

AN OVERVIEW OF FINANCIAL MANAGEMENT OF STEEL AUTHORITY OF INDIA LIMITED (SAIL) IN INDIA WITH SPECIAL REFERENCE TO BOKARO STEEL PLANT

Dr. Sushma Kumari*

ABSTRACT

Scrutinizing, on the topic; moving towards the financial management of SAIL, it comes across the most vital aspects of financial management in general concept. Financial management is among the most vital part of any organization. It is something foremost important which helps business firms to take financial decisions, way for earning maximum profits at minimum cost, well coding it as optimum output. Bokaro steel plant is the 4th integrated public-sector steel plant in our country. Initially, built with the help of Soviet Union, was unified as a limited (Ltd.) company in 1964. Later, on merging with the state-owned SAIL, currently state - owned enterprise, among the public listed companies. SAIL is among the largest steel maker in India and one of the ten Maharatna of the country's central public sector enterprises (CPSE). The contribution of the study is that it will help professionals, scholars, students and general readers to understand the role and limitations of financial management in SAIL. Besides, it could be clearly demarcated that financial management is the one of the factors for the well running production and earning profits by the firm. The concept of financial management fits well when closely looked upon the role of financial management in the SAIL. The way the company has significantly emerged since 1965 till the current status of it coining its name among one of the ten Maharatna of the country, the only perspective which could be looked upon is the well adopted financial management concept and strategies. This topic is relevant to look forth upon the financial management of the SAIL from managerial view and its lacking factors and also its remedial measures.

KEYWORDS: *Optimum Output, Financial Management, Central Public Sector Enterprises.*

Introduction

The Bokaro Steel Plant is the 4th unified plant in the public sector and began to take shape in 1965 with the participation of the Soviet Union. It was originally incorporated as a limited (Ltd.) company on January 29, 1964, and was later incorporated under the Public Sector Iron and Steel Companies (Reorganization and Miscellaneous Provisions) Act, 1978, first as a subsidiary and Then as a unit, merged with the SAIL and construction began on April 6, 1968. The plant has been declared as the first indigenous steel plant in the country, built with maximum indigenous materials in terms of material, equipment and knowledge. Its first blast furnace began on October 2, 1972, and with the launch of the third (3rd) blast furnace, the first phase of the 1.7 megaton ingots steel was completed on February 26, 1978. Already all units of the 4 million tonnes phase have been commissioned and modernization of the 90's has extended it to a further 4.5 million tonnes of liquid steel.

* Faculty Member of BBA Department, S.M. College, Bhagalpur, Bihar, India.

The innovative features added to the SMS-II upgrade include a twin slab caster with a steel refining unit and it was started on September 19, 1997 and the nonstop casting machine on April 25, 1998. The upgrading of hot strip mill has seen the addition of new features such as work roll bending, high-pressure de-scalers, hydraulic automatic gauge control. Rapid roll shift in work, laminar cooling etc. The new walking beam rearming furnaces are changing the less effective gas type furnaces.

Table 1: Basic Information of Bokaro Steel Plant

<ul style="list-style-type: none"> • Location: Southern bank of Damodar River; approx. 50 kms from Dhanbad and 140 kms each from Ranchi and Jamshedpur. • Latitude: 23° 39' • Longitude: 86° 09' • Altitude: 210 meters (average) varying from 195 to 224 meters. • Climate: Extreme • Annual Rainfall: Average 157 cms; Maximum 195 cms • Temperature: Maximum 48½° Celsius, Minimum 2½° Celsius 	<ul style="list-style-type: none"> • Wind direction: South-West to North-East • Type of Soil: Loamy up to 1 to 2 meters, sandy soil below that • Total land area: 33,045.35 acres (Plant, Slag-dump, Cooling, Ponds, Ancillaries, Marshalling) • Yard: 17,208.01 acres • Township (<i>including Airstrip</i>): 10,114.53 acres • Garga Reservoir: 3,886.87 acres • Railways: 1,835.94 acres
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A new hydraulic cooler has been added in addition two of the existing ones have been restructured. Along by means of the completion of hot strip mill upgrading, Bokaro is manufacturing the maximum hot rolled product that is well accepted in the worldwide market. Bokaro is designed to manufacture flat products like as hot-rolled plates, hot-rolled coils, hot-rolled sheets, cold-rolled sheets, cold-rolled coils tin mill black plates in addition galvanized plain also Corrugated (GP / GC) sheets. Bokaro plant has on condition that a strong raw material for several modern engineering industries, including the automobile, pipe in addition tube, LPG cylinder, barrel also drum making industries.

Objectives

- To study the raw materials for handling plant activities of SAIL.
- To study the Metal fabricates uses in SAIL.
- To Study the Welding process of joining metals in SAIL.

Methodology

This is a descriptive research paper. This data has been collected with the help of secondary sources. The focal sources of secondary data are collected through books, annual general reports of the Steel Authority of India and government gazette, journals, magazine published material, internet and various online sites which provide relevant information for the study.

Raw Materials for Handling Plant

Raw material handling plant ore bed and blending plant ore handling plant play a very vital role in integrated steel plant. It is the initial stage of an integrated steel plant, where all types of raw materials required for making iron / steel are handled in an orderly manner, such as loading, stacking, screening, crushing, bedding, alloying, maintenance, etc.

Fig.1

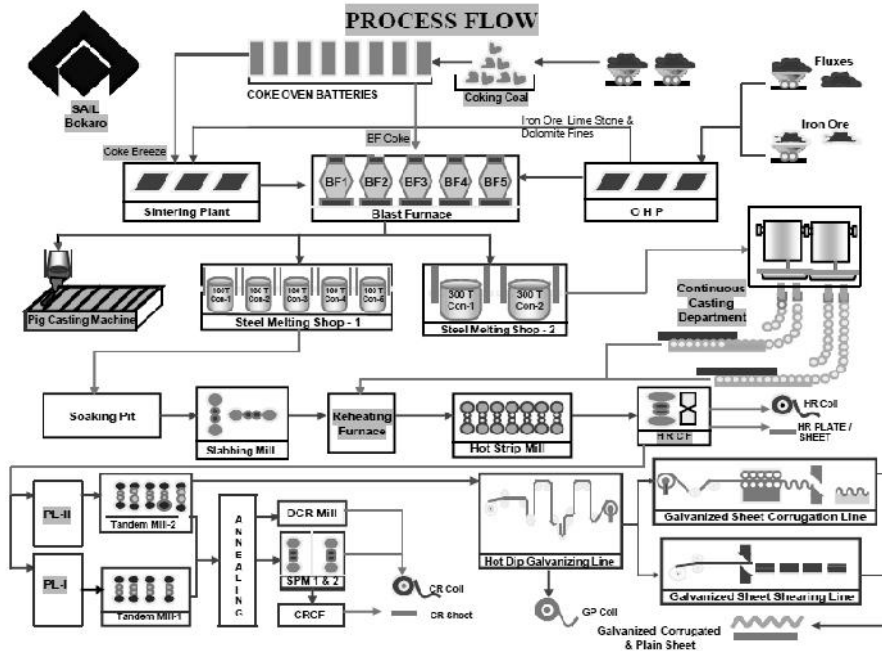


Table 2: Basic Needs of Steel Plant of Bokaro

<i>Different kinds of major raw materials used in an integrated steel plant are</i>	
<ul style="list-style-type: none"> Iron Ore Lime stone Dolomite 	<ul style="list-style-type: none"> Manganese Ore Ferro and Silico manganese Quartzite and Coal
<i>For Blast Furnace Route Iron making the main raw materials required are</i>	
<ul style="list-style-type: none"> Iron ore lump Blast furnace grade lime stone Blast furnace grade dolomite Coke 	<ul style="list-style-type: none"> Sinter Scrap LD Slag Quartzite
The key objective of raw material handling plant/ ore bedding and blending plant/ ore handling plant is to:	
<ul style="list-style-type: none"> Standardize materials from different sources by means of blending Supply consistent quality raw materials un-interruptedly to different customers 	<ul style="list-style-type: none"> Maintain buffer stock Unloading of wagons/rakes within definite time norm Raw material preparation
The key functions of RMP/OHP/CI&BP are	
<ul style="list-style-type: none"> Unloading and stacking of raw materials, Dispatch of processed inputs to units of customer. 	<ul style="list-style-type: none"> Crushing of coke or flux and base mix preparation, Screening of iron ore lump and fluxes

Source: <https://www.sail.co.in>

Different kinds of raw materials such as iron ore, iron ore fines, limestone, manganese ore, dolomite, etc. Supplied by SAIL Mines or bought from the outside parties. The right eminent raw material is the basic requirement to get maximum production at minimum operating cost. The eminence of raw materials plays a very significant role in the whole process of steel plant. The eminence of raw material (incoming) and processed material (outgoing) is monitored which is checked. Samples of today gathered from the entire consignment are collected in the automobile sampling unit or sampling unit. Samples prepared after the quarter and trucking method are sent for more analysis.

Table 3: Different Raw Materials in Addition their Sources

Sl. No.	Raw Materials	Sources
1	Iron Ore Lumps (IOL)	Barsua, Kalta, Kiriburu, Meghataburu, Bolani, Manoharpur, Gua, Dalli, Rajhara, Rowghat
2	Iron Ore Fines (IOF)	Manoharpur, Gua, Dalli, Rajhara, Barsua, Kalta, Kiriburu, Meghataburu, Bolani, Rowghat
3	BF grade Lime Stone	Kuteshwar, Bhabanathpur, Nandini, Katani
4	BF grade Dolomite	Birmitrapur, Sonakhan, Birsa Stone Lime Company
5	SMS grade Lime Stone	Jaiselmer, Imported lime-stone from Dubai
6	SMS grade Dolomite	Belha, Baraduar
7	Manganese Ore	Barjamunda, MOIL (Purchased)
8	Mixed Breeze Coke	Generated inside the plant (Blast Furnace & Coke Ovens)
9	Mill Scale	Generated inside the plant
10	Flue dust	Generated inside the plant
11	LD Slag	Generated inside the plant

Source: <https://www.sail.co.in>

Metal Fabricate and its Uses in SAIL

A metal fabricator must be able to translate the engineering drawing and then the steel plates must be cut to the desired shape in the correct shape. Then, according to the drawing they have to be welded into the structure. Metal makers should learn to deliver engineering drawings, use geometric development methods in addition metal forming techniques. They are necessary also be able to use computers to make metal products, and will have an inclusive knowledge of industrial welding and a certain degree of joining process to produce the required materials.

There is a great deal of construction with manufacturing. Fabricate is an industrial term that states to the manipulation of raw materials (like as steel) for the manufacture of machines and structures. Steel as well as other metals are cut in addition shaped all through the fabrication process. Manufacturing is a very big part of manufacturing process. Although a fabricated shop and manufacturing plant can operate individually, it is improbable that you will novelty the manufacturing establishment that doesn't have close ties to at least one domestic shop. Most manufacturers have in-house fraudsters simply because most of the manufacturing process requires in-house shop services.

Building a working machine or anything other than the complete structure of a building requires a lot of planning and skill. The fabricated shop will start a business operation by means of proposing a plan to a procuring party and trying to success its bid for the work. If the fabricated shop is awarded a bid and is responsible for a fabricated job, precise materials also subcontractor work will need to be determined. Also, special equipment may be required to complete the contract.

Fabricate involves the expertise of engineers. The aforementioned is not enough to make something from raw materials in fabrications. It's about being a part of the whole system. When fabricating for a manufacturing plant, engineers can mostly be portion of that manufacturing organization. Manufacturing has been part of fabrication method from the beginning because it is important for those that will be in charge for new machine or else structure to have a mutual understanding of the internal workings of the fabricated project. However, it will be the responsibility of the manufacturing employee for the day to day work of this fabricated work. Fabric involves the use of various different materials. Since most fabricators are metal fabrics, the common metals hand-me-down in the fabrication progression are plate metal, prefabricated metal, welding wire, expanded metal, hardware, castings and fittings. The tools used to employ these metal projects are as well diverse but some of the common tools used include any material hand-me-down in the welding method, torches, band saws, etc. Architecture is really a feature that must be seen because the fabric must have the capacity to make a final product nothing more than a pile of pieces of metal.

The ability to produce very complex machining capabilities is usually limited to fabric stores. In the case of manufacturing, fabrication is required to make the shell of the machinery/product and it takes the expertise of other parties in the direction of complete the mechanical process. Once a fabricated shop has placed a specific order, the product is checked in addition shipped to the client. Fabric is a process in which many things, tools, and machines that we use on a consistent basis once participated. We can't enjoy several of our buildings or else anything made of metal without artificial ones. Fabrics are imperative to producers because they have the capacity to combine otherwise waste material into something who will help consumers.

Welding Process and Joining Metals in Sail

The welding part is the process of melting and joining metals and finally by means of a filler to form a joint. Welding can be done by means of a variety of energy bases, from gas flames or electric arcs to lasers or ultrasound. Until the early 20th century, welding was carried out by a process called forge welding, which involves heating the pieces so that they are fixed together in addition then hammering them until they become a hammer. Become With the coming of electricity, welding turn out to be easier and faster, and it played a vital part in the industry had seen during World Wars I and II. There are various welding processes in modern times:

- Arc welding is done using electric current, and can be done using cheap equipment.
- Gas welding is broadly used for repair work, specifically in anything related to pipes and tubes. Gas welding is common in the jewellery industry and for welding of plastics or other materials which cannot withstand high temperatures.
- Confrontation welding involves the use of extra metal sheets to be cut into pieces and joined together. It is by far the most environmentally friendly, but it requires expensive tackle that can't be used in every situation.

In industrial contexts, welding is a fabricated process that combines materials for example metals and thermoplastics. This is usually done by melting the work pieces in addition adding a filler material like as a welding rod to create a pool of molten materials that cools to form a strong joint. Various different processes also energy sources are hand-me-down for welding such as gas flame, electric arc, laser, electric beam, friction and ultrasound. All of these methods involve the use of specific, unique tools for each process.

- Plastic Welding is the process of joining plastic work pieces with the help of modern working welding techniques. Plastic welding can be used to join two or more work pieces made of the same plastic or to join two or more pieces made of different types of plastic.
- Orbital welding is automatic tungsten unprotected gas welding. This eliminates the possibility of manual errors in welding. Its produces the same weld hundreds of times, so welding accuracy.

Conclusion

This article studies the economic and environmental performance of SAIL. It has hailed its name among Maharatna due to its demarcated rise up; beginning from its initial development, Bokaro Steel plant is the core part of the company from development approach. Bokaro steel plant - the fourth (4th) integrated plant related to the public sectors - started taking shape in 1965 in collaboration with the Soviet Union. It is originally incorporated as a limited (Ltd.) company, later on merging with SAIL, hailing as the county's first Swadeshi steel plant; became the most prominent factors for the rise up of company. Bokaro steel company is the starting point of an integrated steel plant, when it comes to raw materials, the factor most important for any running enterprise. The use of latest technologies, techniques, ancillaries and modernisation of the firm are an additional aids and support offered to the finance and the financial management of the organization. Regardless, of all above favourable factors sticking to recent statistical data and results, we can say that due to adherence to governmental laws and policies and aspects of environmental issues, public sector plant is performing more near to sustainable development than the private sector plant. Also, there are a number of shortcomings in financial management, largely due to management's unfamiliarity with the financial management and the uncertainties and risks associated. As a result, the various stages of financial management require to look more closely towards a well- defined process and management.

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