

**NEKI ASPEKTI POVEĆANJA PROFITA INTEGRALNE ŽELJEZARE
KROZ SMANJENJE BROJA UPOSLENIH**

**SOME ASPECTS OF PROFIT INCREASE IN AN INTEGRATED
IRON&STEEL WORKS THROUGH REDUCTION OF LABOUR
FORCE**

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REZIME

Bez obzira na globalnu stagnaciju ili lagani pad potražnje za čeličnim proizvodima, uspješan menadžment u integralnoj željezari treba da pokuša održavanje što uspješnijeg-profitabilnijeg poslovanja i za to poduzeti niz tehnno-ekonomskih mjera, što danas ide uglavnom ka smanjenju troškova poslovanja kroz smanjenje broja uposlenih. Ovaj rad ima za cilj da predstavi najvažnije tehnno-ekonomske mjere u povećanju profita smanjenjem troškova poslovanja prvenstveno smanjenjem broja uposlenih u jednoj integralnoj željezari.

Ključne riječi: Povećanje profita, Integralna željezara, Smanjenje broja zaposlenih

SUMMARY

Regardless to a global stagnation or a slight drop in the requirements for the steel products, a successful management of an integrated iron and steel works should anyhow try to keep a profitable production process by undertaking a number of techno-economic measures and it goes today primarily for reducing of production cost by reduction of labour force. This paper is an attempt to present the most important techno-economic measures to increase profit by reducing production cost by reduction of labour force in an integrated iron and steel works.

Keywords: Increase of profit, Integrated iron and steel works, Reduction in labour force

1. INTRODUCTION

Due to war in Bosnia and Herzegovina 1992-1995 and political-economical turmoil later on, from 1992 till 2007, Iron and Steel Works in Zenica was closed as the integrated iron and steel works. That iron and steel works is now privatized and 91% owned by Arcelor Mittal. Accordingly it is now Arcelor Mittal-Zenica and it is in the open market economy. The integrated iron and steel works production restarted 2007 and after an increase in output during 2008 slowly a sort of reduction in output takes place. That situation is still on, with continuous reduction in the labour force as the main management activity to keep profit high enough. These and some other performances of Arcelor Mittal integrated iron and steel works in Zenica are presented in the chapters 2. and 3. to explain management taken techno-economic measures in maintaining high profit.

2. OUTPUT IN STEEL PRODUCT-MIX AND CORELATED LABOUR FORCE DATA WITH SOME OTHER CHARACTERISTICS

Data given in Table 1. present an attempt from 2011, to give an overview of the company position in the past, presenting three period of time-characteristics, including the author view how to optimise a steel product-mix in past rehabilitation process.

To get a better insight regarding previous position of that iron and steel works, now Arcelor Mittal – Zenica, in the table 1. is given the comparison of a three period of time-characteristics in different performances including steel product-mix output and labour force as the main ones, and a sort of other useful data.

Table 1. Steel product-mix output, labour force and the other selected performances of the Iron and Steel Works in Zenica, now ArcelorMittal-Zenica (3)

No	Performance	Year		
		1998	2005	2012 (*)
1	Type of Iron & Steel Works (steel production)	(2 LD Converters+ 2 OHF+2small EAF)	100t EAF +2LD Converters	2LD Converters
2	Installed Capacity (t/y)	1,6 million	2,2 million	2,2 million
3	Output-Production (t/y)	0,25 million	2,2 million	0,8 million Wire rod Ø 5,5-12mm Re/Bars Ø 8-32mm Welded nets Forged products
4	Utilization of Existing Capacities (%)	15	100	40
5	Utilization of Efficient Facilities (%)	15	100	40
6	Utilization of Inefficient Facilities (%)	15	No Inefficient Facilities	No Inefficient Facilities
7	Total Sales (\$US/y)	60 million	865 million	385 million
8	Profit (-Loss) (\$US/y)	- 5 million	15 million	10 million (1,2)
9	Total Exports (\$US/y)	17 million	570 million	90 million
10	Total Number of Employees	12 500	5 500	3 500
11	Total Number of Effective Employees	5 000	5 500	3 500
12	Total Number of Laid off Employees	7500	No	No
13	Total Number of Indirect Employees	10 000	14 000	13 000
14	Total Number of Effective Indirect Employees	2 000	14 000	13 000
15	Total Number of Laid off Indirect Employees	8 000	None	None

16	Company Book Value (\$US)	370 million	410 million	490 million
17	Market Value (\$US)	250 million	650 million	490 million
18	Capital/Loan Needed for optimization(\$US)	100 million	200 million	130 million
19	Invested (\$US)	No	350 million	50-120 million
20	Ownership	State Ownership (BH)	Mixed Ownership (LNM 51%, KIA 40% and BH 9%)	Mixed Ownership (Arcelor Mittal 91% and BH 9%)
21	Economic Effect	Bad	Good	Good
22	Political Effect	Low	Very good	Very good
23	Peace Stabilizing Effect and Regional Development Effect	Low	Great	Very good

* expected

Analyzing data from the table 1. regarding the task of this paper it is easy to understand the following:

- reduction in labour force is logical according to a state-of-art position in the iron and steel industry today
- relevance of the other data is not very strong, since some of them were calculated-presented from the literature and some ones were the author estimation-expectation
- installed capacity of the facilities is used with a significant reduction, due to reduced market demand for steel products

The main production data of Arcelormittal-Zenica from 2007 – 2012 including 1st quarter 2013, are presented in the table 2.

Table 2. Main production data of ArcelorMittal-Zenica in a last period of years

Year	Wire rod mill (t)	Light section mill (t)	Cold drawing mill (t)	Billets for export (t)	Forged products (t)	Total output (t)	Labor force	Productivity (t/man)
2007	277.806	270.568	94.541	-	14.409	657.324	3.350	196
2008	325.761	224.984	70.798	13.838	12.036	647.417	3.476	186
2009	267.447	167.213	43.077	43.400	5.281	526.418	3.469	152
2010	263.666	210.816	37.886	62.855	9.477	584.700	3.463	169
2011	321.438	226.525	29.146	79.467	9.577	666.153	3.071	217
2012	331.134	234.187	20.910	109.990	8.850	705.071	3.050	231
March 13	69.169	60.327	3.037	45.273	-	177.806	2.657	

Analyzing data from the table 2. regarding the task of this paper it is easy to understand the following:

- reduction in labour force is very strong starting from the year 2011 and a reducing trend is very sharp for the iron and steel industry (data regarding labour force are taken from Arcelormittal-Zenica syndicate)
- the a.m. reduction has given a significant increase in productivity
- reduction in yearly output was significant in 2009 because of global economic crisis, but latter on there is a continuous slight increase
- installed capacity of the facilities is used with a significant reduction, due to reduced market demand for steel products and such a situation will not be changed soon.

3. FURTHER REDUCTION IN LABOUR FORCE IN THE SITUATION OF INCREASING PROFIT TENDENCY

Top and local Arcelor Mittal management seems to be instructed to further reduce labour force in order to increase a profit. In Arcelor Mittal-Zenica it would mean to reach the level of about 350 t/man for 2013 and latter on to reach about 750 t/man, what is a level in similar technology iron and steel works from former Eastern European countries. That is a serious and difficult task, because it would mean another severe cut in labour force (4), especially if a significant increase in output does not take place and it seems there is no prospect for that in a near future, but of course it depends primarily of a market demand for steel products.

A lot of limitations, difficulties and shortcomings has been taking place lately in the production process of Arcelor Mittal iron and steel works in Zenica. The main among them were/are the following ones:

- New facilities have to be incorporated according to the existing facilities layout
- Some of the existing facilities have to be modernised
- High taxation policy in Bosnia and Herzegovina
- World economy crisis 2009-2010 caused low market demand and no full recovery yet
- Complicated and slow corporate governance in B&H
- Investment of about 120 million \$ US is needed for the environmental protection, to meet EU environmental requirements and secure healthy environment for the workers in the factory and for population of Zenica and its region.

Final layout is now consisted of the following facilities: coke oven battery, sinter plant, blast furnace 2000 cub. m, 2 BOF converters, each one 100 t capacity, attached radial type CCM for billets and the line for ingots pouring, 2 remaining competitive rolling mills Continuous Light Section Mill 250mm, Wire Rod Mill, Cold Drawing Mill with welded meshes factory and Forging Shop.

Arcelor Mittal - Zenica is to keep the leading position as a producer of long products and heavy forgings in Bosnia and Herzegovina as well as in the region of former SFR Yugoslavia. Accordingly, about 120 million \$ US should be invested in the environmental protection to meet EU environmental requirements. The pressure of local community on local factory management to invest the a.m. amount in the environmental protection is to be stronger and stronger.

Beside plain carbon steels and the small percentage of low and medium alloyed steels which have been and were in the product mix, an increased percentage of the second group of the a. m. steels is expected to take place, especially in forged products.

Quality and yield of the hot rolled wire rod and re-bars is to be increased to satisfy the requirements for an easy-optimal cold drawing in Cold Drawing Mill with welded meshes factory and in metal sector industry of the region, as well as to increase the profit of ArcelorMittal - Zenica.

It is expected to further simplify internal documentation and marking of steel grades, due to requirement to export hot rolled products according to EU and USA standards.

4. CONCLUSIONS

- Under almost constant market demand or even expected reduction, difficulties and shortcomings because of an increased pressure of local community to invest in environmental protection, it is a serious and difficult task to reach the level of 750 t/man in productivity and how to optimize steel product-mix in order to increase the profit of the integrated iron and steel works Arcelor Mittal – Zenica.
- Arcelor Mittal as the No 1 steel producer in the world, has a global and successive approach in the optimization of its product-mix and in increasing the profit.
- Although steel industry is not a high profit and value added activity, it is connected with a circulation of huge amount of money. It is also a big employment opportunity for the region, giving an opportunity to metal processing industry in the region to become diversified, and to straighten demand in product-mix quantity and steel grades.
- Arcelor Mittal – Zenica could foresee an opportunity to increase volume of production on basis of its own as well on diversified product-mix to satisfy that market niche in local and regional market.
- It seems that further expected reduction in labour force will not be enough, and an increase in output will be needed to meet the requirements for planned productivity of 750 t/man.

5. REFERENCES

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