

#PARTIAL CCF (10MTY) - BOTH COAL & CB OUTSOURCED FOR 3.5 MTY WITHOUT CWP  
ESTIMATED PHASED CAPITAL EXPENDITURE ON ELECTRICAL PLANT & MACHINERY

SUMMARY SHEET - OPTION II

Appendix - A.3.1  
Amount in Rs '000

Sl. No.	Particulars	Sanctioned P.R. For 6.5 MTY		P.R. Prov'd For 10MTY		Existing As On 31.3.06		Additional Requirement			Year wise Phasing										From Beyond Target Year				
		Qty.	Cost	Qty.	Cost	Qty.	Cost	Qty.	Rate	Cost	Year-1		Year-2		Year-3		Year-4		Year-5		Qty.	Cost			
											Qty.	Cost	Qty.	Cost	Qty.	Cost	Qty.	Cost	Qty.	Cost	Qty.	Cost	Qty.	Cost	
1		3	4	6	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
i)	Power Supply And Distribution							LS		5637		4025		1612											
ii)	Illumination							LS		6411		2669		2522											
iii)	Communication & EDP							LS		200		100		100											
	<b>GRAND TOTAL</b>		408000		341963		329716			12248		7013.8		6234											



PIPARIWAR COP (10MTY) - BOTH COAL & DS OUTSOURCED FOR 3.5 MTY WITHOUT OMP  
ESTIMATED PHASED CAPITAL EXPENDITURE ON ELECTRICAL PLANT & MACHINERY

OPTION - II

Appendix - A.3.1  
Approved in Rs. 000

Sl. No.	Particulars	Sanctioned P.R For 6.5 MTY		P.R Provn. For 10MTY		Existing As On 31.3.06		Additional Requirement		Year wise Phasing										Prvsn. Beyond Target Year					
		Qty.	Cost	Qty.	Cost	Qty.	Cost	Qty.	Rate	Cost	Year-1	Year-2	Year-3	Year-4	Year-5	Year-6	Year-7	Year-8	Year-9	Year-10					
		Coil	Coil	Coil	Coil	Coil	Coil	Coil	Coil	Coil	Coil	Coil	Coil	Coil	Coil	Coil	Coil	Coil	Coil	Coil	Coil	Coil			
1		3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
2	Good Dump Illumination.																								
3	Good dump Illumination with 400W, flood light towers, 16 KVA, 6.6 KV, 0.415 KV, transformers, OHTL, cables, switches etc.							Ls	Ls	600	Ls	100	Ls	500											
4	General Illumination.																								
5	Emergency Illumination with 10KVA D.G. Set and accessories.							Ls	Ls	200	Ls	200													
6	Installation Cost 10%							Ls	Ls	601	Ls	200	Ls	401											
7	Communication & EOP							Ls	Ls	200	Ls	100	Ls	100											
	Sub Total : (B)									6811		2969		3622											
	GAPNO TOTAL		409200		341983		329716			12248		7014		6324											

**PROJECT REPORT FOR PIPARWAR OCP [10.0 MTY]****SUMMARY STATEMENT OF CAPITAL EXPENDITURE ESTIMATE FOR P&M.**

[ SHIFTING OF EXISTING DUMP HOPPER RAMP, WEIGH BRIDGE ETC. ]

**[ SUMMARY ]  
OPTION - II & III**

[Amount in Rs.Lakhs]

SL No.	PARTICULARS	TOTAL QTY.	UNIT COST	TOTAL COST	PHASING	
					1	2
1	Reconstruction / reorientation of existing dump hopper receiving platform / ramp	LS	---	19.00	19.00	
2	Road Weigh Bridge of 50 te. with digital display, printer, Installation etc.	1	8.60	8.60	8.60	
3	Weighment House & Misc. etc.	1	4.80	4.80	4.80	
<b>GRAND TOTAL</b>				<b>32.40</b>	<b>32.40</b>	

APPENDIX - A & B

PIPARWAR O.C.P. (10.00 M.TY.)  
Option 2 & 3

STATEMENT SHOWING THE ESTIMATED CAPITAL INVESTMENT ON ROADS & CULVERTS.

SL NO	PARTICULARS	P.R. PROVISION	EXISTING AS ON 31.03.2005	ADDITIONAL PROVISION	(AMOUNT IN RS. LAKHS)			
					PHASING			
					1ST. YR.	2ND. YR.	3RD. YR.	4TH YR.
1	HAUL ROAD	82.78		82.78	50.00	32.78	0.00	0.00
	TOTAL	1152.73	1069.95	82.78	50.00	32.78	0.00	0.00









## Statement of Manpower

Sl. No. Particulars	Category	Years															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
<b>C.6 Rly. Staffing</b>																	
1	Leading Supervisor																
2	Leading Man	3042 - 5111	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	Sub-Total of Rly. Staffing		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
<b>C.6 SAFETY DEPARTMENT &amp; QUALITY CONTROL</b>																	
1	Dy. Chief	16500 - 22900	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	Supdt. Of Mines	17500 - 22200	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3	Crozier Manager	16000 - 20800	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4	Sr. Overman	4652 - 7807	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
5	Overman	4317 - 7257	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
6	Asst. Nighting Supervisor	4317 - 7257	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
7	Shifting Overman	4317 - 7257	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
8	O.S.	4652 - 7807	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
9	Mining Scribe	3998 - 6528	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
10	Peon	3384 - 4464	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Sub-Total of Safety Dept. & Quality Control		14	14	14	14	14	14	14	14	14	14	14	14	14	14	14
<b>C.7 PROJECT OFFICE CUM PLANNING DIV.</b>																	
1	C.M.E	16500 - 20000	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	Supdt. Of Mines	17500 - 22200	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3	Asst. Geological Manager	13750 - 16700	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
4	Sr. Geologist	13750 - 16700	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
5	Survey Officer	10750 - 15750	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6	D.M.A.	3998 - 6528	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
7	Revenue Officer	10750 - 16700	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
8	O.S.	4652 - 7807	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
9	Sr. Cashier	4317 - 7257	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
10	Jr. Clerk	3098 - 6528	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
11	St. P.A.	4652 - 7807	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
12	Peon	3384 - 4464	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Sub-Total of Project Office		14	14	14	14	14	14	14	14	14	14	14	14	14	14	14
<b>C.8 COMMUNICATIONS</b>																	
1	Sr. E.E. (Electronics)	13750 - 16700	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	Foreman (Communication)	4317 - 7257	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3	Communication Operator	V	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
4	Telephone Attendant	IV	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	Sub-Total of Communications		8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
<b>C.9 ACCOUNTS</b>																	
1	Finance Manager	17500 - 22200	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	Finance Officer	13750 - 16700	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
3	Accountant	4652 - 7807	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
4	Accounts Clerk	3998 - 6528	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
5	LCC/Typh	3098 - 6528	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6	Peon	3384 - 4464	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Sub-Total of Accounts		9	9	9	9	9	9	9	9	9	9	9	9	9	9	9

### Statement of Manpower

B/S Particulars	Category	Years														
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<b>C.10 PERSONNEL WELFARE</b>																
1 Personnel Office	12750-18700	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2 LDC's (2nd)	3088 - 5878	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3 Peon	3384 - 4464	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4 Reproductive Cell Assistant	II	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
5 PG (not seen) Assistant	I	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
<b>Sub-Total of Personnel Welfare</b>		7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
<b>C.11 STORES</b>																
1 St. Store Officer	12750-18700	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2 Chief Store Keeper	4002 - 7402	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3 Asst. S.K.	3088 - 5878	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4 S.K.	3384 - 4464	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
5 LDC's (2nd)	3088 - 5878	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6 Marginalia Clerk	3088 - 5878	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
7 Typist	II	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
8 Store Inspector	I	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
<b>Sub-Total of Stores</b>		11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
<b>C.12 CIVIL &amp; WATER SUPPLY</b>																
1 S.E. (Civil)	17900 - 22200	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2 Sr. E.E. (Civil)	18000 - 20800	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3 Engineer (Civil)	13750-18700	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4 Overseer (Civil)	2268 - 6028	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
5 Work Supervisor	5545-8111	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6 Miller	3958 - 6528	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
7 LDC's (2nd)	3088 - 5878	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
8 Carpenter	V	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
9 Plumber	V	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
10 Mason	V	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
11 Mason Master	II	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
12 Pump Operator	II	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
13 Pipe Fitter	II	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
14 Pipe Fitter Inspector	II	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
15 Filter Plant Assistant	IV	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
16 Valve Man	I	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
<b>Sub-Total of Civil &amp; Water Supply</b>		26	26	26	26	26	26	26	26	26	26	26	26	26	26	26
<b>C.13 MEDICAL &amp; SANITATION</b>																
1 St. Medical Officer	12750-18700	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2 M.O. (Asst)	10750-18750	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3 Compounder	3088 - 5878	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4 Dresser	3545-5111	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
5 Nurse	3088 - 5878	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
6 Pharmacist boy	3384 - 4464	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
7 Sanitary Inspector	3088 - 5878	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
8 Store Inspector	3088 - 5878	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
9 Peon	3384 - 4464	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
10 Peon	I	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14
<b>Sub-Total of Medical &amp; Sanitation</b>		29	29	29	29	29	29	29	29	29	29	29	29	29	29	29

Statement of Manpower																	
SI No./Particulars	Category	Years															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
<b>C-14 SURVEY</b>																	
1 Sr. Survey Officer	13750-18700	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2 Surveyor	3998-6528	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
3 D.M.	3998-6528	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4 Field Worker / Keen Operator	3100-4056	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
5 Draughtsman	3576-4856	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
6 Mapper	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Sub-Total of Survey		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
<b>C-15 TRANSPORT</b>																	
1 Foreman/In-charge (E&M)	4952-7802	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2 H.V. Driver	3688-5878	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
3 L.V. Driver	2545-5111	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
4 Auto Electrician	V	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
5 Auto Mechanic	V	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
6 Field (Mach)	V	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
7 Driver/Operator	II	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Sub-Total of Transport		56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56
<b>TOTAL FOR COMMON</b>		562	567	567	567	567	567	567	567	567	567	567	567	567	567	567	567
<b>RECLAMATION &amp; ENVIRONMENT</b>																	
1 Environment & Reclamation Officer	5000-20800	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2 Environment Asst	4852-7802	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
3 Reclamation Mapper	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Sub-Total of Reclamation & Environment		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
<b>GRAND TOTAL</b>		779	818	818	818	820	833	836	841	807	888	888	888	888	888	888	888

EPR OF PIPARWAR OCP-10 MTY

WITHOUT DEPARTMENTAL CRP

STATEMENT SHOWING ESTIMATED SALARIES AND WAGES

OPTION-II

Sl. category	Unit wage	YEARS																		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16			
		No.	Am't	No.	Am't	No.	Am't	No.	Am't	No.	Am't	No.	Am't	No.	Am't	No.	Am't	No.	Am't	
1	4P	2.64	4	10.57	4	10.57	4	10.57	4	10.57	4	10.57	4	10.57	4	10.57	4	10.57	4	10.57
2	A	7.52	20	150.40	24	180.48	24	180.48	24	180.48	24	180.48	24	180.48	24	180.48	24	180.48	24	180.48
3	B	2.20	101	222.20	109	239.80	111	244.20	114	252.60	118	261.00	124	274.40	130	287.80	136	301.20	142	314.60
4	C	2.29	27	61.83	27	61.83	27	61.83	27	61.83	27	61.83	27	61.83	27	61.83	27	61.83	27	61.83
5	D	2.09	4	8.36	4	8.36	4	8.36	4	8.36	4	8.36	4	8.36	4	8.36	4	8.36	4	8.36
6	E	1.96	36	70.56	36	70.56	36	70.56	36	70.56	36	70.56	36	70.56	36	70.56	36	70.56	36	70.56
7	F	1.65	142	234.30	144	238.20	144	241.20	144	244.20	144	247.20	144	250.20	144	253.20	144	256.20	144	259.20
8	G	1.60	74	118.40	75	120.00	75	121.60	75	123.20	75	124.80	75	126.40	75	128.00	75	129.60	75	131.20
9	H	1.94	109	211.26	109	211.26	109	211.26	109	211.26	109	211.26	109	211.26	109	211.26	109	211.26	109	211.26
10	IV	1.90	14	26.60	14	26.60	14	26.60	14	26.60	14	26.60	14	26.60	14	26.60	14	26.60	14	26.60
11	V	2.05	41	84.05	41	84.05	41	84.05	41	84.05	41	84.05	41	84.05	41	84.05	41	84.05	41	84.05
12	VI	2.26	11	24.86	12	27.12	12	27.12	12	27.12	12	27.12	12	27.12	12	27.12	12	27.12	12	27.12
13	6091-6247	1.82	11	19.98	11	19.98	11	19.98	11	19.98	11	19.98	11	19.98	11	19.98	11	19.98	11	19.98
14	5090-6042	1.87	4	7.48	4	7.48	4	7.48	4	7.48	4	7.48	4	7.48	4	7.48	4	7.48	4	7.48
15	5062-5644	1.80	52	93.60	60	108.00	60	108.00	60	108.00	60	108.00	60	108.00	60	108.00	60	108.00	60	108.00
16	5218-5005	1.97	42	82.74	50	98.50	50	98.50	50	98.50	50	98.50	50	98.50	50	98.50	50	98.50	50	98.50
17	6724-10760	2.25	19	42.75	20	44.91	20	44.91	20	44.91	20	44.91	20	44.91	20	44.91	20	44.91	20	44.91
18	7200-11194	2.41	21	50.61	22	53.11	22	53.11	22	53.11	22	53.11	22	53.11	22	53.11	22	53.11	22	53.11
19	7534-12004	2.59	14	36.26	14	36.26	14	36.26	14	36.26	14	36.26	14	36.26	14	36.26	14	36.26	14	36.26
20	10700-10700	4.16	11	45.76	12	49.92	12	49.92	12	49.92	12	49.92	12	49.92	12	49.92	12	49.92	12	49.92
21	13700-16700	4.56	11	50.16	11	50.16	11	50.16	11	50.16	11	50.16	11	50.16	11	50.16	11	50.16	11	50.16
22	16000-20000	5.06	6	30.36	6	30.36	6	30.36	6	30.36	6	30.36	6	30.36	6	30.36	6	30.36	6	30.36
23	17000-22000	5.50	7	38.50	7	38.50	7	38.50	7	38.50	7	38.50	7	38.50	7	38.50	7	38.50	7	38.50
24	18500-22600	6.02	4	24.08	4	24.08	4	24.08	4	24.08	4	24.08	4	24.08	4	24.08	4	24.08	4	24.08
25	19500-25000	6.27	1	6.27	1	6.27	1	6.27	1	6.27	1	6.27	1	6.27	1	6.27	1	6.27	1	6.27
26	20500-20500	6.80																		
Total			779	1710.37	818	1807.807	818	1807.807	818	1807.807	818	1807.807	818	1807.807	818	1807.807	818	1807.807	818	1807.807
NPA & Charge allowance			0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36
Grand Total			779	1710.73	818	1808.167	818	1808.167	818	1808.167	818	1808.167	818	1808.167	818	1808.167	818	1808.167	818	1808.167
Total Mansufl			208699	213962	215902	216652	216652	216652	216652	216652	216652	216652	216652	216652	216652	216652	216652	216652	216652	216652
CRMS			31.51	46.31	46.31	46.31	46.31	46.31	46.31	46.31	46.31	46.31	46.31	46.31	46.31	46.31	46.31	46.31	46.31	46.31
EMAS			621.69	837.34	837.34	837.34	837.34	837.34	837.34	837.34	837.34	837.34	837.34	837.34	837.34	837.34	837.34	837.34	837.34	837.34

**OPTION-B**  
**EPR FOR PIPARWAR OCP (10.00 MTY)**  
**ESTIMATED COST OF PRODUCTION AT 100% CAPACITY UTILISATION**

Year	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	Y11	Y12	Y13	Y14	Y15	Y16	Total	AWR COST Rs./Tonne
Salaries & Wages	1710.43	1806.26	1800.26	1808.26	1813.02	1844.00	1851.57	1853.48	1782.04	1552.48	1552.48	1552.48	1547.72	1545.33	1502.44	1117.32	26659.57	25.16
Stores Cost	5029.53	5253.23	3629.85	5608.65	5716.51	6330.73	5409.95	6878.14	5080.23	4814.69	4814.69	4821.42	4824.21	4827.01	4719.55	1848.34	82809.62	78.16
Power cost	1658.04	1581.32	1984.61	1566.37	1697.29	2139.45	2214.11	2250.56	1892.10	1445.98	1484.88	1524.78	1532.83	1536.86	1545.92	957.17	29136.27	26.55
Miscellaneous cost	1597.81	2056.39	2106.75	2085.32	2101.13	2100.69	2096.49	2080.44	1824.20	1352.71	1357.00	1380.42	1361.37	1359.14	1359.73	1051.77	27233.46	25.70
Cost Incidence of corpus	6.08	15.11	14.25	13.46	13.13	15.09	16.37	16.07	13.98	5.28	5.18	5.22	5.32	5.42	5.56	1.36	159.69	0.15
Administrative Expenses	3530.90	5405.00	5446.00	5446.00	5446.00	5446.00	5446.00	5446.00	4138.96	1906.10	1906.10	1906.10	1906.10	1906.10	1905.10	467.18	57704.64	54.46
Coal Outsourcing Cost	1244.36	1335.97	1374.62	1374.62	1388.29	1421.09	1463.37	1471.00	1571.26								11279.94	40.27
OB Outsourcing Cost	2511.04	2100.26	1805.89	1805.89	1780.21	1727.80	1785.13	1794.87	1770.03								15253.24	53.50
Interest on working capital	572.20	858.24	851.41	838.69	843.16	875.79	896.79	900.52	748.28	461.67	483.35	485.43	485.73	465.83	458.97	226.80	10384.85	9.89
Total Cash cost	14304.88	21455.83	21205.36	20967.25	21078.73	21894.63	22169.78	22513.08	18732.09	11541.84	11583.66	11635.85	11643.28	11645.69	11489.27	8669.94	259621.28	313.75
Depreciation	4671.50	4907.02	4922.76	4837.22	4965.24	5105.38	5211.76	5267.81	4825.11	4659.27	4688.27	4658.27	4658.27	4658.27	4630.24	3672.09	76408.28	72.11
Total Cost	18976.39	26363.76	26208.12	25904.47	26043.98	27000.01	27381.54	27780.89	23557.20	16200.10	16241.93	16294.12	16301.55	16303.96	16129.51	9342.04	336029.96	385.87
Production (in lakh te)	65.00	109.00	100.00	100.00	100.00	100.00	100.00	100.00	76.00	35.00	35.00	35.00	35.00	35.00	35.00	8.58	1659.58	
Cost per tonne (in Rs.)	291.94	260.54	262.09	259.04	260.44	270.00	273.82	277.81	309.96	462.86	464.06	465.65	465.76	465.83	460.84	1089.02	385.87	
Selling Price (in Rs.)	582.60	577.74	610.69	586.97	594.56	593.90	591.22	586.49	582.79	593.81	601.98	608.50	610.53	609.41	609.56	579.23	593.03	
Profit/Loss Per Tonne (in Rs.)	290.65	314.10	348.61	327.93	334.12	323.90	317.40	308.69	272.83	130.95	137.92	142.95	144.77	140.69	148.72	-506.79	207.17	



OPTION-II

EPR FOR PIPARWAR OCP (10.00 MTY)  
ESTIMATED COST OF PRODUCTION AT 100% CAPACITY UTILISATION

4. UTILICAL PREPARATION PLANT  
WITHOUT BEST CPP

Year	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	Y11	Y12	Y13	Y14	Y15	Y16	Total	Ave. Cost Rs./Tonne
Solaries & Wages	1740.43	1008.25	1008.26	1008.26	1812.02	1844.00	1051.57	1063.48	1782.04	1852.48	1852.48	1852.48	1547.72	1545.33	1502.44	1117.32	26659.57	25.16
Stores cost	5629.53	5653.25	5629.80	5600.65	5716.51	5330.73	6409.95	5678.14	5080.23	4817.51	4814.69	4821.42	4824.21	4827.61	4719.55	1848.34	82309.62	78.18
Power cost	1053.04	1381.32	1984.51	1886.37	1927.25	2133.45	2214.11	2250.56	1802.10	1445.98	1484.86	1524.78	1532.83	1535.86	1545.92	957.17	28136.27	29.55
Miscellaneous cost	1587.91	2038.39	2100.75	2085.32	2101.13	2100.59	2096.49	2090.44	1824.20	1552.71	1167.00	1360.42	1361.37	1359.14	1358.73	1051.77	27233.46	25.70
Cost for interest of capital	6.80	15.11	14.25	13.46	13.13	15.00	16.37	18.07	13.98	5.28	5.18	5.22	5.32	6.42	6.56	1.36	159.69	0.15
Administrative Expenses	2539.94	5446.00	5446.90	5446.00	5446.00	5446.00	5446.00	5446.00	4138.95	1506.10	1006.10	1506.10	1506.10	1506.10	1506.10	467.18	57704.64	54.86
Cost Out-sourcing Cost	1244.36	1335.87	1335.87	1374.52	1358.29	1421.89	1453.37	1471.00	1671.24								11279.94	40.27
CE Outsourcing Cost	2511.04	2108.30	1805.89	1805.89	1750.21	1727.60	1785.13	1784.87	1770.03								16253.24	53.50
Cost of Washing	11714.67	11714.67	11714.67	11714.67	11714.67	11714.67	11714.67	11714.67	11714.67	6307.90	6307.90	6307.90	6307.90	6307.90	6307.90	1546.05	144825.54	180.23
Interest on working capital	1055.31	1348.35	1335.53	1326.80	1351.26	1363.50	1374.90	1388.63	1237.40	734.50	726.18	728.25	728.56	728.66	722.90	294.22	16419.25	15.50
Total Cash cost	28507.67	33958.72	33488.15	33170.04	33231.52	34057.42	34372.57	34715.85	30534.80	18112.57	18154.39	18208.58	18214.01	18216.42	18070.00	7280.41		499.67
Interest on Loan Capital																		
Depreciation	6434.74	6671.06	6685.95	6700.45	6720.48	6863.52	6974.99	7031.05	6588.34	6421.50	6421.50	6421.50	6421.50	6421.50	6393.48	5435.33	104620.06	98.74
Total Cost	37942.41	40329.78	40174.14	39870.49	40010.00	40955.04	41347.56	41746.91	37523.22	24534.07	24575.90	24828.09	24835.52	24837.93	24463.48	12715.74		598.41
Production (in lakh t)	65.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	76.00	35.00	35.00	35.00	35.00	35.00	35.00	8.68	1066.68	
Input for CPP for washing of coal (in lakh t)	65.00	65.00	65.00	65.00	65.00	65.00	65.00	65.00	65.00	65.00	65.00	65.00	65.00	65.00	65.00	8.68	803.58	
Output from CPP washed coal (in lakh t)	53.19	53.19	53.19	53.19	53.19	53.19	53.19	53.19	53.19	53.19	53.19	53.19	53.19	53.19	53.19	7.02	657.57	
Cost per tonne (in Rs.)	619.34	711.42	709.67	703.31	705.77	722.54	729.37	738.41	661.78	688.62	688.62	688.62	688.62	688.62	688.62	1011.43	598.41	
Selling Price (in Rs.)	1045.00	852.91	870.53	862.91	862.91	862.91	862.91	862.91	954.22	1045.00	1045.00	1045.00	1045.00	1045.00	1045.00	1045.00	901.21	
Profit (in Rs.)	425.66	141.50	161.86	149.60	147.14	130.27	124.16	119.53	302.43	188.38	185.92	185.10	184.84	184.76	190.64	766.43	302.89	

## STATEMENT SHOWING CASHFLOWS FOR FINANCIAL ANALYSIS AT 100 % CAPACITY UTILISATION.

(Fig. in Rs. Lakhs)

Year	CAPITAL OUTFLOW		OPERATING COST	INT. ON WORKING CAPITAL	TOTAL OUTFLOW	Total Production MTY	ANNUAL SALES	NET CASHFLOWS
	ORIGINAL	REPLACEMENT						
Existing	75404.34				75404.34			-75404.34
1	908.73	9766.33	13732.69	572.20	24979.94	6.50	37869.00	12889.06
2	817.74	3766.99	20597.70	858.24	26040.66	10.00	57795.61	31754.95
3	265.00	551.71	20433.95	851.41	22102.07	10.00	61106.82	39004.74
4	231.32	101.39	20128.56	838.69	21299.96	10.00	58744.42	37444.46
5		577.84	20235.56	843.15	21656.57	10.00	59477.25	37820.68
6		3119.53	21018.85	875.79	25014.17	10.00	59396.53	34382.37
7		4481.92	21262.99	886.79	26651.70	10.00	59103.96	32452.26
8		3571.71	21612.55	900.52	26084.79	10.00	56680.44	32595.64
9		3401.23	17982.81	749.28	22133.32	7.60	44260.74	22127.43
10		11809.20	11080.16	481.67	23351.04	3.50	20783.25	-2567.78
11		1083.88	11120.32	463.35	12667.55	3.50	21069.20	8401.65
12		2150.52	11170.42	465.43	13786.37	3.50	21297.50	7511.13
13		101.39	11177.55	465.73	11744.67	3.50	21368.61	9623.94
14		260.28	11179.86	465.83	11925.97	3.50	21224.29	9296.32
15		43.48	11039.30	459.97	11542.75	3.50	21334.72	9791.97
16			5443.15	226.80	5669.94	0.86	4956.86	-701.06
Total	77627.12	31356.81	249236.43	10384.85	368605.22	105.96	628481.23	259876.01

Internal Rate of Return

36.01%

STATEMENT SHOWING CASHFLOWS FOR FINANCIAL ANALYSIS AT 100 % CAPACITY UTILISATION  
(WITH COAL PREPARATION PLANT FOR CLEAN COAL)

Fig. In Rs. Lakhs.

Year	CAPITAL OUTFLOW		OPERATING COST	INT. ON WORKING CAPITAL	TOTAL OUTFLOW	Total Production MTY		ANNUAL SALES	NET CASHFLOWS
	ORIGINAL	REPLACEMENT				Clean coal	Raw coal		
Existing	107142.58				107142.58				-107142.58
1	908.73	9766.33	25447.36	1060.31	37162.73	5.32		55583.03	18400.30
2	817.74	3768.99	32312.37	1346.35	38243.45	5.32	3.50	75218.03	36974.58
3	265.00	551.71	32148.62	1339.53	34304.86	5.32	3.50	76780.28	42475.42
4	231.32	101.39	31843.24	1326.60	33502.75	5.32	3.50	75218.03	41715.26
5		577.64	31950.26	1331.26	33659.36	5.32	3.50	75218.03	41358.67
6		3119.53	32733.52	1363.90	37216.95	5.32	3.50	75218.03	38001.07
7		4481.92	32997.66	1374.90	38854.49	5.32	3.50	75272.42	36417.93
8		3571.71	33327.23	1388.63	38267.58	5.32	3.50	75493.74	37206.16
9		3401.23	29997.48	1237.40	34336.10	5.32	1.10	61892.66	27556.55
10		11809.20	17388.06	724.50	29921.77	2.86		29929.32	7.55
11		1083.86	17428.22	726.18	19238.28	2.86		29929.32	10691.04
12		2150.52	17478.32	728.26	20357.10	2.86		29929.32	9572.22
13		101.39	17485.45	728.56	18315.40	2.86		29929.32	11613.92
14		280.25	17487.77	728.66	16496.70	2.86		29929.32	11432.62
15		43.48	17347.20	722.80	16113.48	2.86		29929.32	11815.84
16			6989.20	291.22	7280.41	0.70		7335.60	55.19
		-13450.60			-13450.60				13450.60
Total	109365.35	31356.61	394061.97	16419.25	551203.39		25.60	632805.77	261602.36

Internal Rate of Return

29.02%

STATEMENT SHOWING CASHFLOWS FOR FINANCIAL ANALYSIS AT 65 % CAPACITY UTILISATION.  
OPTION-II

Appendix D 1

(Fig. In Rs. Lakhs)

Year	CAPITAL OUTFLOW		OPERATING COST	INT. ON WORKING CAPITAL	TOTAL OUTFLOW	Total Production MTY	ANNUAL SALES	NET CASHFLOWS
	ORIGINAL	REPLACEMENT						
Existing	75404.34				75404.34			-75404.34
1	908.73	9766.33	13217.30	550.72	24443.08	5.53	32188.65	7745.57
2	817.74	3766.99	19438.92	809.96	24833.61	8.50	49126.27	24292.66
3	265.00	551.71	19313.35	804.72	20934.79	8.50	51940.79	31006.00
4	231.32	101.39	19050.78	793.78	20177.27	8.50	49932.76	29755.49
5		577.84	19154.35	798.10	20530.28	8.50	50555.66	30025.38
6		3119.53	19895.34	828.97	23843.85	8.50	50487.05	26643.21
7		4481.92	20136.95	839.04	25457.91	8.50	50238.36	24780.45
8		3571.71	20446.74	851.95	24870.40	8.50	49678.37	25007.97
9		3401.23	16942.95	705.96	21050.13	6.46	37621.63	16571.50
10		11809.20	10614.34	442.26	22865.81	2.98	17665.77	-5200.05
11		1083.68	10652.85	443.87	12180.50	2.98	17908.82	5728.22
12		2150.52	18700.73	445.86	13297.11	2.98	18102.88	4805.76
13		101.39	10707.29	446.14	11254.82	2.98	18163.32	6908.50
14		280.28	10709.48	446.23	11435.98	2.98	18040.65	6604.67
15		43.48	10574.94	440.62	11059.05	2.98	18134.51	7075.46
16			5201.49	218.73	5418.22	0.73	4223.55	-1194.67
		-13450.60			-13450.60			13450.60
<b>Total</b>	<b>77627.12</b>	<b>31356.81</b>	<b>236757.80</b>	<b>9864.91</b>	<b>355606.65</b>	<b>90.06</b>	<b>534209.05</b>	<b>178602.40</b>

Internal Rate of Return

26.67%

## STATEMENT SHOWING CASHFLOWS FOR ECONOMIC ANALYSIS AT 100 % CAPACITY UTILISATION.

(fig. in Rs. Lakhs.)

Year	CAPITAL OUTFLOW		OPERATING COST	INT. ON WORKING CAPITAL	TOTAL OUTFLOW	Total Production MTY	ANNUAL SALES	NET CASHFLOWS
	ORIGINAL	REPLACEMENT						
Existing	75404.34				75404.34			-75404.34
1	745.16	8008.39	12496.75	520.70	21770.99	6.50	37869.00	16098.01
2	670.54	3088.93	18743.90	781.00	23284.38	10.00	57795.61	34511.23
3	217.30	452.40	18594.89	774.79	20039.38	10.00	61106.82	41067.43
4	169.68	83.14	18316.99	763.21	19353.02	10.00	58744.42	39391.40
5		473.83	18414.38	767.27	19655.47	10.00	59477.25	39821.78
6		2558.02	19127.15	796.96	22482.14	10.00	59396.53	36914.40
7		3675.18	19367.52	806.98	23849.68	10.00	59103.96	35254.28
8		2928.81	19667.42	819.48	23415.71	10.00	58680.44	35264.73
9		2789.00	16364.35	681.85	19835.21	7.60	44260.74	24425.53
10		9683.55	10062.95	420.12	20186.62	3.50	20783.25	596.64
11		888.78	10119.49	421.65	11429.92	3.50	21069.20	9639.28
12		1763.43	10165.06	423.54	12352.05	3.50	21297.50	8945.45
13		83.14	10171.57	423.82	10678.52	3.50	21368.61	10690.09
14		229.83	10173.68	423.90	10827.41	3.50	21224.29	10396.89
15		35.65	10045.76	418.57	10499.99	3.50	21334.72	10834.73
16			4953.26	206.39	5159.65	0.86	4968.88	-190.77
Total	77227.02	-11029.49	226805.15	9450.21	339194.98	105.96	628481.23	289286.25

Internal Rate of Return 39.42%

STATEMENT SHOWING CASHFLOWS FOR ECONOMIC ANALYSIS AT 85 % CAPACITY UTILISATION.  
OPTION-II

Appendix D.3

(Fig. in Rs. Lakhs)

Year	CAPITAL OUTFLOW		OPERATING COST	INT. ON WORKING	TOTAL OUTFLOW	Total Production	ANNUAL SALES	NET CASHFLOWS
	ORIGINAL	REPLACEMENT						
Existing	75404.34				75404.34			-75404.34
1	745.16	8008.39	12027.74	501.15	21282.44	5.53	32188.65	10906.21
2	670.54	3088.93	17689.42	737.05	22185.96	8.50	49126.27	26940.31
3	217.30	452.40	17575.15	732.30	18977.15	8.50	51940.79	32963.64
4	189.68	83.14	17336.21	722.34	18331.37	8.50	49932.76	31601.38
5		473.83	17430.46	726.27	18630.55	8.50	50555.66	31925.11
6		2558.02	18104.76	754.37	21417.14	8.50	50487.05	29069.91
7		3675.18	18324.62	763.53	22763.33	8.50	50238.36	27475.04
8		2928.81	18606.53	775.27	22310.61	8.50	49678.37	27567.76
9		2789.00	15418.08	642.42	18849.51	6.46	37621.63	18772.12
10		9683.55	9659.05	402.46	19745.06	2.98	17665.77	-2079.29
11		888.78	9694.09	403.92	10966.80	2.98	17908.82	6922.02
12		1763.43	9737.67	405.74	11906.83	2.98	18102.88	6196.05
13		83.14	9743.64	405.98	10232.76	2.98	18163.32	7930.56
14		229.83	9745.62	406.07	10381.52	2.98	18040.65	7659.13
15		35.65	9623.20	400.97	10059.82	2.98	18134.51	8074.69
16			4733.35	197.22	4930.58	0.73	4223.55	-707.03
		-11029.49			-11029.49			11029.49
Total	77227.02	25712.59	215449.60	8977.07	327366.28	90.06	534209.05	206842.77

Internal Rate of Return

30.16%

STATEMENT SHOWING CASHFLOWS FOR FINANCIAL ANALYSIS AT 100% CAPACITY UTILISATION.  
(ON COMPLETION COST)

(Fig. in Rs. Lakhs)

Year	CAPITAL OUTFLOW		OPERATING COST	INT. ON WORKING CAPITAL	TOTAL OUTFLOW	Total Production MTY	ANNUAL SALES	NET CASHFLOWS
	ORIGINAL	REPLACEMENT						
Existing	75404.34				75404.34			-75404.34
1	951.80	9786.33	13732.69	572.20	25023.02	6.50	37869.00	12845.98
2	895.26	3786.99	20597.70	858.24	26118.19	10.00	57795.61	31677.42
3	302.68	551.71	20433.95	851.41	22139.76	10.00	61105.82	39967.06
4	275.18	101.39	20128.56	838.69	21343.82	10.00	58744.42	37400.60
5		577.84	20235.58	843.15	21856.57	10.00	59477.25	37820.68
6		3119.53	21016.85	875.79	25014.17	10.00	59398.53	34382.37
7		4481.92	21282.99	896.79	26851.70	10.00	59103.96	32452.26
8		3571.71	21612.55	900.52	26384.79	10.00	58860.44	32595.64
9		3401.23	17982.81	749.26	22133.32	7.60	44260.74	22127.43
10		11808.20	11080.16	451.67	23351.04	3.50	20783.25	-2567.78
11		1083.88	11120.32	463.36	12667.55	3.50	21069.20	8401.85
12		2150.52	11170.42	465.43	13786.37	3.50	21297.50	7511.13
13		101.39	11177.55	465.73	11744.67	3.50	21368.61	9623.94
14		290.28	11179.86	465.83	11925.97	3.50	21224.29	9298.32
15		43.46	11039.30	459.97	11542.75	3.50	21334.72	9791.97
16			5443.15	226.80	5669.94	0.86	4968.88	-701.06
		-13450.60			-13450.60			13450.60
Total	77829.27	31356.81	249236.43	10384.85	368607.37	105.96	825481.23	259673.86

Internal Rate of Return

35.96%

STATEMENT SHOWING CASHFLOWS FOR FINANCIAL ANALYSIS AT 85 % CAPACITY UTILISATION.  
 OPTION-II (ON COMPLETION COST)

(fig. in Rs. Lakhs)

Year	CAPITAL OUTFLOW		OPERATING COST	INT. ON WORKING	TOTAL OUTFLOW	Total Production	ANNUAL SALES	NET CASHFLO
	ORIGINAL	REPLACEMENT						
Existing	75404.34				75404.34			-75404.34
1	951.80	9706.33	13217.30	550.72	24486.15	5.53	32188.65	7702.50
2	895.26	3766.99	19438.92	809.96	24911.14	8.50	49126.27	24215.14
3	302.68	551.71	19313.35	804.72	20972.47	8.50	51940.79	30968.32
4	275.18	101.39	19050.78	793.78	20221.13	8.50	49832.78	29711.63
5		577.84	19154.35	788.10	20530.28	8.50	50555.66	30025.38
6		3119.53	19895.34	828.97	23843.85	8.50	50487.05	26643.21
7		4481.92	20136.95	839.04	25457.91	8.50	50238.36	24780.45
8		3571.71	20446.74	851.95	24870.40	8.50	49878.37	25007.97
9		3401.23	16942.95	705.96	21050.13	6.46	37621.63	16571.50
10		11809.20	10614.34	442.26	22865.81	2.98	17665.77	-5200.05
11		1083.88	10652.85	443.67	12180.60	2.98	17908.82	5728.22
12		2150.52	10700.73	445.66	13297.11	2.98	18102.88	4805.76
13		101.39	10707.29	446.14	11254.82	2.98	18163.32	6908.50
14		280.28	10709.48	446.23	11435.98	2.98	18040.65	6604.87
15		43.48	10574.94	440.62	11059.05	2.98	18134.51	7075.46
16			5201.49	216.73	5418.22	0.73	4223.55	-1194.67
		-13450.60			-13450.60			13450.60
Total	77829.27	31358.81	236757.80	9864.91	355808.80	90.06	534209.05	178400.25

Internal Rate of Return

26.62%

STATEMENT SHOWING CASHFLOWS FOR ECONOMIC ANALYSIS AT 100 % CAPACITY UTILISATION.  
(ON COMPLETION COST)

(fig. In Rs. Lakhs)

Year	CAPITAL OUTFLOW		OPERATING COST	INT. ON WORKING CAPITAL	TOTAL OUTFLOW	Total Production MTY	ANNUAL SALES	NET CASHFLOWS
	ORIGINAL	REPLACEMENT						
Existing	75404.34				75404.34			-75404.34
1	780.48	8008.39	12496.75	520.70	21806.32	6.50	37869.00	16062.68
2	734.12	3088.93	18743.90	781.00	23347.95	10.00	57795.61	34447.66
3	248.20	452.40	18594.89	774.79	20070.28	10.00	61106.82	41036.53
4	225.65	83.14	18316.99	763.21	19388.99	10.00	58744.42	39355.44
5		473.83	18414.38	767.27	19655.47	10.00	59477.25	39821.78
6		2558.02	19127.15	796.96	22482.14	10.00	59396.53	36914.40
7		3675.18	19367.52	806.98	23849.68	10.00	59103.96	35254.28
8		2926.81	19667.42	819.48	23415.71	10.00	58680.44	35284.73
9		2789.00	18364.35	681.85	19835.21	7.60	44260.74	24425.53
10		9683.55	10082.95	420.12	20186.62	3.50	20783.25	596.64
11		888.78	10119.49	421.65	11429.92	3.50	21069.20	9639.28
12		1763.43	10165.08	423.64	12352.05	3.50	21297.50	8945.45
13		83.14	10171.57	423.82	10678.52	3.50	21368.61	10690.09
14		229.83	10173.68	423.90	10827.41	3.50	21224.29	10398.89
15		35.65	10045.76	418.57	10499.99	3.50	21334.72	10834.73
16			4953.26	206.39	5159.65	0.86	4968.89	-190.77
Total	77392.78	-11029.49	226805.15	9450.21	339360.74	105.96	628481.23	289120.49

Internal Rate of Return

39.37%

STATEMENT SHOWING CASHFLOWS FOR ECONOMIC ANALYSIS AT 85 % CAPACITY UTILISATION.  
OPTION-II  
(ON COMPLETION COST)

Appendix D 7

(Fig. In Rs. Lakhs.)

Year	CAPITAL OUTFLOW		OPERATING COST	INT ON WORKING CAPITAL	TOTAL OUTFLOW	Total Production MTY	ANNUAL SALES	NET CASHFLOWS
	ORIGINAL	REPLACEMENT						
Existing	75404.34				75404.34			-75404.34
1	780.48	8008.39	12027.74	501.16	21317.77	6.53	32188.65	10870.88
2	734.12	3088.93	17689.42	737.06	22249.53	8.50	49126.27	26876.74
3	248.20	452.40	17575.15	732.30	19008.06	8.60	51940.79	32932.74
4	225.65	63.14	17336.21	722.34	18367.34	8.50	49932.76	31565.42
5		473.89	17430.46	726.27	18630.55	8.50	50555.66	31925.11
6		2558.02	19104.76	754.37	21417.14	8.50	50487.05	29069.91
7		3675.18	18324.62	763.53	22763.33	8.50	50238.36	27475.04
8	40.82	27.68	18806.53	775.27	19450.31	8.50	48878.37	30428.06
9		2789.00	15418.08	642.42	18849.51	6.48	37621.63	18772.12
10		9683.55	9659.05	402.48	19745.06	2.98	17665.77	-2079.29
11		888.78	9694.09	403.92	10986.80	2.98	17906.82	6922.02
12		1763.43	9737.67	405.74	11906.83	2.98	18102.88	6198.05
13		83.14	8743.64	405.98	10232.76	2.98	18163.32	7930.56
14		229.83	9745.62	406.07	10381.52	2.98	18040.65	7658.13
15		35.65	9623.20	400.97	10059.82	2.98	18134.51	8074.69
16			4733.35	187.22	4830.56	0.73	4223.55	-707.03
Total	77433.60	22811.46	215449.60	8977.07	324871.73	90.06	534209.05	209537.31

Internal Rate of Return

30.28%

**ESTIMATED CAPITAL EXPENDITURE ON ENVIRONMENTAL PROTECTION MEASURES**

Appendix I

**A-CAPITAL EXPENDITURE**

Name of the Project: ASHOKA DCP (19.60 MTY)

**COST OF REHABILITATION**

a	Total no. of families to be rehabilitated	200
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**CAPITAL ESTIMATES**

Sl.No.	Description	Amount	Remarks
1	Compensation of land to be acquired for rehabilitation		
2	Cost of development of land plots including Schools, Township, Roads etc.		
3	Shifting allowance		
4	Lump sum grant		
5	Payment of lump sum grant of Rs. 50,000/- each for such family ( i.e. 200 nos.) who want to shift at the place of their own choice instead of the above mentioned in a nos. 1 to 4 as per CIL rehabilitation policy	100.00	Appendix-A.8.1
6	Lumpsum assistance to eligible PAPs to establish self employment through the provision of infrastructures or formation of co-operatives @ 5% of rehabilitator cost	5.00	Appendix-A.8.1
<b>SUB-TOTAL</b>		<b>105.00</b>	

**COST OF COMPENSATORY AFFORSTATION**

a	Forest land to be acquired in Ha	242.02
b	Density of forest	0.3
c	WC of trees at 100% density	1900
d	Forest in safety zone in Ha	112.06

**CAPITAL ESTIMATES**

Sl.No.	Description	Amount	Remarks
1	Cost of forest growth & capital NPV for 242.02 Ha @Rs. 4.137/Lac/ha as per actual expenditure	1001.24	
2	Cost of afforestation @Rs.23057/-per Ha for double the forest land 242.02 Ha., that is, 484.04 ha	160.01	
3	Enrichment of forest @Rs/0000/- per hectare in safety Zone for 112.06 Ha including compensation of cost of produce or actual vegetation basis density along with sales tax	76.46	
<b>SUB-TOTAL</b>		<b>1238.70</b>	Appendix-A.8.1

**CAPITAL FOR RESTORATION**

1	HEMM for Reclamation	679.46	Appendix-E
2	Biological reclamation of over burden dump @ Rs.50,000/-per Ha for 500 Ha.	180.00	Appendix-A.8.1
<b>SUB-TOTAL</b>		<b>859.46</b>	

**CAPITAL FOR ANTI-POLLUTION MEASURES IN MINE AND INDUSTRIAL AREA**

1	3 Nos. water sprinklers	226.56	Appendix-A.3
2	Industrial sewage treatment in workshop	75.16	Appendix-A.8.3.4
3	Water supply distribution system	216.16	Appendix-A.8.3
4	Nallah diversion/sedimentation lagoon/check dam/flood protective embankment/Storm water drains etc.	14.50	Appendix-A.8.1
5	Dust suppression & extraction in coal handling plant & feeder breaker	48.00	Appendix-A.3.4
6	Other development measures	428.58	Appendix-A.8.1
<b>SUB-TOTAL</b>		<b>1019.96</b>	

**CAPITAL FOR ANTI-POLLUTION MEASURES IN TOWNSHIP**

1	Colony Sewage treatment	75.20	Appendix-A.8.3.2
2	Storm water drain/Garden drainage etc.	36.07	Appendix-A.8.3.2
3	Water treatment plant & Distribution system	189.76	Appendix-A.8.3.1
4	Garden drains, embankment, sedimentation lagoon etc.	26.57	Appendix-A.8.1
5	Other development measures	214.30	Appendix-A.8.1
<b>SUB-TOTAL</b>		<b>543.90</b>	

**OTHER PROVISIONS**

1	Base line data generation and monitoring works	12.00	Appendix-A.8.1
2	Cost for Arboriculture	17.32	Appendix-A.8.1
3	Housing for personnel for pollution control	40.75	Appendix-B&A.2.1
<b>SUB-TOTAL</b>		<b>70.34</b>	

**COMPENSATION FOR TENANCY LAND**

VII		2582.85	Appendix-A.1
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**FINANCIAL IMPACT**

<b>CAPITAL</b>			
1	Cost of rehabilitation	105.00	
2	Cost of compensatory afforestation	1238.70	
3	Cost of restoration	859.46	
4	Cost for Anti-pollution measures in mine & industrial area	1019.96	
5	Cost of Anti-pollution measures in township	543.90	
6	Other provisions	70.34	
7	Compensation for Tenancy Land	2582.85	
<b>TOTAL CAPITAL</b>		<b>6512.21</b>	

**IMPACT ON REVENUE COST OF PRODUCTION**

(RS/T)      T/SH

577

**OPTION - III**

## OPTION -III

### Quarry-II

1. Mostly Departmental and partly Outsourced to produce 6.5 MTY of coal.
2. Quarry-II which is presently being worked has been proposed to be worked @ 6.5MTY as planned in the approved PR. No additional equipment has been proposed other than existing. The Coal & OB production (Total for life of the Quarry-II, Coal-7Mte, OB-7.99 Mcum) beyond the installed equipment capacity of Quarry -II have also been proposed to be outsourced, instead of procuring equipment for the same.

### Quarry-I

1. Coal and OB both are envisaged to be totally Out Sourced, for its total life. (Coal-49.87 Mte, OB-38.16 Mcum)
2. Coal to be won by surface Miner.
3. Additional CHP for 3.5MTY of coal has not been proposed.
- ✓ 4. Pumping outsourced
5. Washing for 6.5 MTY of coal shall be done as per approved PR. No additional 3.5 MTY of coal production-washing facility has been provided.

## STATEMENT SHOWING ESTIMATED INITIAL INVESTMENT

(Rs. in Lakhs)

Sl. No.	Particulars	As per Sanctioned PR (6.5 MT)	Total as per expansion PR 10 MT	Existing as on 31.3.05	Balance/ Additional Amount	PHASINGS			
						1	2	3	4
1	Land	467.00	2562.70	2562.70					
2	Buildings								
	(a) Residential	1149.00	1123.09	1123.09					
	(b) Service	2591.00	2411.54	2411.54					
3	Plant and Machinery								
	(a) BEEM	29229.00	23074.38	25074.38					
	(b) Other than BEEM	19245.00	13438.43	13311.51	126.92		36.10		
	Total Plant & Machinery	48474.00	36512.82	36385.89	126.92	90.83	36.10		
4	Furniture	40.00	768.22	768.22					
5	Railway Siding	6887.00	11925.87	10190.87	1635.00	700.00	700.00	235.00	
6	Vehicles	561.00	195.26	195.26					
7	Prospecting & Boring	46.00	203.20	203.20					
8	Development								
(a)	Capital Outlay in Miles	1815.00	877.33	545.91	331.32	40.00	30.00	30.00	231.32
(b)	Roads & Culverts	1770.00	1152.73	1059.95	82.78	50.00	32.78		
(c)	Water Supply	441.00	381.14	381.14					
(d)	PR preparation Cost & Contingency	15965.00	19285.57	19274.69	10.88	10.88			
	Sub Total (a)	19811.00	21698.67	21271.69	424.98	190.88	62.78	30.00	231.32
9	Revenue Exp. Capitalised		411.88	411.88					
	Total Initial Capital Investment	80346.00	77891.25	76404.34	2186.90	881.71	798.88	265.00	231.32
10	Cost Preparation Plant	3487.00	31738.24	31738.24					
	Total Initial Capital Investment including CTP	83827.00	109329.49	107142.58	2186.90	881.71	798.88	165.00	231.32

Existing Equipments to the tune of Rs. 4.65 crores would not be required and proposed to be diverted.

STATEMENT SHOWING ESTIMATED COMPLETION CAPITAL WITH PHASING  
OPTION-III

APPENDIX - A

(Rs. IN LAKHS)

Sl. No.	Particulars	Total as per expansion to 10 MTY	Existing as on 31.3.05	Balance/ Additional Amount	Phasing of Total Amount			
					1	2	3	4
1	Land							
2	Buildings	2502.70	2502.70					
	(a) Residential	1123.09	1123.09					
	(b) Service	2411.54	2411.54					
3	Plant and Machinery							
	(a) HEMM	23074.38	23074.38					
	(b) Other than HEMM	13445.16	13311.51	134.65				
	<b>Total Plant &amp; Machinery</b>	<b>36520.54</b>	<b>36385.89</b>	<b>134.65</b>				
4	Furniture	708.22	708.22		95.13	39.52		
5	Railway Siding				95.13	39.52		
6	Vehicles	11958.83	10190.87	1767.96	733.18	766.36		
7	Prospecting & Boring	195.26	195.26					
8	Development	203.20	203.20					
(a)	Capital Outlay in Mines	930.09	545.91	384.18	41.90	32.84		
(b)	Roads & Culverts	1158.22	1069.95	88.27	52.37	35.89		
(c)	Water Supply	381.14	381.14					
(d)	PR preparation Cost	19286.09	19274.69	11.40	11.40			
	<b>Sub Total (B)</b>	<b>21755.54</b>	<b>21271.69</b>	<b>483.85</b>	<b>105.67</b>	<b>68.74</b>	<b>34.27</b>	<b>275.18</b>
9	REC	411.88	411.88					
	<b>Total Initial Capital</b>	<b>77790.80</b>	<b>75404.34</b>	<b>2386.46</b>	<b>833.98</b>	<b>874.62</b>	<b>302.68</b>	<b>275.18</b>

Sl. No.	Particulars	As per Sanctioned PR (RS. LAKHS)	As per Sanctioned Capital (RS. MTN)	Total as per expansion PR 10 MTN	Additional incremental over completion capital	Existing as on 31.3.06	Balance/ Additional Amount	RELEASED		
								1	2	3
1	Coal	47.85	1702.34	2592.79	1146.46	2592.79				
2	Subsidy									
3	Oil Fuel	3142.00	1285.78	1122.00	242.69	1122.00				
4	(B) Service	2003.00	2602.47	2441.54	356.93	2441.54				
5	Plant and Machinery	28725.00	23074.28	23074.28		23074.28				
6	Other than BEMSS	15245.00	13438.40	13438.40		13311.51	126.89		36.10	
	Total Plant & Machinery	43770.00	36472.68	36472.68	3455.06	26385.80	136.92		36.10	
7	Power	40.00	152.00	708.22	540.22	708.22				
8	Software	4887.00	10193.00	11825.87	1718.87	13194.87	1635.06		701.60	235.08
9	Mobiles	522.00	337.00	899.29	-141.74	165.26				
10	Printing & Bond	4670	293.60	293.21	0.26	363.20				
11	Development									
12	Capital Charge to Share	1015.00	896.00	877.22	-8.77	545.91	331.32		30.00	24.00
13	Grant & Subsidy	1770.00	1223.00	1152.73	-70.27	1660.98	82.78		50.08	31.78
14	Water Supply	441.00	441.00	381.14	-59.86	381.14				
15	PR preparation Cost & Contingency	15005.00	26527.00	19288.57	-7241.43	19274.69	16.88			
	Total (A)	19831.00	21177.00	21696.01	-7480.33	21271.69	424.98		62.78	30.00
16	Balance of Capital			411.88	411.88	411.88				
	Total Initial Capital Investment	80246.00	78611.31	77891.21	-1020.06	75404.34	2186.90		786.88	265.00
17	Coal Preparation Plant	3481.00	31728.24	31728.24		31728.24				
	Total Initial Capital Investment including	83727.00	110349.55	109320.45	-1020.06	107142.88	2186.90		786.88	265.00

1. OCL Board in its 207th meeting of 27.11.06 approved the expenditure capital of Rs. 1103.45 Crores for 10th 22 cores applying on 31.03.06 & 10.09.06 cores against balance available in respect of PIP/WAR OCP (communicated vide letter no. COE/26720527 dated 11.12.06)

2. Out of the total amount of Rs. 80.29 cores capital approved by OCL Board in 1898 for the balance activities, only Rs. 30.21 cores could be spent during March '06 to March '06.

3. The incremental capital requirement of Rs. 24.87 cores for the expansion PR for 10.09 mt can therefore be accreted with the sanctioned completion capital of Rs. 1103.90 cores.

STATEMENT SHOWING INVESTMENT ON PLANT & MACHINERY

APPENDIX - A.3

(Amt in Rs. Lakhs)

Sl. No	Particulars	Floor Capacity	Total 85 per sq. ft. up to 10 MTV		Existing as on 31.3.85		BALANCE ADDITIONAL PROVISION (upto target 1985)		PHASING UPTO TARGET YEAR			
			No.	Amt	No.	Amt	No.	Est. Cost	Amt	No.	Amt	No.
<b>A.1 H.E.M. For Coal</b>												
1	Electric Rope Shovel	10 Cum	1	2454.64	1	2454.64						
2	Electric Rope Shovel	25.0 Cum	1	4224.88	1	4224.88						
3	Hydraulic shovel	8.5 HP Cum	5	428.40	1	428.40						
4	Rear Dragger **	85 T	5	1206.33	5	1206.33						
5	Drzer	60 HP	1	635.12	1	635.12						
6	Drzer	410 HP	1	107.02	1	107.02						
7	High Drib	10 Cum	2	103.42	2	103.42						
				9159.81		9159.81						
<b>SUB-TOTAL COAL</b>												
<b>A.2 H.E.M. For GR</b>												
1	Electric Rope Shovel **	10 Cum	1	2334.73	1	2334.73						
2	Hydraulic shovel	6.5 HP Cum	19	5568.84	19	5568.84						
3	Rear Dragger **	85 T	4	483.50	4	483.50						
4	Drzer	600 HP	2	1270.24	2	1270.24						
5	Drzer	410 HP	1	262.54	1	262.54						
				9539.85		9539.85						
<b>SUB-TOTAL G.R</b>												
<b>A.3 HEMM For Continous</b>												
1	Wheel Drzer	400 HP	1	252.54	1	252.54						
2	Water Sprinkle	380L	2	81.30	2	81.30						
3	EDT Crane	80 T	1	802.51	1	802.51						
4	EDT Crane	10 T	2	17.90	2	17.90						
5	EDT Crane	5 T	2	26.46	2	26.46						
6	EDT Crane	4.5 T	2	20.31	2	20.31						
				1221.02		1221.02						
<b>SUB-TOTAL COMMON</b>												
<b>A.4 HEMM For Nail Road Mach.</b>												
1	Per Leader	10 Cum	1	1143.36	1	1143.36						
2	Motor Grader	275 HP	1	582.25	1	582.25						
3	Scraper Contractor	310 HP	1	682.99	1	682.99						
				2408.60		2408.60						
<b>SUB-TOTAL NAIL ROAD MAINTENANCE</b>												
<b>A.5 HEMM For Reclamation</b>												
1	Drzer **	410 HP	1	282.54	1	282.54						
2	Drzer	200 HP	1	52.50	1	52.50						
				335.12		335.12						
				23074.38		23074.38						
<b>SUB-TOTAL RECLAMATION</b>												
<b>Total HEMM(A)</b>												
<b>B. Div for Area B/M/M</b>												
1	Pump & Sign			1808.47		1808.47						
2	C. U. P			595.19		595.19						
3	Reaching			522.78		522.78						
4	Dr/Truck			524.67		524.67						
5	Other P & S			1385.63		1385.63						
6	Steel Enginet			524.24		524.24						
7	Construction			512.18		512.18						
				8.00		8.00						
				13438.43		13438.43						
<b>TOTAL (B)</b>												
<b>GRAND TOTAL (A+B)</b>												
					36,385.89		126.92		90.83		36.10	

PARWAR COOPERATIVITY - BOTH COAL & CG OUTSOURCED FOR 3.5 MTW WITHOUT CHP  
 ESTIMATED PHASED CAPITAL EXPENDITURE ON ELECTRICAL PLANT & MACHINERY

SUMMARY SHEET - OPTION II

Appendix - A.2.1  
 Amount in Rs. '000

Sl. No.	Particulars	Specified P & F for 0.1 MTW		P & F for 0.1 MTW		Existing As On 31.3.06		Additional Requirement			Year wise Phasing										From Beyond Target Year				
		Qty	Cost	Qty	Cost	Qty	Cost	Qty	Rate	Cost	Year-1	Year-2	Year-3	Year-4	Year-5	Year-6	Year-7	Qty	Cost						
											Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost					
I)	Power Supply And Distribution	3	4	5	5	7	8	9	40	11	12	13	14	15	16	17	18	19	20	21	22	23			
II)	Transmission							14		2411															
III)	Communication & EDG							15		200	100	100		100											
	GRAND TOTAL:		455500		328683		328715			8948		5410		3438											





## Appendix-B

## Statement of Manpower

Years	Particulars	Category	Total	Years	
Sl No				1 to 9	10 to 13
A.	OB				
	OB Direct Manpower				
1	Shovel/Crane Operator	A	8	8	0
2	Dumper Operator	B	34	34	0
3	Drill Operator	B	12	12	0
4	Dozer Operator	A	5	5	0
5	Dozer Operator	B	3	3	0
6	Pitman/Dumpman/Tripma	3545 - 5111	4	4	3
7	Mining Sardar	3698 - 5878	4	4	3
8	Mazdoor	I	7	7	7
9	Mazdoor	II	7	7	7
	Sub Total of OB Direct		84	84	20
B.	COAL				
	Coal Direct				
1	Shovel Operator .	Spl Gr	4	4	0
2	Shovel Operator	A	3	3	0
3	Dumper Operator	B	20	20	0
4	Drill Operator	B	6	6	0
5	Dozer Operator	A	3	3	0
6	Dozer Operator	B	3	3	0
7	Pitman/Dumpman/Tripma	3545 - 5111	4	4	3
8	Mining Sardar	3698 - 5878	4	4	3
9	Mazdoor	I	4	4	0
10	Mazdoor	II	5	5	0
	Sub Total of Coal Direct		66	66	6

## Appendix-B

Statement of Manpower					
Years	Particulars	Category	Total	1 to 9	10 to 13
SI No					
<b>COAL HANDLING PLANT</b>					
1	Dy CE (E&M)	18500 - 23900	1	1	0
2	SE(E&M)	17500 - 22300	1	1	1
3	Sr EE(E&M)	16000 - 20800	1	1	0
4	Engr(E&M)	10750 - 16750	3	3	0
5	Forman Incharge	4652 - 7802	1	1	0
6	Foreman	4317 - 7257	3	3	0
7	Asst SK	3698 - 5878	1	1	0
8	Sr PA	4652 - 7802	1	1	0
9	Peon	3384 - 4464	1	1	1
10	Fitter(Mech)	VI	2	2	0
11	Fitter(Mech)	V	2	2	0
12	Fitter(Elec)	VI	2	2	0
13	Fitter(Elec)	V	2	2	0
14	Store Keeper	3998-6528	1	1	0
15	Fitter Helper	II	7	7	0
16	Rock Breaker/Plough Feed	VI	4	4	0
17	Welder	V	1	1	0
18	Wagon/Truck loading Att	III	6	6	0
19	Plant Attendant	III	4	4	0
20	Crusher Attendant/Feed.	IV	4	4	0
21	Mazdoor	I	8	8	0
<b>Sub-Total of CHP</b>			<b>66</b>	<b>66</b>	<b>2</b>
<b>LOADING/DESPATCH</b>					
1	Work Supervisor	3545 - 5111	7	7	5
2	Mazdoor	I	4	4	4
<b>Sub-Total of Loading &amp; Despatch</b>			<b>11</b>	<b>11</b>	<b>9</b>
<b>Sub Total of Coal</b>			<b>123</b>	<b>123</b>	<b>17</b>

## Appendix-B

Statement of Manpower					
Years	Particulars	Category	Total	1 to 9	10 to 13
SI No					
<b>C.</b>	<b>COMMON</b>				
<b>C.1</b>	<b>EXCAVATION SUPERVISION</b>				
1	Dy. CE (Excav.)	18500 - 23900	1	1	0
2	S.E. (Excav.)	17500 - 22300	2	2	1
3	Sr. Executive Engr. (Excav.)	16000 - 20800	2	2	0
4	Engr. (Excav.)	10750 - 16750	3	3	0
5	Foreman-Incharge (Excav.)	4652 - 7802	1	1	0
6	Foreman (Excav.)	4317 - 7257	5	5	1
7	P.A	4317 - 7257	1	1	0
8	Peon	3384 - 4464	1	1	1
9	Store Keeper	3998-6528	1	1	0
<b>Sub-Total of Excavation Supervision</b>			<b>17</b>	<b>17</b>	<b>3</b>
<b>C.2</b>	<b>E&amp;M SUPERVISION</b>				
1	Dy. CE (E&M)	18500 - 23900	1	1	0
2	S.E. (E&M)	17500 - 22300	2	2	1
3	Sr. E.E. (E&M)	16000 - 20800	2	2	0
4	Engr. (E&M)	10750 - 16750	3	3	0
5	Foreman-Incharge (E&M)	4652 - 7802	1	1	1
6	Foreman (Elect.)	4317 - 7257	3	3	1
7	Foreman (Mech.)	4317 - 7257	3	3	1
8	UDC	3998 - 6528	1	1	0
9	D/Man	3998 - 6528	1	1	0
<b>Sub-Total of E&amp;M Supervision</b>			<b>17</b>	<b>17</b>	<b>4</b>

## Appendix-B

Statement of Manpower					
Years	Particulars	Category	Total	1 to 9	10 to 13
Sl No					
<b>C.3</b>	<b>EXCAVATION P&amp;M MAINTENANCE</b>				
1	Mechanic	I	15	15	0
2	Fitter	I	16	16	0
3	Fitter	II	20	20	0
4	Fitter	III	35	35	0
5	Electrician	I	4	4	0
6	Electrician	II	5	5	0
7	Electrician	III	10	10	0
8	Welder	I	4	4	0
9	Welder	II	4	4	0
10	Welder	III	4	4	0
11	Turner	I	3	3	0
12	Turner	II	3	3	0
13	Turner	III	3	3	0
14	Machinist	I	3	3	0
15	Machinist	II	3	3	0
16	Machinist	III	3	3	0
17	Blacksmith	V	3	3	0
18	hammerman	III	3	3	0
19	carpenter	V	1	1	0
21	EOT crane OP	C	3	3	0
22	Fork lift Op	C	4	4	0
23	washing M/c OP	C	5	5	0
24	Helper greaser	E	31	31	0
25	Mazdoor	I	28	28	0
<b>Total</b>			<b>213</b>	<b>213</b>	<b>0</b>
<b>C4</b>	<b>E&amp;M MAINTENANCE</b>				
1	Fitter (Mech.)	VI	2	2	2
2	Fitter (Mech.)	V	3	3	0
3	Fitter (Elect.)	VI	2	2	2
4	Fitter (Elect.)	V	3	3	0
5	Fitter Helper (E&M)	III	10	10	3
6	Electrician	V	3	3	1
7	Welder	V	3	3	1
8	Blacksmith	V	2	2	0
9	Hammerman	III	2	2	0
10	Carpenter	V	1	1	1
11	Turner	V	1	1	0
12	Machinist	IV	1	1	0
13	E.O.T Crane Operator	D	2	2	0
14	Tyndal Jamadar	V	1	1	1
15	Tyndal	IV	4	4	2
16	Mazdoor	I	2	2	2
<b>Sub-Total of E&amp;M Maintenance</b>			<b>42</b>	<b>42</b>	<b>16</b>

Statement of Manpower					
Years	Particulars	Category	Total	1 to 9	10 to 13
SI No					
C.5	<b>OTHER OPERATIONS</b>				
1	E.O.T Crane Operator	B	3	3	0
2	Water Sprinkler Operator	B	6	6	0
3	Vibratory Compactor Oper	C	2	2	0
4	Wagon Drill Operator	B	2	2	0
5	Grader Operator	C	2	2	0
6	Dozer Operator	B	2	2	0
7	Tyre Handler Operator	C	2	2	0
8	Road Roller Operator	C	2	2	0
9	Fork Lift Operator	C	2	2	0
10	Mechanical Truck Operat	3698 - 5878	3	3	0
11	Mobile Service Van Oper	3698 - 5878	4	4	0
12	Mechanical Exp. Handler	3698 - 5878	1	1	0
13	Line Truck Operator	3698 - 5878	1	1	0
14	Fire Fighting Van Driver	3698 - 5878	2	2	0
15	Fire Fighting Mazdoor	II	3	3	0
16	Pump Khalasi	III	4	4	3
17	S/S Attendant	III	3	3	3
18	Mazdoor	II	4	4	2
<b>Sub-Total of Other Operations</b>			<b>48</b>	<b>48</b>	<b>8</b>
C.6	<b>Rly Siding</b>				
1	Loading Supervisor	3545 - 5111	2	2	0
2	Loading Munshi	I	8	8	0
<b>Sub-Total of Rly Siding</b>			<b>10</b>	<b>10</b>	<b>0</b>
C.7	<b>SAFETY DEPARTMENT &amp; QUALITY CONTROL</b>				
1	Dy. CME	18500 - 23900	1	1	0
2	Supdt. Of Mines	17500 - 22300	1	1	0
3	Colliery Manager	16000 - 20800	1	1	1
4	St. Overman	4652 - 7802	1	1	1
5	Overman	4317 - 7257	3	3	0
6	Fire fighting Supervisor	4317 - 7257	1	1	0
7	Blasting Overman	4317 - 7257	1	1	0
8	O.S	4652 - 7802	1	1	0
9	Mining Sirdar	3998 - 6528	3	3	3
10	Peon	3384 - 4464	1	1	0
<b>Sub-Total of Safety Deptt. &amp; Quality Control</b>			<b>14</b>	<b>14</b>	<b>5</b>

## Statement of Manpower

Years	Particulars	Category	Total	1 to 9	10 to 13
SI No					
<b>C.8</b>	<b>PROJECT OFFICE CUM PLANNING DIV.</b>				
1	C.M.E	19500 - 25000	1	1	1
2	Supdt. Of Mines	17500 - 22300	1	1	0
3	Asst Colliery Manager	13750-18700	2	2	0
4	Sr. Geologist	13750-18700	1	1	0
5	Survey Officer	10750 - 16750	1	1	0
6	D/Man	3698 - 6528	1	1	0
7	Revenue Officer	10750 - 16750	1	1	1
8	O.S	4652 - 7802	1	1	1
9	Sr. Cashier	4317 - 7257	1	1	1
10	Pay Clerk	3998 - 6528	2	2	2
11	Sr. P.A	4652 - 7802	1	1	1
12	Peon	3384 - 4464	1	1	1
<b>Sub-Total of Project Office</b>			<b>14</b>	<b>14</b>	<b>8</b>
<b>C.9</b>	<b>COMMUNICATIONS</b>				
1	Ex.Er. (Electronics)	13750-18700	1	1	1
2	Foreman (Communication)	4317 - 7257	1	1	1
3	Communication Operator V		4	4	3
4	Telephone Attendant IV		2	2	2
<b>Sub-Total of Communications</b>			<b>8</b>	<b>8</b>	<b>7</b>
<b>C.10</b>	<b>ACCOUNTS</b>				
1	Finance Manager	17500 - 22300	1	1	1
2	Finance Officer	13750-18700	2	2	0
3	Accountant	4652 - 7802	2	2	1
4	Accounts Clerk	3998 - 6528	2	2	1
5	LDC/Typist	3698 - 5878	1	1	1
6	Peon	3384 - 4464	1	1	1
<b>Sub-Total of Accounts</b>			<b>9</b>	<b>9</b>	<b>5</b>
<b>C.11</b>	<b>PERSONNEL/WELFARE</b>				
1	Personnel Officer	13750-18700	1	1	1
3	LDC/Typist	3698 - 5878	1	1	1
4	Peon	3384 - 4464	1	1	1
5	Recreation Club Attendant II		1	1	0
6	Pit Head bath Attendant I		3	3	0
<b>Sub-Total of Personnel/Welfare</b>			<b>7</b>	<b>7</b>	<b>3</b>

## Appendix-B

Statement of Manpower					
Years	Particulars	Category	Total	1 to 9	10 to 13
SI No					
<b>C.12</b>	<b>STORES</b>				
1	Sr. Store Officer	13750-18700	1	1	0
2	Chief Store Keeper	4652 - 7802	1	1	1
3	Asstt. S.K.	3698 - 5878	1	1	1
4	S.K.	3998 - 6528	1	1	0
5	LDC/Typist	3698 - 5878	1	1	0
6	Magazine Clerk	3698 - 5878	1	1	0
7	Tyndal	III	3	3	0
8	Store Mazdoor	I	2	2	2
	<b>Sub-Total of Stores</b>		<b>11</b>	<b>11</b>	<b>4</b>
<b>C.13</b>	<b>CIVIL &amp; WATER SUPPLY</b>				
1	S.E. (Civil)	17500 - 22300	1	1	0
2	Sr. E.E. (Civil)	16000 - 20800	1	1	0
3	Engineer (Civil)	13750-18700	1	1	1
4	Overseer (Civil)	3998 - 6528	1	1	0
5	Work Supervisor	3545-5111	1	1	1
6	D/Man	3998 - 6528	1	1	0
7	LDC/Typist	3698 - 5878	1	1	0
8	Carpenter	V	1	1	0
9	Plumber	V	2	2	1
10	Mason	V	2	2	1
11	Mason Mazdoor	II	2	2	1
12	Pump Khalasi	III	4	4	2
13	Pipe Fitter	III	1	1	1
14	Pipe Fitter Helper	II	1	1	0
15	Filter Plant Attendant	IV	3	3	3
16	Valve Man	II	3	3	3
	<b>Sub-Total of Civil &amp; Water Supply</b>		<b>26</b>	<b>26</b>	<b>14</b>
<b>C.14</b>	<b>MEDICAL &amp; SANITATION</b>				
1	Sr. Medical Officer	13750-18700	1	1	1
2	M.O (Lady)	10750-16750	1	1	0
3	Compounder	3698 - 5878	1	1	1
4	Dresser	3545-5111	2	2	1
5	Nurse	3698 - 5878	3	3	1
6	Ayath/ward boy	3384 - 4464	4	4	2
7	Sanitary Inspector	3998 - 6528	1	1	1
8	Store Keeper	3998 - 6528	1	1	1
9	Peon	3384 - 4464	1	1	1
10	Sweeper		14	14	2
	<b>Sub-Total of Medical &amp; Sanitation</b>		<b>29</b>	<b>29</b>	<b>11</b>

Statement of Manpower					
Years	Particulars	Category	Total	1 to 9	10 to 13
SI No					
<b>C.15</b>	<b>SURVEY</b>				
1	Sr. Survey Officer	13750-18700	1	1	1
2	Surveyor	3998 - 6528	2	2	2
3	D/Man	3998 - 6528	1	1	1
4	Ferro Printer / Xerox Ope	3506 - 4856	1	1	1
5	Chainman	3506 - 4856	3	3	3
6	Mazdoor	I	2	2	2
<b>Sub-Total of Survey</b>			<b>10</b>	<b>10</b>	<b>10</b>
<b>C.16</b>	<b>TRANSPORT</b>				
1	Foreman-Incharge (E&M)	4652 - 7802	1	1	1
2	H.V. Driver	3698 - 5878	12	12	5
3	L.V. Driver	3545 - 5111	35	35	8
4	Auto Electrician	V	2	2	1
5	Auto Mechanic	V	2	2	1
6	Fitter (Mech.)	V	2	2	1
7	Cleaner/Greasar	II	2	2	1
<b>Sub-Total of Transport</b>			<b>66</b>	<b>66</b>	<b>18</b>
<b>TOTAL FOR COMMON</b>			<b>531</b>	<b>531</b>	<b>115</b>
	<b>RECLAMATION &amp; ENVIRONMENT</b>				
1	Environment & Reclamat	16000 - 20800	1	1	1
2	Environment Asst.	4652 - 7802	2	2	2
3	Reclamation Mazoor	I	2	2	2
<b>Sub-Total of Reclamation &amp; Environment</b>			<b>5</b>	<b>5</b>	<b>5</b>
<b>GRAND TOTAL</b>			<b>743</b>	<b>743</b>	<b>157</b>



**EPR FOR PIPARWAR OCP (10.00 MTY)**  
**ESTIMATED COST OF PRODUCTION AT 100% CAPACITY UTILISATION**

WITHOUT DEPR. CHG

Year	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	Y11	Y12	Y13	Total	Avg. Cost Rs./Tonne
Salaries & Wages	1000.48	1653.48	1653.48	1653.48	1653.48	1653.48	1653.48	1653.48	1653.48	1653.48	355.18	355.18	355.18	16302.05	15.38
Stone cost	4706.02	4997.35	4886.29	4851.74	4969.60	5001.25	5034.52	5081.24	4993.37	4913.12	961.29	968.71	913.70	45567.20	45.83
Power cost	1773.75	1709.75	1655.32	1657.62	1878.67	1870.53	1951.01	1957.54	1806.43	366.72	366.72	366.72	366.72	18173.51	17.15
Miscellaneous cost	1590.78	2055.97	2064.12	2064.47	2101.70	2108.37	2106.28	2096.08	2122.67	1642.73	1545.96	1534.07	1452.32	24435.51	23.06
Cost incidence of repairs	6.80	14.81	13.70	12.11	12.95	15.27	16.39	18.04	16.36	7.33	9.11	9.39	7.35	159.69	0.15
Administrative Expenses	2531.50	5445.00	5446.00	5446.00	5446.00	5446.00	5446.00	5446.00	5446.00	2723.00	2727.24	2725.14	2428.82	57712.20	54.40
Cost Outsourcing Cost	252.52	1770.10	1572.64	1455.58	1736.06	2191.28	2197.51	2190.30	2634.92	2235.12	2277.23	2436.80	1423.89	24314.13	42.75
CB Outsourcing Cost		2772.04	2675.35	2296.38	2601.26	2900.53	2922.73	3533.46	1657.83	1513.48	1580.32	1925.83	2336.83	28716.02	46.89
Interest on working capital	667.43	858.82	846.12	826.14	849.99	982.78	808.66	915.67	842.96	402.36	409.29	430.08	386.87	9099.18	8.59
Total Cash cost	14185.85	21270.40	21153.02	20653.53	21246.72	22059.50	22216.57	22891.81	21074.02	10059.04	10232.35	10751.92	9671.77	227479.50	254.25
Interest on Loan Capital															
Depreciation	4714.50	4659.32	4674.25	4688.71	4688.71	4688.71	4688.71	4688.71	4688.71	3099.53	3099.53	3099.53	3099.53	54476.45	61.41
Total Cost	18800.35	25929.72	25827.28	25342.24	25938.43	26758.21	26905.27	27589.52	26762.73	13158.57	13331.88	13851.45	12771.30	281957.94	305.66
Production (in lakh t)	55.00	106.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	50.00	50.08	50.04	44.60	1659.72	
Cost per tonne (in Rs.)	289.24	259.30	258.27	253.42	259.38	267.58	269.05	275.81	267.63	263.17	266.22	276.81	286.35	305.66	
Selling Price (in Rs.)	582.80	585.35	601.92	506.85	594.64	594.09	593.46	687.10	607.77	607.97	613.18	697.48	671.20	593.05	
Profit/Loss Per Tonne (in Rs.)	293.56	326.05	343.64	333.43	335.25	326.51	324.41	311.30	340.14	344.79	346.96	320.67	284.85	287.39	

## ESTIMATED COST OF PRODUCTION AT 85% CAPACITY UTILISATION

APPENDIX - C-1  
RS. IN LAKHS

Year	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	Y11	Y12	Y13	Totals	AVR. COST Rs./TONNE
Salaries & Wages	1653.48	1653.48	1653.48	1653.48	1653.48	1653.48	1653.48	1653.48	1653.48	1653.48	355.18	355.18	355.18	16302.05	18.19
Stores cost	4007.31	4607.51	4607.11	4654.64	4671.43	4701.16	4732.44	4776.37	4693.77	850.34	903.61	910.56	858.88	46653.17	50.68
Power cost	1713.01	1645.64	1795.38	1816.83	1808.22	1800.39	1877.84	1884.13	1738.68	352.97	352.97	352.97	352.97	17492.00	19.42
Miscellaneous cost	1447.51	1570.93	1905.65	1996.87	1912.54	1918.52	1916.71	1907.43	1931.63	1403.89	1406.82	1396.00	1321.61	22236.31	24.49
Cost Incidence of capital	5.85	12.58	11.64	10.29	11.01	12.38	13.93	15.33	13.91	6.23	7.74	7.98	6.25	136.74	0.15
Administrative Expenses	3539.90	5446.00	5446.00	5446.00	5446.00	5446.00	5446.00	5446.00	5446.00	2723.00	2727.24	2725.14	2428.92	37712.20	64.07
Coal (Outsourcing Cost)	214.73	1504.65	1336.74	1271.24	1475.65	1862.69	1867.89	1861.75	2154.69	1699.85	1935.65	2071.28	1210.30	20667.01	42.76
Oil (Outsourcing Cost)	2356.23	2274.04	1951.92	1951.92	2211.07	2465.45	2484.32	3003.44	1409.15	1286.46	1343.28	1636.96	1986.30	24408.62	46.88
Interest on working capital	554.03	862.15	851.95	832.19	861.04	905.14	910.85	933.74	883.17	449.41	457.01	480.31	405.45	9386.42	10.42
Total Cash Cost	13535.91	20049.19	19992.00	19533.48	20050.46	20765.82	20903.46	21481.67	19924.47	9335.31	9489.49	9936.40	8925.85	213993.53	277.16
Interest on loan capital															
Depreciation	4614.50	4659.32	4674.25	4688.71	4688.71	4688.71	4688.71	4688.71	4688.71	3099.53	3099.53	3099.53	3099.53	54478.46	60.48
Total Cost	18250.41	24708.51	24836.25	24222.19	24739.17	25454.53	25592.17	26170.38	24613.18	12434.84	12589.02	13035.93	12025.38	269471.97	337.64
Production (in lakh t)	55.25	85.00	85.00	85.00	85.00	85.00	85.00	85.00	85.00	42.50	42.57	42.53	37.91	900.76	
Cost per tonne (in Rs.)	330.33	290.69	289.84	284.97	291.05	299.47	301.08	307.89	289.57	292.58	295.75	306.49	317.31	337.64	
Selling Price (in Rs.)	582.60	585.35	601.92	586.85	594.64	594.09	593.46	587.10	597.77	607.97	613.18	597.48	571.20	593.05	
Profit/Loss Per Tonne (in Rs.)	252.28	294.66	312.08	301.88	303.59	294.62	292.38	279.22	308.20	316.38	317.43	290.99	253.99	266.41	

# EPR FOR PIPARWAR OCP (10.00 MTY)

## ESTIMATED COST OF PRODUCTION AT 100% CAPACITY UTILISATION

WITH COAL PREPARATION PLANT  
AT PIPARWAR, J&K

Year	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	Y11	Y12	Y13	Total	AVR. COST Rs/TONNE
Salaries & Wages	1653.41	1653.48	1653.48	1653.48	1653.48	1653.48	1653.48	1653.48	1653.48	1653.48	1653.48	1653.48	1653.48	16302.05	15.38
Stores cost	4795.02	4987.36	4988.29	4851.74	4969.60	5001.25	5034.52	5081.24	4993.37	913.12	961.29	848.71	913.70	48567.20	45.83
Power cost	1779.75	1709.75	1866.33	1887.62	1878.67	1670.53	1951.01	1957.54	1806.43	366.72	366.72	366.72	366.72	18173.51	17.15
Miscellaneous cost	1560.78	2055.97	2094.12	2084.47	2101.70	2108.37	2106.28	2096.08	2122.67	1543.73	1545.96	1534.07	1652.32	24435.51	23.06
Cost balance of corpus	6.88	14.31	13.70	12.11	12.95	15.27	16.39	18.04	16.36	7.33	9.11	9.39	7.35	159.69	0.15
Administrative Expenses	3538.90	5446.00	5446.00	5446.00	5446.00	5446.00	5446.00	5446.00	5446.00	2723.00	2727.24	2725.14	2428.92	57712.20	54.46
Coal Carbonising Cost	262.62	1770.16	1572.64	1495.58	1735.06	2191.28	2197.51	2190.30	2634.92	2235.12	2277.23	2436.80	1423.89	24314.13	42.75
Cost of Washing	11714.67	11714.67	11714.67	11714.67	11714.67	11714.67	11714.67	11714.67	11714.67	1513.48	1580.32	1925.83	2336.83	28716.02	46.89
Interest on working capital	1055.55	1338.93	1334.23	1314.25	1338.10	1370.89	1376.77	1403.78	1331.07	777.83	785.35	805.84	731.79	14854.39	14.11
Total Cash cost	26388.64	33473.19	33355.81	32856.32	33462.51	34272.28	34419.35	35094.89	33276.80	19445.80	19633.73	20146.06	18044.76		440.00
Interest on Loan Capital															
Depreciation	6377.74	6422.56	6437.49	6451.94	6451.94	6451.94	6451.94	6451.94	6451.94	4862.77	4862.77	4862.77	4862.77	77400.51	73.04
Total Cost	32766.38	39995.75	39793.30	39306.26	39904.46	40724.23	40871.30	41546.54	39728.75	24308.86	24496.49	25008.83	22907.52		513.04
Predictive (in lakh tcf)	65.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	50.00	50.08	50.04	44.60	1059.72	
Input for CPP for washing of coal (in lakh tcf)	65.00	65.00	65.00	65.00	65.00	65.00	65.00	65.00	65.00	60.00	60.06	60.04	44.60	779.72	
Output from CPP washed coal (in lakh tcf)	53.19	53.19	53.19	53.19	53.19	53.19	53.19	53.19	53.19	40.82	40.96	40.95	35.50	638.04	
Cost per tonne (in Rs.)	610.45	669.95	694.49	688.81	697.59	701.41	705.01	717.37	672.23	529.43	532.69	544.25	559.32	513.04	
Selling Price (in Rs.)	1045.00	861.75	860.28	852.91	852.91	852.91	856.01	856.76	869.69	1645.00	1045.00	1045.00	1045.00	901.21	
Predictive Per Tonne (in Rs.)	434.55	171.61	165.79	164.10	155.32	151.50	151.00	139.38	197.35	515.57	512.31	500.75	485.68	368.17	

## STATEMENT SHOWING CASHFLOWS FOR FINANCIAL ANALYSIS AT 100 % CAPACITY UTILISATION.

(Fig. in Rs. Lakhs)

Year	CAPITAL OUTFLOW		OPERATING COST	INT. ON WORKING CAPITAL	TOTAL OUTFLOW	Total Production MTY	ANNUAL SALES	NET CASHFLOWS
	ORIGINAL	REPLACEMENT						
Starting	75404.34				75404.34			-75404.34
1	891.71	9132.21	13618.42	567.43	24209.77	6.50	37869.00	13659.23
2	798.88	475.56	20419.59	850.82	22544.84	10.00	58556.91	36012.07
3	265.00	551.71	20306.90	846.12	21969.74	10.00	60169.09	38199.35
4	231.32	101.39	19827.39	826.14	20986.24	10.00	58731.78	37745.54
5		260.78	20399.74	849.99	21510.50	10.00	59484.69	37974.18
6		1534.23	21186.72	882.78	23603.73	10.00	59415.08	35811.35
7		2141.67	21327.90	888.66	24358.24	10.00	59328.10	34969.86
8		2937.59	21976.14	915.67	25829.40	10.00	58683.18	32853.78
9		3401.23	20231.06	842.96	24475.24	10.00	59744.72	35269.48
10		-31.82	9656.68	402.36	10027.22	5.00	30459.10	20431.88
11			9823.05	408.29	10232.35	5.01	30659.00	20426.65
12			10321.84	430.08	10751.92	5.00	29874.00	19122.08
13			9284.90	388.87	9671.77	4.46	25475.60	15803.83
Total	77591.25	20504.58	218380.32	9099.18	325575.30	105.97	628450.25	302874.95

Internal Rate of Return

38.62%

STATEMENT SHOWING CASHFLOWS FOR FINANCIAL ANALYSIS AT 65 % CAPACITY UTILISATION

Appendix D 1

0.65

(Fig. in Rs. Lakhs)

Year	CAPITAL OUTFLOW		OPERATING COST	INT. ON WORKING CAPITAL	TOTAL OUTFLOW	Total Production MTY	ANNUAL SALES	NET CASHFLOWS
	ORIGINAL	REPLACEMENT						
Investing	75404.34				75404.34			-75404.34
1	891.71	9132.21	13081.88	545.08	23650.88	5.53	32188.55	8537.77
2	798.88	475.56	19187.04	799.46	21260.94	8.50	49773.38	28512.44
3	265.00	551.71	19110.05	796.25	20723.02	8.50	51143.72	30420.71
4	231.32	101.39	18701.29	779.22	19813.22	8.50	49922.01	30108.80
5		260.78	19189.41	799.56	20249.75	8.50	50561.96	30312.23
6		1534.23	19860.68	827.53	22222.44	8.50	50502.62	28280.36
7		2141.67	19992.61	833.03	22967.31	8.50	50428.89	27461.58
8		2937.59	20547.94	856.16	24341.69	8.50	49880.70	25539.01
9		3401.23	19041.31	793.39	23235.92	8.50	50783.01	27547.09
10		-31.82	8885.90	370.25	9224.33	4.25	25890.24	16665.90
11			9032.49	376.35	9408.84	4.26	26060.15	16651.31
12			9456.10	394.00	9850.10	4.25	25392.90	15542.80
13			8520.40	355.02	8875.42	3.79	21654.26	12778.84
Total	77591.25	20504.56	204607.11	8525.30	311226.20	90.08	534182.71	222954.50

Internal Rate of Return

29.91%

PIPARWAR OCP (10 MTY)

STATEMENT SHOWING CASHFLOWS FOR FINANCIAL ANALYSIS AT 100 % INCREMENTAL PRODUCTION

Year	CAPITAL OUTFLOW		OPERATING COST	INT. ON WORKING CAPITAL	TOTAL OUTFLOW	Incremental Production MTY	(fig. In Rs. Lakhs)	
	ORIGINAL	REPLACEMENT					INC ANNUAL SALES	NET CASHFLOWS
Existing								
1	891.71				891.71			-891.71
2	798.88		6470.67	269.61	7539.16	3.50	20415.00	12875.84
3	265.00		6143.42	255.98	6664.40	3.50	20285.00	13620.60
4	231.32		5799.02	241.63	6271.97	3.50	19635.00	13363.03
5			5829.47	242.89	6072.36	3.50	19635.00	13562.64
6			5364.58	223.52	5588.10	3.50	19635.00	14046.90
7			5355.68	223.15	5578.83	3.50	19908.00	14329.17
8			5319.25	221.54	5540.88	3.50	19916.90	14376.02
9			8697.38	362.39	9059.77	5.91	35638.10	26578.33
10			7446.26	310.26	7756.52	5.00	30459.10	22702.58
11			7358.15	306.59	7664.74	5.00	30559.00	22994.26
12			7881.23	328.38	8209.62	5.00	29874.00	21664.38
13			7082.41	294.27	7356.68	4.46	25475.60	18118.92
Total	2186.90		78727.52	3280.31	84194.73		291535.70	207340.97

Internal Rate of Return  
Highly positive

STATEMENT SHOWING CASHFLOWS FOR FINANCIAL ANALYSIS AT 100 % CAPACITY UTILISATION.  
(WITH COAL PREPARATION PLANT FOR CLEAN COAL)

(Fig. in Rhs. Lakhs)

Year	CAPITAL OUTFLOW		OPERATING COST	INT. ON WORKING CAPITAL	TOTAL OUTFLOW	Total Production MTY		ANNUAL SALES	NET CASHFLOWS
	ORIGINAL	REPLACEMENT				Clean coal	Raw coal		
Investing	107142.58				107142.58				-107142.58
1	891.71	9132.21	25333.10	1055.55	36412.56	5.32		55583.03	19170.47
2	798.88	475.56	32134.26	1338.93	34747.63	5.32	3.50	75218.03	40470.40
3	265.00	551.71	32021.58	1334.23	34172.52	5.32	3.50	75780.28	42607.76
4	231.32	101.29	31542.07	1314.25	33189.03	5.32	3.50	75218.03	42029.00
5		260.78	32114.41	1338.10	33713.29	5.32	3.50	75218.03	41504.74
6		1534.23	32901.39	1370.89	35806.52	5.32	3.50	75218.03	39411.51
7		2141.67	33042.58	1376.77	36561.02	5.32	3.50	75268.10	38707.08
8		2937.59	33690.81	1403.78	38032.19	5.32	3.50	75493.74	37461.55
9		3401.23	31945.73	1331.07	36678.03	5.32	3.50	75659.12	38981.09
10		-31.82	18667.97	777.83	19413.88	4.09		42756.18	23342.19
11			18848.38	785.35	19633.73	4.09		42756.18	23122.45
12			19340.22	805.84	20146.06	4.09		42756.18	22610.11
13			17322.96	721.79	18044.75	3.65		38138.51	20093.75
Total	109329.49	20504.56	358905.45	14954.39	503693.89		28.00	826063.41	322369.52

Internal Rate of Return

31.21%

## PIPARWAR OCP (10 MTY)

## STATEMENT SHOWING CASHFLOWS FOR FINANCIAL ANALYSIS AT 100 % INCREMENTAL PRODUCTION

(Fig. in Rs. Lakhs)

Year	CAPITAL OUTFLOW		OPERATING COST	INT. ON WORKING CAPITAL	TOTAL OUTFLOW	Incremental Production MTY	INC. ANNUAL SALES	NET CASHFLOWS
	ORIGINAL	REPLACEMENT						
Existing								
1	891.71				891.71			-891.71
2	798.88		6470.67	269.61	7539.16	3.50	20415.00	12875.84
3	265.00		6143.42	255.98	6664.40	3.50	20285.00	13620.60
4	231.32		5799.02	241.63	6271.97	3.50	19635.00	13363.03
5			5829.47	242.89	6072.36	3.50	19635.00	13562.64
6			5364.58	223.52	5588.10	3.50	19635.00	14046.90
7			5355.68	223.15	5578.83	3.50	19908.00	14329.17
8			5319.25	221.64	5540.88	3.50	19916.90	14376.02
9			6097.38	362.39	6059.77	5.91	35638.10	26578.33
10			7446.26	310.26	7756.52	5.00	30459.10	22702.58
11			7358.15	306.59	7664.74	5.00	30659.00	22994.26
12			7881.23	328.38	8209.62	5.00	29874.00	21664.38
13			7062.41	294.27	7356.68	4.46	25475.60	18118.92
Total	2186.90		78727.52	3280.31	84194.73		291535.70	207340.97

Internal Rate of Return  
Highly positive

## STATEMENT SHOWING CASHFLOWS FOR ECONOMIC ANALYSIS AT 100 % CAPACITY UTILISATION.

(fig. In Rs. Lakhs)

Year	CAPITAL OUTFLOW		OPERATING COST	INT. ON WORKING CAPITAL	TOTAL OUTFLOW	Total Production MTY	ANNUAL SALES	NET CASHFLOWS
	ORIGINAL	REPLACEMENT						
Existing	75404.34				75404.34			-75404.34
1	731.20	7488.41	12392.76	516.37	21128.74	6.50	37869.00	16740.26
2	655.08	389.96	16581.82	774.24	20401.11	10.00	58556.91	38155.80
3	217.30	452.40	18479.28	769.97	19918.96	10.00	60169.09	40250.13
4	189.68	83.14	18042.93	751.79	19067.54	10.00	58731.78	39664.24
5		213.84	18563.76	773.49	19551.09	10.00	59484.69	39933.60
6		1258.07	19279.91	803.33	21341.31	10.00	59415.08	38073.77
7		1756.17	19408.39	808.68	21973.25	10.00	59328.10	37354.85
8		2408.83	19998.28	833.28	23240.37	10.00	58683.18	35442.81
9		2789.00	18410.26	767.09	21966.36	10.00	59744.72	37778.36
10		-26.09	8787.58	366.15	9127.64	5.00	30459.10	21331.46
11			6938.98	372.46	9311.44	5.01	30659.00	21347.56
12			9392.87	391.37	9784.24	5.00	29874.00	20089.76
13			5449.26	352.05	5801.31	4.46	25475.60	16674.29
Total	77197.60	16813.74	198726.09	8280.25	301017.68	106.97	628450.25	327432.56

Internal Rate of Return 41.58%

## STATEMENT SHOWING CASHFLOWS FOR ECONOMIC ANALYSIS AT 100 % CAPACITY UTILISATION.

(fig. in Rs. Lakhs)

Year	CAPITAL OUTFLOW		OPERATING COST	INT. ON WORKING CAPITAL	TOTAL OUTFLOW	Total Production MTY	ANNUAL SALES	NET CASHFLOWS
	ORIGINAL	REPLACEMENT						
Existing	75404.34				75404.34			-75404.34
1	731.20	7468.41	12392.76	516.37	21128.74	6.50	37869.00	16740.26
2	655.08	389.96	18581.82	774.24	20401.11	10.00	58556.91	38155.80
3	217.30	452.40	18479.28	769.97	19918.96	10.00	60169.09	40250.13
4	189.68	83.14	18042.93	751.79	19067.54	10.00	58731.78	39664.24
5		213.84	18563.76	773.49	19551.09	10.00	59484.69	39933.60
6		1258.07	19279.91	803.33	21341.31	10.00	59415.08	38073.77
7		1756.17	19408.39	808.68	21973.25	10.00	59328.10	37354.85
8		2408.83	19998.28	833.26	23240.37	10.00	58683.18	35442.81
9		2789.00	18410.26	767.09	21966.36	10.00	59744.72	37778.36
10		-26.09	8787.58	366.15	9127.64	5.00	30459.10	21331.46
11			8938.98	372.46	9311.44	5.01	30659.00	21347.56
12			9392.87	391.37	9784.24	5.00	29874.00	20089.76
13			8449.26	352.05	8801.31	4.46	25475.60	16674.29
Total	77197.60	16813.74	196728.09	8280.25	301017.68	105.97	628450.25	327432.56

Internal Rate of Return 41.56%

STATEMENT SHOWING CASHFLOWS FOR FINANCIAL ANALYSIS AT 100 % CAPACITY UTILISATION  
(ON COMPLETION COST)

(Fig. in Rs. Lakhs)

Year	CAPITAL OUTFLOW		OPERATING COST	INT ON WORKING CAPITAL	TOTAL OUTFLOW	Total Production MTY	ANNUAL SALES	NET CASHFLOWS
	ORIGINAL	REPLACEMENT						
Existing	75404.34				75404.34			-75404.34
1	933.98	9132.21	13818.42	567.43	24252.04	6.50	37889.00	13616.96
2	874.62	475.56	20419.59	850.82	22620.58	10.00	58556.91	35936.33
3	302.68	551.71	20306.90	846.12	22007.42	10.00	60189.09	38161.67
4	275.18	101.39	19827.39	826.14	21030.10	10.00	58731.78	37701.68
5		260.78	20399.74	849.99	21510.50	10.00	59484.69	37974.18
6		1534.23	21186.72	882.78	23603.73	10.00	59415.08	35811.35
7		2141.67	21327.90	888.56	24358.24	10.00	59328.10	34969.86
8		2937.59	21976.14	915.67	25829.40	10.00	58683.18	32853.78
9		3401.23	20231.06	842.96	24475.24	10.00	59744.72	35269.48
10		-31.82	9656.66	402.36	10027.22	5.00	30459.10	20431.88
11			9823.05	409.29	10232.35	5.01	30659.00	20426.65
12			10321.84	430.08	10751.92	5.00	29874.00	19122.08
13			9284.80	396.87	9671.77	4.46	25475.60	15803.83
<b>Total</b>	<b>77790.80</b>	<b>20604.66</b>	<b>218380.32</b>	<b>9099.18</b>	<b>325774.85</b>	<b>105.97</b>	<b>628450.25</b>	<b>302675.39</b>

Internal Rate of Return

38.57%

STATEMENT SHOWING CASHFLOWS FOR FINANCIAL ANALYSIS AT 100 % CAPACITY UTILISATION  
(ON COMPLETION COST)

(Fig. in Rs. Lakhs)

Year	CAPITAL OUTFLOW		OPERATING COST	INT ON WORKING CAPITAL	TOTAL OUTFLOW	Total Production MTY	ANNUAL SALES	NET CASHFLOWS
	ORIGINAL	REPLACEMENT						
Existing	75404.34				75404.34			-75404.34
1	933.88	9132.21	13618.42	567.43	24252.04	6.60	37869.00	13616.96
2	874.62	475.56	20419.59	850.82	22620.58	10.00	58556.91	35936.33
3	302.68	551.71	20306.90	846.12	22007.42	10.00	60169.09	38161.67
4	275.18	101.39	19827.39	825.14	21030.10	10.00	58731.78	37701.68
5		290.78	20399.74	849.99	21510.50	10.00	59484.69	37974.18
6		1534.23	21186.72	882.78	23603.73	10.00	59415.08	35811.35
7		2141.67	21327.90	868.66	24358.24	10.00	59328.10	34969.86
8		2937.59	21976.14	915.67	25829.40	10.00	58683.18	32853.78
9		3401.23	20231.06	842.96	24475.24	10.00	59744.72	35269.48
10		31.82	9656.68	402.38	10027.22	5.00	30459.10	20431.88
11			9823.05	409.29	10232.35	5.01	30659.00	20426.65
12			10321.84	430.08	10751.92	5.00	29874.00	19122.08
13			9284.90	386.87	9671.77	4.46	25475.60	15603.83
Total	77790.80	20504.59	218380.32	9099.18	325774.85	105.97	628450.25	302675.39

Internal Rate of Return

35.57%

STATEMENT SHOWING CASHFLOWS FOR ECONOMIC ANALYSIS AT 100 % CAPACITY UTILISATION  
(ON COMPLETION COST)

(fig. in Rs. Lakhs)

Year	CAPITAL OUTFLOW		OPERATING COST	INT. ON WORKING CAPITAL	TOTAL OUTFLOW	Total Production MTY	ANNUAL SALES	NET CASHFLOWS
	ORIGINAL	REPLACEMENT						
Existing	75404.34				75404.34			-75404.34
1	765.86	7488.41	12392.78	516.37	21163.40	6.50	37869.00	16705.60
2	717.19	389.96	18581.82	774.24	20463.21	10.00	58556.91	38093.70
3	248.20	452.40	18479.28	769.97	19949.86	10.00	60169.09	40219.23
4	225.65	83.14	18042.93	751.79	19103.50	10.00	58731.78	39628.28
5		213.64	18563.76	773.49	19551.09	10.00	59484.69	39933.60
6		1258.07	19279.91	803.33	21341.31	10.00	59415.08	38073.77
7		1756.17	19406.39	806.68	21973.25	10.00	59328.10	37354.65
8		2408.83	19998.28	833.26	23240.37	10.00	58683.18	35442.61
9		2789.00	18410.26	767.09	21966.36	10.00	59744.72	37778.36
10		-26.09	8787.58	366.15	9127.64	5.00	30459.10	21331.46
11			8938.94	372.46	9311.44	5.01	30659.00	21347.56
12			9392.87	391.37	9784.24	5.00	29874.00	20089.76
13			6449.26	352.05	6801.31	4.46	25475.60	16674.29
Total	77361.24	16813.74	198726.09	8280.25	301181.31	105.97	628450.25	327268.93

Internal Rate of Return

41.54%

STATEMENT SHOWING CASHFLOWS FOR ECONOMIC ANALYSIS AT 100 % CAPACITY UTILISATION.  
(ON COMPLETION COST)

(fig. in Rs. Lakhs)

Year	CAPITAL OUTFLOW		OPERATING COST	INT. ON WORKING CAPITAL	TOTAL OUTFLOW	Total Production MTY	ANNUAL SALES	NET CASHFLOWS
	ORIGINAL	REPLACEMENT						
Existing	75404.34				75404.34			-75404.34
1	755.88	7488.41	12392.79	516.37	21163.40	6.50	37869.00	16705.60
2	717.19	389.96	18581.82	774.24	20463.21	10.00	58556.81	38093.70
3	248.20	452.40	18479.28	769.97	19949.86	10.00	60169.09	40219.23
4	225.65	83.14	18042.93	751.79	19103.50	10.00	58731.78	39628.28
5		213.84	18563.76	773.49	19551.09	10.00	59464.89	39933.80
6		1258.07	19279.91	803.33	21341.31	10.00	59415.08	38073.77
7		1756.17	19408.39	808.68	21973.25	10.00	59328.10	37354.85
8		2438.83	19998.28	833.26	23240.37	10.00	58683.18	35442.81
9		2789.00	18410.26	767.09	21966.36	10.00	59744.72	37778.36
10		-26.09	8787.58	366.15	9127.64	5.00	30459.10	21331.46
11			8938.98	372.46	9311.44	5.01	30659.00	21347.56
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13			6449.26	352.05	6801.31	4.48	25475.60	16674.29
Total	77361.24	16813.74	198726.09	8280.25	301181.31	105.97	628450.25	327268.93

Internal Rate of Return

41.54%

**ESTIMATED CAPITAL EXPENDITURE ON ENVIRONMENTAL PROTECTION MEASURES**

Appendix-1

*Ashoke o/c*

A-CAPITAL EXPENDITURE

Name of the Project: ASHOKA OCP (10.98 MTP)

**COST OF REHABILITATION**

1	Total no. of families to be rehabilitated	200
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**CAPITAL ESTIMATES**

Sl. No.	Description	Amount	Remarks
1	Compensation of land to be acquired for rehabilitation		
2	Cost of development of land plots including Schools, Township, Roads etc.		
3	Shifting allowances		
4	Lump sum grant		
5	Payment of lump sum grant of Rs. 50,000/- each for such family (i.e. 200 nos) who want to shift at the place of their own choice instead of the above mentioned in sl nos. 1 to 4 as per O.C. rehabilitation policy.	100.00	Appendix-A B.1
6	Lumpsum assistance to eligible PAFs to establish self employment through the provision of infrastructures or formation of co-operatives @ 5% of rehabilitation cost	5.00	Appendix-A.B.1
<b>SUB-TOTAL</b>		<b>105.00</b>	

**COST OF COMPENSATORY AFForestation**

1	Forest land to be acquired in Ha	242.02
2	Density of forest	9.3
3	No. of trees at 100% density	2250
4	Forest in safety zone in Ha	112.08

**CAPITAL ESTIMATES**

Sl. No.	Description	Amount	Remarks
1	Cost of forest growth & capital NPV for 242.02 Ha @Rs.4,137/Lakh/ha as per actual expenditure	1001.24	
2	Cost of afforestation @Rs3000/- per Ha for double the forest land 242.02 Ha, that is 484.04 Ha	1452.01	
3	Enrichment of forest @Rs70000/- per hectare in safety Zone for 112.08 Ha including compensation of cost of produce on actual vegetation basis along with sales tax	78.40	
<b>SUB-TOTAL</b>		<b>1231.70</b>	Appendix-A.B.1

**CAPITAL FOR RESTORATION**

1	HEM for Restoration	679.46	Appendix-E
2	Biological remediation of over burden dump @ Rs 60,000/-per Ha for 300 Ha	180.00	Appendix-A.B.1
<b>SUB-TOTAL</b>		<b>859.46</b>	

**CAPITAL FOR ANTI-POLLUTION MEASURES IN MINE AND INDUSTRIAL AREA**

1	3 nos. water sprinklers	228.56	Appendix-A.3
2	Industrial sewage treatment in workshop	75.16	Appendix-A.B.3.4
3	Water supply distribution system	218.18	Appendix-A.B.3
4	Rainfall diversion/sedimentation lag/pond/check dam/food protective embankment/storm water drains etc.	14.50	Appendix-A.B.1
5	Dust suppression & extraction in coal handling plant & feeder breaker	48.00	Appendix-A.3.4
6	Other development measures	428.58	Appendix-A.B.1
<b>SUB-TOTAL</b>		<b>1010.96</b>	

**CAPITAL FOR ANTI-POLLUTION MEASURES IN TOWNSHIP**

1	Colony Sewage treatment	75.20	Appendix-A.B.3.2
2	Storm water drain/Garden drain/vegation etc.	36.07	Appendix-A.B.3.2
3	Water treatment plant & Distribution system	189.76	Appendix-A.B.3.1
4	Garden drains, embankment, sedimentation lag/pond etc.	28.57	Appendix-A.B.1
5	Other development measures	214.30	Appendix-A.B.1
<b>SUB-TOTAL</b>		<b>543.90</b>	

**OTHER PROVISIONS**

1	Travel and vehicle operation and maintenance works	12.00	Appendix-A.B.1
2	Cost for Advertisement	17.59	Appendix-A.B.1
3	Traveling for personnel for pollution control	40.75	Appendix-ISA.2.1
<b>SUB-TOTAL</b>		<b>70.34</b>	

**COMPENSATION FOR TENANCY LAND**

VII	FINANCIAL IMPACT	2662.85	Appendix-A.1
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**CAPITAL**

1	Cost of rehabitation	
2	Cost of compensatory afforestation	105.00
3	Cost of restoration	859.46
4	Cost of anti-pollution measures in mine & industrial area	1010.96
5	Cost of Anti-pollution measures in township	543.90
6	Other provisions	70.34
7	Compensation for Tenancy Land	2662.85
<b>TOTAL CAPITAL</b>		<b>6512.21</b>

**IMPACT ON REVENUE COST OF PRODUCTION**

15.07	7.81
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*Commutator*

Minutes of the Meeting held on 20.6.06 regarding EPR of Piparwar OCP (10 MTY)

A meeting was convened by DT(Operations), CCL on 20.6.06 regarding Expansion PR of Piparwar OCP (10 MTY). The following officials of CCL and CMPDI were present.

CMPDI, RI-III

1. Shri SK Mitra, RD
2. Shri A. Mukherjee, HOD(E)
3. Shri TK Roy, HOD(E&M)
4. Shri Uma Shankar, HOD(OC)

CCL, Ranchi

1. Director(T)/(O).
2. CGM(P&P)
3. CGM(Piparwar).
4. GM(GS).

CMPDI presented the proposal of EPR for development of Piparwar OCP for 10 MTY. After detailed discussions, the following decisions were taken by DT(Operations), CCL.

- (i) The rated capacity of quarry II should remain unchanged and should be as per the sanctioned capacity of 6.5 MTY and 3.5 MTY from Quarry-I should be planned.
- (ii) Quarry I should be outsourced for both coal mining and OB removal.
- (iii) Dir.(T)/(O), CCL, has instructed that mine should be operated by surface miner and additional CHP is not required.
- (iv) Coal is to be despatched to old KDH/Dakra (manual) Railway Siding by truck.
- (v) Conveyor no.1002 and 1003 need not be shifted. The Quarry - I should be developed in such a way that the conveyor no. 1003 is not disturbed now and mine operation is done from incrop as well as from the middle of the quarry leaving safe barrier from conveyor no.1003.
- (vi) Shifting of conveyor no.1003 should be at the fag end of the quarry and the coal should be excavated. Hopper ramp to be realigned, so that, it is not on coal bearing area of Quarry-I.