



NATIONAL INSTITUTE OF TECHNOLOGY CALICUT

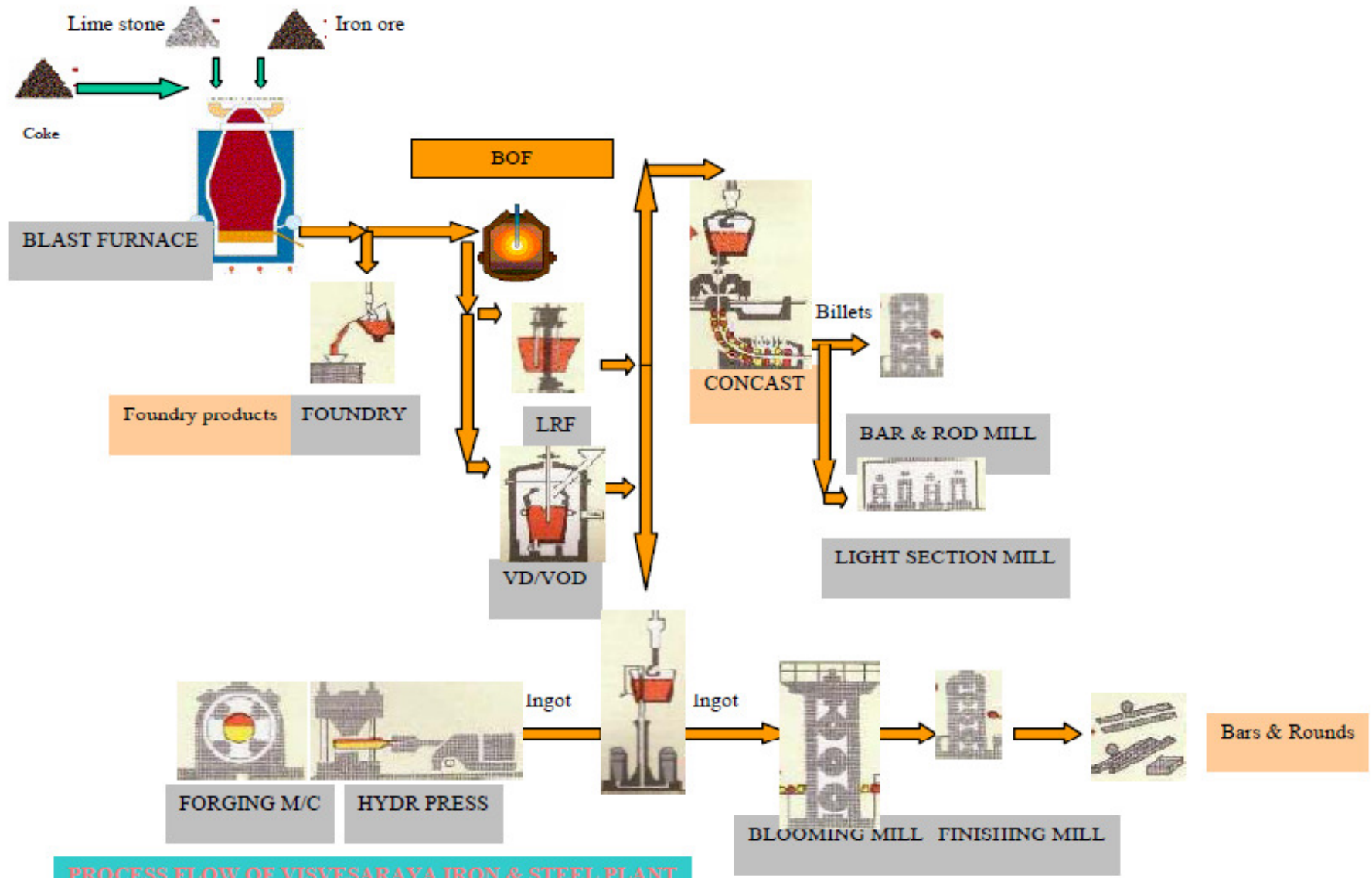
VISVESVARAYA IRON AND STEEL PLANT BHADRAVATHI

Industrial Training Presentation

By

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PROCESS FLOW CHART



GATE TO GATE Concept of VISL

Iron Ore, Dolomite, Limestone, Aluminium, Donite, Burnt lime, Calcined dolomite, Calcined petroleum coke, Graphite electrodes, Calcined boxite, Clay (fire and ball), Ferrosilicon ,HC & LC ferro manganese, HC & LC ferro chrome, silico Manganese, Nickel, Molybdc oxide, Ferro vanadium, Flourspar, Sulphur pyrites, Ferro Titanium

BF Gas, LDO,
Electricity, Coke, HFO
947 GIGACALS

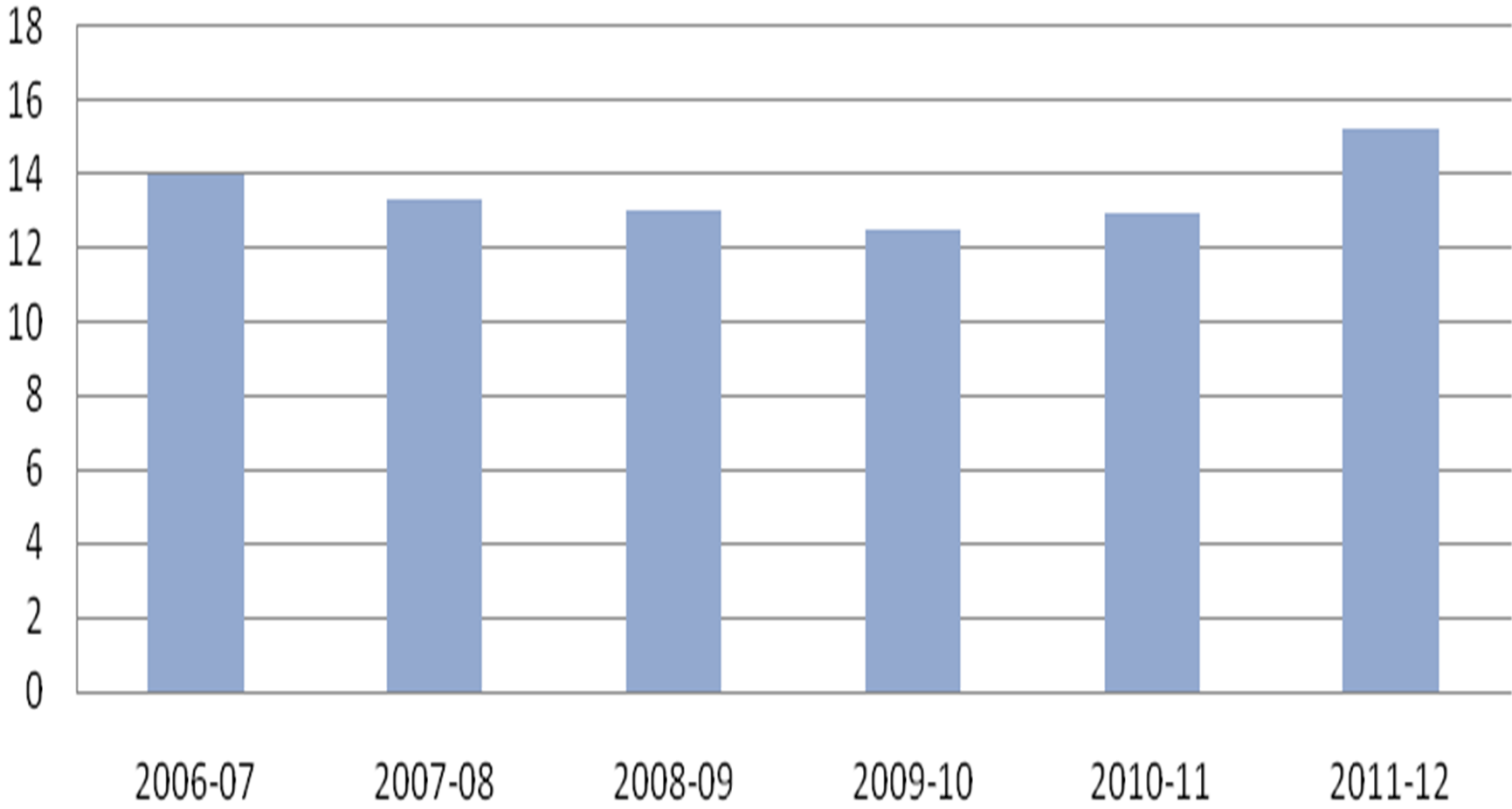
VISL
Plant

Saleable Steel
62163 mT

SEC Analysis of VISL plant (2007 – 2012)

Year	Production in mT	LDO in kl	BF gas in lakh Nm3/year	Coke in Tons	HFO in kl	Electricity in MU	SEC in Gcal/mT
2006-07	130735	6975	3623	190272	12375	150	14.02010766
2007-08	132079	6228	3431	182253	12887	147.32	13.34392971
2008-09	88606	3489	2314	117703	8765	104.13	13.01223417
2009-10	97755	3458	2312	132768	5753	111	12.52852194
2010-11	84744	5745	2901	99135	7236	120	12.92209838
2011-12	62163	5252	2371	85760	6838	105.88	15.2410892

SEC IN Gcal/mT



COGENERATION

BOILER CAPACITY : 12T/hr @ 16kg/cm²

PROCESS REQUIREMENT: 10T/hr steam for initial 2-3 mins and 4T/hr for 30mins at a pressure of 15kg/cm². BF process requires 4T/hr steam at a pressure of 7kg/cm² 24 hours

By fly wheeling we can provide constant input of 11T/hr steam to a steam turbine at 16kg/cm² pressure.

Assuming an isentropic efficiency of 75% and steam turbine efficiency to be 60%

Power generation = 752.6KW

Electricity saved per year = Rs. 2,63,74,110.41448

Initial Investment for the installation of Steam turbine to Rs. 5,00,00,00 (Approx)

Payback period will be less than 3 years.

THANK YOU