

**Bhushan Limited**  
**Steel & Power Plant in Orissa**

**Cost of Project  
&  
Means of Finance**

**Cost of Project**

<b>S. No.</b>	<b>Description</b>	<b>Amount (Rs.in Million)</b>
1	Land & site Development	402.35
2	Building, Civil Works & Equipment Foundations	739.10
3	Cost of Plant & Machinery	3496.15
4	Cost of Misc. Fixed Assets	597.50
5	Contingencies & Escalations	Estd 5% 261.76
6	Preliminary & Pre-operative Expenses	655.00
7	Working Capital Margin	250.00

**Total Cost of the Project**

**6401.86**

say

**6400.00**

**Means of Finance**

-Term Loans 4270.00

-Internal Accruals 2130.00

**6400.00**

Debt : Equity Ratio 2.00

		<b>Bhushan Limited</b>					
		<b>Steel &amp; Power Plant in Orissa</b>					
		<b>Estimates of Costs on Land &amp; Site Development</b>					
							(Rs. In Million)
		<b>1 Cost of Land</b>					
		Main Plant site			Acres 1266		250.00
		Registration Charges			5%		12.50
		Total Cost of Land					262.50
		<b>2 Preconstruction Infrastructure</b>					5.00
		<b>3 Site Development</b>					
		- Land Blasting, Filling & Compaction			1266	0.50	63.35
					App.Acres	Rs lac/Acre	
		- Cost of Internal Roads of bitumin with boulder soling			50,000	300.00	15.00
					App Area/Sqmtr	Rs /Sqr Mtr	
		- Storm water drainage system- both sides of roads (1/2 mtrs wide and 1/2 mtr deep with concrete sole)			5,000	600	3.00
					Length in mtrs	Rs /mtr	
		- Boundry Wall around the factory 2 Mtrs height, with pillers at 6 mts distance and 5 ft foudations with barbed wires and iron angles on top			11,000	3500	38.50
					Length in mtrs	Rs /mtr	
		- Land Scaping & Horticulture			Lumpsum		15.00
					Sub Total		134.85
					<b>Grand Total</b>		<b>402.35</b>

<b>Bhushan Limited</b>					
<b>Steel &amp; Power Plant in Orissa</b>					
<b>Cost of Building &amp; Civil Work- Factory Buildings-1</b>					
					<b>(Rs. In Million)</b>
>	Civil costs of Raw Material Yard ( 800x400 Mtrs) { With sand laying, Boulder soling, morrum filling, compacting and surface finishig.				8.00
		Area/SMtrs	32000	250.00 @Rs/Mtr	
>	<b>Over Ground Civil Work for RMPP</b>				
	consisting of civil work columns for steel structures for conveyors, RCC floors and plat forms for various crushers, screens, vibro feeders weigh feeders. Civil structures for Junciton house for conveyors \, transfer towers, separate building for Coke, Sinter and calcined }				10.00
>	<b>Coal Drying Shed</b> (total 50X100 Mtrs approx. )			5,000	12.50
		@Sq/Mtrs		2,500	
>	<b>Over Ground Kiln Feed and Product Seperation System</b>				
	Civil Work for RMD Bin Building				35.00
	Civil Work for Kiln inlet Building				
	Civil Work for Kiln Cooler Transfer Building				
	Civil Work for Cooler Outlet Building				
	Civil Work for Product Seperation Building { Heavy Foundations for Large Bins and Other Equipments}			Estimated RCC work approx 5,000 cuMtr with Brick Work etc.	
>	<b>Building/Civil Work for Power Plant</b>				67.50
	Consisting of Turbo Generator set with auxilliaries Building approx 7000 Cu Mtrs, structures etc for 2 CPPs				
>	<b>Civil Work for Coal Washery</b>				
	Built up Area approx 5000 sqr mtr, multifloor structure			30.00	
	Civil Work for Washing Tank			5.00	35.00

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Steel & Power Plant in Orissa						
<b>Cost of Building &amp; Civil Work- Factory Buildings- 2</b>						
<b>Utility &amp; Other Buildings</b>						
-	Civil work for intake well and pump house at river and pipe line carrying, pipe bridges with foundations				20.00	
-	Raw Water Reservoir Civil Work {Excavation, Earthen Work, Polyethylene insulation for preventing water leakage, PCC floor, brick work side walls etc}				15.00	
-	Civil Work for electrical sub-station piping, cable trays & other electricals, emergency DG Set & accessories				15.00	
-	Civil Work for water treatment plants, DM/RO both				4.00	
-	Civil Work for Cooling Towers of 2 CPPs				15.00	
-	Civil Work for Dust Extration (ESP) System				7.50	
-	Civil Work for WHR Boiler				17.60	
-	Civil work for Compressor House				2.00	
-	Civil Work for Oxygen Plants/Air separation plant for EAF				2.50	
-	Factory Stores Main, Control Rooms, refractory stores				5.00	
-	Civil Work for Laboratory / work shops for Building, furniture/fixtures and furnishings				5.00	
-	Civil Work for OHT Cranes, Weigh bridges, additional gantry structure				5.00	
					113.60	113.60
<b>-Cost of Machine Foundations</b>						
>	For Raw Material Processing Plant { Consisting of conveyors, wagon tippler hopper with excavation, PCC and RCC work for de-dusting chimneys)			Lump sum	10.00	
>	For Kilns, Cooler & waste gas systems				15.00	
>	For WHRB boilers				53.00	
>	For AFBC boilers				53.00	
>	Turbines				170.00	
>	For Coal Washery				5.00	
>						
>	For Induction and Arc Furnaces ( 2 each), hot rolling mill				10.00	
>	For Oxygen Plant					
>	For Lime Plant					
>	For Cooling Towers etc				7.50	
>	For Various Utilities - e.g electrical transformer etc, water treatment plants, boilers etc, water treatment				20.00	
>	For other various equipments in Workshop, Lab etc				10.00	
>	Machine Foundations for Power plant				72.50	
<b>Sub-total of Foundations</b>					426.00	426.00
<b>Total Costs</b>						<b>707.60</b>

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Steel & Power Plant in Orissa									
	Cost of Plant & Machinery								(Rs. In Million)
I	Indigenous Equipments								
S. No.	Equipments Description		NO.		Basic	Excise	Sales	Freight	Total
					Cost	Duty	Tax		Cost
						16.00%	4.00%	5.00%	
Sponge Iron Kiln									
1	Raw Material Preparation Plant (RMPP)								
	- Wagon Tippler and stacker cum re-claimer				67.50	10.80	3.13	3.38	84.81
	- Mechanical Equipments for Conveyors and accessories.				50.50	8.08	2.34	2.53	63.45
	- Structural Steel for RMPP Plant structures				75.00	12.00	3.48	3.75	94.23
	- Fabrication, erection and painting etc.				29.30				29.30
	- Design engineering, erection and commissioning of above				18.00				18.00
	- Other mechanical equipments for support				13.50	2.16	0.63	0.68	16.96
	- Main steel Structure for Housing the RMPP								-
	( Total Steel Consumption Approx MTs	6000			108.00	17.28	5.01	5.40	135.69
	Cost of design engineering erection and Commissioning				39.00				39.00
									-
					400.80	50.32	14.59	15.73	481.44
2	Kiln Feed & Product Seperation System								
	- Mechanical Equipments (Conveyors with accessories)				13.00	2.08	0.60	0.65	16.33
	- Kiln Equipments erection				25.00				25.00
	- Other mechanical equipments				21.50	3.44	1.00	1.08	27.01
	- Structural Steel - for conveyor galleries, Trestles, Stringers, Short-supports, Chutes	App MTs	650		11.70	1.87	0.54	0.59	14.70
	- Design Engineering Fabrication erection etc.				4.45				4.45
	- Main Steel Structure for entire system	4200			75.60	12.10	3.51	3.78	94.98
	- Design Engineering Fabrication erection etc.				28.77				28.77
									-
					180.02	19.49	5.65	6.09	211.25
3	Kiln Cooler and waste gas system								
	- Cost of various equipments for kiln cooler				192.00	30.72	8.91	9.60	241.23
	- WHRB boilers - 4 nos				337.00	53.92	15.64	16.85	423.41
4	Power Plant								
	- Cost of Power Plant, Turbine 2 Nos of 40 +60 MW				1,200.69	192.11	55.71	60.03	1,508.54
	AFBC Boilers 75 TPH and 150 TPH				340.00				
	60 MW turbine with EC, DCS Panel etc				394.69				
	Ash Handling sytem for power plant				25.00				
	40 MW turbine with other accessories				176.00				
	Transformers				240.00				
	Cooling tower				25.00				
5	Steel Making Shop								
	- Induction Furnace (1 No.) 15 MT Capacity with Laddle Refining & Continuous caster for Induction Furnace				65.00	10.40	3.02	3.25	81.67
	- Cost of New 35 MT Arc Furance	LS			120.00	19.20	5.57	6.00	150.77
	- Cost of Modification/Upgradation and capacity augmentation of Arc Furnace				70.00				70.00
	(Cost estimated include one LRF, Continuous caster for EAF Shop)								
6	Steel Rolling Facilities								
	- Heavy duty Re-rolling facility for Rounds and TOR Steel	Estd LS			240.00				240.00
	Total Equipment Cost for Steel Making Shop				495.00	29.60	8.58	9.25	542.43
7	Coal Washery								
	- (Cost of Imported Coal Washery consisting of Batac jig Components like Elec/Pnumetic controls, Sensors and switches)				18.98	Imported Under EPGC		0.40	19.38
	- Cost of indogeneous equipments				54.50	8.72	2.53	2.73	68.47
	Sub Total				2,878.99	384.88	111.61	120.67	3,496.15

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Steel & Power Plant in Orissa							
Cost of Misc. Fixed Assets page # 1							
I <u>Indigenous Equipments</u>						(Rs. In Million)	
S. No	Name of Equipment	NO.	Basic Cost	Excise Duty	Sales Tax	Freight	Total Cost
1)	<u>Railway Sidings</u>			16.00%	4.00%	5.00%	
	App 7 Kms total running length		90.00	-	-	-	90.00
	(Total cost including bridge on a on the way culvert, signal posting, rail laying, complete in movement conditions. Work with RITES.-proposed rail as per current specification						
2)	<u>Power Distribution System</u>						
	MRSS and Switch Yard Equipments		35.00	-	-	-	35.00
	220 KV EHT Overhead Lines from & Infrastructure/ bay equipments at Bhudipara substation {		42.50	-	-	-	42.50
	Power and distribution transformer,33 and 66.6 swith gear HT/LT Control Cable		50.00				50.00
	LC Electrical MCCS, PCCs, DCSs,PLCs Automation equipments and instrumentation		70.00	-	-	-	70.00
	Emergency DG with Accessories Imported Estd each at US\$ 135K}		15.00	-	-	-	15.00
	Plant Lighting and accessories		10.00				10.00
	Cable trays & Supporters		1.50	-	-	-	1.50
	Misc. Accessories		3.50	-	-	-	3.50
			317.50	-	-	-	317.50
3)	<u>Water Procurement &amp; Treatment Systems</u>						
	Raw Water Intake systems,Pumping stations and Water Distribution Pipeline		70.00	-	-	-	70.00
	Cost of water treatment plants, RO & DM		30.00				30.00
	Cost of Cooling Towers		20.00				20.00
			120.00	-	-	-	120.00

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Steel & Power Plant in Orissa									
Cost of Misc. Fixed Assets page # 2									
4)	<b>Air Compressors &amp; Air Receivers</b>								
	Cost of Air Compressors and plant air system	5.00						5.00	
		5.00	-	-	-	-	-	5.00	
5)	<b>Air Conditioning Systems &amp; Cooling System</b>								
	Cost of Chillers, Air Handling Units, Cost of Ducting for Acs, Plant air system etc	LS	10.00	-	-	-	-	10.00	
			10.00	-	-	-	-	10.00	
6)	<b>Effluent Treatment.</b>	LS	20.00	-	-	-	-	20.00	
-	Ash Handling systems		30.00					30.00	
								-	
			50.00	-	-	-	-	50.00	
7)	<b>Laboratory Equipments</b>		20.00	-	-	-	-	20.00	
-	Shatmagan- metalization meter ( Imported)								
-	Lico Operator Carbon and Sulphur Analyser Imp								
-	Spectrometer- Steel composition analyser Imported								
-	Labsize Ore and Coal Curshers								
-	Others								
			20.00	-	-	-	-	20.00	
8)	<b>Material Handling/Storage Equipments</b>								
-	Cost of Weigh Bridges , EOT Cranes for Power plant etc.		40.00	-	-	-	-	40.00	
-	LSD/HSD Storage System sotrage tanks		10.00	-	-	-	-	10.00	
			50.00	-	-	-	-	50.00	



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	<b>Bhushan Limited</b>							
	<b>Steel &amp; Power Plant in Orissa</b>							10
		<b>Contingencies &amp; Escalations</b>						
								<b>Amount</b>
		<b>Preliminary &amp; Preoperative Expenses</b>						<b>(Rs. In Million)</b>
	1	Interest During Construction on Loans of @ p.a.			<b>Rs./Mill.</b>	<b>Months</b>		
				10.50%	1,250.00	15	164.06	
					1,250.00	12	131.25	
					1,000.00	9	78.75	
					1,000.00	6	52.50	
					750.00	3	19.69	
					500.00	2	8.75	
				Sub Total	5,750.00		455.00	
	2	Other Financial Costs - legal, professional, commitments, L/C, etc					40.00	495.00
	3	Other Pre-operative Expenses						
		Including salaries, wages .			Estd LS		35.00	
		Travelling & Conveyance, Communication etc			Estd LS		50.00	
		Other Admn. Expenses			Estd LS		50.00	135.00
	4	Start Up Expenses/Trial Run Production						
		Materials/Power etc.			Estd LS			25.00
				<b>Total</b>				<b>655.00</b>