



## Annexure to the Directors' Report

Information under Section 217 (1) (e) of the Companies Act, 1956 read with the Companies (Disclosure of Particulars in the Report of Board of Directors) Rules, 1988 and forming part of the Directors' Report for the year ended December 31, 2007.

### I. CONSERVATION OF ENERGY:

#### (1) Energy conservation measures taken:

The Company has for many years now been laying great emphasis on the Conservation of energy and has taken several measures including regular monitoring of consumption, reduction of transmission losses and improved maintenance of systems. Some of the more significant projects implemented on a continuous basis are:

- Effimax system installed for boiler resulting into fuel savings.
- Bulk Drug Utility cooling tower pump impeller trimmed.
- Frequency drive installed at air compressor.
- CT Ensaver installed on process & utility tower fan.
- Motors taking less than 50% load and having low factor are switched from delta to star connection.
- PLC based Automation system for Chilling plant implemented.
- Installed separate cooling tower for utility with low head pumps.
- Energy Saving Device and temperature controllers installed for optimizing the running time of the cooling towers.
- Installation and commissioning of variable frequency drive for equipments like Reactors etc.
- Installation of energy saving lights & Street light auto control on timers.
- Replaced cooling tower (conventional casting) blades with ABS (Acrylo Nitrile Butyl Styrene) blades.
- Installation of Pressure Reducing Valve (PRV) Station for Low pressure Steam Headers.
- Automation of Vacuum System with Solenoid Operated Valves and Steam Lines with Ph Meters.
- Maintained power factor at 0.99.
- Replaced reciprocating air compressors with screw compressors.

#### (2) Additional Investments and proposals being implemented for reduction of energy consumption:

- Installation of power factor panel to reduce the transmission near the load point.
- Installation of lean burn system for captive power plant for improving the loading capacity of Engine.
- Brine plant automation to control operation of cooling tower.
- Auto cut in and cut off of cooling tower fan on temperature.

#### (3) Impact of measures taken at (1) above:

The adoption of Energy Conservation measures of the type indicated above have resulted in significant savings, which have been reflected in the cost of production over the years.

#### (4) Total energy consumption and Energy Consumption per unit of production:

	Year ended 31.12.2007	Year ended 31.12.2006
<b>A. Power &amp; Fuel Consumption</b>		
<b>1. Electricity:</b>		
a. Purchased		
Units (in million)	<b>33.17</b>	29.42
Total Amount (in millions)	<b>145.37</b>	120.58
Rate/Unit (Rs.)	<b>4.38</b>	4.10
b. Own Generation		
I. Through Diesel Generator		
Units (in million)	<b>2.60</b>	3.96
Units per litre of Diesel oil	<b>3.21</b>	2.39
Cost/unit (Rs.)	<b>10.51</b>	10.72

	Year ended 31.12.2007	Year ended 31.12.2006
II. Through Gas Generator		
Units (in million)	9.62	8.37
Units per M <sup>3</sup> of Gas	3.03	3.02
Cost/unit (Rs.)	3.91	3.16
<b>2. Furnace Oil &amp; LSHS:</b>		
Quantity (Kilo-litres)	1,914.34	1,909.59
Total Amount (in million)	47.92	47.90
Average Rate	25.03	25.08
<b>3. Natural Gas:</b>		
Quantity (unit NM <sup>3</sup> ) (in million)	3.59	2.77
Total Amount (in million)	73.91	50.68
Average Rate (Rs./100NM <sup>3</sup> )	1,093.00	958.00

**B. Consumption per unit of production:**

The consumption per unit depends on the product mix since it consists of different types of products. Hence, there is no specific standard.

**II. TECHNOLOGY ABSORPTION:**

**Research & Development:**

**1. Specific areas in which R & D is carried out by the Company:**

The Company has an R & D Centre approved by the Department of Science and Technology, Government of India. The R & D focus of the Company is as follows:

- A. Biotechnology:** The Company has developed capability to construct genes and various expression systems and complete technology of upstream and downstream processes. So far the Company has already introduced 3 biotechnology products in the market – Wosulin (Human Insulin), Biovac B (Hepatitis B Vaccine) and Wepox (Erythropoetin). The Company expects to launch Glargine in the coming year.
- B. New Drug Discovery:** A major milestone has been achieved in the Anti-Infective research programme. Phase II clinical trials for the New Chemical Entity, WCK 771 has been completed and Phase I clinical trials for New Chemical Entity, WCK 1152 are in progress.
- C. Novel Drug Delivery System:** Wockhardt has introduced a number of Novel Drug Delivery System and introduced several products in India. Some of these products have been developed for the US and European market and appropriate alliance has been completed.
- D. Patents:** The Company in various fields has filed a total of over 200 Patents, during the year 2007.
- E. Technology Improvement in Fermentation, Chemical and Pharmaceuticals:** Major technology improvement has been undertaken which has resulted in cost saving.

**2. Benefits derived as a result of above R & D:**

Manufacturing process developed in in-house R & D have commercialised at various manufacturing factories of the Company. R & D efforts have resulted in import substitution of various high value bulk drugs as well as formulations.

**3. Future plan of action:**

- (a) Development of formulations on new molecules belonging to various categories.
- (b) Research in the field of herbal medicines will enable the Company to introduce herbal Ayurvedic drugs in the treatment of diseases for which allopathic treatments are not available or side effects are too many.



#### 4. Expenditure on R & D:

	Year ended 31.12.2007	Year ended 31.12.2006
(Rs. in Million)		
<b>a. Wockhardt Limited – Standalone:</b>		
(a) Capital	<b>912.93</b>	766.54
(b) Revenue	<b>354.54</b>	512.09
(c) Total	<b>1,267.47</b>	1,278.63
(d) Total R & D expenditure as a percentage of total turnover	<b>10.25%</b>	11.27%
<b>b. Wockhardt – Consolidated (including subsidiaries):</b>		
(a) Capital	<b>1,011.09</b>	767.01
(b) Revenue	<b>504.59</b>	610.41
(c) Total	<b>1,515.68</b>	1,377.42
(d) Total R & D expenditure as a percentage of total turnover	<b>5.71%</b>	7.97%

### III. TECHNOLOGY ABSORPTION, ADAPTATION AND INNOVATION:

#### 1. Efforts in brief, made towards technology absorption, adaptation and innovation:

The Company sets target for technology improvement based on global competition criteria. Wockhardt scientists undertake specific time-bound programmes to improve technology, which has upscaled gradually until desired results are achieved at the manufacturing level. The Research Scientists work in close relation with the manufacturing team to ensure smooth transfer of technology. Appropriate documents are created for quality control and this is monitored both by Wockhardt Quality control department and the Corporate Quality Assurance team.

#### 2. Benefits derived as a result of above efforts:

- Cost reduction in an inflationary environment.
- The development of several new products and line developments.
- Substitution of imported raw materials and finished products.
- Product quality improvement and better stability.
- Export of intermediates and finished products.

#### 3. Imported Technology (imported during the last 5 years reckoned from the beginning of the financial year):

During the current year Wockhardt has not imported any technology.

#### 4. Foreign Exchange Earnings & Outgoing:

The export income for the current year amounted to Rs. 3,631.97 million (previous year – Rs. 3,621.18 million). The major export markets in which the Company is represented is America and Western European countries.

#### Total Foreign Exchange Used and Earned:

	Year ended 31.12.2007	Year ended 31.12.2006
(Rs. in Million)		
(A) Total Foreign Exchange used		
(i) On input of raw materials, spare parts and capital goods	<b>1,894.66</b>	1,396.79
(ii) Expenditure in foreign currency for business travels, books and periodicals membership subscription, commission on sales and R & D expenses	<b>401.27</b>	539.70
(B) Total Foreign Exchange Earned	<b>3,985.60</b>	4,061.62