

## IV-B. CENTRAL ELECTRONICS LIMITED

### 1. INTRODUCTION

Central Electronics Limited continues to hold top position among other Public Sector Undertakings particularly in the field of SPV. CEL focuses on following activities:

a) To be a global player and a major domestic player in the area of Solar Photovoltaic Cells, Modules and Systems by upgrading the capacity from 2 MW to 10 MW and by productionization of higher wattage modules up to 210 Watts with special emphasis on use of thinner wafers (about 240 microns) to become price competitive in domestic and international market.

b) To maintain leadership in the development, supply and commissioning of signalling, safety equipment to Indian Railways to meet their existing and emerging modernization needs.

c) Expand capacity and product profile using new technology and sub-assemblies for the supply of strategic components such as PCM to DRDO Labs. Ministry of Defence, Product portfolio in respect of PZT and Dielectric material for newer and newer applications using powder composition for Naval applications and consumer items like Mobile phones etc.

### 2. PERFORMANCE IN 2006-07

#### 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)

	2006-07	2005-06
Production	139.26	102.74
Sales	133.93	108.80
Operating profit	11.48	5.90
Net Profit carried forward to Balance Sheet	2.85	12.43

#### 2.2 Exports

During the year, total exports of the company were Rs.16.49 Crores as against Rs.23.98 Crores in previous year.

#### 2.3 Major achievements of CEL during 2006-07

- Placed orders for major capital equipment projected in the Project proposal for upgradation and upscaling of SPV operations to 10 MWp per annum.
- Completed infrastructure facilities, wherever necessary, for the implementation of the project for capacity enhancement.
- Completed civil & electrical works for new production line and facilities to be installed for increased capacity in cell process and module areas.
- Completed implementation of the project for up gradation and up scaling of Solar Photovoltaic operations to 10 MWp per annum by the end of 4<sup>th</sup> quarter.
- Completed the development of Multi Section Digital Axle Counter (MSDAC).
- Procured trial orders for Multi section Digital Axle Counter after obtaining RDSO approval and successful field trials.

- Inducted Train Actuating Warning System (TAWS) at Level Crossing of Indian Railways.
- Followed up with Railways for developmental orders for indigenous development of SSI.
- Offered IFF system to BEL for inspection.
- Completed the development of ASIC-3 and obtained trial quantity to complete development of Hybrid Driver for X-band simultaneously.
- Developed technology of PZT 8 material for future technologies in Sonar area and Dielectric material suitable for Patch Antenna used in Cellular/Mobile phones with an aim to expand product portfolio by adding one or two items for high volume applications.
- Standardized the process for using 6” wafers (Multi Crystalline and mono crystalline) to produce 200/210 Watt modules.
- Processing of 240-micron wafers in commercial production of SPV.
- Installed and commissioned 200 KWp Solar PV Power Plant (biggest in India) at Om Shanti Retreat Centre, near Manesar, Haryana.
- Augmented production capacity for Digital Axle Counter installing Automated Test Equipment (ATE) for production testing, to cater for substantially increased demand expected in coming years.
- Supplied and installed 2 Nos. of multi section digital Axle Counters for extended field trial leading to procurement of bulk order from Railways.

### 3. PERFORMANCE IN 2007-08

#### 3.1 Operating Results

(Rs. in crores)

	2007-08 (31 Oct)	2006-07 (31 Oct)
Production	58.75	64.06
Sales	51.81	58.75
Net profit/loss	(-) 3.87	0.93

#### 3.2 Exports

During 2007-08, exports have been Rs.8.36 Crores (till October), as against Rs.7.51 Crores in 2006-07 (till October).

#### 3.3 Other Highlights of 2007-08

- Implementation of upscaling and enhancing the production facility of SPV Cells and Modules from 2 to 10 MWp. About 6 MW production is being targeted.
- Designed and Developed 3D/4D version of digital Axle counter suitable for Point Zones and offered the same to RDSO for approval.
- Successful development of Digital Axle Counter conforming to CENELEC SIL-4.
- Taken up design and know-how from RDSO for universal fail-safe block equipment and submitted proto type module to RDSO for their approval.
- Initiated development and production of Train Protection and Warning System (TPAWS) jointly with other agencies for induction in Indian Railways.
- Completed the supply of X band PCM’s order of BEL & LRDE and booked fresh orders for 7,000 Nos. of PCMs.
- Initiated necessary action for augmentation of production capacity of PCMs to cater for large projected demand of PCMs in coming years.

- Designed and developed heat fuse 551 and submitted the samples with a view to meet the demand of defence after necessary MOU between CEL and OFK.

#### **4. FUTURE STRATEGY**

- To be a global player and a major domestic player in the area of Solar Photovoltaic Cells, Modules and Systems by up-grading the capacity up to 25 MW and by productionization of higher wattage modules up to 210 watts using thinner (220 micron) wafers.
- Augment production capacity for Digital Axle Counters installing Automated Test Equipment (ATE) for production testing, to cater for substantially increased demand expected in coming years.
- To procure orders for Multi Section Digital Axle Counters and Train Approach Warning Devices.
- Development of Train Protection & Warning Devices.
- To initiate R&D of Transit Receiver (TR) Modules in silicon BICMOS Technology.
- To diversify in the areas like Public Area Security Systems and Communications, which has huge market potential due to increased threat perceptions of terrorists.

#### **5. FOREIGN EXCHANGE RECEIPTS AND OUTGO**

During the year 2006-07, the company spent Rs.40.60 Crores in foreign exchange. The company earned foreign exchange worth Rs.10.84 Crores during the year 2006-07.

#### **6. 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 done redistribution of the leads in Solar Photovoltaic plant so as to make optimum use of its captive DG sets.

More than 1,000 poplar plants have been planted. A nursery of poplar plants has been set up to provide saplings for further plantation next year. Thus the company is putting in efforts towards improvement of environment.

#### **7. PARTICULARS OF EMPLOYEES**

In accordance with the Companies (particulars of employees) Rules 1975 read with Sub-section 2-A of Section 217 of 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.

#### **8. IMPLEMENTATION OF HINDI, INDUSTRIAL RELATIONS & HUMAN RELATIONS**

The company had very cordial industrial relations during the year. The 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 Praboth, Praveen, Pragya Hindi Courses, Hindi typewriting and use of Hindi Computers. Hindi fortnight was organized from 14.09.2006 to 28.09.2006. Various short time training programmes and workshops were conducted for workers and officers during the year.

Special workshops and various competitions in Hindi were organized and awards distributed to the winners.

## **9. 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. Total number of employees in these categories was 190, which represent about 28% of the total strength of the company as on 1<sup>st</sup> December, 2007.



PRESIDENT OF SUDAN, H.E. UMAR HASSAN AHMAD AL-BASHIR INAUGURATING THE PLANT AT KHARTOUM



H.E THE MINISTER MOHAMMED EHSAN ZIA INAUGURATING THE VILLAGE ELECTRIFICATION IN A VILLAGE OF PROVINCE KAPISA IN AFGHANISTAN

### TECHNOLOGY TRANSFER TO SUDAN



OF SUDAN PRESIDENT LOOKING CLOSELY AT THE ASSEMBLY PROCESS

### TECHNOLOGY TRANSFER TO SUDAN



TESTING & TABBING OF SOLAR CELLS



SOLAR HOME LIGHTING SYSTEM INSTALLED IN VILLAGE QALA-E-LUQMAN IN AFGHANISTAN



NEW PRODUCTION FACILITY FOR SOLAR CELLS AT CEL