

Proposal for Upgradation and Speedup of Metal Coating Line

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1. Objectives and Advantages:

Metal Coating Line (MCL) was commissioned in Year 2009 with an installed capacity of 70,000 MT per annum. The line was commissioned with the speed of 120 mpm. However due to continues power and other design issues we could not utilize 100% capacity. We had commissioned 4MW power project in May 2019 to supply uninterrupted power to the plant. ALAF further identified the need post Captive Power commissioning to increase available capacity from the MCL.

The Objective of this Project is as follows:

- To increase the overall capacity of MCL from 70,000MT/pa to 100,000MT/pa.
- To upgrade the MCL to ensure that it can cater to the proposed Colour Line at ALAF.

Advantages of this Project is as follows:

- To cater to the increased demand of the domestic and the regional market.
- Ensure local manufacturing of colour coils (currently imported from South Africa and Kenya).
- Improve quality needed for colour coils
- Higher value addition in Tanzania and lower forex out flow
- Generation of additional employment
- Reduced cost of production
- Increased business and profitability

2. Regional Market Vs ALAF Production Capacity

The current demand of Domestic and Regional Market (accessible export markets) in Metric Tons:

Year	Domestic	Uganda	Rwanda	Burundi	DRC (Lubumbashi)	Total (Regional Market)
2019	170,000	135,000	30,000	22,000	14,000	201,000
2020	180,000	150,000	32,000	23,000	15,000	220,000
2021	190,000	160,000	34,000	24,000	16,000	234,000
2022	210,000	170,000	36,000	25,000	17,000	248,000
2023	225,000	185,000	38,000	26,000	18,000	267,000

Source: IPSOS and Internal estimate

- Uganda, Rwanda and Burundi we compete with local manufacturers in Uganda, Kenya and Tanzania.
- Both Rwanda and Burundi has taken stay of Common External Tariff and therefore we compete majorly with imports from China.
- Uganda has strong domestic manufacturing.
- Lubumbashi we do not compete with manufacturers of Kenya and Uganda but compete with imports from China / India.

ALAF Current and projected Sales Volume

Year	Domestic	Export	Total	% of Domestic Market	Remarks
2018 A	36,368	19,323	55,691	21%	Domestic colour sales catered through imports
2019 P	40,000	25,000	65,000	24%	-do-
2020 P	45,000	25,000	70,000	24%	MCL Speedup completed
2021 P	50,000	25,000	75,000	26%	Colour Line by end of 2021
2022 P	80,000	20,000	100,000	38%	Domestic colour sales catered through manufacturing

Moving forward we expect to be manufacturing locally 38% to 40% of total domestic market. We may look at expanding capacity further post implementation of colour line depending on the how the markets have moved.

3. Project Scope

The scope of the project is as follows:

- a) Process speed increase from 120mpm to 160mpm
- b) Entry & Exit speed increase to 180mpm to suit process speed
- c) Modification in NonOx furnace to suit process speed
- d) New Tension Leveler of quick change trapezoidal cassette type
- e) New CPC / EPC
- f) Change drives to suit new ratings
- g) Change balance of obsolete drives (partially changed during Electrical modification earlier in 2018)
- h) Upgrade seam welder by OEM (Kriton) to meet increased capacity
- i) APC changes to ensure cooling capacity for higher speeds
- j) Civil work and Building adjustments where ever is required

4. Vendor Evaluation and Comparison Cost

We have considered the following vendor options based on capability, cost and prior performance together with estimated costs and scopes suggested by them:-

- a) Esmech Equipment Pvt. Ltd. (Mechanical portion) with Tenova Hypertherm (NonOx Furnace) and I & B (Electrical portion)
- b) DIGI – YOGIJI / I&B (Mechanical portion and Electrical portion) together with Tenova Hypertherm (NonOx Furnace)

Production Chart after modification (increasing length of DHF & RTH)										
Full Hard (FH)										
Width -->	762 mm		975mm		1000 mm		1140 mm		1220 mm	
Thickness	V	P	V	P	V	P	V	P	V	P
0.12			160	8.60	160	8.82	160	10.31	160	11.03
0.18	160	9.69	160	12.90	160	13.23	160	15.46	160	16.55
0.2	160	10.77	160	13.78	160	14.7	160	17.18	160	18.39
0.22	158	11.84	158	15.58	158	15.98	158	18.69	158	20.00
0.28	124	12.49	124	15.58	124	15.98	124	18.69	124	20.00
0.38	92	12.49	92	15.58	92	15.98	92	18.69	92	20.00

5. Production Capability Post modification

Above figures are calculated based on final offers received after technical discussions held in ALAF with both the major vendors.

Parameters	USD
Mechanical Equipment supply	1,320,000
Electricals(I&B)	120,000
Kriton Welder upgrade	32,000
Furnace(Tenova)	732,000
Man-days	
Esmech@6x55	95,294
Tenova@2x30	26,471
Kriton@1x10	2,941
Sub-Total	2,328,706
Freight/Clearance @6%	132,240
Civil cost miscellaneous	150,000
Contingency	116,435
TOTAL	2,727,381
SPEED OF LINE	160MPM
DOWNTIME	45 Days
DELIVERY LEAD TIME	Feb 20 shipping

Risk	Mitigation
Lower Domestic Demand	Increased export sales
Chinese Imports	Government support to local manufacturers.

7. Risk and Mitigation

- a) Asset life time considered 10years.
- b) Depreciation – life considered is 10 years (straight line method).
- c) The financial model has been built up on a stand-alone basis (only for the additional production and Sales Volume);
- d) Contribution USD 140/MT considered for additional volumes of sales.
- e) Assumed Colour Coated line to be commissioned in year 2022, the additional volumes use for painted line feed.
- f) Costs are associated for Speed up Project.
- g) No income tax impact/benefit has been considered.

Finance Model Assumption:

Project Return Indicators	Discounting Rate	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Outflow		(2,727)	495	3,995	4,021	4,072	4,123	4,200	4,200	4,200	4,200
Inflow			495	3,995	4,021	4,072	4,123	4,200	4,200	4,200	4,200
Net		(2,727)	495	3,995	4,021	4,072	4,123	4,200	4,200	4,200	4,200
Cumulative		(2,727)	(2,232)	1,764	5,785	9,857	13,980	18,180	22,380	26,580	30,780
Net Present Value -USD 0	18,742										
Internal Rate of Return	87.1%										
Pay Back Period	3.00										

Particulars	2021	2022	2023	2024	2025	2026	2027	2028	2029
Inflow									
Contribution From Extra Sales Revenue (Additional Capacity)	700	4,200	4,200	4,200	4,200	4,200	4,200	4,200	4,200
Additional Contribution	700	4,200	4,200	4,200	4,200	4,200	4,200	4,200	4,200
Outflow									
Operating cost	205	205	179	128	77	-	-	-	-
- Interest cost	205	205	179	128	77	-	-	-	-
- Depreciation	273	273	273	273	273	273	273	273	273
Total Cost	477	477	452	401	349	273	273	273	273
Net Saving	223	3,723	3,748	3,799	3,851	3,927	3,927	3,927	3,927

The summary of Cash inflows and out flows benefit analysis of the project is as below:

6. Financials

S. No.	Particulars	As at 31st December, 2019
1	Management	12
2	Managerial (Supervisor and above)	131
2	Non-Management	262
3	Contract	80
	Total	485

The total number of Employees as at the 31st day of December, 2019 was at 485 and that the employment position was as follows:

Each department is headed by a Head of Department.

- Technical
- Sales & Marketing
- Human Resources
- Finance and Accounts
- Information Technology
- Logistics and Procurement
- Internal Audit

The management of the Company is under the Chief Executive Officer and is organized in two major segments i.e. Coated Steel and Building Solution. The segments are supported by following departments:

9. Organization Structure

The project is planned to be funded through existing internal arrangements.

8. Proposed funding

Delay in Implementation of Colour Line	Increased export sales of unpainted
Project Outages	60days of FG stocks to be build up /procure - additional working capital

The above is being submitted for Group management approval, at a project cost of USD 2.75 million to cater to current and future requirements of the Safal Group East African business. The line speed up would be the first step towards having a world class facility in Tanzania, along with a color coating line to be supplemented in the future. Subject to group approval we would like to proceed with the ordering on Esmech who is the best choice technically, apart from being the OEM with a better track record in ALAF. Due to its global design & simulation capabilities, we feel confident that they solution they are suggesting is a better one, apart from being equally cost effective. Also they would be providing 160mpm line speed as compared to 150mpm of Voglii Digil. Last but not the least the down time is substantially lower at 45 days, as compared to 67 days of Voglii. The down time is a significant contributing factor, as we may need to rely on importation to cater to domestic market in that period of outage. However we would utilize this down time to also replace the main pot inductors for the MCL, which would have otherwise taken up 25 days downtime.

Conclusion

- Net saving/(extra expenditure) is thus worked out.
- No income tax impact/benefit has been considered