APPENDIX - A.8.2

PR FOR SAKHARI-IRAWATI (PAUNI-III) OCP

SUMMARY OF ESTIMATED CAPITAL INVESTMENT ON ROADS & CULVERTS

[AT COST INDEX 360 IN 2009 (1st HALF)]

(Amount in Rs.'000)

Sl. No.	Particulars	Total Cost at CI 360.00	Remarks
A	Approach Road	15125	App.A.8.2.1
B	Colony Roads	8223	App.A.8.2.2
C	Haul Roads	58184	App.A.8.2.3
D	Service Road.	3992	App.A.8.2.4
E	Diversion of Roads	64182	App.A.8.2.5
	GRAND TOTAL	**149706**	

BOARD MAT... CONFIDENTIAL

CMPDI

DIX - A.8.2

in Rs.'000)

Remarks
App.A.8.2.1
App.A.8.2.2
App.A.8.2.3
App.A.8.2.4
App.A.8.2.5

APPENDIX - A.8.2.1

PR FOR SAKHARI-IRAWATI (PAUNI-III) OCP

STATEMENT SHOWING ESTIMATED CAPITAL INVESTMENT ON APPROACH ROAD

[AT COST INDEX 360 IN 2009 (1st HALF)]

(Rate and total cost in Rs.'000)

SL. NO.	PARTICULARS	Total quantity required	Unit Rate at CI100 at Nagpur as on 1.1.92	Total Cost at CI 360
1 (A)	**Approach Road to Mine Site**			
	SECTOR ROAD (STRATUM 'D') : 7.5 M wide with 2 m wide cycle track on both side (DOUBLE LANE)			
	Specifications : 22.5 cm thicK cobble soling over 27.5 cm moorum filling. 15 cm thick WBM in 2 layers 4 cm thick premix surfacing			
	Cycle track: 2.5 cm thick premix surfacing over 15cm WBM (2 layers) blinded with moorum.Brick edging on both sides.			
	Length in mtrs	750	1.896	5119
1 (B)	**Approach Road to Township**			
	SECTOR ROAD (STRATUM 'D') : 7.5 M wide with 2 m wide cycle track on both side (DOUBLE LANE)			
	Specifications : 22.5 cm thicK cobble soling over 27.5 cm moorum filling. 15 cm thick WBM in 2 layers 4 cm thick premix surfacing			
	Cycle track: 2.5 cm thick premix surfacing over 15cm WBM (2 layers) blinded with moorum.Brick edging on both sides.			
	Lengt in mtrs	500	1.896	3413
1(C)	**Approach Road to Magzine**			
	SECTOR ROAD (STRATUM 'C') :			
	3.75 M wide with 2 m Pucca shoulder on both sides.			
	Specifications :			
	15 cm thich cobble soling over 22.5 cm moorum filling. 15 cm thick WBM in 2 layers 2.5 cm thick premix bituminous carpeting with seal coat. Pucca shoulders : 7.5 cm moorum layer over 7.5 cm stone metalling blinded with moorum. Brick edging on both sides.			
	Length mtrs	1000	0.78	2808
2(A)	**CULVERTS (13 M Wide)**			
i)	4.57 M span R.C.C. slab culvert	1	297	1069
ii)	3.05 M span R.C.C. slab culvert	1	198	713
iii)	1.83 M span R.C.C. slab culvert	0	118.8	0
iv)	1.22 M span R.C.C. slab culvert	0	79.2	0
v)	0.61 m dia. hume pipe culvert	1	24.6	89

..(ii)..

APPENDIX - A.8.2.1(contd.)

(Rate and total cost in Rs.'000)

SL. NO.	PARTICULARS	Total quantity required	Unit Rate at CI100 at Nagpur as on 1.1.92	Total Cost at CI 0
2(B)	**CULVERTS (7.5 M Wide)**			
i)	4.57 M span R.C.C. slab culvert	1	225	810
ii)	3.05 M span R.C.C. slab culvert	0	150	0
iii)	1.83 M span R.C.C. slab culvert	0	90	0
iv)	1.22 M span R.C.C. slab culvert	0	60	0
v)	0.61 m dia. hume pipe culvert	1	18.6	67
3	Tree guards	48	0.19	33
4	Extra for poor/B.C. soil for items 2 @ 10%			275
5	TOTAL			14396
6	Contingencies 3%			432
7	TOTAL			14828
8	Add: Tax on Works Contract @ 2%			297
9	**GRAND TOTAL**			**15125**

S

SL. NO.	
1	COLONY RO
1(A)	MAJOR-STR
	3.75 M wide
i)	Specifications
	15 cm thich c
	WBM 2cm th
	Pucca Shoul
	blinded with
ii)	Length of Ro
(B)	MINOR-STR
	3.75 M de
	Specification
	15 cm thich
	WBM, 2cm t
i)	Shoulders :
ii)	Length of R
2	CULVERTS
i)	4.57 M spa
ii)	3.05 m spa
iii)	1.83 m spa
iv)	1.22 m spa
v)	0.61 M dia,
3	Tree guard
4	RCC Slab
5	Extra for p
6	TOTAL
7	Contingen
8	TOTAL
9	Add:
10	**GRAND T**

- A.8.2.1(contd.)
t in Rs.'000)

t	Total Cost at CI 0
225	810
150	0
90	0
60	0
18.6	67
0.19	33
	275
	14396
	432
	14828
	297
	15125

APPENDIX - A.8.2.2

PR FOR SAKHARI-IRAWATI (PAUNI-III) OCP

STATEMENT SHOWING BREAK-UP OF CAPITAL INVESTMENT ON COLONY ROADS

[AT COST INDEX 360 IN 2009 (1st HALF)]

(Rate and total cost in Rs.'000)

SL. NO.	PARTICULARS	Total quantity required	Unit Rate at CI 100 at Nagpur as on 1.1.92	Total Cost at CI 360
1	COLONY ROADS			
1(A)	MAJOR-STRATUM 'B' ROAD			
	3.75 M wide with 2 M wide pucca shoulder on both sides.			
i)	Specifications:-			
	15 cm thich cobble metal soling over 22.5 cm moorum filling, 7.5 cm thick WBM 2cm thick premix bituminous carpeting.			
	Pucca Shoulders: 7.5 cm moorum layer over 7.5 cm stone metalling blinded with moorum.Brick edging on both sides.			
ii)	Length of Road (in mtr)	1700	0.61	3733
(B)	MINOR-STRATUM 'A' ROAD			
	3.75 M wide with 1.5 M wide shoulder on both sides.			
	Specifications:-			
	15 cm thich cobble metal soling over 22.5 cm moorum filling, 7.5 cm thick WBM, 2cm thick premix bituminous carpeting. Brick edging on both sides.			
i)				
	Shoulders : Earth work and surface dressing			
ii)	Length of Road (in m)	1100	0.47	1861
2	CULVERTS (7.5 M wide)			
i)	4.57 M span R.C.C. slab culvert	1	225	810
ii)	3.05 m span RCC slab culvert	1	150	540
iii)	1.83 m span RCC slab culvert	1	90	324
iv)	1.22 m span RCC slab culvert	0	60	0
v)	0.61 M dia. hume pipe culvert	3	18.6	201
3	Tree guards	112	0.19	77
4	RCC Slab cover for Drain Crossing (153x61x7.5 cm)	162	0.16	93
5	Extra for poor/B.C. soil on item 2 only (@10%)			188
6	TOTAL			7627
7	Contingencies 3%			235
8	TOTAL			8062
9	Add: Tax on Works Contract @ 2%			161
10	**GRAND TOTAL**			**8223**

APPENDIX - A.8.2.3

PR FOR SAKHARI-IRAWATI (PAUNI-III) OCP

STATEMENT SHOWING BREAK-UP OF CAPITAL INVESTMENT ON HAUL ROADS

[AT COST INDEX 360 IN 2009 (1st HALF)]

(Rate and total cost in Rs.'000)

SL. NO.	PARTICULARS	Total quantity required	Unit Rate at CI100 at Nagpur as on 1.1.92	Total Cost at CI 360
1)	**Haul Road and Culverts for 50 Te Rear Dumpers**			
	WIDTH Carriage way of double lane = 14 m Dozer track = 5 m Shoulder on both sides = 2 m Total road width = 23 m			
	Specifications suitable for CBR value 3 (Consolidated thickness) Total thickness of Pavement = 110 cm Thickness of gravel layer 63mm-40mm well graded=20cm Thickness of gravel layer 90mm-40mm well graded=25cm Thickness of moorum sand layer =65 cm			
	Shoulder moorum sand filling			
a)	Length (in m)	2000	5.84	42048
2)	**Culverts (14.00m Wide):**			0
i)	4.57m span RCC slab culvert	1	484.2	1743
ii)	3.05m span RCC slab culvert	1	322.8	1162
iii)	1.83 m span RCC slab culvert	0	193.8	0
iii)	0.61m diameter hume pipe culvert	2	40.2	289
				0
3	Road side drain (size 60cmx90cm)	4000	0.62	8928
4	Extra for poor /BC soil @ 10% for Item 2&3			1212
5	Total			55382
6	Contingencies 3%			1661
8	TOTAL			57043
9	Add: Tax on works contract @ 2%			1141
10	**GRAND TOTAL.**			**58184**

CMPDI

NDIX - A.8.2.3

tal cost in Rs.'000)

e at es 2	Total Cost at CI 360
5.84	42048
	0
484.2	1743
322.8	1162
193.8	0
40.2	289
	0
0.62	8928
	1212
	55382
	1661
	57043
	1141
	58184

CMPDI

APPENDIX - A.8.2.4

PR FOR SAKHARI-IRAWATI (PAUNI-III) OCP

STATEMENT SHOWING ESTIMATED CAPITAL INVESTMENT ON SERVICE ROADS.
[AT COST INDEX 360 IN 2009 (1st HALF)]

(Rate and total cost in Rs.'000)

SL. NO.	PARTICULARS	Total quantity required	Unit Rate at CI100 at Nagpur as on 1.1.92	Total Cost at CI 360
1	SECTOR ROAD (STRATUM 'C') :			
	3.75 M wide with 2 m Pucca shoulder on both sides.			
	Specifications :			
	15 cm thich cobble soling over 22.5 cm moorum filling. 15 cm thick WBM in 2 layers 2.5 cm thick premix bituminous carpeting with seal coat. Pucca shoulders : 7.5 cm moorum layer over 7.5 cm stone metalling blinded with moorum. Brick edging on both sides.			
	Length mtrs	1000	0.78	2808
2	**CULVERTS (7.5 M Wide)**			
i)	4.57 M span R.C.C. slab culvert	1	225	810
ii)	3.05 M span R.C.C. slab culvert	0	150	0
iii)	1.83 M span R.C.C. slab culvert	0	90	0
iv)	1.22 M span R.C.C. slab culvert	0	60	0
v)	0.61 m dia. hume pipe culvert	1	18.6	67
3	Tree guards	40	0.19	27
4	Extra for poor/B.C. soil for item 2 @ 10%			88
5	TOTAL			3800
6	Contingencies 3%			114
7	TOTAL			3914
8	Add: Tax on Works Contract @ 2%			78
9	GRAND TOTAL			3992

APPENDIX - A.8.2.5

PR FOR SAKHARI-IRAWATI (PAUNI-III) OCP

STATEMENT SHOWING ESTIMATED CAPITAL INVESTMENT ON DIVERSION OF ROADS.
[AT COST INDEX 360 IN 2009 (1st HALF)]

(Rate and total cost in Rs.'000)

SL. NO.	PARTICULARS	Total quantity required	Unit Rate at CI100 at Nagpur as on 1.1.92	Total Cost at CI 360
1 (A)	**Diversion of Village Road from Chincholi village to shakhari village to be used as Coal transportation road in future**			
	SECTOR ROAD (STRATUM 'D') : 7.5 M wide with 2 m wide cycle track on both side (DOUBLE LANE)			
i)	Specifications : 22.5 cm thicK cobble soling over 27.5 cm moorum filling. 15 cm thick WBM in 2 layers 4 cm thick premix surfacing			
	Cycle track: 2.5 cm thick premix surfacing over 15cm WBM (2 layers) blinded with moorum.Brick edging on both sides. Approach road to mine site (in mtrs)	6000	1.896	40954
1 (A)	**Additional road for presently proposed Coal transportation from CHPof Pauni-III OC to Dip side of existing Pauni OC**			
	SECTOR ROAD (STRATUM 'D') : 7.5 M wide with 2 m wide cycle track on both side (DOUBLE LANE)			
	Specifications : 22.5 cm thicK cobble soling over 27.5 cm moorum filling. 15 cm thick WBM in 2 layers 4 cm thick premix surfacing			
	Cycle track: 2.5 cm thick premix surfacing over 15cm WBM (2 layers) blinded with moorum.Brick edging on both sides. Approach road to mine site (in mtrs)	2000	1.896	13651
2	**CULVERTS (13 M Wide)**			2138
i)	4.57 M span R.C.C. slab culvert	2	297	1428
ii)	3.05 M span R.C.C. slab culvert	2	198	855
iii)	1.83 M span R.C.C. slab culvert	2	118.8	570
iv)	1.22 M span R.C.C. slab culvert	2	79.2	70[illegible]
v)	0.61 m dia. hume pipe culvert	8	24.6	
3	Tree guards	320	0.19	219
4	Extra for poor/B.C. soil for items 2 @ 10%			57[illegible]
5	TOTAL			6109[illegible]
6	Contingencies 3%			183[illegible]
7	TOTAL			629[illegible]
8	Add: Tax on Works Contract @ 2%			12[illegible]
9	GRAND TOTAL			641[illegible]

SUMMARY OF

Sl.No	
A	Colony Water s
B	Colony Sewera
C	Industrial Wate
D	Industrial Sewe
	GRAND TOTAL

APPENDIX - A.8.3

PR FOR SAKHARI-IRAWATI (PAUNI-III) OCP

SUMMARY OF ESTIMATED CAPITAL INVESTMENT ON WATER SUPPLY & SEWERAGE

[AT COST INDEX 360 IN 2009 (1st HALF)]

(Total Cost in Rs.'000)

S.No	PARTICULARS	Total cost at CI 360	Remark
A	Colony Water supply	12368	APPENDIX - A.8.3.1
B	Colony Sewerage	8902	APPENDIX - A.8.3.2
C	Industrial Water supply	12305	APPENDIX - A.8.3.3
D	Industrial Sewerage	11921	APPENDIX - A.8.3.4
	GRAND TOTAL :	**45496**	

APPENDIX - A.8.3.1 (A

PR FOR SAKHARI-IRAWATI (PAUNI-III) OCP

STATEMENT SHOWING ESTIMATED CAPITAL INVESTMENT ON COLONY WATER SUPPLY

[AT COST INDEX 360 IN 2009 (1st HALF)]

(Rate & Total Cost in Rs.'000)

SL NO.	PARTICULARS	Total quantity required	Unit Rate at CI 100 at Nagpur as on 01.01.92	Total Cost at CI 360
1	2	3	4	5
A.	RAW WATER ARRANGEMENT			
1	Boring of borewell 150mm dia., 100m deep with pump house and suitable drawal arrangement, (3+2) Nos.	5	115	2070
2	Raw water boosting pump set 7.5 HP, (3+1)Nos. (Submersible Type)	4	35	504
3	Raw water rising main:			
	i) 80 mm dia.	600	0.38	821
	ii) Add 7.5% for saddle, supports, valves, bends,etc.			62
4	Chlorinators	2	LS	25
5	Ground water reservoir (kl)	40	3.9	562
6	Clear water pump 5HP (Centrifugal yppe)	3	12	130
7	Clear water rising main:			
	i) 80 mm dia.	600	0.38	821
	ii) Add 7.5% for saddle, supports, valves, bends,etc.			62
8	RCC Overhead Tank (kl)	120	6.6	2851
9	Water Distribution Arrangement :			
	i) 80mm dia. CI Main	1400	0.38	1915
	i) 50mm dia. Main	700	0.27	680
	ii) 40mm dia. Main	700	0.16	403
	iii) Add 7.5% for saddle, supports, valves, bends,etc.			225
10	Investigations for : a) Hydrogeological data b) Raw water samples (Physico-chemical & bacteriological analysis)			80
	Sub - total 1 to 10			11211
11	Electrical Installation : a) Transformer, switchgear & switch room b) Overhead line c) Instruments, tools, etc.			561
12	TOTAL :			11772
13	Contingencies @ 3%			353
	Total			12125
14	Add: Tax on Works Contract @ 2 %			243
	GRAND TOTAL			12368

Departmental Option

STATEMENT SI

NO.	
1	
A	COMBINED OF
	i) 60x90 cm si
	ii) 30x45 cm si
	iii) 22.5x30 cm
B	Sewage dispos
C	Provision for P
D	Contingencies
	Total
E	Add: Tax on W
	GRAND TOTA

PR FOR SAKHARI-IRAWATI (PAUNI-III) OCP

STATEMENT SHOWING ESTIMATED CAPITAL INVESTMENT ON COLONY SEWERAGE

APPENDIX - A.8.3.2 (A-7 ...)

[AT COST INDEX 360 IN 2009 (1st HALF)]

Option I (Departmental)

NO.		quantity required	CI 100 at Nagpur as on 01.01.92	Cost at CI 360
1	2	3	4	5
A	COMBINED OPEN SURFACE DRAIN			
	i) 60x90 cm size	280	0.62	625
	ii) 30x45 cm size	560	0.34	685
	iii) 22.5x30 cm size	700	0.17	428
	SUB-TOTAL (A)			1738
B	Sewage disposal for quarters	405	4.5	6561
C	Provision for Poor/BC soil for item-A @ 10%			174
	SUB-TOTAL (A+B+C)			8473
D	Contingencies 3%			254
	Total			8727
E	Add: Tax on Works Contract@ 2%			175
	GRAND TOTAL			**8902**

CMPDI

ENDIX - A.8.3.1 (A-...

Total Cost at CI 360
5
2070
...04
821
62
25
562
130
821
62
2851
1915
680
403
225
80
11211
561
11772
353
12125
243
12368

APPENDIX - A.8.3.3

PR FOR SAKHARI-IRAWATI (PAUNI-III) OCP

STATEMENT SHOWING ESTIMATED CAPITAL INVESTMENT ON INDUSTRIAL WATER SUPPLY

[AT COST INDEX 360 IN 2009 (1st HALF)]

(Rate & Total Cost in Rs.'000)

SL NO.	PARTICULARS	Total quantity required	Unit Rate at CI 100 at Nagpur as on 01.01.92	Total Cost at CI 360
1	2	3	4	5
1	Boring of borewell 150mm dia., 100m deep with pump house and suitable drawal arrangement, (3+2) Nos.	5	115	2070
2	Raw water boosting pump set 7.5 HP, (3+1)Nos. (Submersible Type)	4	35	504
3	Raw water rising main:			
	i) 80 mm dia.	600	0.38	821
	ii) Add 7.5% for saddle, supports, valves, bends,etc.			62
4	Chlorinators	2	LS	25
5	Ground water reservoir (kl)	40	3.9	562
6	Clear water pump 5HP (Centrifugal yppe)	3	12	130
7	Clear water rising main:			
	i) 80 mm dia.	600	0.38	821
	ii) Add 7.5% for saddle, supports, valves, bends,etc.			62
8	RCC Overhead Tank (kl)	120	6.6	2851
9	Water Distribution Arrangement :			
	I) 80mm dia. CI Main	1375	0.38	1881
	I) 50mm dia. Main	688	0.27	669
	ii) 40mm dia. Main	688	0.16	396
	iii) Add 7.5% for saddle, supports, valves, bends,etc.			221
10	Investigations for : a) Hydrogeological data b) Raw water samples (Physico-chemical & bacteriological analysis)			80
	sub - total			11155
11	Electrical Installation : a) Transformer, switchgear & switch room b) Overhead line c) Instruments, tools, etc.			558
12	TOTAL			11713
13	Contingencies @ 3%			351
	Total			12064
14	Add: Tax on Works Contract @ 2 %			241
	GRAND TOTAL			12305

CMPD

APPENDIX - A.8.3.3

ER SUPPLY

al Cost in Rs.'000)

Total Cost at CI 360
5
2070
504
821
62
25
562
130
821
62
2851
1881
669
396
221
80
11155
558
11713
351
12064
241
12305

PR FOR SAKHARI-IRAWATI (PAUNI-III) OCP

APPENDIX - A.8.3.4

STATEMENT SHOWING ESTIMATED CAPITAL INVESTMENT ON INDUSTRIAL SEWERAGE
[AT COST INDEX 360 IN 2009 (1st HALF)]

(Rate & Total Cost in Rs.'000)

S.No.	PARTICULARS	Total quantity reqd	Unit Rate at Nagpur as on 01.01.92	Total cost at CI 360
1	2	3	4	5
A	COMBINED OPEN SURFACE DRAIN			
	i) 30x45 cm size (Length in mtrs)	1375	0.34	1683
	ii) 60cmX 90cm (Length in mtrs)	1375	0.62	3069
B	Sewage disposal arrangement for service buildings 5% of total cost of Service Buildings	122403	5%	6120
C	Provision for Poor/BC soil for item-A @ 10%			475
	SUB-TOTAL (A+B+C)			11347
D	Contingencies 3%			340
	Total			11687
E	Add: Tax on Works Contract@ 2%			234
	GRAND TOTAL			**11921**

APPENDIX-A.8.4

PR FOR SAKHARI-IRAWATI (PAUNI-III) OCP
ESTIMATED CAPITAL INVESTMENT ON PR PREPARATION

(MARCH,2009)

(Amount in Rs.`000)

Sl. No.	Particulars	Capital Provision	Phasing of capital provision		
			III	IV	V
1.	Preparation of Project report for SAKHARI-IRAWATI (Pauni-III) OCP	17972	10000	7972	
	TOTAL	17972	10000	7972	0

APPENDIX-A.8.4.A

PR FOR SAKHARI-IRAWATI (PAUNI-III) OCM

ESTIMATED CAPITAL INVESTMENT ON SCIENTIFIC RESEARCH (MARCH,2009)

(Amount in Rs.'000)

Sl. No.	Particulars	Amount	Phasing of capital provision			
			V	VI	VII	VIII
1	Slope Stability Studies	1500	100	500	500	400
2	Study for nalla diversion	1000	100	300	300	300
3	Hydrogeological Studies	500	100	300	50	50
4	Other Scientific Studies	500		200	50	250
	TOTAL	3500	300	1300	900	1000

PR FOR SAKHARI-IRAWATI (PAUNI-III) OCP

APPENDIX-A.9

STATEMENT SHOWING ESTIMATED PHASED CAPITAL EXPENDITURE ON `DEVELOPMENT OTHER' EXPENSES OF REVENUE NATURE CAPITALISED DURING DEVELOPMENT PERIOD

(Amount in Rs.'000)

SL. NO.	PARTICULARS	I	II	III	Total
	Production (Mt)	0	0	0.4	0.4
1	Salaries & Wages	0	0	97209	97209
2	Stores	0	0	61816	61816
3	Power	0	0	7988	7988
4	Misc. Exp. Incl. W/D	0	0	16761	16761
5	Leasing/Outsourcing of HEMM	0	0	0	0
6	Interest	9841	32723	49390	91954
7	OBR charged to coal	0	0	205755	205755
8	Depreciation	11655	38082	71544	121281
9	Total	21496	70805	510463	602764
10	Less : Sale Proceeds	0	0	652284	652284
11	Total (Before writing off depreciation)	21496	70805	-141821	92301
12	Less Depreciation	11655	38082	71544	121281
13	Net-Total (Cash Portion)	9841	32723	-213365	-170801
14	OB Suspense(Cash Portion)	0	0	94120	94120
15	Total A.9	9841	32723	-119245	-76681

(Departmental Option)

APPENDIX:A.9.1

PR FOR SAKHARI-IRAWATI (PAUNI-III) OCP

STATEMENT OF REVENUE EXPENDITURE CA TALISED

S.No.	PARTICULARS	YEAR	YEAR

10	Less : Sale Proceeds	0	0	[illegible]	
11	Total (Before writing off depreciation)	21496	70805	-141821	92301
12	Less Depreciation	11655	38082	71544	121281
13	Net-Total (Cash Portion)	9841	32723	-213365	-170801
14	OB Suspense(Cash Portion)	0	0	94120	94120
15	Total A.9	9841	32723	-119245	-76681

(Departmental Option)

APPENDIX:A.9.1

PR FOR SAKHARI-IRAWATI (PAUNI-III) OCP

STATEMENT OF REVENUE EXPENDITURE CAPITALISED

S.No.	PARTICULARS	YEAR I	YEAR II	YEAR III	TOTAL
1	Salaries & Wages	0	0	37016	37016
2	Stores	0	0	228439	228439
3	Power	0	0	0	0
4	Misc. Exp. Incl. W/D	0	0	7544	7544
5	Leasing/Outsourcing of HEMM	0	0	0	0
6	Interest	0	0	26876	26876
7	Depreciation	0	0	43713	43713
8	Total	0	0	343588	343588
9	Less : OBR CHARGED TO COAL	0	0	205755	205755
10	Deferred Revenue Exp.	0	0	137833	137833
11	Less Depreciation	0	0	43713	43713
12	OB Suspense(Cash Portion)	0	0	94120	94120

(Departmental Option)

APPENDIX:A.9.2

PR FOR SAKHARI-IRAWATI (PAUNI-III) OCP

STATEMENT SHOWING ESTIMATED INTEREST ON CAPITAL DURING DEVELOPMENT PERIOD

YEAR	CAPITAL BALANCE AT THE BEGINNING	CAPITAL EXP. DURING THE YEAR	EXP. OF REV.NATURE CAPITALISED DURING THE YEAR	SALE PROCEEDS OF COAL	NET EXP. DURING THE YEAR	TOTAL CAPITAL EXP. FOR THE YEAR	LOAN POSITION OF CAPITAL FOR THE YEAR	INTEREST ON CAPITAL@ 12%
FOR COAL								
I	0	342300	0	0	342300	342300	85575	9841
II	352141	433893	0	0	433893	786034	284544	32723
FOR OB								
I	0	0	0	0	0	0	0	0
II	0	0	0	0	0	0	0	0

(Departmental Option)

(Departmental Option)

APPENDIX - B

PROJECT REPORT FOR SAKHARI-IRAWATI (PAUNI-III) OCP
STATEMENT SHOWING JOBWISE/CATEGORYWISE ESTIMATED MANPOWER REQUIREMENT
DEPARTMENTAL OPTION

Coal (Mty) - 1.25
Peak OB (Mm3) - 8.45
Average SR(m^3/t) - 6.54

Sl.No.	Designation	Cat./Scale	Strength
	I. TOP OB & PARTING (Direct)		
1	Shovel Operator (6.1 m3)	Spl.Gr.	21
2	Dozer Operator	B	17
3	BH Drill Operqator	B	20
4	Rear Dumper Operator (60T)	B	133
5	Mining Sirdar/Shot Firer	6724-10360	14
6	Dumpman /Tripman	5962-8644	4
7	Blasting Gang	I / II	8
	Sub. Total I.		**217**
	II. COAL		
	II. (A) COAL (Direct)		
1	Backhoe Operator	A	4
2	Drill Operator	B	4
3	Dozer Operator	B	4
4	Rear Dumper Operator	B	14
5	Mining Sirdar/Shot Firer	6724-10360	4
6	Pitman/Tripman	5896-8542	4
7	Blasting Gang	I/II	6
	Sub. Total II.(A)		**40**
	II. (B) CHP		
1	Suptdg. Engineer (E&M)	17500-22300	1
2	Foreman Incharge (E&M)	7824-12054	1
3	Foreman (E&M)	7824-12054	1
4	Quality Control Despatch/Inspector	6219-9009	1
5	Feeder Breaker Operator/Crusher Operator	V/VI	3
6	Weighbridge Clerk	5962-8644	3
7	Mechanical Fitter	V / VI	2
8	Electrical Fitter/ Control Room Operator	V / VI	3
9	Fitter Helper	II	5
10	Chute/Feeder Operator	II / III	3
11	Tripman	5896-8542	3
12	General Mazdoor / Shale Picker	I	3
	Sub. Total II.(B)		29
	TOTAL (II)		**69**
	III. COMMON SERVICES		
	A. Common HEMM Operation		
1	Crane Operator	C/D	4
2	Water Sprinkler Operator	C	6
3	Grader Operator	C	4
4	Diesel Bowser Operator	D	4
5	Mobile Maintenance Van	D	4
6	Front-end Loader Operator	D	4
7	Tyre-handler Operator	B	4
8	Backhoe Operator	C	4
9	Fire-fighting Truck Operator	C	2
	Sub- Total III (A)	B	4
			36

(ii)

Sl.No.	Designation	Cat./Scale	Strength
	B. Excavation Equip. Maint. & Supervision		
1	Suptdg. Engineer (Excv)	17500-22300	1
2	Sr.Executive Engineer(Excv)	16000-20800	2
3	Executive Engineer (Excv)	13750-18700	2
4	Engineer (Excv.)	10750-16750	3
5	Foreman Incharge (Excv)	7824-12054	3
6	Foreman (Excv.)	7824-12054	8
7	M.T.K./LDC	6219-9009	4
	Sub-Total III(B)		23
	C) Excavation Plant & Equipment Maintenance		
1	Mechanic Grade I	A	8
2	Fitter Grade I	B	10
3	Fitter Grade II	C	19
4	Fitter Grade III	D	29
5	Auto Electrician	B	2
6	Auto Electrician	C	2
7	Auto Electrician	D	12
8	Welder Grade I	B	2
9	Welder Grade II	C	4
10	Welder Grade III	D	4
11	Turner/Machinist Grade I	B	2
12	Turner/Machinist Grade II	C	2
13	Turner/Machinist Grade III	D	4
14	Washing Machine Operator	C	4
15	Electrician	C/D	2
16	Black Smith	V	4
17	Helper/ Greaser	E	52
18	Mazdoor	I	55
	Sub- Total III (C)		**217**
	D. Electrical & Mech. Supervision		
1	Supdtg. Engineer (E&M)	17500-22300	1
2	Executive Engineer (E&M)	13750-18700	1
3	Foreman Incharge(E&M)	7824-12054	1
4	Electrical Supervisor	7824-12054	4
5	Foreman (Mech.)	7824-12054	4
6	Foreman (E& T)	7824-12054	1
	Sub- Total III (D)		**12**
	E) Electrical &Mechanical Maintenance		
1	Mechanical Fitter	IV/ V/ VI	3
2	Fitter Helper	III	3
3	Pump Attendant	III	7
4	Tyndal/Tyndal Jamadar	IV/ V	6
5	Turner	IV/ V	3
6	Electrician	IV/ V	3
7	Helper Electrician	II	3
8	Welder	V/ VI	2
9	S/S Attendant	III	4
10	Electrical/Mechanical Fitter Helper	II	4
11	Mazdoor	I	4
	Sub- Total III(E)		**42**

Sl.No.	
1	Mana
2	Asst.
3	Unde
4	Safet
5	Overr
6	Overr
7	MTK/
1	Dy Cl
2	F.M.
3	Planr
4	Persc
5	Purcl
6	Finar
7	ste
8	Cash
9	Acco
10	Acco
11	LDC
12	Drive
13	Drive
14	Wirel
15	Peon
1	Sr. S
2	Store
3	Maga
1	*Secu*
2	*Arme*
3	*Watc*
1	*Lab*
2	*Sam*
1	*Medi*
2	L.M.
3	*Dres*
4	Nurs
5	*Swe*
6	*Amb*

118

Strength
1
2
2
3
3
8
4
23
8
10
1
29
2
2
12
2
4
4
2
2
4
4
2
4
52
55
217
1
1
1
4
4
1
12
3
3
7
6
3
3
3
2
4
4
4
42

(iii)

Sl.No.	Designation	Cat./Scale	Strength
	F. Mining Operations & Supervision		
1	Manager		
2	Asst. Colliery Manager	17500-22300	1
3	Under Manager & Blasting Officer	16000-20800	1
4	Safety Oifficer	10750-16750	6
5	Overman	13750-18700	1
6	Overman (Blasting)	7824-12054	7
7	MTK/Typist	7824-12054	2
	Sub- Total III (F)	6219-9009	4
	G. Project Office		22
1	Dy CME		
2	F.M.	18500-23900	1
3	Planning Officer	17500-22300	1
4	Personnel Manager	17500-22300	1
5	Purchase Officer	17500-22301	1
6	Finance Officer	10750-16750	1
7	Systems Officer	10750-16750	1
8	Cashier	10750-16750	1
9	Accountant	6724-10360	2
10	Accounts Clerk	7824-12054	3
11	LDC / Typist	6724-10360	3
12	Driver (HMV)	6219-9009	2
13	Driver (LMV)	6724-10360	6
14	Wireless Operator	6219-9009	8
15	Peon	D	4
	Sub- Total . III (G)	5691-8247	2
	H. Stores and Purchase		37
1	Sr. Store keeper		
2	Store Mazdoor	7824-12054	3
3	Magazine Clerk	I/II	3
	Sub- Total III(H)	6219-9009	2
			8
	I. Security		
1	*Security Officer*		
2	*Armed Guard*	10750-16750	1
3	*Watchman/Security Guard*	5896-8542	8
		5691-8247	13
	Sub-Total III(I)		
			22
	J.Chemical Laboratory		
1	*Lab Assistant/Sampling Supervisor*		
2	*Sampling Mazdoor*	6219-9009	1
		I/II	2
	Sub-Total III(J)		
			3
	K.Medical & Sanitation		
1	*Medical Officer*		
2	L.M.O.	10750-16750	1
3	*Dresser/Compounder*	10750-16751	1
4	Nurse	5962-8644	1
5	*Sweeper*	5962-8644	1
6	*Ambulance Driver.*	I	4
	Sub-Total III(K)	6219-9009	3
			11

STA

	(iv)		
Sl.No.	Designation	Cat./Scale	Strength
	L. Civil Works		
1	Superintending Engineer	17500-22300	1
2	Overseer (Civil)	7824-12054	1
3	Works Supervisor	7824-12054	1
4	Carpenter	V	1
5	Mason	V	1
6	Plumber	IV	1
7	Filter House Attendant	IV	2
8	Pump Khalasi/Valveman	III	2
9	General Mazdoor/Rest House Attendant	I	4
	Sub-Total III(L)		14
	M. Welfare		
1	Welfare Officer	10750-16750	1
2	Canteen Clerk	6219-9009	1
3	Canteen Cook	II	1
4	Canteen Mazdoor	I	2
	Sub-Total III(M)		5
	N. Mine Planning & Surveying		
1	Survey Officer	10750-16750	1
2	Surveyor	7260-11184	2
3	Draftsman	6219-9009	2
4	Chainman	6219-9009	2
5	Survey Mazdoor	I	3
	Sub-Total III(N)		10
	Sub-Total III (A to N)		462
IV	*LAND RECLAMATION/ENVIRONMENT*		
1	*Land Reclamation Supervisor*	6219-9009	1
2	Dozer Operator	B	2
3	Water Tanker Operator	C	2
4	General Mazdoor	I	2
	Sub-Total(IV)		7
	Grand Total (I to IV)		755

SL

SUB

SUB T

Strength
1
1
1
1
1
2
2
4
14
1
1
1
2
5
1
2
2
2
3
10
462
1
2
2
2
7
755

APPENDIX-B.1

PR FOR SAKHARI-IRAWATI (PAUNI-III) OCP

STATEMENT SHOWING SALARIES, WAGES & BENEFITS, MANPOWER ANALYSIS AND PRODUCTIVITY

COAL in Mt : 1.25
OB in Mm^3 : 8.45

SLNO	SCALE/GRADE	STRENGTH	WAGES	BENEFITS	TOTAL
I	**COAL**				
1	17500-22300	1	455455	130189	585644
2	5896-8542	7	1034026	423024	1457050
3	5962-8644	3	448443	182925	631368
4	6219-9009	1	155793	62918	218711
5	6724-10360	4	716624	280428	997052
6	7824-12054	2	416902	158252	575154
7	I	6	837840	347226	1185066
8	II	9	1285092	529560	1814652
9	III	2	294182	120328	414510
10	V	3	469107	189060	658167
11	VI	5	866310	341100	1207410
12	B	22	4028882	1569304	5598186
13	A	4	777720	299240	1076960
SUB TOTAL		69	11786376	4633554	16419930
II	O.B.				
1	5962-8644	4	597924	243900	841824
2	6724-10630	14	2508184	981498	3489682
3	I	4	558560	231484	790044
4	II	4	571152	235360	806512
5	B	170	31132270	12126440	43258710
6	Spl	21	4289712	1634640	5924352
SUB TOTAL :		217	39657802	15453322	55111124

APPENDIX-B.1

PR FOR SAKHARI-IRAWATI (PAUNI-III) OCP

STATEN JT SHOWING SALARIES, WAGES & BENEFITS NNPOWER ANALYSIS AND PRODUCTIVITY

SLNO	SCALE/GRADE	STRENGTH	WAGES	BENEFITS	TOTAL
III	**COMMON :**				
1	10750-16750	17	5815734	1710132	7561866
2	13750-18700	4	1527716	429304	1957020
3	16000-20800	3	1274457	343719	1618176
4	17500-22300	7	3188185	911323	4101908
5	18500-23900	3	488134	148210	638744
6	5691-8247	15	2139240	890100	3029340
7	5896-8542	8	1181744	483456	1665200
8	5962-8644	2	298962	121950	420912
9	6219-9009	29	4517997	1824622	6342619
10	6724-10360	11	1970716	771177	2741893
11	7260-11184	2	386812	148990	535802
12	7824-12054	38	7921138	3006788	10927926
13	I	74	10333360	4282454	14615814
14	II	11	1570668	647240	2217908
15	III	16	2353456	962624	3316080
16	IV	9	1351098	549873	1900971
17	V	2	346524	136440	482964
18	VI	2	346524	136440	482964
19	E	52	7743476	3161600	10905076
20	D	64	10196992	4096384	14293376
21	C	50	8765900	3446400	12212300
22	B	24	4395144	1711968	6107112
23	A	8	1555440	598480	2153920
SUB TOTAL :		451	79669417	30519674	110229891
IV	**LAND RECLAMATION :**				
1	6219-9009	1	155793	62918	218711
2	I	2	279280	115742	395022
3	C	2	350636	137856	488492
4	B	2	366262	142664	508926
SUB TOTAL :		7	1151971	459180	1611151

* INCLUDES 36000 - N.P.A FOR 2 MANPOWER

** INCLUDES 4800.00 - C.H.A. FOR 2 MANPOWER

APPENDIX-B.1

PR FOR SAKHARI-IRAWATI (PAUNI-III) OCP

STATEMENT SHOWING SALARIES, WAGES & BENEFITS, MANPOWER ANALYSIS AND PRODUCTIVITY

COAL in Mt : 1.25
OB in Mm^3 :8.45

MAN POWER CLASIFICATION

Sl.No.	PARTICULARS	CATEGORY/GRADE	MANPOWER
1	UNSKILLED	I	86
2	SEMI SKILLED	E,II,III	94
3	SKILLED	B,C,D,IV,V	361
4	HIGHLY SKILLED	VI,A,Spl.	40
5	MONTHLY RATED STAFF		141
6	OFFICERS		33
	TOTAL		**755**

APPENDIX-B.1

PR FOR SAKHARI-IRAWATI (PAUNI-III) OCP

STATEMENT SHOWING SALARIES, WAGES & BENEFITS, MANPOWER ANALYSIS AND PRODUCTIVITY

COAL in Mt :1.25
OB in Mm^3 : 8.45

GROUP NAME	STRENGTH	MANSHIFT	TOTAL WAGES & BENEFITS(Rs.)	E.M.S. (Rs.)	O.M.S.(t)	WAGES & SALARIES COST/t (Rs.)
COAL	69	18216	16419930	901.4	68.621	13.14
OVERBURDEN	217	57288	55111124	962.00	147.300	6.52
COMMON	462	121968	113037762	926.78	10.249	90.43
LAND RECLAMATION	7	1848	1611151	871.83		1.29
OVERALL	755	199320	186179967	934.08	6.271	148.94

- O.M.S. for OVERBURDEN Is in m^3
- WAGES & SALARIES FOR OVERBURDEN is in $Rs./m^3$

E.M.S. = WAGE+BENEFITS/MANSHIFT   O.M.S = PROD.PER t./MANSHIFT
(REVISED OMS AS PER CIL - OM CIL:C-5B:MP/OWS/347/ DT. 07/04/1987)

APPENDIX-B.1

PR FOR SAKHARI-IRAWATI (PAUNI-III) OCP

STATEMENT SHOWING SALARIES, WAGES & BENEFITS, MANPOWER ANALYSIS AND PRODUCTIVITY

APPENDIX-B.1

PR FOR SAKHARI-IRAWATI (PAUNI-III) OCP

STATEMENT SHOWING SALARIES, WAGES & BENEFITS, MANPOWER ANALYSIS AND PRODUCTIVITY

(REVISED OMS AS PER CIL-OM)

COAL in Mt :1.25

OB in Mm^3 :8.45

MANPOWER ANALYSIS (Excluding Wefare Manpower)

GROUP NAME	STRENGTH	MANSHIFT	TOTAL WAGES & BENEFITS(Rs.)	O.M.S.(t)
COAL	69	18216	16419930	68.621
OVERBURDEN	217	57288	55111124	147.5
COMMON	410	108240	113037762	11.548
LAND RECLAMATION	7	1848	1611151	
OVERALL	703	185592	186179967	6.735

- O.M.S. for OVERBURDEN Is in m^3
- WAGES & SALARIES FOR OVERBURDEN is in Rs./m^3

121

APPENDIX-B.1

PR FOR SAKHARI-IRAWATI (PAUNI-III) OCP

STATEMENT SHOWING SALARIES, WAGES & BENEFITS, MANPOWER ANALYSIS AND PRODUCTIVITY

COAL in Mt : 1.25
OB in Mm^3 :8.45

TYPE OF QUARTERS & ELIGIBLE EMPLOYEES

SR.NO	. GRADE/ SCLAE	QR.TYPE	PLINTH AREA (m^2)	TOTAL	COAL	O.B.	COMN	RECLAMATION
1	CAT-I TO VI & Grd. B,C,D & E	MQ.	40.43	540	47	170	317	6
2	3384-4464 TO 3457-4663	A	36	15			15	
3	3506-4856 TO 6000-8400 Grd.A & Spl.	B	56	159	21	39	98	1
4	8600-14600 TO 17500-22300	C	84	32	1		31	
5	18500-23900 ABOVE	D	176	1			1	

APPENDIX - C

PR FOR SAKHARI-IRAWATI (PAUNI-III) OCP

Coal (Mty) : 1.25
Peak OB(Mm3) :8.45

APPENDIX - C

PR FOR SAKHARI-IRAWATI (PAUNI-III) OCP

Coal (Mty) : 1.25
Peak OB(Mm3) : 8.45
Revenue Life (Yrs.) : 21

ESTIMATED COST OF PRODUCTION PER TONNE OF COAL AT 100% CAPACITY UTILISATION

(MARCH,2009)

	OMS (t) (Including welfare manpower)	6.27		
	EMS (Rs.)	1310.39		
Sl. No.	Particulars	Total Cost/t (Rs.)	Variable Cost/t (Rs.)	Fixed Cost/t (Rs.)
1	Wages & Salaries	210.34	0.00	210.34
2	Stores	491.75	228.42	263.33
3	Power	21.19	6.22	14.97
4	Env. Pollution Control Exp.	3.00	0.00	3.00
5	Misc. Expenses (including W.D.)	71.72	37.79	33.93
6	Social Security cost	1.00	1.00	0.00
7	Hiring of Equipment charges	0.00	0.00	0.00
5	Mine Closure Expd.	6.00	6.00	0.00
6	Administrative Charges	66.90	0.00	66.90
7	Depreciation	271.86	0.00	271.86
8	Interest on Working Capital @ 14.5%	42.14	13.51	28.63
9	Interest on loan capital @11.5%	45.00	0.00	45.00
	TOTAL	1230.90	292.94	937.96

122

APPENDIX - C.1

PR FOR SAKHARI-IRAWATI (PAUNI-III) OCP

Coal (Mty) : 1.25
Peak OB(Mm3) : 8.45
Life (Yrs.) : 21

COST & PROFITABILITY AT DIFFERENT LEVEL OF PRODUCTION (MARCH,2009)

DEPARTMENTAL OPTION

Sl.No.	Levels of Production	85%	100%
1	Production in (Mt)	1.0625	1.25
2	Variable Cost (Rs./t)	292.94	292.94
3	Fixed Cost (Rs./t)	1103.48	937.96
4	Total Cost (Rs./t)	1396.42	1230.90
5	Capital Investment on annual output (Rs./t)	3345.76	2843.9
6	Equity Capital (Rs./t)	1773.54	1507.51
7	Return on Equity '@ 12% (Rs./t)	212.82	180.9
8	Minimum Selling Price to yield above return (Rs./t)	1609.24	1411.8
9	Present Average Selling Price (Rs./t)	975.50	975.50
10	Profit/Loss (Rs./t)	-420.92	-255.40
11	IRR (%)	-21.17	-14.17
	Other Cost Analysis :		
12	Price to yield 0% IRR	1348.44	1190.11
13	Price to yield 12% IRR	1630.71	1430.03

APPENDIX-C.4

PROJECT REPORT FOR SAKHRI- IRAWATI (PAUNI-III OC)
(MARCH,2009)

SENSITIVITY ANALYSIS OF FIRR AND FNPV ON DIFFERENT PARAMETERS
DEPARTMENTAL OPTION

PARAMETERS	I.R.R.					
	0%	5%	10%	15%	20%	25%
INCREASE IN CAPITAL(%)	-14.17	-14.53	-14.86	-15.16	-15.44	-15.71
INCREASE IN WAGES(%)	-14.17	-14.90	-15.62	-16.34	-17.05	-17.83
INCREASE IN STORES(%)	-14.17	-15.76	-17.30	-18.78	-20.20	-21.56
INCREASE IN OPERATING COST(%)	-14.17	-17.20	-20.08	-22.77	-25.26	-27.58
DECREASE IN CAPACITY UTILISATION(%)	-14.17	-16.58	-18.92	-21.17	-23.31	-25.33
DECREASE IN SALES REALISATION(%)	-14.17	-17.59	-20.85	-23.90	-26.72	-29.30
INCREASE IN SALES REALISATION(%)	-14.17	-10.71	-7.33	-4.13	-1.14	1.65
IMPACT OF DECREASE IN WORKING CAPITAL INTEREST RATE FROM (%) 14.50	0%	0.5%	1.0%	1.5%	2.0%	2.5%
	-14.17	-14.09	-14.01	-13.93	-13.85	-13.76

Job No.4021291

(Departmental Option)

122

ENDIX - C.1
.I (Mty) : 1.25
m3) : 8.45
(Yrs.) : 21
CMP

PR FOR SAKHARI-IRAWATI (PAUNI-III) OCP

STATEMENT OF REVENUE CASH OUTFLOW AT 100% & 85% LEVEL OF PRODUCTION (MARCH,2009) (Cash-Flow Statement)

APPENDIX - D.1, D.2, E.1 & E.2

Rs.'000

YEAR	PRODN(MTY)	INITIAL CAP	REPL CAP	SALV.VAL	WAGES	STORES	POWER	EMP	ADMN O/H	MISC EXP	HIRING EQUIP.	WC INT	TOTAL	SALES REV	NET-FLOW (100%)	NET-FLOW (85%)	
(2008-09)		29250											29250		-29250	-29250	
(2009-10)	0.0000	342300	0	0	0	0	0	0	0	0	0	0	342300	0	-342300	-342300	
(2010-11)	0.0000	433897	0	0	0	0	0	0	0	0	0	0	433897	0	-433897	-433897	
(2011-12)	0.4000	363908	0	0	63308	74456	15944	1200	26760	27868	205412	20056	788912	390200	-408712	-433800	
(2012-13)	0.8000	246546	0	0	92712	129575	18232	2400	53520	38904	418944	36456	1037269	760400	-256889	-307063	
(2013-14)	1.2500	238996	0	0	115200	166849	20813	3750	83625	51313	513150	46150	1239845	1219375	-20470	-98868	
(2014-15)	1.2500	46705	1670	84	115200	166849	20813	3750	83625	51313	556513	48238	1094591	1219375	124784	46387	
(2015-16)	1.2500	19736	1842	92	115200	166849	20813	3750	83625	51313	597625	50225	1110885	1219375	108490	30093	
(2016-17)	1.2500	1000	0	0	115200	166849	20813	3750	83625	51313	604650	50563	1097762	1219375	121613	43216	
(2017-18)	1.2500	0	1670	84	115200	166849	20813	3750	83625	51313	682013	54300	1179448	1219375	39927	-38471	
(2018-19)	1.2500	0	69368	3468	115200	166849	20813	3750	83625	51313	548213	47836	1103499	1219375	115876	37479	
(2019-20)	1.2500	0	90046	4502	115200	166849	20813	3750	83625	51313	487938	44925	1059956	1219375	159419	81022	
(2020-21)	1.2500	0	188689	9434	115200	166849	20813	3750	83625	51313	494300	45238	1160341	1219375	59034	-19364	
(2021-22)	1.2500	0	3042	152	115200	166849	20813	3750	83625	51313	487088	44888	976414	1219375	242961	164563	
(2022-23)	1.2500	0	0	0	115200	166849	20813	3750	83625	51313	502088	45613	989249	1219375	230126	151728	
(2023-24)	1.2500	0	1670	84	115200	166849	20813	3750	83625	51313	498050	45413	986598	1219375	232777	154379	
(2024-25)	1.2500	0	3042	152	115200	166849	20813	3750	83625	51313	473150	44213	961801	1219375	257574	179176	
(2025-26)	1.2500	0	67526	3376	115200	166849	20813	3750	83625	51313	521275	46538	1073511	1219375	145864	67466	
(2026-27)	1.2500	0	91716	4586	115200	166849	20813	3750	83625	51313	510436	46013	1085129	1219375	134246	55848	
(2027-28)	1.2500	0	91922	4596	115200	166849	20813	3750	83625	51313	638788	52213	1219875	1219375	-500	-78897	
(2028-29)	1.2500	0	0	0	115200	166849	20813	3750	83625	51313	672688	53863	1168299	1219375	51076	-27322	
(2029-30)	1.2500	0	164030	8202	115200	157735	20813	3750	83625	51313	687050	54113	1329420	1219375	-110051	-188449	
(2030-31)	1.5500	0	50845	2542	115196	138500	22537	4650	103695	59582	198338	31047	721847	1512025	790178	692985	
(2031-32)	0.1100	0	11341	567	115198	89900	14280	330	7359	23912	4024	12326	278101	107305	-170796	-177695	
[illegible]			-212957										-212957		212957	212957	
V	24.1100	1722338	625462	41921	2344814	3259752	424806	72330	1612959	1022578	10301930	920222	22265270	23519305	1254035	-258097	
RICE		71.44	25.94	1.74	97.25	135.20	17.62	3.00	66.90	42.41	427.29	38.17	923.48	975.50	5.01%	-1.18%	<<< IRR
OST						71.08	5.73			27.58	427.29	25.70	557.38				
RICE		84.05	30.52	2.05	114.41	146.52	19.72	3.53	78.71	45.03	427.29	40.37	988.10				

124

021291

APPENDIX - F

PR FOR SAKHRI-IRAWATI (PAUNI-III) OC (MAR 2009)
ESTIMATED CAPITAL ENVESTMENT ON THE BASIS OF COMPLETION COST
(MARCH,2009)

PARTICULARS	TOTAL	I YR 2009-10	II YR 2010-11	III YR 2011-12	IV YR 2012-13	V YR 2013-14	VI YR 2014-15	VII YR 2015-16	VIII YR 2016-17
LAND	747004	346057	400947	0	0	0	0	0	0
SERVICE BLDGS	239258	0	0	38275	78428	91832	30723	0	0
RES BLDGS	385683	0	0	54888	64267	75250	88111	103167	0
TOTAL BLDGS	624941	0	0	93163	142695	167082	118834	103167	0
PLANT & MACH	2569604	0	0	1239508	835376	473325	21395	0	0
FUR/FITT	4527	0	0	744	1743	2040	0	0	0
RAILWAY SIDING	0	0	0	0	0	0	0	0	0
VEHICLES	10266	0	0	7327	2421	518	0	0	0
PROSP/BOR	3379	0	0	1488	871	1020	0	0	0
CAP O/L INMINES	410140	25509	149570	24920	55223	154918	0	0	0
ROADS & CULVERTS	48786	0	961	14891	15843	8565	3930	4596	0
WATER SUP & S/D	84647	0	0	13541	27748	32490	10868	0	0
PR PREP COST	28773	0	0	14882	13891	0	0	0	0
ENV POLL CONTROL	20300	0	0	2902	3398	5101	3106	2518	3275
TOTAL DEVELOP	592646	25509	150531	71136	116103	201074	17904	7114	3275
TOTAL UPTO A08	4552367	371566	551478	1413366	1099209	845059	158133	110281	3275
NET REV EXP CAP	52273	10682	41591	0					
TOTAL CAPITAL	**4604640**	**382248**	**593069**	**1413366**	**1099209**	**845059**	**158133**	**110281**	**3275**

(DEPARTMENTAL OPTION)

JOB No.:-4021291

125

APPENDIX-G

PROJECT REPORT FOR SAKHARI-IRAWATI (PAUNI -III) OCP

STATEMENT SHOWING ESTIMATED CAPITAL INVESTMENT FOR ENVIRONMENT POLLUTION CONTROL
(March,2009)

(Rs. in '000)

Sl. No.	Particulars	Total Capital	PHASING		
			III	IV	V
1.	Sedimentation pond for treatment of mine waste water	1500	500	500	500
2.	Effluent treatment plant for treatment of workshop effluent	1000	300	400	300
3	Base line environmental data generation and scientific studies related to environment	500	250	150	100
4	Installation of fixed type sprinklers for Dust Control	800		400	400
5	Plantation during First two year	1500	500	500	500
6	Digital Mapping for land use plan	800	400		400
	TOTAL	6100	1950	1950	2200

APPENDIX-G

INI -III) OCP

TMENT

(Rs. in '000)

HASING	
IV	V
500	500
400	300
150	100
400	400
500	500
	400
950	2200

mental Option

PROJECT REPORT

FOR

SAKHARI-IRAWATI (PAUNI-III) OC MINE

LIST OF APPENDICES

SL. No.	Appendix No.	Title of the Appendix
1	A	Statement showing Estimated total capital investment and its phasing
2	A.1	Estimated capital investment on land acquisition, compensation and rehabilitation
3	A.2	Estimated capital investment on buildings
4	A.2.1	Estimated capital investment on service buildings
5	A.2.2	Estimated capital investment on residential buildings
6	A.2.3	Building cost index
7	A.2.4	Statement showing unit cost of residential buildings
8	A.3	Estimated capital investment on plant and machinery with phasing
9	A.3.1	Estimated capital investment on P&M - HEMM
10	A.3.2	Estimated capital investment on P&M - electrical
11	A.3.3	Estimated capital investment on P&M - workshop and stores
12	A.3.4	Estimated capital investment on P&M - pumps, pipes and fittings
13	A.3.5	Estimated capital investment on coal handling plant
14	A.3.6	Estimated capital investment on P&M - others
15	A.3.7	Estimated capital investment on Communication System
16	A.4	Estimated capital investment on furniture and fittings
17	A.6	Estimated capital investment on vehicles
18	A.7	Estimated capital investment on prospecting and boring
19	A.8	Estimated capital investment on Mine development
20	A.8.1	Estimated capital outlay in mines
21	A.8.2	Summary of Estimated capital investment on roads and culverts
22	A.8.2.1	Break-up of capital investment on colony roads
23	A.8.2.2	Break-up of capital investment on haul roads
24	A.8.2.3	Break-up of capital investment on heavy duty roads
25	A.8.2.4	Break-up of capital investment on approach roads to project and township
26	A.8.2.5	Break-up of capital investment on approach road to Magazine
27	A.8.3	Estimated capital investment on water supply and sewerage arrangements
28	A.8.3 (A)	Estimated capital investment on sewerage arrangements in colony and workshop
29	A.8.4	Estimated capital investment on PR preparation
30	A.8.4 (A)	Estimated capital investment on scientific research

PROJECT REPORT

FOR

SAKHARI-IRAWATI (PAUNI-III) OC MINE

LIST OF APPENDICES (Contd..)

SL. No.	Appendix No.	Title of the Appendix
31	A.9	Statement showing estimated Revenue expenses capitalized during development period
32	A.9.1	Estimated revenue expenditure capitalized during development period - coal and common
33	A.9.2	Estimated revenue expenditure capitalized during development period - OBR-DRE
34	B	Statement showing Job-wise / Category-wise requirement of manpower
35	B.1	Statement showing estimated salaries and benefits
36	C	Estimated cost of production per tonne of coal at 100% capacity utilization (including cost of EMP)
37	C.1	Cost and profitability at different levels of production
38	C.2	Annual expenditure for EMP and impact of cost / tonne on coal
39	C.3	Sensitivity analysis for profit/loss at different levels of capacity utilization
40	C.4	Sensitivity analysis of FIRR and FNPV on different parameters
41	D.1	IRR of the project at 100% level of production
42	D.2	IRR of the project at 85% level of production
43	E.1	Statement of revenue cash outflow at 100% level of production
44	E.2	Statement of revenue cash outflow at 85% level of production
45	F	Estimated capital investment on the basis of completion cost
46	G	Estimated capital investment for environmental protection measures

*****

127

APPENDIX-A

Coal (Mty)	1.25
Peak OB (Mm^3/y)	8.45
Average SR (m^3/t)	6.54
Life (Yrs)	21.00

STATEMENT SHOWING ESTIMATED CAPITAL INVESTMENT WITH PHASING AND DEPRECIATION
(MARCH,2009)

(Amount in Rs. '000s)

A/c Head	PARTICULARS	TOTAL CAPITAL PROVISIO	PHASING OF TOTAL CAPITAL								LIFE	Depreciation
			I	II	III	IV	V	VI	VII	VIII		
A.1	LAND	634258	318800	315458	0	0	0	0	0	0	21	30203
A.2.1	SERVICE BUILDINGS	67585	0	0	13517	23655	23655	6758	0	0	21	3218
A.2.2	RESIDENTIAL BUILDINGS	89688	0	0	17938	17938	17938	17938	17936	0	21	4271
A.2	*TOTAL BUILDINGS*	157273	*0*	*0*	*31455*	*41593*	*41593*	*24696*	*17936*	*0*	21	7489
A.3	PLANT & MACHINERY	540761	*0*	*0*	*283441*	*139691*	*101421*	*16208*	*0*	*0*	*0*	57539
A.4	FURNITURE & FITTINGS	2500	0	0	500	1000	1000	0	0	0	28	89
A.5	RAILWAY SIDING	0	0	0	0	0						0
A.6	VEHICLES	3558	0	0	2358	1200	0		0		9-13	354
A.7	PROSPECTING & BORING	2000	0	0	1000	500	500	0	0		20	100
A.8	DEVELOPMENT EXP. (COAL)											
A.8.1	CAPITAL OUTLAY IN MINES	265545	23500	117679	16745	31692	75929	0	0	0	20	13277
A.8.2	ROADS & CULVERTS	23625	0	760	9260	8349	3454	902	900	0	20	1181
A.8.3	WATER SUPPLY & SEWERAGE	35996	0	0	7199	12599	12599	3599	0	0	20	1800
A.8.4	GR & PR PREPARATION COST	17972	0	0	10000	7972	0		0		20	899
A.8.4.A	ENV. POLLUTION CONTROL	6100	0	0	1950	1950	2200		0		20	305
A.8.5	SCIENTIFIC RESEARCH	3500	0	0	0	0	300	1300	900	1000	20	175
A.8	*TOTAL DEVELOPMENT EXP.*	352738	*23500*	*118439*	*45154*	*62562*	*94482*	*5801*	*1800*	*1000*	*20*	17637
A.9	REVENUE EXPENDITURE CAPITALISE	91542	21318	70224	0	0	0		0		20	4577
	LESS:DEPRCN.DURING DEV.PERIOD	48978	11477	37501	0							
	NET REV. EXP. CAPITALISED	42564	9841	32723	0	0	0		0			4577
	TOTAL CAPITAL	**1735652**	**352141**	**466620**	**363908**	**246546**	**238996**	**46705**	**19736**	**1000**		**117988**

(Partial Hiring Option)

APPENDIX - A.1

PROJECT REPORT FOR SAKHARI-IRAWATI (PAUNI -III) OCP

ESTIMATED CAPITAL INVESTMENT ON LAND ACQUISITION , COMPENSATION AND REHABILITATION (MARCH,2009)

(Amt. in Rs. '000s)

Sl. No	Particulars	Rate	Total Amount	I	II
1A	Private land to be acquired (692.03ha)	250/ha	198008	100000	98008
1B	Solatium @ 30% of Value of Land		59402	30000	29402
1C	Stamp Duty, Registration charges & Lawyer's fees @1.25 % of total Value of land		2476	1300	1176
1D	Interest @ 12% for 2 year of cost of the land		47522	24000	23522
1E	Acquisition of Govt. land (including Roads & Nallas) (aprrox. 100 ha)	250/ha	25000	12500	12500
2	One time Monetary Compensation package for land holders in lieu of employment as per new R&R package of CIL		257081	130000	127081
3	Acquisition of forest land (29.81 ha)				
A)	Forest land to be diverted for non - forestry purpose (considering Compensatory Afforestation in twice the forest land in degraded forest)	250/ha	14905	7500	7405
B)	Net present value of forest land (as per guidelines of Hon'ble Supreme court)	900/ha	26829	12000	14829
C)	Add-on cost @ 2 % of compensatory afforestation cost	1.2/ha	36	0	36
4	Socio-economic survey & miscellaneous	LS	3000	1500	1500
	TOTAL		634258	318800	315458

The break-up of type of land required for mining is as follows :
(as per the land records provided by Ballarpur Area)

Particulars	Land (ha)
1 Revenue Land to be acquired	
a) Tenancy land to be acquired incl. Colony land	692.03
b) Tentative Government land	100.00
SUB TOTAL (1)....	792.03
2 Forest Land	29.81
TOTAL	821.84

SUMI

Sl.No.	Part
1	
1	Service Bu
2	Residentia
	Su
3	Roads & C
A	Appro
B	Colony Ro
C	Haul Roac
D	Service R
E	Diversion
	Sub-Tota
4	Colony \
	Colony S
	Industria
	Industria
	S To
	Grand

CMPDI

APPENDIX - A.1

(Amt. in Rs. '000s)

I	II
100000	98008
30000	29402
1300	1176
2400	23522
12500	12500
130000	127081
7500	7405
12000	14829
0	36
1500	1500
318800	315458

APPENDIX - A.2

PR FOR SAKHARI-IRAWATI (PAUNI-III) OCP

Partial Hiring Option

SUMMARY OF ESTIMATED PHASED CAPITAL INVESTMENT ON CIVIL WORKS
[AT COST INDEX 360 IN 2009 (1st HALF)]

(Amt. in Rs.000s)

S.No.	Particulars	Total Cost at CI 360	Phased capital Investment						
			Ist Yr.	2nd Yr.	3rd Yr.	4th Yr.	5th Yr.	6th Yr	7th & above
1	2	3	4	5	6	7	8		
1	**Service Buildings**	67585	-	-	13517	23655	23655	6758	
2	**Residential Buildings**	89688	-	-	17938	17938	17938	17938	17936
	Sub-Total	**157273**	**0**	**0**	**31455**	**41593**	**41593**	**24696**	**17936**
3	**Roads & Culverts :**								
A	Approach Road	15125		760	7560	6050	755		
B	Colony Roads	4508	-	-	902	902	902	902	900
C	Haul Roads	58184	-	-	2909	8728	8728	8728	29091
D	Service Road.	3992	-	-	798	1397	1797		
E	Diversion of Roads	64182			12836	22464	28882		
	Sub-Total	**145991**	**0**	**760**	**25005**	**39541**	**41064**	**9630**	**29991**
4	**Colony Water Supply**	7722	-	-	1544	2703	2703	772	
	Colony Sewerage	4048	-	-	810	1417	1417	404	
	Industrial Water Supply	12305	-	-	2461	4307	4307	1230	
	Industrial Sewerage	11921	-	-	2384	4172	4172	1193	
	Sub-Total	**35996**	**0**	**0**	**7199**	**12599**	**12599**	**3599**	**0**
	Grand Total	**339260**	**0**	**760**	**63659**	**93733**	**95256**	**37925**	**47927**

APPENDIX - A.2.1

PR FOR SAKHARI-IRAWATI (PAUNI-III) OCP
Statement Showing the Estimated Capital Requirement on Service Buildings with Permanent Specifications
[AT COST INDEX 360 IN 2009 (1st HALF)]

(Amount in Rs.'000s)

S.No.	Particulars	Requirement Nos.	Requirement Plinth Area in sq.m.	Unit Cost at CI 100 at Nagpur as on 01.01.92	Total cost at CI 360
1	2	3	4	5	6
1	Project Office	1	461	2.68	4448
2	Manager's Office	1	139	2.68	1341
3	EXCAVATION WORKSHOP				
(i)	Daily maintenance, schedule maintenance, medium & minor repair shed , 11 m height, open on sides,6 bays,suitable for 15 Te EOT crane	2	96	6	4147
(ii)	Main Workshop building consisting of engine shop/ hydraulic equipment repair shop/ rediator repair shop/ electrical repair shop/ machine shop/Tyre repair shop 6.0 m heightsuitable for 10 Te electric hoist.	1	144	3.3	1711
(iii)	Washing ramp for dumpers of 60T capacity	1	96	LS	600
(iv)	Office & Stores, 3m height	1	36	2.68	347
(v)	Switch Room building, 4.5m height	1	16	3.3	190
(vi)	Concrete pavement	1	1800	0.27	1750
(vii)	Groundwater reservoir for dumper washing and fire fighting (90 KL + 10 KL) with separate compartment	1	20	3.9	281
(viii)	Pump House	1	4	3	43
(ix)	Dumper parking place, WBM	1	300	0.19	205
(x)	Compound wall with gate (in RM)	1	330	0.67	796
(xi)	Waste oil tank(in kl)	1	1	3.9	14
(xii)	Fuel Station	2	9	2.28	148
(xiii)	Washing Platform, open	1	64	0.27	62
(xiv)	Lavatories & Urinals (4 seater)	1	30	4.11	444
(xv)	Scooter/Cycle Shed	1	150	1.2	648
(xvi)	Security Post	1	10.5	2.28	86
4	Facilities outside Workshop				
(i)	Brake testing track		600	0.19	410
(ii)	Dozer repair shop at quarry (6 m height)	1	128	2.64	1217
(iii)	Dozer washing station	1	60	0.27	58
(iv)	Underground water tank (in kl)		20	3.9	281
(v)	Pump House	1	4	3	43
5	E & M Workshop				
	a) Main workshop building,clear height,4.5m	1	288	2.48	2571
	b) LMV repair shed, height - 4.5m	1	54	2.48	482
	c) LMV washing ramp size 8m*5m	1	40	LS	500
	d) Underground water tank	1	20	3.9	281
	e) Pump house (2m x 2m size) in kl	1	4	3	43
	f) Structural yard (open) - Moorum surface	1	144	0.13	67
	g) Washing Platform	1	24	0.27	23
	h) Workshop Office (clear ht.3m)	1	24	2.68	232
	i) Workshop Stores (clear ht.3m)	1	24	2.68	232
	j) Switch room	1	16	3.3	190
	k) Bituminous pavement	1	675	0.2	486
	l) Boundary wall with gate,260m	1	272	0.67	656
	m) Security Post	1	10.5	2.28	86
	n) Cycle / Scooter stand	1	100	1.2	432
	o) Lavatories & Urinals (4 seater)	1	30	4.11	444

APPENDIX - A.2.1

Amount in Rs.'000s)

Unit Cost at CI 100 at Nagpur as on 01.01.92	Total cost at CI 360
5	6
2.68	4448
2.68	1341
6	4147
3.3	1711
LS	800
2.68	347
3.3	190
0.27	1750
3.9	281
3	43
0.19	205
0.67	796
3.9	14
2.28	148
0.27	62
4.11	444
1.2	648
2.28	86
0.19	410
2.64	1217
0.27	58
3.9	281
3	43
2.48	2571
2.48	482
LS	500
3.9	281
3	43
0.13	67
0.27	23
2.68	232
2.68	232
3.3	190
0.2	486
0.67	656
2.28	86
1.2	432
4.11	444

APPENDIX - A.2.1 (contd.)

S.No.	Particulars	Requirement Nos.	Requirement Plinth Area in sq.m.	Unit Cost at CI 100 at Nagpur as on	Total cost at CI 360
6	UNIT STORES				
(i)	Store shed, 6 m height	1	216	3.3	2566
(ii)	Hard stand	1	1380	0.27	1341
(iii)	Boundary wall with gate (in RM)	1	160	0.67	386
7	Sub-Station				
	a) Buildng for Project	1	210	3.3	2495
	b) Barbed wire fencing with gate (length in metres)	1	220	0.11	87
8	Dispensary	1	200	2.8	2016
9	(a) Magazine (3 Te)	3	56	3.3	1996
	b) Barbed wire fencing with gate (length in metres)	1	400	0.11	158
10	Senior/ Officers club	1	158	2.28	1297
11	Workers Institute	1	148	2.28	1215
12	First Aid Centre	1	17	2.8	171
13	Primary School	1	277	2.28	2274
14	Lavatories / Urinals (10 seaters)	1	52	4.11	769
15	Officers Rest House (2 Roomed)	1	224	2.28	1839
16	Staff Rest House (4 Beded)	1	189	2.28	1551
17	Canteen(50 seater)	1	162	2.28	1330
18	Shopping Centre	1	193	2.28	1584
19	Rest Shelter	1	39	2.28	320
20	Security Room	1	10.5	2.28	86
21	Community Hall	1	450	2.28	3694
22	Garages	3	23	1.41	350
23	Civil Maintenance Office & Stores	1	75	2.68	724
24	Staff Club	1	181	2.28	1486
24	Bus Stand	2	18	1.41	183
26	Scooter/Cycle Shed	1	150	1.2	648
27	Boundary wall with gate (in RM)	1	300	0.67	724
28	Soil Investigation, land development & drainage etc.			L.S.	700
29	Extra provision for foundation in Poor/BC Soil @ 10%				5785
30	TOTAL				64330
31	ADD: Miscellaneous 3%				1930
32	TOTAL				66260
33	Add: Tax on Works Contract @ 2 %				1325
34	**GRAND TOTAL**				67585

APPENDIX - A22

PR FOR SAKHARI-IRAWATI (PAUNI-III) OCP

Statement Showing the Estimated Capital Requirement for Residential Buildings with permanent specifications

Life 21 years,Capacity 1.25 Mty

[AT COST INDEX 360 IN 2009 (1st HALF)]

(Rate & Amount in Rs.' 000s)

Sl	Category/Scale	Type of Qrts	No. of Persons	% Satisfaction	Number of Qrts Reqd	Unit Cost at CI 100 at Nagpur as on 01.01.92 (Rs.'000)	Total cost CI
1	2	3	4	5	6	11	12
1	Cat. I to VI & Grade B, C, D & E	MQ	213	48.00	103	98.2	36413
2	3384 - 4464 to 3698 - 5878	A	2				
3	3998 - 6528 to 6000 - 8400, Grade A & Spl	B	96	60	46	155.67	2577
4	8600 - 14600 to 17500 - 22300	C*	21	100	17	243.89	1492
5	18500 - 23900 & Above	D	1	100	1	499.78	179
6	Hostel Type Accommodation**				16	41.76	240
7	TOTAL		333		183		8132
8	Provision for ground levelling & horticulture	6.56	Hectare			129	304
9	Rainwater harvesting					LS	100
10	TOTAL :		333				853
11	Contingencies (3%)						25
12	TOTAL		333				879
13	Add 2% Tax on works contract :						17
14	**GRAND TOTAL :**		333		183		896

Overall housing satisfaction - 55.00%

* This includes half garage - 9SQ.M.

**About 20% of type quarters have been considered for hostel type accommodation.

STATEMEN

No.	De
A	Material
1	Bricks
2	Sand (67% cc
3	Cement
4	Stone aggreg
5	Timber (local
6	Mild/Structura
B	Labour:
1	(a) Masson (
2	(a) Carpenter
3	(c) Coolie/Bel
	TOTAL
	Cost Index
	Cost Index w.r.t. 100

APPENDIX - A.2.3

PR FOR SAKHARI-IRAWATI (PAUNI-III) OCP

STATEMENT SHOWING BUILDING COST INDEX IN Maharastra REGION IN 2009 (1st half)

(WITH REFERENCE TO 100 BASE AT NAGPUR AS ON 1.1.92)

Description	Units	Rates at Nagpur as on 01.01.92	Average Rates at Areas (Rs.)	Ratio bet.col 5 & 4	Weightage	Cost
2	3	4	5	6	7	8
Material						
Bricks	1000	610.00	2300.00	3.770	16	60.33
Sand (67% coarse 33% fine)	Cum	90.00	280.00	3.111	5	15.56
Cement	qtl	140.00	440.00	3.143	21	66.00
Stone aggregate	Cum	230.00	860.00	3.739	6.5	24.30
Timber (local timber)	Cum	12500.00	44000.00	3.520	18	63.36
Mild/Structural/Tor Steel	Qtl	1300.00	3700.00	2.846	10	28.46
Labour:						
(a) Masson (50%First	Each	52.00	201.97	3.884	8.5	33.01
(a) Carpenter (50%First	Each	52.00	198.12	3.810	4	15.24
(c) Coolie/Beldar	Each	40.00	194.27	4.857	11	53.42
TOTAL					100	359.69
Cost Index					Say	**360.00**
st Index w.r.t. 100 base in New Delhi as on 01.10.1976						2160

APPENDIX - A.2.4

PR FOR SAKHARI-IRAWATI (PAUNI-III) OCP

STATEMENT SHOWING UNIT-COST OF RESIDENTIAL BUILDINGS

(Amount in Rs.'000s)

1	MINERS' QUARTERS :	
	Double Storeyed with Permanent Specifications	
	in Poor/BC soil (Require under reamed piles 6 m long)	
	Plinth area ...... 40.43 Sq.m	
	Circulation Area ...... 5.00 Sq.m	
	Sitting-Out-Balcony ...... 2.80 Sq.m	
	Total Area ...... 48.23 Sq.m	
	Unit cost for miners' quarter at Nagpur	
	under new housing scheme at cost index 100 ..	81
	Extra for Anti-Termite Treatment ..	1.3
	Extra for foundations in Poor/BC soil ..	12.6
	Provision for additional facilities ..	3.3
	Total ...	98.2
2	TYPE 'B' QUARTERS :	
	Double Storeyed with Permanent Specifications	
	in Poor/BC soil (Require under reamed piles 6 m long)	
	Plinth area ...... 56.00 Sq.m	
	Circulation Area ...... 5.00 Sq.m	
	Sitting-Out-Balcony ...... 2.80 Sq.m	
	Total Area ...... 63.80 Sq.m	
	Basic building rate / Sq.m at Nagpur at C.I.100 ..	1.56
	Internal water supply and sanitary installation	0.2
	@12.5% of the building rate ..	
	Internal electrification @ 10% of building rate ..	0.16
	External service connection 5% of building rate ..	0.08
	Extra for foundations in Poor/BC soil ..	0.41
	Extra for Anti-Termite Treatment ..	0.03
	Total Rate / Sq.m ..	2.44
	Unit Rate at CI 100 ..	155.67
3(A)	TYPE 'C' QUARTERS :	
	Double Storeyed with Permanent Specifications	
	in Poor/BC soil (Require under reamed piles 6 m long)	
	Plinth area ...... 84.00 Sq.m	
	Circulation Area ...... 5.00 Sq.m	
	Sitting-Out-Balcony ...... 3.90 Sq.m	
	Total Area ...... 92.90 Sq.m	
	Basic building rate / Sq.m at Nagpur atC.I. 100	1.56
	Internal water supply and sanitary installation	0.2
	@12.5% of the building rate	
	Internal electrification @ 12.5% of building rate..	0.2
	External service connection 5% of building rate ..	0.08
	Extra for foundations in Poor/BC soil ..	0.41
	Extra for Anti-Termite Treatment ..	0.03
	Total Rate / Sq.m ..	2.48
	Unit Rate at CI 100 ..	230.39
3(B)	GARAGE (HALF) (Single Storeyed)	
	Plinth area ...... 9.00 Sq.m	
	Basic building rate / Sq.m at Nagpur ..	1.41
	Extra for foundations in Poor/BC soil	0.09
	Total Rate / Sq.m ..	1.5
	Unit Rate at CI 100	13.5
	Total of 4(A) and 4(B)	243.89

(ii)..

APPENDIX - A.2.4 (contd.)

4(A)	TYPE 'D' QUARTERS	
	Single Storeyed with Permanent Specifications in Poor/BC soil (Require under reamed piles 6 m long)	
	Plinth area .. .. .. 139.00 Sq.m	
	Basic building rate / Sq.m at Nagpur atC.I. 100	1.95
	Internal water supply and sanitary installation @12.5% of the building rate ..	0.24
	Internal electrification @ 12.5% of building rate..	0.24
	External service connection 5% of building rate ..	0.1
	Extra for foundations in Poor/BC soil ..	0.41
	Extra for Anti-Termite Treatment ..	0.05
	Total Rate / Sq.m ..	2.99
	Unit cost at Nagpur at CI 100	415.61
4(B)	SERVANT'S QUARTER (Single Storeyed)	
	Plinth area .. .. .. 19.00 Sq.m	
	Basic building rate / Sq.m at Nagpur atC.I. 100	1.65
	Internal water supply and sanitary installation @ 15% of the building rate ..	0.25
	Internal electrification @ 10% of building rate..	0.17
	External service connection 5% of building rate ..	0.08
	Extra for foundations in Poor/BC soil ..	0.41
	Extra for Anti-Termite Treatment ..	0.05
	Total Rate / Sq.m ..	2.61
	Unit cost at Nagpur at CI 100	49.59
4(C)	GARAGE	
	Plinth area .. .. .. 19.00 Sq.m	
	Basic building rate / Sq.m at Nagpur at C.I. 100	1.41
	Extra for foundations in Poor/BC soil ..	0.41
	Total Rate / Sq.m ..	1.82
	Unit cost at Nagpur at CI 100	34.58
	TOTAL [4(A) , 4(B) AND 4(C)]	499.78
5	HOSTEL TYPE ACCOMMODATION :	
	Single Storeyed with Permanent Specifications in Poor/BC soil (Require under reamed piles 6 m long)	
	Plinth area .. .. .. 20.00 Sq.m	
	Basic building rate / Sq.m at Nagpur ..	1.65
	Internal water supply and sanitary installation @15% of the building rate ..	0.25
	Internal electrification @ 10% of building rate ..	0.17
	External service connection 5% of building rate ..	0.08
	Extra for foundations in Poor/BC soil ..	0.41
	Extra for Anti-Termite Treatment ..	0.05
	Total Rate / Sq.m ..	2.61
	Unit Rate at CI 100	41.76

APPENDIX A.3

COAL(Mty)	1.25
PEAK OB(Mm^3)	8.45
AV.S.R.(m^3/t)	6.54
LIFE(Years)	23

PR FOR SAKHARI-IRAWATI (PAUNI-III) OCP

ESTIMATED CAPITAL INVESTMENT ON PLANT & MACHINERY WITH PHASING

(March, 2009)

(Amounts in Rs.'000)

Sl. No.	PARTICULARS	Total Nos.	Total Capital	INITIAL CAPITAL												Life	Depreciation
				I-YEAR		II-YEAR		III-YEAR		IV-YEAR		V-YEAR		VI-YEAR			
				No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount		
(A)	FOR COAL:																
1.	2.8 m^3 DIESEL HYD.B/H	2	44972					1	22486	1	22486	0	0		0	7	6425
2.	60T RD DUMPERS	9	180162					2	40036	3	60054	4	80072	0	0	7	25737
3.	160 mm DIE.RBH DRILL	1	11143					1	11143		0	0	0		0	9	1238
4.	320 HP DOZERS	1	14852					1	14852		0	0	0		0	9	1650
	SUB-TOTAL.(B).		**251129**						**88517**		**82540**		**80072**		**0**		**35050**
(B)	COMMON:																
1	12/15 t MOBILE SERVICE CRANE	1	2533					1	2533					0	0	9	281
2	28 kl WATER SPRINKLER	1	8084					1	8084					0	0	9	898
3	280 HP MOTOR GRADER	1	20592					1	20592					0	0	9	2288
4	MOBILE MAINT. VAN	1	1600					1	1600					0	0	9	178
5	5.74m^3 FRONT END LOADER	1	11734					1	11734					0	0	7	1304
6	2.8 m3 DIESEL HYD. B/H	1	22486					1	22486								2498
7	FIRE-FIGHTING TRUCK	1	2757					1	2757					0	0	9	306
8	FLOAT ENG. ASSM. 60 T DUMPER	8	22518					2	5004	3	7506	4	10008			7	3217
	SUB-TOTAL.(B).		**92304**						**74790**		**7506**		**10008**		**0**		**10971**

APPENDIX A.3

... DUMPER	8	22518							0	0	9	306
SUB-TOTAL.(B).		92304	2	5004	3	7506	4	[illegible]008			7	3217
				74790		7506		[illegible]008		0		10971

APPENDIX A.3

COAL(Mty)	1.25
PEAK OB(Mm^3)	8.45
AV.S.R.(m^3/t)	6.54
LIFE(Years)	23

PR FOR SAKHARI-IRAWATI (PAUNI-III) OCP

ESTIMATED CAPITAL INVESTMENT ON PLANT & MACHINERY WITH PHASING

(March, 2009)

(Amounts in Rs.'000)

Sl. No.	PARTICULARS	Total Nos.	Total Capital	INITIAL CAPITAL												Life	Depreciation
				I-YEAR		II-YEAR		III-YEAR		IV-YEAR		V-YEAR		VI-YEAR			
				No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount		
(C)	**OTHER P& M:**																
1.	C.H.P.		**101840**						**81009**		**20831**						6213
a(i)	P& M (MECHANICAL)	LS	34673						17418		17255					18	1926
a(ii)	P& M (MECHANICAL)	LS	7144						7144								397
b	IDLERS & BELTING	LS	3512						1670		1842					3	1171
c	CIVIL & STRUCTURALS	LS	53043						53043							30	2526
d	ELECTRONIC ROAD WEIGH BRIDGE	LS	3468						1734		1734.0						193
2.	PUMPING	LS	20261						1939		1443		1443		15436	18	1126
3.	WORKSHOP	LS	11656						4394		7262				0	18	648
4.	ELEC. P&M	LS	30895						18950		10150		1795		0	18	1716
5	TELECOMMUNICATION	LS	1925						345		707		873			18	107
5.	HOSPITAL EQUIPMENTS	LS	2500						0		1300		1200		0	18	139
6.	SURVEY EQUIPMENTS	LS	2500						0		1300		1200		0	18	139
7.	MISc.	LS	25751						13497		6652		4830		772	18	1431
	SUB-TOTAL.(C).		**197328**						**120134**		**49645**		**11341**		**16208**		**11517**
	GRAND TOTAL (A+B+C)		**540761**						**283441**		**139691**		**101421**		**16208**		**57538**

132

APPENDIX A.3.1

COAL(Mty)	1.25
PEAK OB(Mm³)	8.45
AV.S.R.(m³/t)	6.54
LIFE(Years)	23

PR FOR SAKHARI-IRAWATI (PAUNI-III) OCP

ESTIMATED CAPITAL INVESTMENT ON PLANT & MACHINERY - HEMM

(March, 2009)

(Amounts in Rs.'000)

Sl. No.	PARTICULARS	Total Nos.	Total Capital	INITIAL CAPITAL												Life	Depreciation
				I-YEAR		II-YEAR		III-YEAR		IV-YEAR		V-YEAR		VI-YEAR			
				No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount		
(A)	FOR COAL:																
1.	2.8 m³ DIESEL HYD.B/H	2	44972					1	22486	1	22486	0	0		0	7	6425
2	60T RD DUMPERS	9	180162					2	40036	3	60054	4	80072	0	0	7	25737
3.	160 mm DIE.RBH DRILL	1	11143					1	11143		0	0	0		0	9	1238
4.	320 HP DOZERS	1	14852					1	14852		0	0	0		0	9	1650
	SUB-TOTAL.(B).		**251129**						**88517**		**82540**		**80072**		**0**		**35050**
(B)	COMMON:																
1	12/15 t MOBILE SERVICE CRANE	1	2533					1	2533					0	0	9	281
2	28 kl WATER SPRINKLER	1	8084					1	8084					0	0	9	898
3	280 HP MOTOR GRADER	1	20592					1	20592					0	0	9	2288
4	MOBILE MAINT. VAN	1	1600					1	1600					0	0	9	178
5	5.74m³ FRONT END LOADER	1	11734					1	11734					0	0	7	1304
6	2.8 m3 DIESEL HYD. B/H	1	22486					1	22486								2498
7	FIRE-FIGHTING TRUCK	1	2757					1	2757					0	0	9	306
8	FLOAT ENG. ASSM. 60 T DUMPER	8	22518					2	5004	3	7506	4	10008			7	3217
	SUB-TOTAL.(B).		**92304**						**74790**		**7506**		**10008**		**0**		**10971**
	GRAND TOTAL (A+B)		343433						**163307**		**90046**		**90080**		**0**		**46021**

Appendix- A.3.2

PR FOR SAKHARI-IRAWATI (PAUNI-III) OCP

	92304	74790	7506	10008			3217
GRAND TOTAL (A+B)	3434				0		10971
		163307	90046	90080	0		46021

Appendix- A.3.2

PR FOR SAKHARI-IRAWATI (PAUNI-III) OCP

STATEMENT SHOWING ESTIMATED CAPITAL REQUIREMENT FOR ELECTRICAL PLANT & MACHINERY

OPTION : PARTIAL HIRING

(Base Price :MARCH. '09)

(Amount in Rs. '000)

SL.NO.	PARTICULARS	TOTAL CAPITAL PROVISION				PHASING OF CAPITAL				
		QTY.		UNIT RATE	AMT.	I YEAR	II YEAR	III YEAR	IV YEAR	V YEAR
1.0	MAIN SUBSTATION									
1.1	Air break isolator, gang operated, off load, outdoor type, pole mounted, 11 kV, 400A with D.O. Fuses.	1	No.	16	16			16		
1.2	Do without D.O. fuse	5	Nos.	8	40			40		
1.3	Lightning arrester, station class, 9 kV, 5 kA for 11 kV system	5	sets	15	75			75		
1.4	Indoor type V.C.B., 11 KV, 400 Amp, 250 MVA complete having protections and metering with CTR 200/5 - 1no.,CTR 100/5 - 2nos., 20/5 - 1nos. and PT 11 kV / 110V	4	Nos.	315	1260			1260		
1.5	Transformer, outdoor type, DY-11, 11/3.4 KV, 2000 kVA with off load tap changer and complete with all accessories as per IS:2026	2	Nos.	1520	3040			3040		
1.6	Lighting transformer, plinth mounted, outdoor type rated 100 kVA, (Al)11 kV / 230 V (Line to Line)	1	No.	103	103			103		
1.7	Switch board, 3.3 kV, 11 panel sectionalised indoor type, 400 Amp, 75 MVA symmetrical breaking capcity with 11 circuit breaker panel of various capacities as under :- 2 Nos. incoming feeder control C.B. with CTR 350/5 2 Nos. quarry feeder control C.B. with CTR 200/5 2 No. spare feeder control C.B. 2 Nos. capacitor bank control C.B. with CTR 50/5 1 No. feeder panel for CHP with CTR 100/5 1 No. feeder panel for Workshop with CTR 100/5 1 No. sectionaliser with CTR 350/5	1	sets	2298	2298			2298		

133

Appendix- A.3.2 (contd.)

SL.NO.	PARTICULARS	TOTAL CAPITAL PROVISION QTY.	UNIT RATE	AMT.	PHASING OF CAPITAL I YEAR	II YEAR	III YEAR	IV YEAR	V YEAR
1.8	Lighting distribution board, 10 panel suitable for 415V, 3 phase and neutral system comprising 1 No. incoming control 3 pole MCCB, 200 Amp. and 9 Nos. outgoing control 32 A mp. 2- pole MCB having back up HRC fuses rated 30 Amp.	1 No.	52	52			52		
1.9	Capacitor bank, 3.3 kV grade.75 kVAR with control panel (manual)	6 Nos.	75	450			450		
1.10	Air break isolator, gang operated, off load, out door type pole mounted, 3.3 kV, 400A, with D.O. fuse	4 Nos.	10	40			40		
1.11	Lightning arrestor, station class, for 3.3 kV system, set of 3	4 Nos.	7	28			28		
1.12	Neutral grounding resistor for restricted earth fault system for 11 KV / 3.3 KV transformers each of 38 ohm	2 sets	150	300			300		
1.13	Transformer 3.3 kV/440 V, 315 kVA for workshop	1 No.	323	323			323		
1.14	Outdoor type V.C.B, 3.3 kV, 400 Amp. 75 MVA having protections and metering facilities with CTR 100/5 for primary control of the Transformer for workshop	1 No.	326	326			326		
1.15	Miscellaneous including earth pits, earth strips, steel , cables and structurals, etc.	LS	1500	1500			1500		
	SUB-TOTAL - 1 :			9851	0	0	9851	0	0
2.0	QUARRY POWER DISTRIBUTION								
2.1	Lightning arrester, station class for 3.3 kV system, set of 3	2 sets	7	14				14	
2.2	3.3 kV oil immersed load break switch, 75 MVA, 400 Amp, 3 phase, 50 Hz, in outdoor kiosk with HRC fuse	2 Nos.	62	124				124	
2.3	Air break isolator 3.3 kV gang operated, off load, outdoor type pole mounted, 400 A with D.O.fuse	2 Nos.	10	20				20	
2.4	Switch board, 3.3 kV, 9 panel sectionalised , 400 Amp. 75 MVA symmetrical breaking capcity with 9 circuit breaker panel of various capacities for pumping as under :- 2 Nos. incoming feeder control C.B. with CTR 300/5 3 Nos. main pump feeder control C.B. with CTR 100/5 2 No. spare feeder control C.B. 1 No. feeder control C.B. for LT power distr. trf. with CTR 150/5 1 No. sectionaliser with CTR 300/5	1 set	1880	1880				1880	

Appendix- A.3.2 (contd.)

SL.NO.	PARTICULARS	TOTAL CAPITAL PROVISION QTY.	UNIT RATE	AMT.	PHASING OF CAPITAL I YEAR	II YEAR	III YEAR	IV YEAR	V YEAR
								570	

APPENDIX -A.8 & A.8.1

PR FOR SAKHARI-IRAWATI (PAUNI-III) OCP

ESTIMATED CAPITAL INVESTMENT ON MINE DEVELOPMENT

(March,2009)

(Amount in Rs. '000)

Sl. No.	Particulars	Total Capital	PHASING				
			I	II	III	IV	V
1	Incoming Power Supply (11kV)	11200	5500	5700			
2	Diversion of 66 kV power line	24000	2000	22000			
3	Haul Road	58184			2909	8728	46547
4	Diversion of PWD road	64182			12836	22464	28882
5	Diversion of Sakhri to Pauni Nallah (1.25 km)	28291	5000	23291			
6	Diversion of Lendi to Sakhri Nallah (1.80 km)	40739	5000	35739			
7	Diversion of Western nala to Lendi Nalla (1.50 km)	33949	5000	28949			
8	Misc	5000	1000	2000	1000	500	500
	TOTAL	265545	23500	117679	16745	31692	75929

108