield	%	66	68	70
Coke Ash	%	22.5	22.5	20
M10 Index of Coke		10	9	8
Sinter Machine Area	m2	285	410	410
SP. Productivity (S.P.)	t/m2/h	1.0	1.1 (0.8/1.2)	1.3
Sinter in BF Burden	%	45	70(75)	70
SP. Productivity (B.F.)	t/m3/d	0.8	1.15(0.958)	1.3
Coke Rate	kg/THM	800	700(730)	625/575
Coal Dust Injection with O2 enrichment	kg/THM	-	50-100 (ONE FCE)	50-100 (2 FCE)
Natural Gas Injection with O2 enrichment	NM3/THM	-	-	50-80(2FCE)
HM. Consumption in O.H.	kg/t	860	-	-
Tap to Tap Time in O.H.	hours	9.5	-	-
HM. Consumption in BOF	kg/t	-	940	900
Tap to Tap Time in BOF	minutes	-	70	55
Overall Yield in BOF	%	-	88	89
Primary Mill Yield	%	90.5	90.5	95
Crude to Saleable Yield	%	79.9	86.5	89.5
Specific Energy Consumption	Gcal/t of Crude Steel	10.30	9.2	8.0

Figures in parenthesis per PIB note of Modernization.

Annex 1.4.15 TECHNOLOGICAL PARAMETERS ENVISAGED (5/5)

IISCO STEEL PLANT

PARAMETERS	UNIT	1989-90	1994-95	1999-2000
BF Coke Yield	%	66	68 (59.5)	70 (60)
Coke Ash	%	22.5	22.5 (23.5)	20 (23.5)
M10 Index of Coke		10	9 (12.5)	8 (12.5)
Sinter Machine Area	m2	-	210	420
SP. Productivity (S.P.)	t/m2/h	-	1.3(1.1)	1.3(1.1)
Sinter in BF Burden	%	-	70(78)	70(78)
SP. Productivity (B.F.)	t/m3/d	0.8	1.346	1.6(1.346)
Coke Rate	kg/THM	1025	750(640)	625(589) 575
Coal Dust Injection with O2 enrichment	kg/THM	-	- -	50-100 (2 FCE)
Natural Gas Injection with O2 enrichment	NM3/THM	-	-	50-80 (ALL FCES)
HM. Consumption in O.H.	kg/t	1000	-	-
Tap to Tap Time in O.H.	hours	8.0	-	-
HM. Consumption in BOF	kg/t	-	940	900
Tap to Tap Time in BOF	minutes	-	55 (66)	55 (61)
Overall Yield in BOF	%	-	88 (89)	89 (89)
Primary Mill Yield	%	90.5	90.5	-
Crude to Saleable Yield	%	79.2	91.9	94.8
Specific Energy Consumption	Gcal/t of Crude Steel	13.9	12.4 (9.35)	10.8 (7.7)

Figures in the parenthesis are those indicated in the JICA report for IISCO Modernization.

Source : Corporate Plan upto 2000 AD

Annex 1.4.16 COKING COAL REQUIREMENT PROJECTION UPTO 2000 AD

(Mt/y)

PLANT	1989-90				1994-95				1999-2000			
	H.M.	Coal Iron Ratio	Coal Require-ment	Avg.ash% in coal blend	H.M.	Coal Iron Ratio	Coal Require-ment	Avg.ash% in coal blend	H.M.	Coal Iron Ratio	Coal Require-ment	Avg.ash% in coal blend
Bhilai	4,080	1.33	5,430	17	4,410	1.17	5,180	17	5,120	1.04	5,350	15
Bokaro	4,620	1.29	5,972	17	4,725	1.17	5,550	17	5,250	1.04	5,480	15
Rourkela	1,350	1.80	2,430	17	2,000	1.295	2,590	17	3,180	1.08	3,460	15
Durgapur	1,200	1.52	1,828	17	1,885	1.265	2,385	17	2,400	1.08	2,610	15
IISCO	950	1.94	1,840	17	1,600	1.353	2,195	17	2,200	1.08	2,400	15
SAIL	12,200	1.43	17,500		14,620	1.224	17,900		18,150	1.063	19,300	

Note: While calculating coal requirement 4% handling 6% moisture and 5% loss in transit has been taken into account.

89-90: RSP figures as per D'Co report on Modernisation given as base capacity.

94-95: RSP and DSP figures as per Modernisation report. IISCO as per JICA report, 50% capacity build up of phase II.

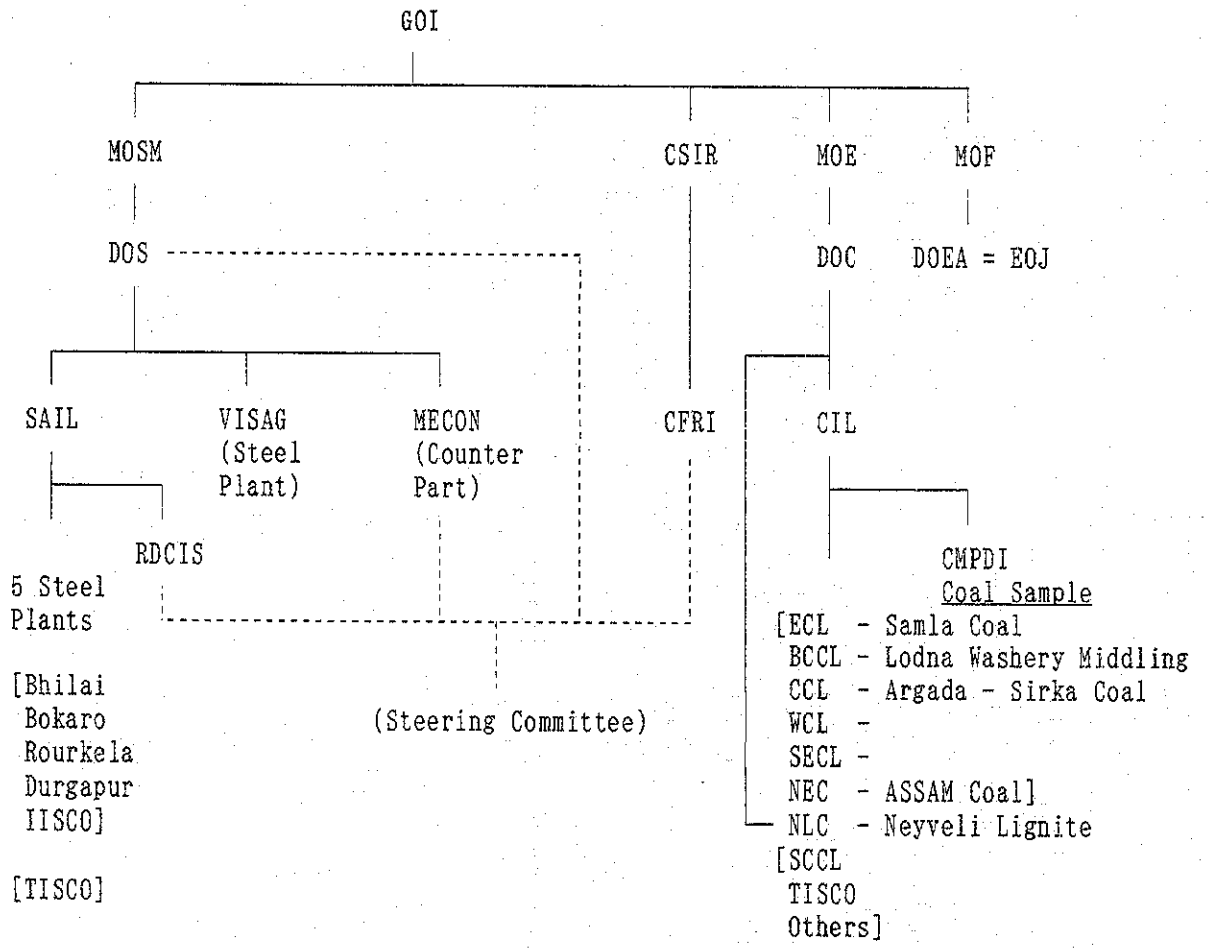
99-2000: Hot metal projections of BSP, BSL, RSP and DSP as per variant-1 (without natural gas and CDI) of Technology strategy group.
Hot metal projections of IISCO as per JICA phase II. Coal requirements as per Technology strategy group recommendations.

Source: Corporate Plan upto 2000 AD

Annex 1.4.17 DEMAND AND AVAILABILITY OF COKING COAL FOR STEEL PLANTS

(million tons)

DEMAND	1989-90	1990-91	1991-92	1992-93	1993-94	1995-96
SAIL	14.51	15.37	15.21	15.55	16.49	16.33
V.S.P.	0.38	1.84	3.36	4.30	4.03	4.03
TISCO	2.55	2.55	2.55	2.84	2.84	2.84
TOTAL	17.44	19.76	21.22	22.42	23.36	23.20
AVAILABILITY						
PRIME COKING	7.00	7.61	8.20	8.36	9.32	10.01
MEDDIUM COKING	6.41	6.60	6.83	7.12	8.11	8.37
SEMI COKING	0.50	0.66	0.72	0.80	0.89	1.01
TOTAL	13.91	14.87	15.75	16.28	18.32	19.39
SURPLUS/						
DEFICIAREY(-)	(-)3.53	(-)4.89	(-)5.37	(-)6.14	(-)5.04	(-)3.81



GOI : Government of India
MOSM : Ministry of Steel & Mines
CSIR : Council of Seientific & Industrial Research
MOE : Ministry of Energy
MOF : Ministry of Finance
DOS : Department of Steel
DOC : Department of Coal
DOEA : Department of Economic Affairs
EOJ : Embassy of Japan
SAIL : Steel Authority of India
RDCIS: Research & Development Centre for Iron & Steel
MECON: Metallurgical & Engineering Consultant (of India) Ltd.
CFRI : Central Fuel Research Institute
CIL : Coal India Ltd.
CMPDI: Central Mine Planning & Design Institute
NLC : Neyveli Lignite Corp.

Annex 1.5.1 ORGANIZATION CHART

Annex 2.1.1 HISTORICAL IMPORTS OF IRON AND STEEL IN INDIA

Year	Quantity (1,000 ton)	Value (Rs 10 million)	Price (Rs/t)
1970-71	683.4	147	2,151
1980-81	2,031.4	852	4,194
1983-84	2,583.4	1,949	7,544
1984-85	1,971.8	941	4,772
1985-86	2,417.7	1,395	5,770
1986-87	3,136.5	1,556	4,961
1987-88	2,253.6	1,273	5,649
1988-89	3,352.0	1,937	5,779

Source : Ministry of Finance ; Economic Survey, 1989-90.

Annex 3.1.1 AN INVENTORY OF COAL RESERVES IN THE DIFFERENT COALFIELDS OF INDIA (1/10)

(Unit : million tons)

	DEPTH	PROVED	INDICATED	INFERRED	TOTAL
RANIGANJ COALFIELD					
NON COKING	0- 600	6471.00	8238.00	2728.00	17437.00
	600-1200	424.00	3187.00	4559.00	8170.00
	0-1200	6895.00	11425.00	7287.00	25607.00
MEDIUM COKING	0- 600	222.00	82.00	3.00	307.00
	600-1200		4.00	247.00	251.00
	0-1200	222.00	86.00	250.00	558.00
BLENDABLE	0- 600	97.00	132.00	54.00	283.00
	600-1200	27.00	256.00	506.00	789.00
	0-1200	124.00	388.00	560.00	1072.00
TOTAL	0-1200	7241.00	11899.00	8097.00	27237.00
BARJORA COALFIELD	0- 300	71.00			71.00
DARJEELING COALFIELD	0- 300			15.00	15.00
DEOCHA BASIN	0- 300		91.84		91.84
	300- 600		987.91		987.91
	600-1200		741.26		741.26
	0-1200		1821.01		1821.01
DOMRA-PANAGARH BASIN	300- 600		421.35		421.35
TOTAL FOR WEST BENGAL	0-1200	7312.00	14141.36	8112.00	29565.36
JHARIA COALFIELD					
PRIME COKING	0- 600	3659.00	380.00		4039.00
	600-1200	512.00	749.00		1261.00
	0-1200	4171.00	1129.00	0.00	5300.00
MEDIUM COKING	0- 600	3758.00	309.00		4067.00
	600-1200	242.00	1855.00		2097.00
	0-1200	4000.00	2164.00	0.00	6164.00
NON COKING	0- 600	5083.00	1019.00		6102.00
	600-1200	496.00	1355.00		1851.00
	0-1200	5579.00	2374.00	0.00	7953.00
TOTAL	0-1200	13750.00	5667.00	0.00	19417.00
EAST BOKARO COALFIELD					
MEDIUM COKING	0- 300	1361.11	1040.49	40.45	2442.05
	300- 600	216.49	1051.77	40.46	1308.72
	600- 900	254.26	406.39		660.65
	0- 900	1831.86	2498.65	80.91	4411.42
NON COKING	0- 300		56.81		56.81
	300- 600		5.69		5.69
	0- 600		62.50	0.00	62.50
TOTAL	0- 900	1831.86	2561.15	80.91	4473.92
WEST BOKARO COALFIELD					
MEDIUM COKING	0- 300	2292.49	1585.99	28.60	3907.08
	300- 600	287.42	142.89	5.82	436.13
	0- 600	2579.91	1728.88	34.42	4343.21
NON COKING	0- 300	137.09	23.64		160.73
	300- 600	5.81	4.66		10.47
	0- 600	142.90	28.30	0.00	171.20
TOTAL	0- 600	2722.81	1757.18	34.42	4514.41
RAMGARH COALFIELD					
MEDIUM COKING	0- 300	188.69	87.40		276.09
SEMI COKING	0- 300	171.94	95.33	0.55	267.82
	300- 600		336.22	52.90	389.12
	0- 600	171.94	431.55	53.45	656.94
NON COKING	0- 300	7.13	26.20	4.60	37.93
TOTAL		367.76	545.15	58.05	970.96

NORTH KARANPURA COALFIELD					
MEDIUM COKING	0- 300		1652.80		1652.80
	300- 600		1143.12		1143.12
	0- 600		2795.92	561.49	3357.41
NON COKING	0- 300	2375.58	3502.61	1622.31	7500.50
	300- 600	167.41	1473.22	1001.26	2641.89
	0- 600	2542.99	4975.83	2623.57	10142.39
TOTAL		2542.99	7771.75	3185.06	13499.80
SOUTH KARANPURA COALFIELD					
MEDIUM COKING			203.36	31.50	234.86
			36.33	4.49	40.82
	0- 900		239.69	35.99	275.68
NON COKING	0- 300	1710.66	424.29	373.28	2508.23
	300- 600	158.37	298.95	612.51	1069.83
	0- 600	1869.03	723.24	985.79	3578.06
TOTAL		1869.03	962.93	1021.78	3853.74
AURANGA COALFIELD	0- 300	8.78	1121.13	40.80	1170.71
	300- 600		506.49	393.15	899.64
	0- 600	8.78	1627.62	433.95	2070.35
HUTAR COALFIELD	0- 300	109.96	95.05	32.48	237.49
	300- 600		12.33		12.33
	0- 600	109.96	107.38	32.48	249.82
DALTONGANJ COALFIELD	0- 300	83.86	60.10		143.96
DEOGARH COALFIELD	0- 300	59.24	340.60		399.84
RAJMAHAL COALFIELD	0- 300	1113.88	5206.43	1221.06	7541.37
	300- 600		1227.25	770.08	1997.33
	0- 600	1113.88	6433.68	1991.14	9538.70
TOTAL FOR BIHAR		24460.17	27834.54	6837.79	59132.50
UMARIA COALFIELD	0- 300	18.90	30.00		48.90
PENCH-KANHAN COALFIELD					
NON COKING	0- 300	625.38	104.87	40.00	770.25
	300- 600	257.84	194.60	155.00	607.44
	0- 600	883.22	299.47	195.00	1377.69
SEMI/MEDIUM COKING	0- 300	61.16		40.00	101.16
	300- 600	42.88	64.84	58.21	165.93
	0- 600	104.04	64.84	98.21	267.09
TOTAL		987.26	364.31	293.21	1644.78
GURGUNDA COALFIELD	0- 300		47.39		47.39
SENDURGARH COALFIELD	0- 300		279.21		279.21
HASDO-ARAND COALFIELD	0- 300		2579.22	1027.19	3606.41
	300- 600		12.58	4.36	16.94
	0- 600		2591.80	1031.55	3623.35
SINGRAULI COALFIELD	0- 300	3599.90	1351.32	2468.91	7420.13
	300- 600		290.58	1496.42	1787.00
	0- 600	3599.90	1641.90	3965.33	9207.13
BISRAMPUR COALFIELD	0- 300	171.15	259.58		430.73
SONHAT COALFIELD					
SEMI/WEAK COKING	0- 300	70.77			70.77
NON COKING	0- 300	26.01	128.50		154.51
TOTAL		96.78	128.50		225.28
JHILEMILI COALFIELD	0- 300	211.68	55.42		267.10

Annex 3.1.1 AN INVENTORY OF COAL RESERVES IN THE DIFFERENT COALFIELDS OF INDIA (3/10)

CHIRIMIRI COALFIELD	0- 300	320.33	10.83	31.00	362.16
SOHAGPUR COALFIELD					
MEDIUM COKING	0- 300	40.17	326.30		366.47
	300- 600		563.18	5.74	568.92
	600-1200		13.43	4.14	17.57
	0-1200	40.17	902.91	9.88	952.96
NON COKING	0- 300	648.91	282.21		931.12
TOTAL		689.08	1185.12	9.88	1884.08
PATHAKHERA COALFIELD	0- 300	148.25	94.12		242.37
	300- 600			123.00	123.00
	0- 600	148.25	94.12	123.00	365.37
KORBA COALFIELD	0- 300	2017.76	2861.43	37.49	4916.68
	300- 600	10.00	586.35		596.35
	0- 600	2027.76	3447.78	37.49	5513.03
JOHILLA COALFIELD	0- 300	108.46	104.09	89.00	301.55
MAND-RAIGARH COALFIELD	0- 300		3343.88	878.15	4222.03
	300- 600		536.32	298.79	835.11
	0- 600		3880.20	1176.94	5057.14
LAKHANPUR COALFIELD	0- 300		250.98		250.98
MOHPANI COALFIELD	0- 300	7.83			7.83
TATAPANI-RAMKOLA COALFIELD	0- 300		193.94	4.75	198.69
	300- 600		108.11	54.01	162.12
	0- 600		302.05	58.76	360.81
TOTAL FOR MADHYA PRADESH		8387.38	14673.28	6816.16	29876.82
CHANDA-WARDHA COALFIELD	0- 300	1626.27	360.17	520.00	2506.44
	300- 600		40.00	1100.00	1140.00
	0- 600	1626.27	400.17	1620.00	3646.44
KAMPTEE COALFIELD	0- 300	676.02	251.58		927.60
	300- 600	35.50	67.20	220.00	322.70
	0- 600	711.52	318.78	220.00	1250.30
UMRER COALFIELD	0- 300	85.10			85.10
BANDER COALFIELD	0- 300		200.00		200.00
NAND COALFIELD	0- 300		10.00	40.00	50.00
MAKARDHOKRA COALFIELD	0- 300			10.00	10.00
BOKHARA COALFIELD	0- 300			30.00	30.00
TOTAL FOR MAHARASHTRA		2422.89	928.95	1920.00	5271.84
Ib-RIVER COALFIELD	0- 300	1627.16	6404.68	3703.73	11735.57
	300- 600		2378.92	4587.45	6966.37
	0- 600	1627.16	8783.60	8291.18	18701.94
TALCHER COALFIELD	0- 300	3199.63	5340.30	11172.47	19712.40
	300- 600		1226.10	1879.53	3105.63
	600-1200		36.67		36.67
	0-1200	3199.63	6603.07	13052.00	22854.70
TOTAL FOR ORISSA		4826.79	15386.67	21343.18	41556.64
GODAVARI VALLEY COALFIELD	0- 300	3495.03	392.17	797.98	4685.18
	300- 600	1020.10	594.21	1893.66	3507.97
	600- 900	81.87	19.97	1036.80	1138.64
	900-1200			754.41	754.41
TOTAL FOR ANDRA PRADESH	0-1200	4597.00	1006.35	4482.85	10086.20
TOTAL FOR GONDWANA COALFIELD		52006.23	73971.15	49511.98	175489.36

MAKUM COALFIELD	0- 300	22.72	73.13		95.85
	300- 600	1.31	70.69	67.81	139.81
	0- 600	24.03	143.82	67.81	235.66
DILLI-JEYPORE COALFIELD	0- 300	3.78	6.79	30.80	41.37
NAMCHIK COALFIELD	0- 300	16.33	8.30	65.60	90.23
MIKIR HILL COALFIELD	0- 300			3.00	3.00
WEST DARRANGIRI C.F.	0- 300	82.00	45.00		127.00
BALPHAKRAM-PENDENGRU C.F.	0- 300			132.72	132.72
SIJU COALFIELD	0- 300			134.00	134.00
LANGRIN COALFIELD	0- 300	2.75	11.39	35.86	50.00
WEWLONG-SHELLA C.F.	0- 300			1.50	1.50
MINOR FIELD OF KHASI HILL	0- 300			13.72	13.72
BORJAN COALFIELD	0- 300		4.78	5.22	10.00
MINOR FIELD OF NAGALAND				2.05	2.05
TOTAL OF TERTIARY COALFIELD		128.89	220.08	492.28	841.25
GRAND TOTAL		52135.12	74191.23	50004.26	176330.61

		PROVED	INDICATED	INFERRED	TOTAL
PRIME	0- 600	3659.00	380.00		4039.00
	600-1200	512.00	749.00		1261.00
	0-1200	4171.00	1129.00		5300.00
MEDIUM	0- 600	8366.37	8188.30	717.06	17271.73
	600-1200	496.26	2315.15	255.63	3067.04
	0-1200	8862.63	10503.45	972.69	20338.77
SEMI/WEAK, BLENDABLE	0- 600	443.75	628.39	205.66	1277.80
	600-1200	27.00	256.00	506.00	789.00
	0-1200	470.75	884.39	711.66	2066.80
COKING OTHER THAN PRIME	0- 600	8810.12	8816.69	922.72	18549.53
	600-1200	523.26	2571.15	761.63	3856.04
	0-1200	9333.38	11387.84	1684.35	22405.57
TOTAL COKING	0- 600	12469.12	9196.69	922.72	22588.53
	600-1200	1035.26	3320.15	761.63	5117.04
	0-1200	13504.38	12516.84	1684.35	27705.57
NON COKING	0- 600	37499.98	56114.41	41477.42	135091.81
	600-1200	1001.87	5339.90	6350.21	12691.98
	0-1200	38501.85	61454.31	47827.63	147783.79
TOTAL GONDWANA	0- 600	49969.10	65311.10	42400.14	157680.34
	600-1200	2037.13	8660.05	7111.84	17809.02
	0-1200	52006.23	73971.15	49511.98	175489.36

Annex 3.1.1 AN INVENTORY OF COAL RESERVES IN THE DIFFERENT COALFIELDS OF INDIA (5/10)

		PROVED	INDICATED	INFERRED	TOTAL
PRIME	0- 600	2.09	0.22		2.30
	600-1200	0.29	0.43		0.72
	0-1200	2.38	0.64		3.02
COKING OTHER THAN PRIME	0- 600	5.02	5.02	0.53	10.57
	600-1200	0.30	1.47	0.43	2.20
	0-1200	5.32	6.49	0.96	12.77
TOTAL COKING	0- 600	7.11	5.24	0.53	12.87
	600-1200	0.59	1.89	0.43	2.92
	0-1200	7.70	7.13	0.96	15.79
NON COKING	0- 600	21.37	31.98	23.64	76.98
	600-1200	0.57	3.04	3.62	7.23
	0-1200	21.94	35.02	27.25	84.21
TOTAL GONDWANA	0- 600	28.47	37.22	24.16	89.85
	600-1200	1.16	4.93	4.05	10.15
	0-1200	29.63	42.15	28.21	100.00

		PROVED	INDICATED	INFERRED	TOTAL
PRIME	0- 600	2.08	0.22		2.29
	600-1200	0.29	0.42		0.72
	0-1200	2.37	0.64		3.01
COKING OTHER THAN PRIME	0- 600	5.00	5.00	0.52	10.52
	600-1200	0.30	1.46	0.43	2.19
	0-1200	5.29	6.46	0.96	12.71
TOTAL COKING	0- 600	7.07	5.22	0.52	12.81
	600-1200	0.59	1.88	0.43	2.90
	0-1200	7.66	7.10	0.96	15.71
NON COKING	0- 600	21.27	31.82	23.52	76.61
	600-1200	0.57	3.03	3.60	7.20
	0-1200	21.84	34.85	27.12	83.81
TOTAL GONDWANA	0- 600	28.34	37.04	24.05	89.42
	600-1200	1.16	4.91	4.03	10.10
	0-1200	29.49	41.95	28.08	99.52
TERTIARY	0- 600	0.07	0.12	0.28	0.48
	600-1200				
	0-1200	0.07	0.12	0.28	0.48
GRAND TOTAL	0- 600	28.41	37.16	24.32	89.90
	600-1200	1.16	4.91	4.03	10.10
	0-1200	29.57	42.08	28.36	100.00

Annex 3.1.1 AN INVENTORY OF COAL RESERVES IN THE DIFFERENT COALFIELDS OF INDIA (6/10)

	PROVED	INDICATED	INFERRED	TOTAL
NEYVELI				3300.00
JAYAKONDAN				1150.00
BAHUR				480.00
TOTAL FOR TAMIL NADU & PONDICHERRY				4930.00
NICHAHOM				
BUDHASUNG				
TANGMARG				
NAGBAL				
CHOKIBAL				
SHALIGANGA				
TOTAL FOR JAMMU & KASHMIR				90.00
KERALA				100.00
PANANDHRO				94.00
AKRIMOTA				47.00
UMARSAR				11.00
MATA-MO-MADH				34.00
LAKHPAT DHEDI				14.00
JHULRAJ-NAGHOPADAV				3.00
HAMLA-NAMA-RATADIA				60.00
BAVANAGAR				60.00
MAGNOL				40.00
TOTAL FOR KUTCH DIST.				363.00
JAGHADHA				20.00
TOTAL FOR BROACH DIST.				20.00
TOTAL FOR GUJARAT				383.00
KAPURDHI				150.39
JALIPA				288.00
BOTHIA-BHADKA				10.00
GIRAL				43.00
TOTAL FOR BARMER DIST.				491.39
PALANA				23.57
BARSINGSAR				78.04
GURHA				86.65
OTHER AREAS				14.50
TOTAL FOR BIKANER DIST.				202.76
MERTA ROAD & MEERA NAGAR				84.20
MOKALA				30.00
IGIAR,KASNAU, KUCHERA,INDAWAR				30.00
TOTAL FOR NAGAUR DIST.				144.20
TOTAL FOR RAJASTHAN				838.35
TOTAL LIGNITE				6341.35

Annex 3.1.1 AN INVENTORY OF COAL RESERVES IN THE DIFFERENT COALFIELDS OF INDIA (7/10)

(Unit : million tons)

		A	B	C	D	E,F,G	TOTAL
RANIGANJ	PROVED	80.00	1066.00	3929.00	936.00	884.00	6895.00
	INDICATED	100.00	1283.00	4752.00	2775.00	2515.00	11425.00
	INFERRED						7287.00
	TOTAL	180.00	2349.00	8681.00	3711.00	3399.00	25607.00
BORJORA	PROVED					71.00	71.00
	INDICATED						0.00
	INFERRED						0.00
	TOTAL	0.00	0.00	0.00	0.00	71.00	71.00
DARJEELING	PROVED						0.00
	INDICATED						0.00
	INFERRED						15.00
	TOTAL	0.00	0.00	0.00	0.00	0.00	15.00
DEOCHA	PROVED						0.00
	INDICATED			818.65	341.86	660.50	1821.01
	INFERRED						0.00
	TOTAL	0.00	0.00	818.65	341.86	660.50	1821.01
DOMRA-PANAGARH	PROVED						0.00
	INDICATED				210.67	210.68	421.35
	INFERRED						0.00
	TOTAL	0.00	0.00	0.00	210.67	210.68	421.35
JHARIA	PROVED	63.51	38.50	73.14	404.26	4999.59	5579.00
	INDICATED	27.01	16.37	31.12	172.05	2127.45	2374.00
	INFERRED						0.00
	TOTAL	90.52	54.87	104.26	576.31	7127.04	7953.00
EAST BOKARO	PROVED						0.00
	INDICATED		8.16	8.17	21.43	24.74	62.50
	INFERRED						0.00
	TOTAL	0.00	8.16	8.17	21.43	24.74	62.50
WEST BOKARO	PROVED			9.38	35.44	98.08	142.90
	INDICATED			1.85	7.01	21.44	30.30
	INFERRED						0.00
	TOTAL	0.00	0.00	11.23	42.45	119.52	173.20
RAMGARH	PROVED				3.50	3.63	7.13
	INDICATED				13.10	13.10	26.20
	INFERRED						4.60
	TOTAL	0.00	0.00	0.00	16.60	16.73	37.93
NORTH KARANPURA	PROVED	28.15	38.71	38.72	253.85	2183.56	2542.99
	INDICATED	69.85	96.11	96.12	630.31	4083.44	4975.83
	INFERRED						2623.57
	TOTAL	98.00	134.82	134.84	884.16	6267.00	10142.39
SOUTH KARANPURA	PROVED	155.15	106.44	264.55	388.51	954.38	1869.03
	INDICATED	55.79	58.73	112.40	153.69	342.63	723.24
	INFERRED						985.79
	TOTAL	210.94	165.17	376.95	542.20	1297.01	3578.06
AURANGA	PROVED					8.78	8.78
	INDICATED			37.00	108.95	1481.67	1627.62
	INFERRED						433.95
	TOTAL	0.00	0.00	37.00	108.95	1490.45	2070.35
HUTAR	PROVED	28.39	43.66	21.33	14.50	2.08	109.96
	INDICATED	27.59	33.36	33.37	6.32	6.74	107.38
	INFERRED						32.48
	TOTAL	55.98	77.02	54.70	20.82	8.82	249.82
DALTONGANJ	PROVED	10.00	20.00	29.00	4.00	20.86	83.86
	INDICATED	7.14	14.28	20.71	2.86	15.11	60.10
	INFERRED						0.00
	TOTAL	17.14	34.28	49.71	6.86	35.97	143.96

Annex 3.1.1 AN INVENTORY OF COAL RESERVES IN THE DIFFERENT COALFIELDS OF INDIA (8/10)

DEOGARH	PROVED	0.87	16.19	22.81	8.03	11.34	59.24
	INDICATED	5.00	93.08	131.14	46.17	65.21	340.60
	INFERRED						0.00
	TOTAL	5.87	109.27	153.95	54.20	76.55	399.84
RAJMAHAL	PROVED			33.00		1080.88	1113.88
	INDICATED			90.18	1391.16	4952.34	6433.68
	INFERRED						1991.14
	TOTAL			123.18	1391.16	6033.22	9538.70
UMARIA	PROVED					18.90	18.90
	INDICATED					30.00	30.00
	INFERRED						0.00
	TOTAL					48.90	48.90
PENCH-KANHAN	PROVED	62.66	122.37	213.94	226.14	258.11	883.22
	INDICATED	23.69	51.98	79.39	74.60	69.81	299.47
	INFERRED						195.00
	TOTAL	86.35	174.35	293.33	300.74	327.92	1377.69
GURUGUNDA	PROVED						0.00
	INDICATED					47.39	47.39
	INFERRED						0.00
	TOTAL					47.39	47.39
SENDURGARH	PROVED						0.00
	INDICATED	12.35	79.01	79.01	51.80	57.04	279.21
	INFERRED						0.00
	TOTAL	12.35	79.01	79.01	51.80	57.04	279.21
HASDO-ARAND	PROVED						0.00
	INDICATED	49.93	73.68	492.65	1211.98	763.56	2591.80
	INFERRED						1032.27
	TOTAL	49.93	73.68	492.65	1211.98	763.56	3624.07
SINGRAULI	PROVED			507.25	684.50	2408.15	3599.90
	INDICATED			231.34	312.19	1098.37	1641.90
	INFERRED						3965.33
	TOTAL			738.59	996.69	3506.52	9207.13
BISRAMPUR	PROVED	32.31	131.65	1.19	1.20	4.80	171.15
	INDICATED	49.00	199.67	1.80	1.82	7.29	259.58
	INFERRED						0.00
	TOTAL	81.31	331.32	2.99	3.02	12.09	430.73
SONHAT	PROVED		2.53	2.53	6.31	14.64	26.01
	INDICATED		12.50	12.49	31.17	72.34	128.50
	INFERRED						0.00
	TOTAL		15.03	15.02	37.48	86.98	154.51
JHILLIMILLI	PROVED	63.60	44.71	24.14	13.13	66.10	211.68
	INDICATED	23.53	10.11	7.78	0.66	13.34	55.42
	INFERRED						0.00
	TOTAL	87.13	54.82	31.92	13.79	79.44	267.10
CHIRIMIRI	PROVED	66.14	116.11	116.09	11.00	10.99	320.33
	INDICATED	0.76	5.04	5.03			10.83
	INFERRED						31.00
	TOTAL	66.90	121.15	121.12	11.00	10.99	362.16
SOHAGPUR	PROVED	101.29	158.09	209.04	124.94	55.55	648.91
	INDICATED	44.05	68.75	90.91	54.33	24.17	282.21
	INFERRED						0.00
	TOTAL	145.34	226.84	299.95	179.27	79.72	931.12
PATHAKHERA	PROVED		8.71	25.14	50.37	64.03	148.25
	INDICATED		5.53	15.96	31.98	40.65	94.12
	INFERRED						123.00
	TOTAL		14.24	41.10	82.35	104.68	365.37

Annex 3.1.1 AN INVENTORY OF COAL RESERVES IN THE DIFFERENT COALFIELDS OF INDIA (9/10)

KORBA	PROVED	228.86	50.92	50.92	43.47	1653.59	2027.76
	INDICATED	1.57	7.76	7.76	210.43	3220.20	3447.72
	INFERRED						37.49
	TOTAL	230.43	58.68	58.68	253.90	4873.79	5512.97
JOHILLA	PROVED		34.92	57.45	12.22	3.87	108.46
	INDICATED		48.90	49.40	2.60	3.19	104.09
	INFERRED						89.00
	TOTAL		83.82	106.85	14.82	7.06	301.55
HAND-RAIGARH	PROVED						0.00
	INDICATED	142.24	47.46	86.02	398.81	3205.67	3880.20
	INFERRED						1176.94
	TOTAL	142.24	47.46	86.02	398.81	3205.67	5057.14
LAKHANPUR	PROVED						0.00
	INDICATED	8.09	94.57	94.57	25.98	27.77	250.98
	INFERRED						0.00
	TOTAL	8.09	94.57	94.57	25.98	27.77	250.98
MOHOPANI	PROVED					7.83	7.83
	INDICATED						0.00
	INFERRED						0.00
	TOTAL					7.83	7.83
TATAPANI-RAMKOLA	PROVED						0.00
	INDICATED	9.21	18.96	146.25	76.17	51.46	302.05
	INFERRED						0.00
	TOTAL	9.21	18.96	146.25	76.17	51.46	302.05
CHANDA-WARDHA	PROVED			91.99	819.15	715.13	1626.27
	INDICATED				200.08	200.09	400.17
	INFERRED						1620.00
	TOTAL			91.99	1019.23	915.22	3646.44
KAMPTEE	PROVED		24.17	240.93	199.35	247.07	711.52
	INDICATED		6.47	92.41	119.43	100.47	318.78
	INFERRED						220.00
	TOTAL		30.64	333.34	318.78	347.54	1250.30
UMRER	PROVED					85.10	85.10
	INDICATED						0.00
	INFERRED						0.00
	TOTAL					85.10	85.10
BANDER	PROVED						0.00
	INDICATED		19.33	19.33	66.25	95.09	200.00
	INFERRED						0.00
	TOTAL		19.33	19.33	66.25	95.09	200.00
NAND	PROVED						0.00
	INDICATED					10.00	10.00
	INFERRED						40.00
	TOTAL					10.00	50.00
MAKARDHOKRA	PROVED						0.00
	INDICATED						0.00
	INFERRED						10.00
	TOTAL						10.00
BOKHARA	PROVED						0.00
	INDICATED						0.00
	INFERRED						30.00
	TOTAL						30.00
Ib-RIVER	PROVED			3.17	103.56	1520.43	1627.16
	INDICATED	10.43	98.50	265.57	1240.29	7168.81	8783.60
	INFERRED						8291.18
	TOTAL	10.43	98.50	268.74	1343.85	8689.24	18701.94
TALCHER	PROVED	16.07	118.31	118.94	47.14	2899.17	3199.63
	INDICATED	16.54	83.60	264.46	174.43	6064.04	6603.07
	INFERRED						13052.00
	TOTAL	32.61	201.91	383.40	221.57	8963.21	22854.70

Annex 3.1.1 AN INVENTORY OF COAL RESERVES IN THE DIFFERENT COALFIELDS OF INDIA (10/10)

GODAVARI VALLEY	PROVED	24.95	199.51	1113.39	1825.78	1433.37	4597.00
	INDICATED			100.63	211.28	694.64	1006.55
	INFERRED						4482.85
	TOTAL	24.95	199.51	1214.02	2037.06	2128.01	10086.40
GRAND TOTAL	PROVED	961.95	2341.50	7197.04	6216.35	21785.01	38501.85
FOR GONDWANA	INDICATED	683.77	2534.91	8275.47	10376.86	39585.44	61456.45
	INFERRED						47769.59
	TOTAL	1645.72	4876.41	15472.51	16593.21	61370.45	147727.89
GRADE-WISE	PROVED	2.50	6.08	18.69	16.15	56.58	100.00
WEIGHT %	INDICATED	1.11	4.12	13.47	16.88	64.41	100.00
for EACH CATEGORY	TOTAL	1.65	4.88	15.48	16.60	61.40	100.00
CATEGORY-WISE	PROVED	58.45	48.02	46.52	37.46	35.50	38.52
WEIGHT %	INDICATED	41.55	51.98	53.48	62.54	64.50	61.48
for EACH GRADE	TOTAL	100.00	100.00	100.00	100.00	100.00	100.00
	PROVED	0.65	1.59	4.87	4.21	14.75	26.06
WEIGHT %	INDICATED	0.46	1.72	5.60	7.02	26.80	41.60
for OVERALL GONDWANA	INFERRED						32.34
NON-COKING COAL	TOTAL	1.11	3.30	10.47	11.23	41.54	100.00

New Delhi, the 30th December 1988

NOTIFICATION

S.O.1255(E) In pursuance of clauses 3 and 4 of the Colliery Control Order,1945 as continued in force by section 16 of the Essential Commodities Act 1955 (10 of 1955) and in supersession of the notifications of Government of India in the Ministry of Energy (Department of Coal) No.S.O.1102(E) dated the 22nd December 1987 and S.O.No.884(E) dated the 23rd September 1988, the Central Government on and from the 1st, January 1989 hereby prescribes in Table I below the classes and grades into which Coal and coke shall be categorised and fixes in Table II, III, IV, V and VI below the sale prices at which Coal or Coke may be sold by colliery owners at pit-heads :

TABLE-I

S.No.	CLASS	GRADE	GRADE SPECIFICATION
1	Non-Coking coal produced in all States other than Assam, Meghalaya, Nagaland and the Union territory of Arunachal Pradesh.	A	Useful heat value exceeding 6200 kilocalories per kilogram.
		B	useful heat value exceeding 5600 kilocalories per kilogram but not exceeding 6200 kilocalories per kilogram
		C	useful heat value exceeding 4940 kilocalories per kilogram but not exceeding 5600 kilocalories per kilogram
		D	useful heat value exceeding 4200 kilocalories per kilogram but not exceeding 4940 kilocalories per kilogram
		E	useful heat value exceeding 3360 kilocalories per kilogram but not exceeding 4200 kilocalories per kilogram
		F	useful heat value exceeding 2400 kilocalories per kilogram but not exceeding 3360 kilocalories per kilogram
		G	useful heat value exceeding 1300 kilocalories per kilogram but not exceeding 2400 kilocalories per kilogram
2	Non-coking Coal produced in States of Assam, Meghalaya, Nagaland and the Union territory of Arunachal Pradesh.	-	Not Graded.
3	Coking Coal Steel Grade-I	-	Ash content not exceeding 15%.
	Coking Coal Steel Grade-II	-	Ash content exceeding 15% but not exceeding 18%.

TABLE-I(Continuation)

S.No.	CLASS	GRADE	GRADE SPECIFICATION
	Washery Grade-I	-	Ash content exceeding 18% but not exceeding 21%.
	Washery Grade-II	-	Ash content exceeding 21% but not exceeding 24%.
	Washery Grade-III	-	Ash content exceeding 24% but not exceeding 28%.
	Washery Grade-IV	-	Ash content exceeding 28% but not exceeding 35%.
4	Semi-Coking & Weakly Coking Coals :		
	Semi-coking Grade-I	-	Ash plus moisture content not exceeding 19%.
	Semi-coking Grade-II	-	Ash plus moisture content exceeding 19%
5	Hard Coke	By-product Premium	Ash content not exceeding 25%.
		By-product Ordinary	Ash content exceeding but not exceeding 30%
		Beehive Premium	Ash content not exceeding 27%
		Beehive Superior	Ash content exceeding 27% but not exceeding 31%
		Beehive Ordinary	Ash content exceeding 31% but not exceeding 36%

Notes :

1 Coking coal are such coals as have been classified as coking coals by the erstwhile Coal Board under the Coal Mines (Conservation, Safety & Development Act, 1952) or such coals as have been declared or may be declared as coking coal by the Central Government under the Colliery Control Order 1945 or the Coal Mines (Conservation & Development) Act 1974 (28 of 1974) and the rules and regulations made under both the aforesaid Acts.

2 Semi-coking coals and weakly coking coals are such coals as were classified as "Blendable Coals" by the erstwhile Coal Board under the Coal Mines (Conservation, Safety & Development act 1952 (12 of 1952) or as may be declared as semi-coking or weakly coking coals by the Central Government under the Colliery Control Order 1945 or the Coal Mines (Conservation & Development Act 1974 (28 of 1974) and the rules made under both the aforesaid Acts.

3 Coals other than Coking or Semi-coking or Weakly coking coals are Non-coking coals.

4 Useful Heat Values is defined by the following Formula :

UHV = 8900 - 138 X (A + M)

Where UHV = Useful Heat Value in kilocalories per kilogram
A = Ash content in percentage
M = Moisture content in percentage

In the case of coal having moisture less than 2% and volatile content less than 19% the useful heat value shall be the value arrived at as above reduced by 150 kilocalories per kilogram for each 1% reduction in volatile content below 19% fraction pro-rata. Both moisture and ash shall be determined after equilibrating at 60% relative humidity and 40 degree centigrade temperature as per relevant clauses of Indian Standard Specification No.IS 1350-1950.

5 Ash percentage of coking coals and hard coke shall be determined after air-drying as per IS 1359-1959. If the moisture so determined is more than 2%, the determination shall be after equilibrating at 60% relative humidity at 40 degree centigrade temperature as IS 1350-1950.

6 "Longflame Coals" shall be defined by the parameters as laid down in Table 2 of Indian Standard No.779-1964 "General Classification of Coals (Revised)". The relevant part is extracted below :

	GROUP B-4	GROUP B-5
Volatile Matter present (Unit Coal basis)	Over 32	Over 32
Range of Gross C.V. in Kcal/Kg (Unit Coal basis)	8060 to 8440	7500 to 8060
Range of dried moisture present at 60% RH at 40 degree centigrade (Mineral free coal basis)	3 to 7	7 to 14

The determination of volatile matter and moisture shall be carried out on coal samples as per procedure laid down in Indain Standard Specification No. IS 1350 (Part-I) 1984. Determination of Gross calorific value shall be carried out in accordance with the procedure laid down in IS 1350 (Part II) 1970 dated April 1971 or any subsequent revision thereof.

7 The above classification shall not apply to coals other than Bituminous coals as specified under Indian Standard Specification No.IS 770-1964.

REFERENCE : SPC1
DATED : 23-10-1990

TABLE-II

GRADE OF COAL	USEFUL HEAT VALUE IN KILO CALORIES PER KILOGRAM	SALE PRICE PER TONNE OF			REMARKS
		STEAM COAL & LUBBLE	SLACK COAL & WASHERY MIDDLINGS	RUN OF MINE COAL	
		Rs.Pe.	Rs.Pe.	Rs.Pe.	
1	LONGFLAME COAL PRODUCED IN ALL STATES EXCEPTING ASSAM, MEGHALAYA, NAGALAND, UNION TERRITORY OF ARUNACHAL PRADESH & SINGARENI COLLIERIES				
GRADE A	EXCEEDING 6200	434.00	427.00	424.00	
GRADE B	EXCEEDING 5600 BUT NOT EXCEEDING 6200	399.00	392.00	389.00	
GRADE C	EXCEEDING 4940 BUT NOT EXCEEDING 5600	353.00	346.00	343.00	
GRADE D	EXCEEDING 4200 BUT NOT EXCEEDING 4940	287.00	280.00	277.00	
2	COAL (OTHER THAN LONGFLAME COAL) PRODUCED IN ALL STATES EXCEPT ASSAM, MEGHALAYA, NAGALAND & UNION TERRITORY OF ARUNACHAL PRADESH				
GRADE A	EXCEEDING 6200	409.00	402.00	399.00	
GRADE B	EXCEEDING 5600 BUT NOT EXCEEDING 6200	374.00	367.00	364.00	
GRADE C	EXCEEDING 4940 BUT NOT EXCEEDING 5600	328.00	321.00	318.00	
GRADE D	EXCEEDING 4200 BUT NOT EXCEEDING 4940	262.00	255.00	252.00	
GRADE E	EXCEEDING 3360 BUT NOT EXCEEDING 4200	210.00	203.00	200.00	
GRADE F	EXCEEDING 2400 BUT NOT EXCEEDING 3360	170.00	163.00	160.00	
GRADE G	EXCEEDING 1300 BUT NOT EXCEEDING 2400	124.00	117.00	114.00	
	REFERENCE : SPC2 DATED : 24-10-1990				

3 COAL PRODUCED IN THE STATE OF ANDHRA PRADESH (SINGARENI COALFIELDS)
(Modified with effect from 24-01-1990)

GRADE OF COAL	USEFUL HEAT VALUE IN KILO CALORIES PER KILOGRAM	SALE PRICE PER TONNE OF			REMARKS
		STEAM COAL & LUBBLE Rs.Pe.	SLACK COAL & WASHERY MIDDLINGS Rs.Pe.	RUN OF MINE COAL Rs.Pe.	
GRADE C	EXCEEDING 4940 BUT NOT EXCEEDING 5600	406.00	399.00	396.00	
GRADE D	EXCEEDING 4200 BUT NOT EXCEEDING 4940	359.00	352.00	349.00	
GRADE E	EXCEEDING 3360 BUT NOT EXCEEDING 4200	305.00	298.00	295.00	
GRADE F	EXCEEDING 2400 BUT NOT EXCEEDING 3360	232.00	225.00	222.00	
GRADE G	EXCEEDING 1300 BUT NOT EXCEEDING 2400	183.00	176.00	173.00	

4 COAL PRODUCED IN THE STATES OF ASSAM, MEGHALAYA, NAGALAND AND UNION TERRITORY OF ARUNACHAL PRADESH

UNGRADED (ASH CONTENT NOT EXCEEDING 25%) 460.00

REFERENCE : SPC2
DATED : 24-10-1990

TABLE-III

GRADE	ASH CONTENT	SALE PRICE PER TONNE OF			REMARKS
		STEAM COAL & LUBBLE Rs.Pe.	SLACK COAL & WASHERY MIDDLINGS Rs.Pe.	RUN OF MINE COAL Rs.Pe.	
STEEL GRADE I	NOT EXCEEDING 15%	661.00	654.00	651.00	
STEEL GRADE II	EXCEEDING 15% BUT NOT EXCEEDING 18%	553.00	546.00	543.00	
WASHERY GRADE I	EXCEEDING 18% BUT NOT EXCEEDING 21%	480.00	473.00	470.00	
WASHERY GRADE II	EXCEEDING 21% BUT NOT EXCEEDING 24%	400.00	393.00	390.00	
WASHERY GRADE III	EXCEEDING 24% BUT NOT EXCEEDING 28%	310.00	303.00	300.00	
WASHERY GRADE IV	EXCEEDING 28% BUT NOT EXCEEDING 35%	290.00	283.00	280.00	

TABLE IV

SEMI-COKING AND WEAKLY COKING COALS

GRADE	ASH PLUS MOISTURE CONTENT	SALE PRICE PER TONNE OF			REMARKS
		STEAM COAL & LUBBLE Rs.Pe.	SLACK COAL & WASHERY MIDDLINGS Rs.Pe.	RUN OF MINE COAL Rs.Pe.	
SEMI-COKING GRADE I	NOT EXCEEDING 19%	480.00	473.00	470.00	
SEMI-COKING GRADE II	EXCEEDING 19% BUT NOT EXCEEDING 24%	400.00	393.00	390.00	
	REFERENCE : SPC3 DATED : 24-10-1990				

TABLE V

HARD COKE

S.No	TYPE OF COAL	ASH CONTENT	SALE PRICE PER TONNE Rs.Pe.	REMARKS
1	BY-PRODUCT HARD COKE PREMIUM	ASH CONTENT NOT EXCEEDING 25%	1100.00	
2	BY-PRODUCT HARD COKE ORDINARY	ASH CONTENT EXCEEDING 25% BUT NOT EXCEEDING 30%	1000.00	
3	BEEHIVE HARD COKE PREMIUM	ASH CONTENT NOT EXCEEDING 27%	830.00	
4	BEEHIVE HARD COKE SUPERIOR	ASH CONTENT EXCEEDING 27% BUT NOT EXCEEDING 31%	730.00	
5	BEEHIVE HARD COKE ORDINARY	ASH CONTENT EXCEEDING 31% BUT NOT EXCEEDING 36%	500.00	

TABLE VI

HARD COKE

S.No	TYPE OF COAL	SALE PRICE PER TONNE Rs.Pe.
1	SOFT COKE FOR INDUSTRIES	300.00
2	SOFT COKE FOR DOMESTIC CONSUMPTION	175.00

REFERENCE : SPC4
DATED : 24-10-1990

NOTES

1 Long flame coals are coals which are declared as long flame coal by the coal producers and which satisfy the definition of long flame as per note number 6 under Table-I of this notification.

2 Run of mine coal is coal comprising of all sizes as it comes out of the mine without any crushing or screening.

3 The fraction of the Run of Mine coal as is retained on a screen when subjected to screening or is picked out by a fork-shovel during loading is called Steam Coal.

4 The fraction that remains after Steam Coal has been removed from the Run of Mine Coal is called Slack Coal.

5 If Run of Mine of Coal is subjected to successive screening by two different screens of different apertures resulting in segregation into three different sizes, the fraction that is retaind on the screen with the largest apertures shall be termed Steam Coal, the fraction passing through this screen but retained on the screen with the smaller apertures shall be termed Rubble Coal and the fraction passing through both the screens shall be termed Slack Coal.

6 (i) Where Coal Handling Plants or Mechanical screening and crushing facilities are available to limit top size of coal to any maximum limit within the range of 200 mm to 250 mm, such coal will be priced at the average rate of prices of Steam & Slack Coal in the ratio of 60:40 in case Steam and Slack fractions are not separated out.

(ii) Where the Top size is being limited to any maximum limit within the range of 200 mm to 250 mm, through manual facilities, an additional charge at the rate of Rs.5/= per tonne will be levied on such coal.

7 Coking Coal, Weakly Coking Coal, Semi-coking Coal which fall outside the categorisation shown in Table I shall be treated as non-coking coal for the purposes of pricing and classified accordingly.

8 When the moisture content on "as recieved" basis as defined under IS:1350-1959 of middlings at the washery and exceeds 10%, the price of middlings fixed in Table II shall be reduced by Re.1/= for each 1% increase in the moisture content in excess of 10%, fraction pro-rata.

9 (i) When the "Useful Heat Value" of non-coking coal exceeds 6400 Kilo-calories per Kilogram, the price payable as per Table II for Grade-A Coal shall be increased at the rate of Re.1/= for every 100 Kilo-calories by which the actual "Useful Heat Value" exceeds 6400 Kilo-calories per Kilogram, fraction pro-rata.

(ii) In case of coal produced in the States of Assam, Meghalaya, Nagaland & Union Territory of Arunachal Pradesh, the price payable shall be increased at the rate of Rs.11/= per tonne, per percentage of ash by which the ash content falls below 22%. Similarly, when ash content exceeds 25% the price shall be reduced at the same rate of Rs.11/= per tonne per percent of ash by which the ash content exceeds 25%.

10 (i) The price notified herein are applicable only to sale of Coal at pit-heads on FOR Colliery Siding basis or FOB purchasers transport basis at the colliery loading point.

(ii) Where coal is transported beyond a distance of 3 Kms. to the loading point, the coal companies shall be entitled to charge additional transport costs from the purchasers at the following rates :

Distance more than 3 Kms but not more than 10 Kms...Rs.10/= per tonne.
Distance more than 10 Kms but not more than 20 Kms..Rs.20/= per tonne.

Ordinarily coal will not be transported beyond 20 Kms in respect of non-core sector consumers. In this case of core sector consumers where coal is transported for more than 20 Kms to the loading points, transport charges will be payable on actual basis, to be borne by the purchasers. The core sectors for this purpose will include Steel, Loco, Cement, Power(Utility), Power(Captive) and Fertiliser.

11 The pit-head prices fixed in Tables II, III & IV are exclusive of royalty, cesses, taxes and levy, if any, levied by Government Local authorities or other bodies, duties of excise and sales tax.

For removal of doubts it is hereby declared that colliery owners shall be entitled to add an amount equal to such royalty, cess, duties of excise, sales tax and other taxes, if any, to the pit-head prices fixed in the said Tables. In the case of washery middlings, the amount to be added shall be amount payable on raw coal of the same useful heat value range.

12 The pit-head prices of Hard Coke fixed in Table V and of Soft coke fixed in Table VI are exclusive of duties of excise, royalty, cesses and sales tax on either the raw coal used for manufacturing the coke or on the Hard Coke or Soft Coke. The colliery owners shall be entitled to realise the amount of such duties of excise, royalty, cesses and sales tax and other taxes/levies, if any, from purchasers of Hard Coke and Soft Coke in addition to the prices fixed for them. When the impost is on the raw coal used for manufacture of Coke, the sum realisable per tonne of Soft Coke or Hard Coke shall be ascertained by multiplying the rates of raw coal by 1.35 for soft coke and 1.50 for hard coke.

13 Prices fixed shall not apply to coke or coal sold for export outside India.

14 For undertaking special sizing or beneficiation of coal, additional charges as may be negotiated between the purchaser and the producer may be realised over and above the fixed prices.

15 The prices fixed in Table V for Hard Coke and Table VI for Soft Coke shall not apply to small sized coke, coke breeze below 12 millimetres size, low temperature carbonisation coke, pelletised coke or briquettes.

16 The prices fixed in Table V for By-product Hard Coke Premium and Beehive Hard Coke Premium shall be increased at the rate of Rs.30/= per tonne for every 1% decrease in ash content below 23%, fraction pro-rata.

17 The prices fixed in Table V for By-product Hard Coke Ordinary shall be reduced at the rate of Rs.25/= per tonne for every one percent increase in the ash content over 30%, fraction pro-rata.

18 The prices fixed in Table V for Beehive Hard Coke Ordinary shall be reduced at the rate of Rs.20/= per tonne for every one percent increase in ash content over 36%, fraction pro-rata.

19 When the ash plus moisture content of Semi-coking Grade I coals is less than 17%, the prices payable for Semi-coking Grade I coals as per Table IV shall be increased at the rate of Rs.5/= for every 1% decrease in ash plus moisture content below 17%, fraction pro-rata.

20 A premium of 10% over and above the prices given in Table II of this notification will be charged by Coal Companies on Coals of Grades A, B, C and D supplied from the Collieries listed in the Annexure to this notification.

Sd/-
(V.S.DUBEY)
JOINT SECRETARY TO THE GOVERNMENT OF INDIA
No.28012/2/85-CA(Vol.II)

REFERENCE : SPC5
DATED : 26-10-1990

Annex 3.1.2 NOTIFICATION OF GOVERNMENT OF INDIA, MINISTRY OF ENERGY (DEPARTMENT OF COAL) (11/22)

(I).AS PREVALENT AT EASTERN COALFIELDS LIMITED, SANCTORIA.

(for sales within BIHAR State)

Serial No.	GRADE	BASIC PRICE			ROYALTY	RURAL EMPLYMENT CESS (35% OF SALE VALUE OF COAL			PRIMARY EDUCATION CESS @5% ON SALE VALUE OF COAL			ASANSOL MINES BOARD OF HEALTH PLUS PWD ROAD CESS (@ Rs.0.40/Te+Rs.1.00/Te)			TOTAL PRICE		
		STEAM Rs/te	SLACK Rs/te	ROM Rs/te	Rs/te	STEAM Rs/te	SLACK Rs/te	ROM Rs/te	STEAM Rs/te	SLACK Rs/te	ROM Rs/te	STEAM Rs/te	SLACK Rs/te	ROM Rs/te	STEAM Rs/te	SLACK Rs/te	ROM Rs/te
1	LONG FLAME (NON COKING) COAL																
	GRADE A	434.00	427.00	424.00	6.50	151.90	149.45	148.40	21.70	21.35	21.20	1.40	1.40	1.40	615.50	605.70	601.50
	GRADE B	399.00	392.00	389.00	6.50	139.65	137.20	136.15	19.95	19.60	19.45	1.40	1.40	1.40	566.50	550.20	685.65
	GRADE C	353.00	346.00	343.00	5.50	123.55	121.10	120.05	17.65	17.30	17.15	1.40	1.40	1.40	501.10	485.80	605.15
	GRADE D	287.00	280.00	277.00	4,30	100.45	98.00	96.95	14.35	14.00	13.85	1.40	1.40	1.40	407.50	393.40	489.65
2	OTHER THAN LONG FLAME COAL (NON COKING)																
	GRADE A	409.00	402.00	399.00	6.50	143.15	140.70	139.65	20.45	20.10	19.95	1.40	1.40	1.40	580.50	564.20	703 15
	GRADE B	374.00	367.00	364.00	6.50	130.90	128.45	127.40	18.70	18.35	18.20	1.40	1.40	1.40	531.50	515.20	641.90
	GRADE C	328.00	321.00	318.00	5.50	114.80	112.35	111.30	16.40	16.05	15.90	1.40	1.40	1.40	466.10	450.80	561.40
	GRADE D	262.00	255.00	252.00	4.30	91.70	89.25	88.28	13.10	12.75	12.60	1.40	1.40	1.40	372.50	358.40	445.90
	GRADE E	210.00	203.00	200.00	2.50	73.50	71.05	70.00	10.50	10.15	10.00	1.40	1.40	1.40	297.90	285.60	354.90
	GRADE F	170.00	163.00	160.00	2.50	59.50	57.05	56.00	8.50	8.15	8.00	1.40	1.40	1.40	241.90	229.60	284.90
	GRADE G	124.00	117.00	114.00	2.50	43.40	40.95	39.90	6.20	5.85	5.70	1.40	1.40	1.40	177.50	165.20	204.40

NOTE : The following tax elements are in addition to the above duties :

WEST BENGAL - SALES TAX
- POWER HOUSE : 1% OF SALE VALUE
- REGD.MANUFACTURE : 2% OF SALE VALUE
- UN REGD.MANUFACTURE : 4% OF SALE VALUE

C.S.T.
- REGD.MANUFACTURE : 4% OF SALE VALUE
- UN REGD.MANUFACTURE : 8% OF SALE VALUE

REFERENCE : SPRICE1
DATED : 20-10-1990

Annex 3.1.2 NOTIFICATION OF GOVERNMENT OF INDIA, MINISTRY OF ENERGY (DEPARTMENT OF COAL) (12/22)

PRICE STRUCTURE OF COAL WITH EFFECT FROM JANUARY 01,1989

(I).AS PREVALENT AT EASTERN COALFIELDS LIMITED, SANCTORIA.

(for sales within BIHAR State)

Serial No.	GRADE	BASIC PRICE			ROYALTY	CESS ON COAL (40% OF SALE VALUE OF COAL			CESS ON ROYALTY @ 5% ON ROYALTY			TONNAGE CESS (@ Rs 0.33/Te)			TOTAL PRICE		
		STEAM Rs/te	SLACK Rs/te	ROM Rs/te	Rs/te	STEAM Rs/te	SLACK Rs/te	ROM Rs/te	STEAM Rs/te	SLACK Rs/te	ROM Rs/te	STEAM Rs/te	SLACK Rs/te	ROM Rs/te	STEAM Rs/te	SLACK Rs/te	ROM Rs/te
1	LONG FLAME (NON COKING) COAL																
	GRADE A	434.00	427.00	424.00	6.50	173.60	170.80	169.60	0.33	0.33	0.33	0.33	0.33	0.33	614.76	604.96	600.76
	GRADE B	399.00	392.00	389.00	6.50	159.60	156.80	155.60	0.33	0.33	0.33	0.33	0.33	0.33	565.76	555.96	551.76
	GRADE C	353.00	346.00	343.00	5.50	141.20	138.40	137.20	0.33	0.33	0.33	0.33	0.33	0.33	501.36	491.56	487.36
	GRADE D	287.00	280.00	277.00	4,30	114.80	112.00	110.80	0.33	0.33	0.33	0.33	0.33	0.33	408.96	399.16	394.96
	OTHER THAN LONG FLAME COAL (NON COKING)																
	GRADE A	409.00	402.00	399.00	6.50	163.60	160.80	159.60	0.33	0.33	0.33	0.33	0.33	0.33	579.76	563.46	722.86
	GRADE B	374.00	367.00	364.00	6.50	149.60	146.80	145.60	0.33	0.33	0.33	0.33	0.33	0.33	530.76	514.46	659.86
	GRADE C	328.00	321.00	318.00	5.50	131.20	128.40	127.20	0.28	0.28	0.28	0.33	0.33	0.33	465.31	450.01	577.01
	GRADE D	262.00	255.00	252.00	4.30	104.80	102.00	100.80	0.22	0.22	0.22	0.33	0.33	0.33	371.65	357.55	458.15
	GRADE E	210.00	203.00	200.00	2.50	84.00	81.20	80.00	0.13	0.13	0.13	0.33	0.33	0.33	296.96	284.66	364.46
	GRADE F	170.00	163.00	160.00	2.50	68.00	65.20	64.00	0.13	0.13	0.13	0.33	0.33	0.33	240.96	228.66	292.46
	GRADE G	124.00	117.00	114.00	2.50	49.60	46.80	45.60	0.13	0.13	0.13	0.33	0.33	0.33	176.56	164.26	209.66

NOTE : The following tax elements are in addition to the above duties :

BIHAR - SALES TAX REGD.MANUFACTURE : 4% OF SALE VALUE
UN REGD.MANUFACTURE : 8% OF SALE VALUE

C.S.T. REGD.MANUFACTURE : 4% OF SALE VALUE
UN REGD.MANUFACTURE : 8% OF SALE VALUE

REFERENCE : SPRICE1
DATED : 20-10-1990

Annex 3.1.2 NOTIFICATION OF GOVERNMENT OF INDIA, MINISTRY OF ENERGY (DEPARTMENT OF COAL) (13/22)

PRICE STRUCTURE OF COAL WITH EFFECT FROM JANUARY 01,1989

(I).AS PREVALENT AT BHARAT COKING COAL LIMITED, DHANBAD.

(for sales within West Bengal State)

Serial No.	GRADE	BASIC PRICE			ROYALTY	RUARL EMPLOYMENT & PRODUCTION CESS 35% OF SALE VALUE			PRIMARY EDUCATION CESS 5% OF SALE VALUE			P.W.D. CESS (@ Rs 1.40/Te)			TOTAL PRICE		
		STEAM Rs/te	SLACK Rs/te	ROM Rs/te	Rs/te	STEAM Rs/te	SLACK Rs/te	ROM Rs/te	STEAM Rs/te	SLACK Rs/te	ROM Rs/te	STEAM Rs/te	SLACK Rs/te	ROM Rs/te	STEAM Rs/te	SLACK Rs/te	ROM Rs/te
1	COKING COAL :																
	SG I	661.00	654.00	651.00	7.00	231.35	228.90	227.85	33.05	32.70	32.55	1.40	1.40	1.40	933.80	924.00	919.80
	SG II	553.00	546.00	543.00	7.00	193.55	191.10	190.05	27.65	27.30	27.15	1.40	1.40	1.40	782.60	772.80	768.60
	WG I	480.00	473.00	470.00	7.00	168.00	165.55	164.50	24.00	23.65	23.50	1.40	1.40	1.40	680.40	670.60	666.40
	WG II	400.00	393.00	390.00	6.50	140.00	137.55	136.50	20.00	19.65	19.50	1.40	1.40	1.40	567.90	558.10	553.90
	WG III	310.00	303.00	300.00	6.50	108.50	106.05	105.00	15.50	15.15	15.00	1.40	1.40	1.40	441.90	432.10	427.90
	WG IV	290.00	283.00	280.00	5.50	101.50	99.05	98.00	14.50	14.15	14.00	1.40	1.40	1.40	412.90	403.10	398.90
2	NON COKING COAL :																
	GRADE A	409.00	402.00	399.00	8.50	143.15	140.70	139.65	20.45	20.10	19.95	1.40	1.40	1.40	580.50	578.70	566.50
	GRADE B	374.00	367.00	364.00	6.50	130.90	128.45	127.40	18.70	18.35	18.20	1.40	1.40	1.40	531.50	521.70	517.50
	GRADE C	328.00	321.00	318.00	5.50	114.80	112.35	111.30	16.40	16.05	15.90	1.40	1.40	1.40	466.10	456.30	452.10
	GRADE D	262.00	255.00	252.00	4.30	91.70	89.25	88.20	13.10	12.75	12.60	1.40	1.40	1.40	372.50	362.70	358.50
	GRADE E	210.00	203.00	200.00	4.30	73.50	71.05	70.00	10.50	10.15	10.00	1.40	1.40	1.40	299.70	289.90	285.70
	GRADE F	170.00	163.00	160.00	2.50	59.50	57.05	56.00	8.50	8.15	8.00	1.40	1.40	1.40	241.90	232.10	227.90
	GRADE G	124.00	117.00	114.00	2.50	43.40	40.95	39.90	6.20	5.85	5.70	1.40	1.40	1.40	177.50	167.70	163.50

NOTE : The following tax elements are addition to the above duties :

WEST BENGAL - SA REGD.MANUFACTURE - 3% OF SALE VALUE
C.S.T. REGD.MANUFACTURE - 4% OF SALE VALUE

BIHAR - SA REGD.MANUFACTURE - 4% OF SALE VALUE
C.S.T. REGD.MANUFACTURE - 4% OF SALE VALUE

REFERENCE : SPRICE2
DATED : 20-10-1990

Annex 3.1.2 NOTIFICATION OF GOVERNMENT OF INDIA, MINISTRY OF ENERGY (DEPARTMENT OF COAL) (14/22)

PRICE STRUCTURE OF COAL WITH EFFECT FROM JANUARY 01,1989

(I).AS PREVALENT AT BHARAT COKING COAL LIMITED, DHANBAD.

(for sales within BIHAR State)

Serial No.	GRADE	BASIC PRICE			ROYALTY	ROAD CESS 40% OF SALE VALUE			TONNAGE CESS			ROYALTY CESS PLUS ST.EX./ LDCC (@ Rs.0.35/Te+Rs.4.25/Te) (@ Rs.0.28/Te+Rs.4.25/Te)			TOTAL PRICE		
		STEAM Rs/te	SLACK Rs/te	ROM Rs/te	Rs/te	STEAM Rs/te	SLACK Rs/te	ROM Rs/te	STEAM Rs/te	SLACK Rs/te	ROM Rs/te	STEAM Rs/te	SLACK Rs/te	ROM Rs/te	STEAM Rs/te	SLACK Rs/te	ROM Rs/te
1	COKING COAL :																
	SG I	661.00	654.00	651.00	7.00	264.40	261.60	260.40	3.50	3.50	3.50	4.60	4.60	4.60	940.50	930.70	926.50
	SG II	553.00	546.00	543.00	7.00	221.20	218.40	217.20	3.50	3.50	3.50	4.60	4.60	4.60	789.30	779.50	775.30
	WG I	480.00	473.00	470.00	7.00	192.00	189.20	188.00	3.50	3.50	3.50	4.60	4.60	4.60	687.10	677.30	673.10
	WG II	400.00	393.00	390.00	6.50	160.00	157.20	156.00	3.50	3.50	3.50	4.60	4.60	4.60	574.60	564.80	560.60
	WG III	310.00	303.00	300.00	6.50	124.00	121.20	120.00	3.50	3.50	3.50	4.60	4.60	4.60	448.60	438.80	434.60
	WG IV	290.00	283.00	280.00	5.50	116.00	113.20	112.00	3.50	3.50	3.50	4.53	4.53	4.53	419.53	409.73	405.53
2	NON COKING COAL :																
	GRADE A	409.00	402.00	399.00	6.50	163.60	160.80	159.60	3.50	3.50	3.50	3.83	3.83	3.83	586.43	576.63	572.43
	GRADE B	374.00	367.00	364.00	6.50	149.60	146.80	145.60	3.50	3.50	3.50	3.83	3.83	3.83	537.43	527.63	523.43
	GRADE C	328.00	321.00	318.00	5.50	131.20	128.40	127.20	3.50	3.50	3.50	3.78	3.78	3.78	471.98	462.18	457.98
	GRADE D	262.00	255.00	252.00	4.30	104.80	102.00	100.80	3.50	3.50	3.50	3.72	3.72	3.72	378.32	368.52	364.32
	GRADE E	210.00	203.00	200.00	4.30	84.00	81.20	80.00	3.50	3.50	3.50	3.72	3.72	3.72	305.52	295.72	291.52
	GRADE F	170.00	163.00	160.00	2.50	68.00	65.20	64.00	3.50	3.50	3.50	3.63	3.63	3.63	247.63	237.83	233.63
	GRADE G	124.00	117.00	114.00	2.50	49.60	46.80	45.60	3.50	3.50	3.50	3.63	3.63	3.63	183.23	173.43	169.23

NOTE : The following tax elements are in addition to the above duties :

WEST BNGAL - SALES TAX :- REGD.MANUFACTURE - 3% OF SALE VALUE
C.S.T. :- REGD.MANUFACTURE - 4% OF SALE VALUE

BIHAR - SALES TAX :- REGD.MANUFACTURE - 4% OF SALE VALUE
C.S.T. :- REGD.MANUFACTURE - 4% OF SALE VALUE

REFERENCE : SPRICE2
DATED : 20-10-1990

Annex 3.1.2 NOTIFICATION OF GOVERNMENT OF INDIA, MINISTRY OF ENERGY (DEPARTMENT OF COAL) (15/22)

PRICE STRUCTURE OF COAL WITH EFFECT FROM JANUARY 01,1989

(I).AS PREVALENT AT CENTRAL COALFIELDS LIMITED, RANCHI.

(for sales within BIHAR State)

Serial No.	GRADE	BASIC PRICE			ROYALTY	CESS 40% OF BASIC PRICE			STOWING EXCISE DUTY			TOTAL PRICE		
		STEAM Rs/te	SLACK Rs/te	ROM Rs/te	Rs/te	STEAM Rs/te	SLACK Rs/te	ROM Rs/te	STEAM Rs/te	SLACK Rs/te	ROM Rs/te	STEAM Rs/te	SLACK Rs/te	ROM Rs/te
1	COKING COAL :													
	SG I	661.00	654.00	651.00	7.00	264.40	261.60	260.40	4.25	4.25	4.25	936.65	926.85	922.65
	SG II	553.00	546.00	543.00	7.00	221.20	218.40	217.20	4.25	4.25	4.25	785.45	775.65	771.45
	WG I	480.00	473.00	470.00	7.00	192.00	189.20	188.00	4.25	4.25	4.25	683.25	673.45	669.25
	WG II	400.00	393.00	390.00	6.50	160.00	157.20	156.00	4.25	4.25	4.25	570.75	560.95	556.75
	WG III	310.00	303.00	300.00	6.50	124.00	121.20	120.00	4.25	4.25	4.25	444.75	434.95	430.75
	WG IV	290.00	283.00	280.00	5.50	116.00	113.20	112.00	4.25	4.25	4.25	415.75	405.95	401.75
2	NON COKING COAL :													
	GRADE A	409.00	402.00	399.00	6.50	163.60	160.80	159.60	3.50	3.50	3.50	582.60	572.80	568.60
	GRADE B	374.00	367.00	364.00	6.50	149.60	146.80	145.60	3.50	3.50	3.50	533.60	523.80	519.60
	GRADE C	328.00	321.00	318.00	5.50	131.20	128.40	127.20	3.50	3.50	3.50	468.20	458.40	454.20
	GRADE D	262.00	255.00	252.00	4.30	104.80	102.00	100.80	3.50	3.50	3.50	374.60	364.80	360.60
	GRADE E	210.00	203.00	200.00	4.30	84.00	81.20	80.00	3.50	3.50	3.50	301.80	292.00	287.80
	GRADE F	170.00	163.00	160.00	2.50	68.00	65.20	64.00	3.50	3.50	3.50	244.00	234.20	230.00
	GRADE G	124.00	117.00	114.00	2.50	49.60	46.80	45.60	3.50	3.50	3.50	179.60	169.80	165.60
3	LONG FLAME (NON COKING) :													
	GRADE A	434.00	427.00	424.00	6.50	173.60	170.80	169.60	3.50	3.50	3.50	617.60	607.80	603.60
	GRADE B	399.00	392.00	389.00	6.50	159.60	156.80	155.60	3.50	3.50	3.50	568.60	558.80	554.60
	GRADE C	353.00	346.00	343.00	5.50	141.20	138.40	137.20	3.50	3.50	3.50	503.20	493.40	489.20
	GRADE D	287.00	280.00	277.00	4.30	114.80	112.00	110.80	3.50	3.50	3.50	409.60	399.80	395.60

PRICE STRUCTURE OF COAL WITH EFFECT FROM JANUARY 01,1989

(I).AS PREVALENT AT CENTRAL COALFIELDS LIMITED, RANCHI.

4 SOFT COKE MANUFACTURED ITEM :

GRADE	BASIC PRICE	ROYALTY	CESS	SED	TOTAL
W-II	175.00	8.78	216.00	5.74	405.52
W-III	175.00	8.78	167.40	5.74	356.92
W-IV	175.00	7.43	156.60	5.74	344.77
C	175.00	7.43	177.12	4.73	364.28
D	175.00	5.81	141.48	4.73	327.02
E	175.00	5.81	113.40	4.73	298.94

5 HARD COKE :

BP PREMIUM	1100.00 :	ROYALTY, CESS, STOWING EXCISE DUTY MAY BE CALCULATED ON THE BASIS OF GRADE OF RAW COAL USED FOR MANUFACTURING
BP ORDINARY	1000.00 :	FOR HARD COKE BY WAY OF CONVERSION RATIO OF 1.5 MT OF RAW COAL FOR ACH MT OF HARD COKE MANUFACTURED.
BH PREMIUM	830.00 :	
BH SUPERIOR	730.00 :	
BH ORDIANRY	500.00 :	

NOTE :

1. The following tax elements are in addition to the above duties :

SALES TAX	REGD.MANUFACTURE - 8% OF SALE VALUE
C.S.T.	REGD.MANUFACTURE - 4% OF SALE VALUE

2. WHERE CAOL IS TRANSPORTED BEYOND A DISTANCE OF 3 KMS. TO THE LOADING POINT, THE COAL COMPANIES SHALL BE ENTITLED TO CHARGE ADDITIONAL TRANSPORT COST FROM THE PURCHASERS AT FOLLOWING RATES :

DISTANCE MORE THAN 3 KMS BUT NOT MORE THAN 10 KMS	Rs.10/- PER TONNE
DISTANCE MORE THAN 10 KMS BUT NOT MORE THAN 20 KMS	Rs.20/- PER TONNE

REFERENCE : SPRICE3
DATED : 22-10-1990

Annex 3.1.2 NOTIFICATION OF GOVERNMENT OF INDIA, MINISTRY OF ENERGY (DEPARTMENT OF COAL) (17/22)

PRICE STRUCTURE OF COAL WITH EFFECT FROM JANUARY 01,1989

(I).AS PREVALENT AT WESTERN COALFIELDS LIMITED, NAGPUR.

(FOR COLLIERIES IN M.P.)

Serial No.	GRADE	BASIC PRICE			ROYALTY	CESS ON ROYALTY @125%			STOWING EXCISE DUTY			CESS ON STRAGE			TOTAL PRICE		
		STEAM Rs/te	SLACK Rs/te	ROM Rs/te	Rs/te	STEAM Rs/te	SLACK Rs/te	ROM Rs/te	STEAM Rs/te	SLACK Rs/te	ROM Rs/te	STEAM Rs/te	SLACK Rs/te	ROM Rs/te	STEAM Rs/te	SLACK Rs/te	ROM Rs/te
A	SEMI-COKING COAL :																
	Gr.I UPTO 19%	480.000	473.000	470.000	6.500	8.125	8.125	8.125	4.250	4.250	4.250	5.000	5.000	5.000	503.875	496.875	493.875
	Gr.II UPTO 19.24%	400.000	393.000	390.000	6.500	8.125	8.125	8.125	4.250	4.250	4.250	5.000	5.000	5.000	423.875	416.875	413.875
B	NON-COKING COAL (OTHER THAN LONGFLAME) :																
	GRADE A	409.000	402.000	399.000	6.500	8.125	8.125	8.125	3.500	3.500	3.500	5.000	5.000	5.000	431.125	425.125	422.125
	GRADE B	374.000	367.000	364.000	6.500	8.125	8.125	8.125	3.500	3.500	3.500	5.000	5.000	5.000	397.125	398.125	387.125
	GRADE C	328.000	321.000	318.000	5.500	6.875	6.875	6.875	3.500	3.500	3.500	5.000	5.000	5.000	348.875	341.875	338.875
	GRADE D	262.000	255.000	252.000	4.300	5.375	5.375	5.375	3.500	3.500	3.500	5.000	5.000	5.000	280.175	273.175	270.175
	GRADE E	210.000	203.000	200.000	4.300	5.375	5.375	5.375	3.500	3.500	3.500	5.000	5.000	5.000	228.175	221.175	218.175
	GRADE F	170.000	163.000	160.000	2.500	3.125	3.125	3.125	3.500	3.500	3.500	5.000	5.000	5.000	184.125	177.125	174.125
	GRADE G	124.000	117.000	114.000	2.500	3.125	3.125	3.125	3.500	3.500	3.500	5.000	5.000	5.000	138.125	131.125	128.125
C	LONG FLAME (NON COKING) :																
	GRADE A	434.000	427.000	424.000	6.500	8.125	8.125	8.125	3.500	3.500	3.500	5.000	5.000	5.000	457.125	450.125	447.125
	GRADE B	399.000	392.000	389.000	6.500	8.125	8.125	8.125	3.500	3.500	3.500	5.000	5.000	5.000	422.125	415.125	412.125
	GRADE C	353.000	346.000	343.000	5.500	6.875	6.875	6.875	3.500	3.500	3.500	5.000	5.000	5.000	373.875	366.875	363.875
	GRADE D	287.000	280.000	277.000	4.300	5.375	5.375	5.375	3.500	3.500	3.500	5.000	5.000	5.000	305.175	298.175	295.175

NOTE :
1.The following tax elements are inaddition to the above duties :
C.S.T. REGD.MANUFACTURE - 4% OF SALE VALUE .

REFERENCE : SPRICE4
DATED : 24-10-1990

Annex 3.1.2 NOTIFICATION OF GOVERNMENT OF INDIA, MINISTRY OF ENERGY (DEPARTMENT OF COAL) (18/22)

PRICE STRUCTURE OF COAL WITH EFFECT FROM JANUARY 01,1989

(I) AS PREVALENT AT WESTERN COALFIELDS LIMITED, NAGPUR.
(FOR COLLIERIES IN MAHARASHTRA)

Serial No.	GRADE	BASIC PRICE			ROYALTY	CESS ON ROYALTY @10%			STOWING EXCISE DUTY			TOTAL PRICE			TOTAL INCLUSIVE OF 4% TAX		
		STEAM	SLACK	ROM		STEAM	SLACK	ROM	STEAM	SLACK	ROM	STEAM	SLACK	ROM	STEAM	SLACK	ROM
		Rs/te	Rs/te	Rs/te	Rs/te	Rs/te	Rs/te	Rs/te	Rs/te	Rs/te	Rs/te	Rs/te	Rs/te	Rs/te	Rs/te	Rs/te	Rs/te
A	SEMI-COKING COAL :																
	Gr.I UPTO 19%	480.000	473.000	470.000	6.500	0.650	0.650	0.650	4.250	4.250	4.250	491.400	484.400	481.400			
	Gr.II UPTO 19.24%	400.000	393.000	390.000	6.500	0.650	0.650	0.650	4.250	4.250	4.250	411.400	404.400	401.400			
B	NON-COKING COAL (OTHER THAN LONGFLAME) :																
	GRADE A	409.000	402.000	399.000	6.500	0.650	0.650	0.650	3.500	3.500	3.500	419.650	412.650	409.650	436.436	429.156	426.036
	GRADE B	374.000	367.000	364.000	6.500	0.650	0.650	0.650	3.500	3.500	3.500	384.650	377.650	374.650	400.036	392.756	389.636
	GRADE C	328.000	321.000	318.000	5.500	0.550	0.550	0.550	3.500	3.500	3.500	337.550	330.550	327.550	351.052	343.772	340.652
	GRADE D	262.000	255.000	252.000	4.300	0.430	0.430	0.430	3.500	3.500	3.500	270.230	263.230	260.230	281.039	273.759	270.639
	GRADE E	210.000	203.000	200.000	4.300	0.430	0.430	0.430	3.500	3.500	3.500	218.230	211.230	208.230	226.959	219.679	216.559
	GRADE F	170.000	163.000	160.000	2.500	0.250	0.250	0.250	3.500	3.500	3.500	176.250	169.250	166.250	183.300	176.020	172.900
	GRADE G	124.000	117.000	114.000	2.500	0.250	0.250	0.250	3.500	3.500	3.500	130.250	123.250	120.250	135.460	128.180	125.060
C	LONG FLAME (NON COKING) :																
	GRADE A	434.000	427.000	424.000	6.500	0.650	0.650	0.650	3.500	3.500	3.500	444.650	437.650	434.650	462.436	455.156	452.036
	GRADE B	399.000	392.000	389.000	6.500	0.650	0.650	0.650	3.500	3.500	3.500	409.650	402.650	399.650	426.036	418.756	415.636
	GRADE C	353.000	346.000	343.000	5.500	0.550	0.550	0.550	3.500	3.500	3.500	362.550	355.550	352.550	377.052	369.772	366.652
	GRADE D	287.000	280.000	277.000	4.300	0.430	0.430	0.430	3.500	3.500	3.500	295.230	288.230	285.230	307.039	299.759	296.639

NOTE :
1. ~~The following tax elements are in addition to the above duties~~ :
C.S.T. REGD.MANUFACTURER - 4% OF SALE VALUE
2. SURFACE TRANSPORTATION CHARGES SHALL BE PAYABLE FOR TRANSPORTATION OF COAL FROM PITHEAD TO SIDING FOR DISTANCE BEYOND 3 KMS AND UPTO 10 KMS @Rs.10 PER TONNE AND BEYOND 10 KMS AND UPTO 20 KMS @Rs.20 PER TONNE.

REFERENCE : SPRICE4
DATED : 24-10-1990

Annex 3.1.2 NOTIFICATION OF GOVERNMENT OF INDIA, MINISTRY OF ENERGY (DEPARTMENT OF COAL) (19/22)

PRICE STRUCTURE OF COAL WITH EFFECT FROM JANUARY 01,1989

(I).AS PREVALENT AT SOUTH EASTERN COALFIELDS LIMITED,BILASPUR.
(FOR COLLIERIES IN M.P.)

Serial No.	GRADE	BASIC PRICE			ROYALTY	CESS ON ROYALTY @125%			STOWING EXCISE DUTY			CESS ON STRAGE			TOTAL PRICE		
		STEAM Rs/te	SLACK Rs/te	ROM Rs/te	Rs/te	STEAM Rs/te	SLACK Rs/te	ROM Rs/te	STEAM Rs/te	SLACK Rs/te	ROM Rs/te	STEAM Rs/te	SLACK Rs/te	ROM Rs/te	STEAM Rs/te	SLACK Rs/te	ROM Rs/te
A	SEMI-COKING COAL :																
	Gr.I UPTO 19%	480.000	473.000	470.000	6.500	8.125	8.125	8.125				9.250	9.250	9.250	503.875	496.875	493.875
	Gr.II UPTO 19.24%	400.000	393.000	390.000	6.500	8.125	8.125	8.125				9.250	9.250	9.250	423.875	416.875	413.875
B	NON-COKING COAL (OTHER THAN LONGFLAME) :																
	GRADE A	409.000	402.000	399.000	6.500	8.125	8.125	8.125	0.650	0.650	0.650	8.500	8.500	8.500	432.775	425.775	422.775
	GRADE B	374.000	367.000	364.000	6.500	8.125	8.125	8.125	0.650	0.650	0.650	8.500	8.500	8.500	397.775	390.775	387.775
	GRADE C	328.000	321.000	318.000	5.500	6.875	6.875	6.875	0.550	0.550	0.550	8.500	8.500	8.500	349.425	342.425	339.425
	GRADE D	262.000	255.000	252.000	4.300	5.375	5.375	5.375	0.430	0.430	0.430	8.500	8.500	8.500	280.605	273.605	270.605
	GRADE E	210.000	203.000	200.000	4.300	5.375	5.375	5.375	0.430	0.430	0.430	8.500	8.500	8.500	228.605	221.605	218.605
	GRADE F	170.000	163.000	160.000	2.500	3.125	3.125	3.125	0.250	0.250	0.250	8.500	8.500	8.500	184.375	177.375	174.375
	GRADE G	124.000	117.000	114.000	2.500	3.125	3.125	3.125	0.250	0.250	0.250	8.500	8.500	8.500	138.375	131.375	128.375
C	LONG FLAME (NON COKING) :																
	GRADE A	434.000	427.000	424.000	6.500	8.125	8.125	8.125	0.650	0.650	0.650	8.500	8.500	8.500	457.775	450.775	447.775
	GRADE B	399.000	392.000	389.000	6.500	8.125	8.125	8.125	0.650	0.650	0.650	8.500	8.500	8.500	422.775	415.775	412.775
	GRADE C	353.000	346.000	343.000	5.500	6.875	6.875	6.875	0.550	0.550	0.550	8.500	8.500	8.500	374.425	367.425	364.425
	GRADE D	287.000	280.000	277.000	4.300	5.375	5.375	5.375	0.430	0.430	0.430	8.500	8.500	8.500	305.605	298.605	295.605

NOTE :
1.The following tax elements are in addition to the above duties :
C.S.T. REGD.MANUFACTURER - 4% OF SALE VALUE

REFERENCE : SPRICE5
DATED : 24-10-1990