

VARDHMAN SPINNING AND GENERAL MILLS

Introduction

Vardhman Spinning & General Mills Ludhiana is the the unit Vardhman Textiles limited.

The Spinning unit of the company at Ludhiana was set up in 1965 with an initial installed capacity of 6000 spindles. Since then it has grown to a modern complex UNIT of 45260 cotton , 21784 worsted spindles and house of dyed of hand knitting yarn. The annual turn over of the company is 340 crore. The product mix includes cotton , synthetic/ blended yarns, industrial , knitting and, dyed yarns. Fancy yarns for hand knitting are also produced in this unit. The Cotton and synthetic production is 27 Tonnes/ day, Worsted Yarn production is 23 Tonnes/ day, Hand Knitting Yarn Dyeing production is 12 Tonnes/ day.



The company emphasized in the area of productivity, quality, cost effectiveness and energy conservation . The philosophy of Vardhman is to focus on use of all resources in achieving perfection in operational performance, standards of productivity, work norms, cost per/kg and spindle/shift , These have been appreciated by the various textile institutes in their comparative surveys of industries. The performance is reflected in the balance sheet of the company in the area of energy as per unit product basis.

Apart from this we have a training center at Ludhiana where training programs are being conducted for staff and officers .

For workers a MANAV VIKAS KENDER is established since 1984 inside the mill premises for training & development of workers.

We have also adopted the concept of Quality Circle and Total Productivity Management (TPM) in our mill.

We have KAIZEN Scheme to get suggestion on energy savings, improvement in work culture, increase in production & productivity, safety, waste minimization and cost reduction etc.

ENERGY CONSUMPTION:

The company has always accorded top priority for minimization of energy consumption by putting consistent efforts towards optimization of process parameters, modernization, upgradation of machinery and training for overall development at all level .

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ENERGY CONSERVATION COMMITMENT POLICY & SET UP:

We have developed energy audit practice in our mill. We have decided to carry out energy audit after every three year to identify new areas of energy saving opportunities after the energy audit done, we implement step by step the measures and evaluate the results.

Regular trails are conducted to run the Fluidized Bed Boiler on Agro Waste to save coal. Following Agro Waste products are already tried & run.

- 1) Rice Husk
- 2) Rice Straw
- 3) Sarson
- 4) Forest Waste

ENERGY CONSERVATION PLAN AND TARGETS:

The company is striving consistently for further reduction in electrical as well as thermal energy consumption, Hence further studies are being undertaken as below: -

- Installation electronic chokes, CFL, servo stabiliser
- Installation of VFD ,energy efficient motors, optimization of motor loading
- Automation of boiler
- Installation of capacitors, high efficient pumps, high efficient compressors.
- Operating high efficiency D.G. sets
- Heat recovery from DG sets and compressors
- Heat recovery , recovery of condensate, re-use of used water

We have developed different measures to motivate our employees to suggest and implement energy conservation measures ideas:

1. We educate our employees about the importance of energy and its impact on cost of products by simple diagrams & examples etc.
2. We send our employees to various training courses to upgrade their knowledge with the latest development in the field of energy conservation.
3. We circulate various papers, magazines, and newspapers cutting to our cell members and discuss the same in the meetings.

We have developed the energy conservation monitoring systems as follows;

1. We have developed energy monitoring document system by which we can compare power consumption data with that of our previous years. We are also taking production figures of different departments and calculations of Yarn/KWH. To compare and monitor power the consumption month wise and daily basis.
2. We have prepared electrical index and fuel index on monthly/yearly basis to find out savings or achievement in power and fuel saving compared to last year.

3. Yearly review for setting up energy targets for the next year.
4. Review by energy conservation cell on monthly basis and revising the targets of energy consumption as and when required.
5. Various studies are being conducted in the unit by energy conservation cell from time to time and suitable recommendations are made for achieving energy objectives.
6. In view of creating more awareness about energy saving among the employees on various levels, an energy policy has been formulated and displayed at various locations of the mill and labour colony.

PLAN

- Replacement of ringframe motors with high efficiency motors.
- Installation of ac drives on the machine where frequent speed regulation is required.
- Replacement of inefficient compressor with efficient compressor with one inefficient compressor of 1050 CFM compressor. (0.142 kW / CFM against inefficient compressor of 0.177)
- Saving in energy by installation of eight nos 40 kW energy efficient motor on ring frame G5/1 in spinning-1 for the year 2007 - 2008. There is saving of 0.60 kWh / ring frame
- Installation of 100 KVA servo stabilizer on lighting feeder of dye house and raising shed to optimise light voltage at 220V.
- Investment of Rs 1.0 lakh is under progress for connecting the required capacitor at the contactor of motor above 30 H.P.
- Investment of Rs 4.0 lakh for installation of hot water tank of 100 KL is under progress to increase the quantity of hot water recovery upto 300 KL / day from 200 KL / day. this water consist of temperature of 55 degree and can be used in hot water tank. total increase in recovery of this water will be by 100 KL per day. increase in saving in husk will be $100 * 1000 * (55 - 28) / (3600 * .8) = 0.94$ Ton / day. average running of dye-house is 300 days per year
- Saving in soft water @ Rs 2.94 / KL by recovery of hot water as stated in point no. 6
- Investment of 1.5 lakh is under progress for insulation of steam line laid for new hank dyeing machines.
- Replacement of tube rod with cfl bulb for energy saving. total 50 tube rod are to be replaced with cfl lamp. total saving will be $(36 - 18) * 24 * 50 / 1000 = 21.6$ kW per day
- Steam heating in corporate building in place of electrical heating during winter season.

ENVIRONMENT AND SAFETY:

Besides energy conservation the company has a safety cell headed by Asstt. VP (Engg.). To keep the environment of the mill healthy, we have taken the following measures;

1. Provide and development of green belt/park etc.
2. Plantation of trees in the mill premises.
3. Surrounding area of the mill is maintained neat and clean.
4. House keeping is maintained in all departments.
5. We had instilled O₂ analyzer ion the boiler to utilize the fuel in efficient manner and to control the emission of Carbon Mono-oxide.
6. We had installed cyclomax T.T on our 10 tons boiler to reduce SPM level in air.
7. We have established an effluent treatment plant, which runs round the clock and meets all standard norms of Punjab Pollution Control Board.

SAFETY:

1. All electrical sub-station/premises are maintained as per Indian electricity rules and acts.
2. Complete mill is covered within the network of hydrant sprinklers/fire extinguishers systems.
3. Electrical portable tools are checked regularly.
4. Shock treatment/respiration charts are displayed in all the sub-stations.
5. Safety cell committee meetings are being conducted once in the month to monitor all the safety aspects.
6. Periodically lectures are being delivered in Manav Vikas Kendra. To give more awareness to all staff and workers.
7. Earthing resistance of all equipment including 66 kV sub-station, sub-station A& B is being checked periodically.
8. Safety committee meeting is held on 15th of every month. Safety committee members group consists of one or two representatives from various departments.