PROJECT REPORT

ON
SMALL TRANSFORMER FOR ELECTRONICS PURPOSE

PURPOSE OF THE DOCUMENT

This particular pre-feasibility is regarding 'Small Transformer For Electronics Purpose

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.]

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PROJECT PROFILE ON
SMALL TRANSFORMER FOR ELECTRONICS PURPOSE

INTRODUCTION:

Generally electronic equipments like Transistor, tape recorder, television and other sophisticated equipments are operated on low DC voltage. The DC low voltage can be obtained by two ways i.e. (i) Rechargeable / Dry Batteries and (ii) conversion from A.C. supply.

Rechargeable battery is used where electricity is not available. This power source has many draw backs and is also costly. As State Government is going to pay more attention on electrifying the city and rural areas so other DC source i.e. from AC is very cheap and easy to handle. This low DC voltage is achieved from high 220 AC voltage by using a transformer alongwith rectifier and filter. This transformer is called LF step down transformer which reduces AC high voltage to AC low voltage without change of frequency. This slow voltage is rectified and filtered to get DC voltage.

MARKET POTENTIAL:

With rapid electrification in the State, the use of tape recorders, two-in-ones, television, transistors and other consumer electronics, the demand for this product is on the increase. Moreover, small transformers are also needed for repairing of electronic items and as such there is enough scope for growth of this product.

BASIS & PRESUMPTIONS:

i) The basis for calculation of production capacity is on single shift basis, working of 25 days per month on 75% efficiency.

ii) BEP for the scheme has been calculated on full capacity utilization.

iii) Rate of interest has been taken as 11.50% on an average. This however, is likely to vary depending upon the financial out lay and the location of the unit.

iv) Labour wages have been taken on the basis of minimum applicable. These are likely to change depending upon the location of the project.

v) Rental charges of Rs. 200/- per sq. mtr. Per month has been taken on an average. This figure is likely to vary depending upon the location of the unit.

vi) Margin money requirement differs from project to project and type of entrepreneurs such as women, SC/ST, physically handicapped etc. and the minimum margin money usual asked by the financial institutions and banks is 15%. Margin money up to 25% in some cases is also asked. The entrepreneur may check the margin money requirement from financial institutions for the project.

vii) Terms of loan differs from one financial institutions to another and in general minimum gestation period is normally 6 months and it could be 2 years. Maximum period for repayment of loan is 5 years including gestation period. The exact terms and conditions may be found by the entrepreneur from the concerned financial institutions.

viii) The cost of machinery and equipments as indicated in the scheme are approximate those ruling at the time of preparation of the scheme. The entrepreneur may check the exact price for specific make and model of the

machine selected.

ix) Non – refundable deposits cost of preparation of project report etc. may be considered under pre-operative expenses.

x) The provisions made in other respects viz; raw materials, utilities, overheads etc. are drawn on the basis of standard variation and output. The cost indicated against each is approximate and based on local market condition and observations. The entrepreneur may find out the exact cost from the concerned sources.

xi) Estimated life of project considering technology obsolence is around 15 years and full loan can be paid back within six years.

Implementation Schedule:

It is estimated that from conception of the project to commercial production it may take about two years including purchase of machines, installation, staff recruitment, all clearance from different agencies such as DIC and financial institutions etc.

TECHNICAL ASPECTS:

1. PROCESS OF MANUFACTURE:

Manufacturer of small transformers involving following steps:

First primary winding is wound on the former with the help of coil winding machine and coil terminals are soldered with flexible wire. By putting separator on the primary, Secondary is then wound on a former for pre defined constant value of voltage and again secondary terminals are soldered with flexible wire. The coil is then put in the pre stacking and clamped to form a transformer. Now clamped transformer is heated and impregnated in the baking oven.

2. QUALITY CONTROL & STANDARDS:

The final product i.e. small transformer is treated for general requirements as per ISS:6297 with latest amendments. The essential tests are high voltage, insulation resistance, leakage current and temperature rise tests which should be in accordance with the limits prescribed in ISS.

3. PRODUCTION CAPACITY PER ANNUM:

Quantity	:	48000 Nos. Small Transformers.
Value	:	Rs.35.82lac (@ Rs. 75/- each.

4. MOTIVE POWER : 7.5K.W.

5. POLLUTION CONTROL:

Pollution control requirement is not applicable for this product.

6. ENERGY CONSERVATION:

It is desired that small transformers should be designed with minimum energy losses (Copper & Core losses) so as to achieve better efficiency.

7. Labour Requirement:

4-5Manpower is required Includes:
1 Technical Supervisor
2 skilled Labour
2 Unskilled Labour

FINANCIAL ASPECTS

Product and By Product	:	**LF Transformer**	
Name of the project / business activity proposed :		**LF Transformer**	
Cost of Project	:	Rs.9.68 Lacs	
Means of Finance			
Term Loan		Rs.5.09 Lacs	
KVIC Margin Money	-	As per Project Eligibility	
Own Capital		Rs.0.97 Lacs	
Working Capital		Rs.3.62 Lacs	
Debt Service Coverage Ratio	:	4.88	
Pay Back Period	:	5	Years
Project Implementation Period	:	6	Months
Break Even Point	:	34%	
Employment	:	8	Persons
Power Requirement	:	7.50	HP
Major Raw materials	:	Super Enamelled Copper Wire of different gauges (18 SWG to 46 SWG) Lamination material (High silicon steel) etc	
Estimated Annual Sales Turnover	:	38.77	Lacs
(At 100% capacity utilisation)			

COST OF PROJECT (Rs. In Lacs)

Particulars	Amount
Land	Rented/Owned
Building & Civil Work (3000 Sq Ft)	3.50
Plant & Machinery	1.36
Furniture & Fixtures	0.50
Pre-operative Expenses	0.30
Working Capital Requirement	4.02
Total	**9.68**

MEANS OF FINANCE

Particulars	Amount
Own Contribution @10%	0.97
Term Loan	5.09
Workign Capital Finance	3.62
Total	**9.68**

Beneficiary's Margin Money (% of Project Cost) **General/ Special 10%/5%**

PLANT & MACHINERY

	PARTICULARS	QTY.	RATE	AMOUNT IN RS.
1	Coil winding machine	2	5,000.00	10,000.00
2	Power Press 20 Tonnes Cap.	1	50,000.00	50,000.00
3	Treadle Shearing Machine (1200 mm)	1	15,000.00	15,000.00
4	Plastic Injection (25 gm) moulding machine (hand operated)	1	6,000.00	6,000.00
5	Dies	LS		5,500.00
6	Baking Equipments	1	6,000.00	6,000.00
7	**Testing Equipments**			-
8	Power Analysis	1	3,000.00	3,000.00
9	Multimeter	2	1,500.00	3,000.00
10	Variac 2 Amp (0 to 300 V)	1	2,500.00	2,500.00
11	Electrification & Installation @ 10% of thecost of machines and equipments			10,000.00
12	Cost of tools, jigs, fixtures etc.			5,000.00
13	Cost of office equipments / working table etc.			20,000.00
				1,36,000.00

COMPUTATION OF MANUFACTURING OF SMALL TRANSFORMER FOR ELECTRONICS PURPOSE

Manufacturing Capacity per day	160.00	No
No. of Working Hour	8	
No of Working Days per month	25	
No. of Working Day per annum	300	
Total Production per Annum	48,000.00	No
Year	Capacity	No
	Utilisation	
IST YEAR	75%	36,000
IIND YEAR	80%	38,400
IIIRD YEAR	85%	40,800
IVTH YEAR	90%	43,200
VTH YEAR	100%	48,000

COMPUTATION OF RAW MATERIAL

Item Name		Quantity of	Recovery	Unit Rate of	Total Cost
		Raw Material		/	Per Annum (100%)
Super Enamelled Copper Wire of different gauges (18 SWG to 46 SWG)	Kg	2,220.00		300.00	6,66,000.00
Plastic Grainules (HDPE)	Kg	120.00		50.00	6,000.00
Lamination material (High silicon steel)	Kg	8,400.00		30.00	2,52,000.00
Insulating material					24,000.00
Clamps & Hardware					30,000.00
Packing materials					30,000.00
			Total		10,08,000.00
Annual Consumption cost	(In Lacs)				10.08

Raw Material Consumed	Capacity		Amount (Rs.)
	Utilisation		
IST YEAR	75%		7.56
IIND YEAR	80%		8.06
IIIRD YEAR	85%		8.57
IVTH YEAR	90%		9.07
VTH YEAR	100%		10.08

COMPUTATION OF CLOSING STOCK & WORKING CAPITAL

PARTICULARS	**IST YEAR**	**IIND YEAR**	**IIIRD YEAR**	**IVTH YEAR**	**VTH YEAR**
Finished Goods					
(15 Days requirement)	1.08	1.18	1.27	1.38	1.56
Raw Material					
(30 Days requirement)	0.76	0.81	0.86	0.91	1.01
Closing Stock	**1.84**	**1.98**	**2.13**	**2.28**	**2.57**

COMPUTATION OF WORKING CAPITAL REQUIREMENT

Particulars		**Total**
		Amount
Stock in Hand		1.84
Sundry Debtors		2.57
	Total	4.40
Sundry Creditors		0.38
Working Capital Requirement		**4.02**
Margin		0.40
Working Capital Finance		**3.62**

COMPUTATION OF SALE

Particulars	**IST YEAR**	**IIND YEAR**	**IIIRD YEAR**	**IVTH YEAR**	**VTH YEAR**
Op Stock	-	1,800	1,920	2,040	2,160
Production	36,000	38,400	40,800	43,200	48,000
	36,000	40,200	42,720	45,240	50,160
Less : Closing Stock	1,800	1,920	2,040	2,160	2,400
Net Sale	34,200	38,280	40,680	43,080	47,760
Sale Price per piece	75.00	76.50	78.03	79.59	81.18
Sale (in Lacs)	**25.65**	**29.28**	**31.74**	**34.29**	**38.77**

PROJECTED PROFITABILITY STATEMENT

PARTICULARS	IST YEAR	IIND YEAR	IIIRD YEAR	IVTH YEAR	VTH YEAR
A) SALES					
Gross Sale	25.65	29.28	31.74	34.29	38.77
Total (A)	**25.65**	**29.28**	**31.74**	**34.29**	**38.77**
B) COST OF SALES					
Raw Mateiral Consumed	7.56	8.06	8.57	9.07	10.08
Elecricity Expenses	0.81	0.86	0.91	0.97	1.07
Repair & Maintenance	-	0.29	0.32	0.34	0.39
Labour & Wages	4.75	5.23	5.75	6.32	6.96
Depriciation	0.58	0.54	0.47	0.42	0.37
Consumables and Other Expenses	1.28	1.46	1.59	1.71	1.94
Cost of Production	14.98	16.44	17.61	18.84	20.81
Add: Opening Stock /WIP	-	1.08	1.18	1.27	1.38
Less: Closing Stock /WIP	1.08	1.18	1.27	1.38	1.56
Cost of Sales (B)	13.90	16.35	17.51	18.74	20.63
C) GROSS PROFIT (A-B)	11.75	12.94	14.23	15.55	18.15
	46%	**44%**	**45%**	**45%**	**47%**
D) Bank Interest (Term Loan)	0.44	0.53	0.38	0.24	0.08
Bank Interest (C.C. Limit)	0.36	0.36	0.36	0.36	0.36
E) Salary to Staff	3.70	4.07	4.47	4.92	5.41
F) Selling & Adm Expenses Exp.	0.51	0.59	0.63	0.69	0.78
TOTAL (D+E)	**5.01**	**5.54**	**5.85**	**6.21**	**6.63**
H) NET PROFIT	6.74	7.39	8.38	9.34	11.51
I) Taxation	-	0.74	0.84	0.93	1.15
J) PROFIT (After Tax)	6.74	6.65	7.54	8.41	10.36

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