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PROJECT REPORT

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PROJECT:

Inverter Battery Casting Manufacturing unit

PROJECT REPORT

Of

INVERTER BATTERY CASTING

PURPOSE OF THE DOCUMENT

This particular pre-feasibility is regarding Inverter Battery Casting Manufacturing unit.

The objective of the pre-feasibility report is primarily to facilitate potential entrepreneurs in project identification for investment and in order to serve his objective; the document covers various aspects of the project concept development, start-up, marketing, finance and management.

[We can modify the project capacity and project cost as per your requirement. We can also prepare project report on any subject as per your requirement.]

PROJECT AT A GLANCE

1	Name of the Entreprenuer		xxxxxxxxxx
2	Constitution (legal Status)	:	xxxxxxxxxx
3	Father / Spouse Name		xxxxxxxxxxxx
4	Unit Address	:	xxxxxxxxxxxxxxxxxxxxxx District : xxxxxxx Pin: xxxxxxx State: xxxxx Mobile xxxxxxx
5	Product and By Product	:	**INVERTER BATTERY CASTING**
6	Name of the project / business activity proposed :		**INVERTER BATTERY CASTING MANUFACTURING UNIT**
7	Cost of Project	:	Rs.24.97 Lakhs
8	Means of Finance Term Loan Own Capital Working Capital		 Rs.15.64 Lakhs Rs.2.5 Lakhs Rs.6.83 Lakhs
9	Debt Service Coverage Ratio	:	3.00
10	Pay Back Period	:	5 Years
11	Project Implementation Period	:	5-6 Months
12	Break Even Point	:	26%
13	Employment	:	15 Persons
14	Power Requirement	:	50.00 HP
15	Major Raw materials	:	Lead Oxide, Battery Plates, Separators, Acids and other material
16	Estimated Annual Sales Turnover (Max Capacity)	:	273.44 Lakhs
17	Detailed Cost of Project & Means of Finance		

COST OF PROJECT

(Rs. In Lakhs)

Particulars	**Amount**
Land	Own/Rented
Plant & Machinery	17.08
Furniture & Fixtures	0.30
Working Capital	7.59
Total	**24.97**

MEANS OF FINANCE

Particulars	**Amount**
Own Contribution	2.50
Working Capital(Finance)	6.83
Term Loan	15.64
Total	**24.97**

INVERTER BATTERY CASTING MANUFACTURING UNIT

Introduction:

The lead–acid battery was invented in 1859 by French physicist Gaston and is the earliest type of rechargeable battery. Lead acid batteries have a low energy density, only moderate efficiency and high maintenance requirements; they also have a long lifetime and low costs compared to other battery types. One of the singular advantages of lead acid batteries is that they are the most commonly used form of battery for most rechargeable battery applications and therefore have a well-established established, mature technology base. Lead acid batteries are the most commonly used type of battery in photovoltaic systems. Lead acid batteries used in the RV and Marine Industries usually consist of two 6-volt batteries in series, or a single 12-volt battery. These batteries are constructed of several single cells connected in series each cell produces approximately 2.1 volts. A six-volt battery has three single cells, which when fully charged produce an output voltage of 6.3 volts. A twelve-volt battery has six single cells in series producing a fully charged output voltage of 12.6 volts. A battery cell consists of two lead plates a positive plate covered with a paste of lead dioxide and a negative made of sponge lead, with an insulating material (separator) in between. The plates are enclosed in a plastic battery case and then submersed in an electrolyte consisting of water and sulfuric acid.

Uses & Market Potential:

A lead acid battery is an energy storage device that is used extensively in automotive, energy storage, and telecommunication industries and for several other purposes in various sectors, such as utilities, marine, manufacturing, and chemical & pharmaceutical industries. The global inverter battery market is projected to reach USD 52.5 billion by 2024 from an estimated USD 41.6 billion in 2019, at a CAGR of 4.7% during the forecast period. The booming telecommunication sector and expanding data industry, require a cost-effective battery storage solution to provide for backup power is expected to be the most significant catalyst driving the development of this market. India lead acid battery market is projected to reach $ 7.6 billion by 2023. Anticipated growth in the market can be attributed to booming demand for automobiles, in addition to increasing focus of the government towards boosting the penetration of electric vehicles in the country. Few of the major players operating in India inverter battery market include Exide Industries Limited, Luminous Power Technologies Pvt. Ltd, Amara Raja Batteries Limited, HBL Power Systems Limited, Southern Batteries Private Limited, V–Guard Industries, Okaya Power Private Limited, Su-Kam Power Systems Limited, Base Corporation Limited, and Racily Udyog, among others.

Product:

Inverter Battery Casting

Raw Material:

Basic raw materials are:

- Lead Oxide
- Battery Plates
- Separators
- Acids
- Electrolytes & Additives
- Battery Containers
- Battery Covers
- Battery Terminals

Manufacturing Process:

Area:

The industrial setup requires space for Inventory, workshop or manufacturing area, space for power supply utilities and polishing area. Also, some of the area of building is required for office staff facilities, office furniture, etc. Thus, the approximate total area required for complete industrial setup is 1500-2000Sqft.

Cost of Machines:

Machine	Unit	Rate	Price
Cupola Furnace	1	125000	125000
Pickling Plant	1	100000	100000
Lead oxide ball mill plant	1	350000	350000
Paste Mixing Machine	1	50000	50000
Pasting Machine	1	125000	125000
Drying oven with conveyor belts	1	100000	100000
Lug Brushing Machine	1	150000	150000
Enveloping and Stacking Machine	1	320000	320000
Gas Welding Machine	1	70000	70000
Heat Sealing Machine	1	18000	18000
Filling Machine	1	250000	250000
Other equipment's	-	50000	50000
Total Amount			**1708000**

Power Requirement- The estimated Power requirement is taken at 50 HP.

Manpower Requirement– Following manpower is required:

- Machine operator-3
- Skilled/unskilled worker-4
- Helper-5
- Manager cum Accountant-1
- Sales Personnel-2

FINANCIALS

PROJECTED BALANCE SHEET

PARTICULARS	I	II	III	IV	V
SOURCES OF FUND					
Capital Account					
Opening Balance	-	3.55	5.42	8.31	12.32
Add: Additions	2.50	-	-	-	-
Add: Net Profit	5.86	7.57	9.39	11.21	13.12
Less: Drawings	4.80	5.70	6.50	7.20	9.00
Closing Balance	3.55	5.42	8.31	12.32	16.44
CC Limit	6.83	6.83	6.83	6.83	6.83
Term Loan	13.90	10.43	6.95	3.48	-
Sundry Creditors	4.68	5.57	6.50	7.45	8.45
TOTAL :	**28.97**	**28.25**	**28.59**	**30.08**	**31.72**
APPLICATION OF FUND					
Fixed Assets (Gross)	17.38	17.38	17.38	17.38	17.38
Gross Dep.	2.59	4.80	6.67	8.27	9.62
Net Fixed Assets	14.79	12.58	10.71	9.11	7.76
Current Assets					
Sundry Debtors	4.71	5.83	6.87	7.96	9.11
Stock in Hand	7.56	9.01	10.54	12.12	13.76
Cash and Bank	1.91	0.83	0.48	0.89	1.08
TOTAL :	**28.97**	**28.25**	**28.59**	**30.08**	**31.72**
	-	-	-	-	-

PROJECTED PROFITABILITY STATEMENT

PARTICULARS	I	II	III	IV	V
A) SALES					
Gross Sale	141.38	174.91	206.02	238.84	273.44
Total (A)	**141.38**	**174.91**	**206.02**	**238.84**	**273.44**
B) COST OF SALES					
Raw Material Consumed	100.35	119.42	139.21	159.74	181.04
Elecricity Expenses	3.36	3.92	4.48	5.04	5.60
Repair & Maintenance	3.53	4.37	5.15	5.97	6.84
Labour & Wages	16.76	20.95	26.18	31.42	37.08
Depreciation	2.59	2.20	1.88	1.60	1.36
Cost of Production	126.59	150.86	176.89	203.76	231.90
Add: Opening Stock /WIP	-	4.22	5.03	5.90	6.79
Less: Closing Stock /WIP	4.22	5.03	5.90	6.79	7.73
Cost of Sales (B)	122.37	150.05	176.02	202.87	230.96
C) GROSS PROFIT (A-B)	19.00	24.86	29.99	35.97	42.47
	13.44%	**14.21%**	**14.56%**	**15.06%**	**15.53%**
D) Bank Interest i) (Term Loan)	1.70	1.39	1.00	0.62	0.24
ii) Interest On Working Capital	0.75	0.75	0.75	0.75	0.75
E) Salary to Staff	8.19	9.42	10.83	12.78	14.31
F) Selling & Adm Expenses Exp.	2.12	4.90	6.59	8.36	10.94
G) TOTAL (D+E+F)	**12.76**	**16.45**	**19.18**	**22.51**	**26.24**
H) NET PROFIT	6.24	8.40	10.81	13.46	16.23
	4.4%	**4.8%**	**5.2%**	**5.6%**	**5.9%**
I) Taxation	0.39	0.84	1.42	2.25	3.11
J) PROFIT (After Tax)	5.86	7.57	9.39	11.21	13.12

PROJECTED CASH FLOW STATEMENT

PARTICULARS	I	II	III	IV	V
SOURCES OF FUND					
Own Contribution	2.50	-	-	-	-
Reserve & Surplus	6.24	8.40	10.81	13.46	16.23
Depriciation & Exp. W/off	2.59	2.20	1.88	1.60	1.36
Increase In Cash Credit	6.83	-	-	-	-
Increase In Term Loan	15.64	-	-	-	-
Increase in Creditors	4.68	0.89	0.92	0.96	0.99
TOTAL :	**38.49**	**11.50**	**13.61**	**16.01**	**18.58**
APPLICATION OF FUND					
Increase in Fixed Assets	17.38	-	-	-	-
Increase in Stock	7.56	1.44	1.53	1.58	1.65
Increase in Debtors	4.71	1.12	1.04	1.09	1.15
Repayment of Term Loan	1.74	3.48	3.48	3.48	3.48
Taxation	0.39	0.84	1.42	2.25	3.11
Drawings	4.80	5.70	6.50	7.20	9.00
TOTAL :	**36.58**	**12.58**	**13.96**	**15.60**	**18.39**
Opening Cash & Bank Balance	-	1.91	0.83	0.48	0.89
Add : Surplus	1.91	- 1.08	- 0.35	0.41	0.19
Closing Cash & Bank Balance	**1.91**	**0.83**	**0.48**	**0.89**	**1.08**

COMPUTATION OF CLOSING STOCK & WORKING CAPITAL

PARTICULARS	I	II	III	IV	V
Finished Goods					
(10 Days requirement)	4.22	5.03	5.90	6.79	7.73
Raw Material					
(10 Days requirement)	3.35	3.98	4.64	5.32	6.03
Closing Stock	**7.56**	**9.01**	**10.54**	**12.12**	**13.76**

COMPUTATION OF WORKING CAPITAL REQUIREMENT

Particulars	Amount	Margin(10%)	Net Amount
Stock in Hand	7.56		
Less:			
Sundry Creditors	4.68		
Paid Stock	**2.88**	**0.29**	**2.59**
Sundry Debtors	4.71	0.47	4.24
Working Capital Requirement			**6.83**
Margin			0.76
MPBF			**6.83**
Working Capital Demand			**6.83**

REPAYMENT SCHEDULE OF TERM LOAN 11.0%

Year	Particulars	Amount	Addition	Total	Interest	Repayment	Cl Balance
I	Opening Balance						
	Ist Quarter	-	15.64	15.64	0.43	-	15.64
	Iind Quarter	15.64	-	15.64	0.43	-	15.64
	IIIrd Quarter	15.64	-	15.64	0.43	0.87	14.77
	Ivth Quarter	14.77	-	14.77	0.41	0.87	13.90
					1.70	1.74	
II	Opening Balance						
	Ist Quarter	13.90	-	13.90	0.38	0.87	13.04
	Iind Quarter	13.04	-	13.04	0.36	0.87	12.17
	IIIrd Quarter	12.17	-	12.17	0.33	0.87	11.30
	Ivth Quarter	11.30		11.30	0.31	0.87	10.43
					1.39	3.48	
III	Opening Balance						
	Ist Quarter	10.43	-	10.43	0.29	0.87	9.56
	Iind Quarter	9.56	-	9.56	0.26	0.87	8.69
	IIIrd Quarter	8.69	-	8.69	0.24	0.87	7.82
	Ivth Quarter	7.82		7.82	0.22	0.87	6.95
					1.00	3.48	
IV	Opening Balance						
	Ist Quarter	6.95	-	6.95	0.19	0.87	6.08
	Iind Quarter	6.08	-	6.08	0.17	0.87	5.21
	IIIrd Quarter	5.21	-	5.21	0.14	0.87	4.35
	Ivth Quarter	4.35		4.35	0.12	0.87	3.48
					0.62	3.48	
V	Opening Balance						
	Ist Quarter	3.48	-	3.48	0.10	0.87	2.61
	Iind Quarter	2.61	-	2.61	0.07	0.87	1.74
	IIIrd Quarter	1.74	-	1.74	0.05	0.87	0.87
	Ivth Quarter	0.87		0.87	0.02	0.87	0.00
					0.24	3.48	

Door to Door Period	60	Months
Moratorium Period	6	Months
Repayment Period	54	Months

CALCULATION OF D.S.C.R

PARTICULARS	I	II	III	IV	V
CASH ACCRUALS	8.45	9.77	11.27	12.81	14.47
Interest on Term Loan	1.70	1.39	1.00	0.62	0.24
Total	10.14	11.16	12.27	13.43	14.71
REPAYMENT					
Repayment of Term Loan	1.74	3.48	3.48	3.48	3.48
Interest on Term Loan	1.70	1.39	1.00	0.62	0.24
Total	3.43	4.86	4.48	4.10	3.71
DEBT SERVICE COVERAGE RATIO	**2.95**	**2.29**	**2.74**	**3.28**	**3.96**
AVERAGE D.S.C.R.			**3.00**		

Assumptions:

1. Production Capacity of Inverter Battery Casting unit is taken at 25 Pcs per day. First year, Capacity has been taken @ 30%.

2. Working shift of 10 hours per day has been considered.

3. Raw Material stock and Finished goods closing stock has been taken for 10 days.

4. Credit period to Sundry Debtors has been given for 10 days.

5. Credit period by the Sundry Creditors has been provided for 14 days.

6. Depreciation and Income tax has been taken as per the Income tax Act,1961.

7. Interest on working Capital Loan and Term loan has been taken at 11%.

8. Salary and wages rates are taken as per the Current Market Scenario.

9. Power Consumption has been taken at 50 HP.

10. Selling Prices & Raw material costing has been increased by 3% & 2% respectively in the subsequent years.

DISCLAIMER

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