

IV B. CENTRAL ELECTRONIC LIMITED

1. INTRODUCTION

Central Electronics Limited (CEL) holds a unique position among the family of Public Sector Enterprises in Electronics, with its emphasis on indigenous technology inducted from its in-house development and the national laboratories. Activities of CEL are focused on three areas:

- ☞ Solar Photovoltaic cells, modules and systems for a variety of rural and industrial applications.
- ☞ Selected Components & Systems in the field of Strategic Electronics
- ☞ Selected Electronic Systems for Railway Safety and Signalling and Impressed Current Cathodic Protection of oil and gas pipelines

2. PERFORMANCE IN 2001-02

2.1 Operating Results

Production, sales and profit/loss achieved during the year as compared to the previous year are given below:

(Rs. in crores)

	2000-2001	2001-2002
Production	62.26	72.77
Sales	60.72	70.83
Operating Profit/Loss	(-) 1.50	(-) 0.08
Loss carried forward to Balance Sheet	(-) 3.02	(-) 4.75

Production, Sales and Operating Profit/Loss for the year 2001-02 showed marked improvement over the previous year despite realization of lower prices for solar photovoltaic and ferrite products.

2.2 Exports

Exports of SPV products from Solar Photovoltaics Group worth Rs. 351 lakhs were made to a number of countries viz. Nepal, Nigeria, Canada, Sri Lanka, Malaysia, Turkmenistan, Uganda, Myanmar, Gambia, etc. The company has drawn-up action plan to aggressively promote export of solar photovoltaic products at internationally competitive prices using web site and through participation in trade fairs and exhibitions.

2.3 Other Highlights of 2001-02

2.3.1 Technology

Through in-house R&D work, CEL was able to develop/upgrade a number of processes and technologies some of which are as follows:

- ☞ As an upgradation of the cathodic protection system, PWM based Solar Charge Controller and Microprocessor based Electronic Control Unit were developed and successfully field-tested. Production engineering on these equipments has been completed and commercialisation initiated.
- ☞ Development and field testing of Digital Axle Counter which was

taken up as an R&D project with funds support under PATSER Programme of DSIR was completed. The project will provide railways with an upgraded and feature rich axle counter as a replacement of universal analog type axle counter for which CEL has been the biggest supplier.

- ☞ A number of new R&D projects have been taken-up. Of special mention are 'Process Development of Large Area Silicon Solar Cells using Thinner Wafers' and Design & Development of 'S' Band Dual Mode High Power Phase Shifter.

2.3.2 Business

- ☞ CEL emerged as the largest supplier of solar PV water pumping systems by supplying and installing 250 systems.
- ☞ Supplies were made for electrification of 90 tribal villages in the state of Chhattisgarh. Installation was also completed and systems made operational.
- ☞ 19,000 nos. of Complete Electric Systems (CES) were supplied to OFK, Khamaria.

2.3.3 Future Strategy

During the tenth five year plan, CEL plans to invest in R&D and plant so as to meet the corporate objectives of being commercially viable and a significant player in its business operations. Some of the significant activities are as follows:

- ☞ In the area of solar photovoltaics, develop multicrystalline silicon

solar cell technology and put it on the production line along with single crystal silicon.

- ☞ Develop thin film technology and expand SPV applications as building material specially for roofing, façade and skylight.
- ☞ Upgrade solar powered water pumping system of both types i.e. surface and submersible, to 5 hp capacity from the present 2 hp.
- ☞ In Systems Division, expand the portfolio of signaling and safety equipment for Railways with emphasis on export. In the field of cathodic protection systems, backward integration extending to turnkey and consultancy operations starting from site survey is envisaged.
- ☞ In Ferrites, substantially increase the production of Mn-Zn as well as high permeability and microwave ferrites.
- ☞ In the area of strategic electronics, take-up regular production of DF and IFF systems. Also develop new products viz. dielectric resonator oscillator (DRO) and dual mode S-Band high power phase shifter and commercialise them.
- ☞ Expand the range of piezo transducers with automotive and underwater applications in focus. Also develop and commercialise high purity alumina (99% and above) products.
- ☞ Take-up regular production of Cadmium-Zinc-Telluride (CZT) substrates for which a pilot manufacturing plant has just been completed. It is in technical tie-up with SSPL, Delhi.

3. FOREIGN EXCHANGE (FE) RECEIPTS AND OUTGO

During the year 2001-02, the company spent Rs. 1323 lakhs in foreign exchange as against Rs. 894 lakhs in the previous year towards the purchase of capital equipments, raw materials & components, travel, etc.

The company earned foreign exchange of Rs.43 lakhs as against Rs.51 lakhs in the previous year from export of its products.

4. ENERGY CONSERVATION

The company being an electronic industry, its operations are not energy intensive. However, the company frequently evaluates its processes and plant & machinery to economise on the energy consumption. It has undertaken cleaning of its process water supply lines which has enabled discontinuation of a 5 hp pump thereby effecting a saving of Rs.1.5 lakh per annum. It has also done redistribution of the loads in solar photovoltaics plant so as to make optimum use of its captive DG sets.

More than 1000 poplar plants have been planted. A nursery of 1500 poplar plants has also been set-up to provide saplings for further plantation next year. Thus the company is putting in efforts towards improvement of environment.

5. EMPLOYEES

In accordance with the Companies (particulars of employees) Rules 1975 read with Sub-Section 2-A of Section 217 of the Companies Act 1956 as amended in 1988,

none of the employees of the Company either employed throughout the year or for a part of the year under review was in receipt of remuneration more than minimum prescribed in the Rules.

6. IMPLEMENTATION OF HINDI, INDUSTRIAL RELATIONS & HUMAN RELATIONS

The Company had very cordial industrial relations during the year. Management also initiated programmes for upgrading the skills of employees.

In order to ensure the use of Hindi, the employees continued to be trained in Prabodh, Praveen, Pragya Hindi Courses, Hindi typewriting and Hindi Computer. Hindi week was organized from September 14-20, 2001.

Various short time training programmes and workshops were conducted for workers and officers during the year. Special workshops on 'Noting and Drafting' and various competitions in Hindi were organized and awards distributed to the winners during the year.

7. WELFARE OF RESERVED CATEGORIES

All Government directives relating to the Reserved Categories such as Scheduled Castes, Scheduled Tribes, Physically Handicapped, Ex-Servicemen etc. continued to be implemented during the year.