

Orissa Metaliks Private Limited

Brief Report for 1.2 Million Ton per Annum Integrated Steel Plant with 225 MW CPP at village -Gokulpur, P.O. Shyamraipur, P.S -Kharagpur (I), District, Paschim Mednipur, W.B.

Executive Summary

M/s. Orissa Metaliks Private Limited (OMPL), a Private Limited company, was incorporated on 29th day of July 2006, having its registered office at 1, Grastin Place, 3rd floor, Kolkata-700 001 in West Bengal. The Company was promoted by Shri Pulak Chakraborty, a young, prolific, highly educated and enthusiastic industrialist, having business and industrial experience of more than 10 years in the Cement and Iron & Steel Industry.

M/s. Orissa Metaliks Private Limited (OMPL) presently comprises of two units - **Orissa Metaliks Private Limited Unit-I**, and **Orissa Metaliks Private Limited, Unit-II** after demerger order of Hon'ble Calcutta High Court and transfer of EC vide MoEF&CC File No- J-11011/604/2010-I A II (I) dated 4th - Jan 2017 for 1.5 MTPA Beneficiation Plant, 2 x 0.6 MTPA Pellet Plant & Producer Gas Plant -75000 Nm³/hr, and File No -J-11011/227/2008-I A II (I) dated 6th - Jan 2017 for Sponge Iron plant-6, 00,000 TPA, A.F.B.C, W.H.R.B Based CPP and upcoming MBF (1 x 320 m²) from M/s Rashmi Metaliks Limited to M/s Orissa Metaliks Private Limited.

M/s Orissa Metaliks Private Limited Unit I at present operating 6 x100 TPD & 1x 350 TPD DRI based Rotary Kilns, producing around 2,85,000 TPA sponge iron with 28 MW capacity WHRB based, 6 MW AFBC Based & 25 MW CFBC Based Captive Power Plant at village-Gokulpur, P.O. Shyamraipur, Kharagpur, District-Paschim Mednipur in West Bengal.

M/s Orissa Metaliks Private Limited Unit-II at present operating Iron Ore Beneficiation (15, 00,000 MTPA), Pellet Plant (1.2 MTPA) and Producer Gas Plant (10x 7500 Nm³/hr) at village - Gokulpur, P.O. Shyamraipur, Kharagpur District Paschim Mednipur in West Bengal.

Also OMPL has got Environment clearance vide EC NO-F.No.-J-11011/182/2012-I A II (I) dated 24th Feb. 2015 from MoEF, New Delhi for setting up Iron Ore Beneficiation (1.5 MTPA), Pellet Plant (1.2 MTPA), Producer Gas Plant (480 TPD OR 75000 Nm³/hr) and Coke Oven Plant (0.225 MTPA) along with 15 MW WHRB Based CPP at village - Gokulpur, Tehsil- Kharagpur. District Paschim Mednipur in West Bengal.

As a strategic decision, the management is proposing to expand their business model by setting up another unit in the name of **M/s Orissa Metaliks Private Limited**, and launch a standalone green field Project for 1.2 Million Ton Per Annum Integrated Steel Plant along with 225 MW (90 MW WHRB based & 3 x 45 MW Coal and Dolochar mix based) Captive Power Plant at Mouza - Nandarchak (J.L. No. 124), Bargai (J.L. No. 197) & Kanjarichak (J.L. No-129) at Village - Gokulpur, P.O - Shyamraipur, P.S - Kharagpur (I), Dist. Paschim Mednipur in the state of West Bengal.



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1.1 Present Project

For the proposed project, after obtaining the 'EC' & 'NOC' project works will be started. Management has decided to setup a standalone green field Project for 1.2 Million Ton Per Annum Integrated Steel Plant along with 225 MW (90 MW WHRB based & 3 x 45 MW Coal and Dolochar mix based) Captive Power Plant at Mouza - Nandarchak (J.L. No. 124), Bargai (J.L. No. 197) & Kanjarichak (J.L. No-129) at Village - Gokulpur, P.O - Shyamraipur, P.S - Kharagpur (L), Dist. Paschim Mednipur in the state of West Bengal. The plant configuration is given as:

Sl.No	Particulars of Facilities	Capacity
1.	Blast Furnace (2 x 550m ³)	1.00 Million T.P.A
2.	Sinter (1 x 175m ²)	1.00 Million T.P.A
3.	DRI (2 X 500 TPD + 2 x 350 TPD)	0.50 Million T.P.A
4.	Steel Making Facilities [(20 T EIF X 10) + (50T EAF X 2)] with LRF and oxygen optimized furnace	1.00 Million T.P.A
5.	Ferro Alloy (FeMn, FeSi, SiMn, FeCr) Plant (10 x 9 MVA)	0.12 Million T.P.A
6.	FeCr Briquette Manufacturing plant	40 ton/hr
7.	Coke Oven Plant (2 x 0.25 MTPA)	0.50 Million T.P.A
8.	Lime Dolomite Plant	200 TPD
9.	Oxygen Plant	200 TPD
10.	Hot Rolling Mill	0.60 Million T.P.A
11.	Cold Rolling Plant with Pickling Line & Continuous Galvanizing	0.35 Million T.P.A
12.	Ductile Iron Pipe Unit	0.20 Million T.P.A
13.	Captive Power Plant	225 MW [WHRB Based 90 MW + CFBC (Coal & Dolochar Mix based) 3 x 45 MW]
14.	Pellet Plant	2.4 MTPA(2 x 1.2 MTPA)
15.	I/O Beneficiation Plant	2.4 MTPA (2 x 1.2 MTPA)
16.	Producer Gas Plant	150000 (20 x 7500 N.m ³ /hr)

The reason for choosing the state of West Bengal is:

- Raw Materials easy availabilities.
- Availability of non-forest, low productive land.
- Availability of water in close proximity.
- Availability of skilled manpower in surrounding area.



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- Proximity to steel market, Close to high growth of Steel Billets markets for secondary steel making process in small scale foundries.
- Convenient Rail & Road links.
- Product like Billets will be used for the production of TMT Bar, Wire Road in Rolling.
- No National Parks and Sanctuaries within 10 Km radius
- Using the Eco-friendly clean Technology.
- Save the natural resource by using bed materials.
- Economies of scale will result in lower operating cost.
- Offers freight advantage vis-à-vis competitors.

1.2 Market Demand

The Indian steel sector enjoys advantages of domestic availability of raw materials and cheap labour. Iron ore is also available in abundant quantities. This provides major cost advantage to the domestic steel industry. The steel industry reflects the overall economic growth of an economy in the long term as demand for steel is derived from other sectors like automobiles, consumer durables and infrastructure.

While steel continues to have a stronghold in traditional sectors such as construction, housing and ground transportation, special steels are increasingly being used in engineering industries such as power generation, petrochemicals and fertilisers.

The Indian steel industry is very modern with state-of-the-art steel mills. It has always strived for continuous modernisation and up-gradation of older plants and higher energy efficiency levels.

These features of the industry have made India the world's fourth largest producer of steel and the country is poised to move to second position in steel production in the next 10 years. Steel production capacity of the country expanded from about 75 million tonnes per annum (MTPA) in 2009-10 to about 101.02 million tonnes (MT) in 2013-14, when output was 81.7 MT.

India produced 7.07 MT of steel in January 2015 reporting the fourth highest production level globally which was 1.7 per cent higher than the country's steel production in the same month last year.

The steel sector in India contributes nearly two per cent of the country's gross domestic product (GDP) and employs over 600,000 people. The per capita consumption of total finished steel in the country has risen from 51 Kg in 2009-10 to about 60 Kg in 2013-14.



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Steel industry and its associated mining and metallurgy sectors have seen a number of major investments and developments in the recent past. According to the data released by Department of Industrial Policy and Promotion (DIPP), the Indian mining and metallurgical industries attracted foreign direct investments (FDI) to the tune of US\$ 1,669.49 million and US\$ 8,527.34 million, respectively, in the period April 2000–February 2015.

The Government of India is aiming to scale up steel production in the country to 300 MT by 2025 from 81 MT in 2013-14.

The Ministry of Steel has announced to invest in modernisation and expansion of steel plants of Steel Authority of India Limited (SAIL) and Rashtriya Ispat Nigam Limited (RINL) in various states to enhance the crude steel production capacity in the current phase from 12.84 MTPA to 21.4 MTPA and from 3 MTPA to 6.3 MTPA respectively.

The Ministry of Steel is facilitating setting up of an industry driven Steel Research and Technology Mission of India (SRTMI) in association with the public and private sector steel companies to spearhead research and development activities in the iron and steel industry at an initial corpus of Rs 200 crores (US\$ 31.67 million).

Some of the other recent government initiatives in this sector are as follows:

- An Inter Ministerial Group (IMG) has been setup in the Ministry of Steel for effective coordination and expediting implementation of various investment projects in the steel sector.
- A Project Monitoring Group (PMG) has been constituted under the Cabinet Secretariat to fast track various clearances/resolution of issues delaying the investments in the sector.
- To Increase domestic value addition and Improve Iron ore availability for domestic steel industry, duty on export of iron ore has been increased to 30 per cent.
- Rates of custom duty on stainless steel flat products have been enhanced from 5 per cent to 7.5 per cent in the Union Budget for 2014-15.

India is expected to become the world's second largest producer of crude steel in 2015-16, moving up from the fourth position, as its capacity is projected to increase from 100 MT to about 112.5 MT in 2016. Also, India has set an output target of 300 MT of steel by 2025.

Steel bars and wire rods are used as the material of gears, bolts, springs, bearings, cables and other basic components of safety-related parts typically such as automobile engines, drive train systems and chassis. Unlike cold-rolled sheets, heavy plates, pipes, sections and other steel products, bars and wire rods are seldom used as hot rolled for final products, but they are manufactured into machine parts after undergoing one or more stages of so-called post-processing such as heat treatment, forging and wire drawing at specialist plants.



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For this reason, every one of bar and wire-rod products is developed with due attention to its behaviour at the post-processing stages. What is required for a steelmaker regarding these products is good processibility and fulfilment of required properties after the processing. Furthermore, since the costs of the post-processing is sometimes several times the price of the hot-rolled steel material, it is increasingly important to reduce the total integrated manufacturing cost from the steel material to final product.

The proposed project, after obtaining the 'EC' & 'NOC' project works will be started. Management has decided to setup a standalone green field Project for 1.2 Million Ton Per Annum Integrated Steel Plant along with 225 MW (90 MW WHRB based & 3 x 45 MW Coal and Dolochar mix based) Captive Power Plant at Mouza – Nandarchak (J.L. No. 124), Bargai (J.L No. 197) & Kanjarichak (J.L. No-129) at Village – Gokulpur, P.O – Shyamraipur, P.S – Kharagpur (L), Dist. Paschim Mednipur in the state of West Bengal.

1.3 CAPITAL COST

The estimated capital cost, for the proposed plant and equipment to be installed, works out to about **Rs. 1700** crores including Machineries, Building construction, Road construction, Green Belt Development etc.

1.4 PROJECT SCHEDULE

This project would be designed by Capex Projects Management division of **ORISSA METALIKS PRIVATE LIMITED** and will be executed by M/s Orissa Metaliks Private Limited project division, which is located at Kolkata, West Bengal. The entire project will be completed within 60 months from the date of obtaining of Consent to establish.

1.5 Employment Generation (Direct & Indirect) due to the project:

The project will create the direct employment of 3000 peoples during operation & construction phase. Skilled and unskilled people on daily average will be employed. OMPL will give preference to the local peoples during construction and operation phase of the project depending upon the skill, job requirement and capability. Several others around 5500 indirect employment opportunities will be created in the surrounding areas by transport, business, vehicle drivers and attendants, workshops, grocery and retails, medical, etc.

1.6 Availability of Water, Energy /Power Requirement & Its Sources:

- **POWER:**

The auxiliary power required for the proposed plant will be sourced from WBSEDCL initially and after commissioning of propose 225 MW (WHRB Based 90 MW + 3 x 45 MW Dolochar-Coal Mix)



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Based Captive Power Plant, power requirement will be fulfilled and the remaining 109.8 MW will be drawn from WSEDCL.

Table 1-The Total Power Requirement for the complete project is as:

SR NO	PRODUCT	GROSS CAPACITY			SPECIFIC POWER CONSUMPTION	TOTAL CONSUMED POWER	LOAD FACTOR	CONNECTED LOAD
		TPA	TPD	TPH		IN KWH	IN KWH	IN KWH
1	COKE OVEN	500000	1667	69	36	2499	0.8	3124
2	COLD ROLLING MILL	350000	1166	49	27	1312	0.8	1640
3	SINTER	1000000	3333	139	45	6245	0.8	7812
4	PIG IRON	1000000	3333	139	125	17375	0.8	21719
5	ARC FURNACE-SMS	400000	1333	56	550	30800	0.8	38500
6	INDUCTION FURNACE-SMS	600000	2000	83	900	74700	0.8	93375
7	HOT ROLLING MILL	600000	2000	83	175	14583	0.8	18229
8	LIME AND DOLO PLANT	60000	200	8	30	250	0.8	313
9	OXYGEN PLANT	60000	200	8	30	250	0.8	313
10	POWER PLANT	225000			0.1	22500	0.8	28125
11	FERRO ALLOY	120000	400	17	3300	56100	0.8	70125
12	DIP	200000	667	28	250	7000	0.8	8750
13	DRI	500000	1667	69	75	5175	0.8	6469
14	PELLET PLANT	2400000	8000	333	40	13320	0.8	16650
15	I/O BENEFICATION	2400000	8000	333	35	11655	0.8	14569
16	UITLITY					4000	0.8	
17	OFICE , STREET LIGHT							5000
18	MISC APPLICATION							
TOTAL POWER		IN KWH				267764	0.8	334713
		IN MWH				267.8		334.8

Note:

*Remaining power will be withdrawn from WBSEDCL.

• **WATER:**

Requirement of makeup water for proposed 1.2 Million Ton Integrated Steel Plant with 225 MW Coal Based CPP, Dust suppression, Housekeeping, domestic and Green Belt Development purpose is **1229 KL/hour**.



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This requirement will be met from the River "Kasai" & ground water sources by bore wells and Rain Water Harvesting pond. Orissa Metaliks Private Limited has already obtained permission for withdrawal of 1789 KLD water from bore well and from Kasai River Bed.

Table 2-The Total water Requirement for the complete project is as:

Sr.No.	Name of Unit	Fresh Water (make-up) Kl/hour	Wastewater Generation & Reuse / Recycle Scheme (Kl/hour)
1	Blast Furnace	180	Nil (100% recycled)
2	Sinter plant	08	Nil (100% recycled)
3	Steel Melting Shop	38	06 (reused in slag granulation)
4	Rolling Mill	69	06 (reused in slag granulation)
5	Cold Rolling Mill	20	03 (reused in slag granulation)
6	Oxygen plant	10	2 (reused in BF slag granulation)
7	Lime dolomite plant	02	6 (reused in BF slag granulation)
8	Ductile Iron Pipe	19	Nil (100% recycled)
10	Coke oven	05	Nil (100% recycled)
11	Ferroalloy plant	10	Nil (100% recycled)
12	DRI Plant	53	Nil (100% recycled)
13	I/O Beneficiation Plant	35	Nil (100% recycled)
14	Captive Power Plant	675	60 (reused for ash handling)
15	Utilities & Misc uses	65	25 (treated in ETP and reused for dust suppression)
16	Domestic water	40	30 (treated in STP and reused for gardening)
	Total	1229	100% recycled. No discharge outside plant premises

1.7 Land form, Land use and Land Ownership

For the proposed project around 310 acres of land will be required to set up 1.2 Million Integrated Steel Plant with 225 MW CPP. Out of these 08 acres of land is in possession by M/s Orissa Metaliks Private Limited and for 124 acres of land tie up is made with land owner and for rest of the land agreement will/is made with private rayat. As per existing land used pattern, land is generally flat and no major earth filling is required for the proposed 1.2 Million Integrated Steel Plant with 225 MW CPP.

