

PROJECT PROFILE ON REPAIR & SERVICING OF ELECTRICAL APP.

1. Product : **Repair and Servicing of Domestic Electrical Appl.**

2. Production Capacity : **Quantity:** Repairing and servicing of fan,
Grinder/Mixer, Iron, Geysers- 4860 nos.
Value: Rs. 13,90,500/-

3. Year of Preparation : *2010-11*

4. PREPARED By : Electrical Division,
MSME-Development Institute
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1. Introduction :

In almost every home there are horde of appliances that practically remain in use throughout the day to provide us the comfort and easiness of life that we deserve. We are really grateful to these appliances which are necessity of every home. And if you are grateful to such appliances then you must care for them too. The breakdown of electrical domestic devices is inevitable as machines after long run tend to break down. At times they break down early due to misuse or over use. The electrical appliances like mixer/ grinder, Geysers, water heater, fan, Iron, etc. are widely used in almost every house hold. The major manufacturers are Usha, Bajaj, Crompton, Onida, Videocon, LG etc. These electrical appliances do need periodic servicing, maintenance and repair actively. Though there are a number of authorized repair & servicing centers, provided by the authorized dealers network but still there is wide spread need of the repair & servicing centers to cater the need of repair and servicing activity for these appliances specially in semi-urban and rural areas.

2. Market and Demand Aspects:

This will be a service-oriented industry to cater to the needs of the repair & servicing of Electrical Appliances. There is hardly any household which does not posses these items. In course of time, these items/ appliances need periodic servicing and repair requirement, therefore, there is a tremendous scope for the growth of these repair & servicing centers, specially in semi-urban and Rural Areas, which can be undertaken by the educated-unemployed youths of the area with a little skill development without much capital requirement.

3. Basis and Presumption:

- i) Production capacity has been taken on single shift basis on 75% efficiency.
- ii) Capacity utilization is 60% during first year, 80% during second year of operation. The Unit is expected to achieve full capacity utilization from the third years onward.
- iii) The salaries and wages cost of raw material, utilities, rent of the shed etc. are based on the prevailing rates in and around Cuttack. These cost factors are likely to vary with time and location.

- iv) Interest on term loan and capital loan has been taken at the rate of 16 % on an average. The rate may vary depending upon the policy of the financial institutions and agencies from time to time.
- v) The cost of machinery and equipment refers to a particular make/model and the price is approximate.
- vi) The project preparation cost etc. whenever required may be considered under the head of preoperative expenses.
- vii) The Break Even Point indicated is of full capacity utilization.
- viii) The essential production machinery and test equipment required for the project has been Indicated. The unit may also utilize common testing facilities available at Electronics test & Development centre (ETDCs) and Electronics Regional; Test Laboratories (ERTLs) and Regional Testing Centres (RTCs).
- ix) The factory premises is on rental basis.

4. Implementation Schedule:

The major activities in the implementation of the project have been listed and the average time for implementation of the project is estimated at 12 Months:

	Period (In Months)
1. Preparation of project report	1
2. Registration and other Formalities	1
3. Sanction of Loan by financial Institution	3
4. Plant and Machinery :	
a. Placement of orders	1
b. Procurement	2
c. Power connection/Electrification	2
d. Installation/erection of machinery/test equipment	2
5. Procurement of Raw materials	2
6. Recruitment of Technical personnel etc.	2
7. Trial production	11
8. Commercial Production	12

Note :

- 1. Many of the above activities shall be initiated concurrently.
- 2. Procurement of raw materials commences from the 8th Month onwards.

3. When imported plant and machinery are required, the implementation period of project may vary from 12 months to 15 months.

5. TECHNICAL ASPECTS

I. Process of Manufacturing:

Basically the process of repairing and servicing of Electrical Appliances would be servicing in nature. The periodic servicing of the appliances can be carried out at a time interval as and when the customer brings the Appliances for servicing. The Appliances i.e. electric fans, mixer, Geysers, Iron etc. which is completely de-assembled after overhauling and replacing worn out parts, changes of ball bearings, etc. and lubrication the appliance is re-assembled and tested. On the other hand, under repairing activity, after testing and fault diagnosing, the repair activity can be carried out by rectifications or replacement of worn out/ defective item, etc. Apart from these, the winding of armature of the motorized appliances can also be carried out.

II. Plant Capacity per Annum:

Quantity : 4,860 nos. Repair & Servicing

Value : Rs. 13,90,500/-

III. Motive Power Required: 5 KW

IV. Energy conservation

With the growing energy needs and shortage coupled with rising energy cost a greater thrust in energy efficiency in industrial sector has been given by govt. of India since 1980. The energy conservation act 2001 has been enacted on 18th August 2001, which provides for efficient use of energy, its conservation & capacity building of Bureau of Energy Efficiency created under the act. The following steps may help for conservation of energy:

- i. Adoption of Energy conserving technologies, production aids and testing facilities.

- ii. Efficient managements of process/manufacturing machineries and systems QC and testing equipments for yielding maximum energy conservation.
- iii. Using efficient temperature controlled soldering and disordering stations can obtain optimum use of electrical energy for heating, during soldering process.
- iv. Periodical maintenance of motors, compressors etc.
- v. Use of power factor correction capacitors, proper selection and layout of lighting system, timely switching on off of the lights use of CFLs wherever Possible.

6. Financial Aspects:

A. Fixed capital

I. Land and Building:

Built up area	1,000 sq. ft.
Office, Stores	200 sq. ft.
Assembly and testing	800 sq. ft.
Rent payable/ month	Rs. 5,000/- per month Rs. 60,000/Annum

II. Machinery and Equipment:

Sl. No	Name of the machine and specification	Ind/ Imp	Qty Nos.	Price Rs	Total Rs
1.	Motorized winding machine	Ind	1	45,000	45,000
2.	Manual winding machine	Ind	2	20,000	40,000
3.	Oven	Ind	1	30,000	30,000
4.	½ Inch Bench Drilling machine	-do-	1	4,000	4,000
5.	Portable drilling machine	-do-	1	3,000	3,000
6.	Bench Grinder 200 mm	-do-	1	4,000	4,000

7.	Soldering Machine	-do-	2	200	400
8.	2.5 KV Testing Machine	-do-	1	7,500	7,500
9.	Panel board for testing	-do-	1	6,000	6,000
10.	3 ½ digit clamp meter	-do-	1	2,500	2,500
11.	Megger 500 volts DC	Ind	1	4,000	4,000
12.	Multimeter	-do-	2	750	1,500
13.	Leakage current Earth Leakage Tester	-do-	1	5,000	5,000
14.	Auto Transformer 10 Amps	-do-	1	5,000	5,000
15.	Other misc. instruments and meters	-do-	LS	5,000	5,000
	Total				1,62,900
Total Cost of Machinery and Equipment					Rs. 1,62,900
Electrification Charges @ 10% of the cost of Machinery and equipment					Rs. 16,290
Office equipment, furniture and working Table etc.					Rs. 40,000
Mould, die, tools, jigs and fixtures etc.					Rs. 5,000
Pre operative expenses					Rs. 10,000
Total					2,19,190
Total Fixed Capital					Rs. 2,34,000/-

B. Working Capital per Month:

(i) Staff & Labour

Sl. No	Description	Number of Persons	Salary / Month (Rs)	Total Salary /Month(Rs)
1.	Service Supervisor	1	7,000	7,000
2.	Salesman/Accountant	1	4,000	4,000
3.	Skilled Worker & Electrician	2	4,250	8,500
4.	Unskilled worker	2	3,250	6,500
Total				26,000
Add 15 % perquisites Of above Total				3,900
TOTAL				29,900

(ii) Raw Material requirement per month:

Sl No.	Description	Ind/ Imp	Qty	Total (Rs)
1.	Super Enameled Cooper	-do-	30 kgs	13,700
2.	Ball Bearing	-do-	50 Nos.	5,750
3.	Coil of Iron	-do-	40 Nos.	2,600
4.	Geyser Coil	-do-	35 Nos.	4,000
5	Shaft, Bush, Capacitor, Field Coil, Armature, Carbon etc	-do-	LS	6,000
6.	Consumables stores & Cables, Paper Insulations	-do-	LS	4,000
7.	Mechanical & Electrical Accessories, Hardware & misc	-do-	LS	5,000
TOTAL				Rs. 41,100/-

(iii) Utilities per month:

Power	Rs.3,000
Water	Rs. 250
Total	Rs. 3,250/-

(iv) Other contingent expenses per month:

Rent	Rs. 5,000
Postage & stationary	Rs. 1,000
Telephone/telex/fax charges	Rs. 1,000
Repair & Maintenance	Rs. 1,500
Transport & conveyance charges	Rs. 2,000
Publicity & Advertisement	Rs. 750
Insurance & Taxes	Rs. 750
Misc. Expenditure	Rs. 2,000
TOTAL	Rs. 14,000

Total recurring expenditure per month

i.e Working Capital per Month (i+ ii+ iii+ iv) = Rs 88,250/-

C. Total Capital Investment: (Rs.)

Fixed Capital	2,34,000/-
Working Capital on 2 months basis	1,76,500/-
Total	4,10,500/-
Or Say	4,11,000/-

D. Financial Analysis:**(I) Cost of Production Per annum:****(Rs.)**

1.	Total recurring expenditure per year	10,59,000
2.	Depreciation on machinery and equipment @ 10%	16,290
3.	Depreciation on tools, jigs and fixtures @ 25%	1,250
4.	Depreciation on office equipment & furniture @ 20%	8,000
5.	Interest on total investment @ 16%	65,600
	Total	11,50,140
	Say	11,50,000

(II) Turnover (Per Annum):

Sl. no.	Item	Qty (Nos)	Total Sales (Rs)
1.	Repairing of fan, Grinder/Mixer, Iron, Geysers	1,860	7,90,500
2.	Servicing of fan, Grinder/Mixer, Iron, Geysers	3,000	6,00,000
	Total		13,90,500

(III) PROFIT PER ANNUM BEFORE TAX:

(Turnover per annum – cost of production per annum) = **Rs. 2,40,500/-**

PROFIT RATIO:

Profit per Annum 2,40,500
 ----- x 100 = ----- X 100 = **17 %**
 Sales per annum 13,90,500

RATE OF RETURN:

Profit per Annum 2,40,500
 ----- x 100 = ----- X 100 = **58%**

Total Capital Investment 4,11,000

E. BREAK – EVEN- ANALYSIS

Fixed cost per annum:

Rent	60,000
Depreciation on Machinery @ 10%	16,290
Depreciation on Tools & Equip. @ 25%	1,250
Depreciation on Office Equipment & furniture @ 20%	8,000
Interest on Total Capital Investment @ 16%	65,600
Insurance	9,000
40% of salary and wages	1,43,520
40% of contingent & utilities(Excluding rent & insurance)	39,600
Total	3,43,260

Fixed cost 3,43, 260

BREAK EVEN POINT (BEP) =----- x100 = ----- x100 = 59 %

Fixed cost + Profit 3,43, 260 + 2,40,500

Additional Information:

- The project profile may be modified to suit the individual entrepreneurship qualities/capacity, production program and also to suit the locational characteristics wherever applicable.
- The Electrical technology is undergoing rapid strides of change and there is need for regular monitoring of the national and international technology scenario. The unit may therefore keep abreast with the new technologies in order to keep them in pace with the developments of the global competition.
- Quality today is not only confined to the product or services. It also extends to the process and environment in which they are generated. The ISO 9000 defines standards for Quality Management Systems and ISO 14001 Defines Standards for Environmental Management System

for acceptability at International level. The unit may therefore adopt these standards for global competition.

- d. The margin money recommended is 25% of the working capital requirement at an average. However the percentage of margin money may vary as per bank's discretion.

Name & Address of the Machinery & Testing Equipment

1. M/s. Prabhat Electronics, OMP Square, Cuttack Baidyanath Electronics, Chandan Palia, Cuttack.
2. M/s. Bhairab Electronics, Mangalabag, Cuttack.
3. M/s. Badal Electronics, Mangalabag, Cuttack.
4. M/s Indian Electrical Corporation, 106 & 111, Chandaka Integrated Campus, Rasulgarh, Bhubaneswar
5. M/S H P Singh Machinery (Pvt.) Ltd., 75, Ganesh Chandra Avenue, Calcutta – 700 013
6. M/S Nandy & Co., 125 Belilious Road, Howrah- 711 101
7. M/S Turnwell Machine Tools, 16, Ganesh Chandra Avenue, Kolkata – 700 013
8. M/S Turner & Tools, 15, Ganesh Chandra Avenue, 2 nd Floor, Kolkata – 700 013
9. Pathak Machine Tools Pvt. Ltd. ,116, G.T Road, Salkia, Howrah – 711 106
6. M/s Patel & Company, Naupatna, Cuttack- 1
7. Goliya Electricals Pvt. Ltd. Plot no. 64, G.I.D.C Estate, Phase I, OPP. Sunita Textiles, Vapi – 396195. Distt Bulsar, Gujarat.
8. Goliya Instrument Pvt. Ltd, 311, Bharat Industrial Estate, T.J Road, Sewree, Mumbai- 400 015
10. Any dealer of L&T, SIEMENS, Havells, Crompton Greaves Ltd etc. & local market

Name of Raw material Suppliers:

- 1 M/s Lucky Electricals, Manisahu Chhak, Cuttack
- 2 Prabhat Electronics, OMP Square, Cuttack
- 3 M/s. Utkal Electronics, 270-A, Saheed Nagar, Bhubaneswar.
- 4 M/s. Indian Electronics Corporation, 106 & 111, Chandakar Integrated Complex, Rasulgarh.
- 5 M/s. Mutual Insulated Cables and Conductors, LTD., A-25 & 26, Phase-III, New Industrial Estate, Jagatpur, Cuttack
- 6 M/s Bholenath Electricals, Buxi Bazar, Cuttack
- 7 M/s D.P Electricals, Ranihat, Cuttack

Resource centre for technology:

1. MSMEDI, Cuttack
2. Different Engineering colleges of the country.
3. India SME Technology services limited, DFC Building, Plot No. 37-38, D-Block, Pankha Road Institutional Area, Janakpuri, New Delhi-110058