



Zonal Railway Training Institute, Udaipur North-Western Railway, Ajmer Division

1. BUILDING PROFILE

Udaipur - The city built around glowing blue water lakes, which reflect the green hills of Aravali ranges. Udaipur - the Venice of the East or The city of Lakes - is the most romantic and beautiful city in India. Founded in 1567 by Maharana Udai Singh, it was built around three lakes. The famous Lake Palaces, that seem to rise out of Lake Pichola, whisper the mood of a bygone era. It was in Udaipur the famous Maharana Pratap was born and brought up. The historic battle in 1576 between Maharana Pratap and Mughal Emperor Akbar was fought in Haldighati, only 40 Kms away from Udaipur.

The Zonal Railway Training Institute, situated in the heart of the city amidst lush greenery in a vast area with its simple, but impressive arc shaped building and pleasant campus lay-out, is in tune with the aesthetics of the City of Lakes.



Over 50 years of Glorious service to the Nation

The Zonal Training School was inaugurated by Dr. Rajendra Prasad, the first President of the Indian Republic in 1956 and since its inception it has been the Alma Mater of numerous railwaymen and has undergone significant developments in course contents and training methodology. The miniature Working Models of Stations and Trains available in the vast Model Room of the Institute for training the staff are a source of attraction and knowledge to the general public too.

The motto of the Zonal Railway Training Institute is embodied in the words "लज्जं लोकं खरिः" (Lajjan Lokam Kharih)

Its main objectives are: (a) To develop proper attitudes, skills, knowledge, overall efficiency and professional competence of the Railwaymen; (b) To develop the confidence and pride in their work and the organization and (c) To instill the values of dedication, discipline, courtesy, team spirit and the spirit of public service through sustained systematic training.

Functions: Basically, this institute conducts four types of courses, viz., Initial, Promotional, Refresher and Special Courses for the staff of almost all the Departments of Railways.

Initial and Promotional courses at the induction and promotional stage are conducted for the new recruits or staff newly promoted/staff under promotion respectively to enable them to perform properly at their present or expected future jobs or the new type of jobs.

Refresher Courses: Staff connected with train operations, technical work etc. attend Refresher courses at regular prescribed periodicity so as to constantly reinforce safety consciousness, self confidence and improve their efficiency by revising the essentials and emphasizing the latest changes/modifications in rules, procedures and systems during the intervening period. More emphasis is placed on clarifying doubts, case studies, revising basic safety rules, dealing with abnormal workings and disaster Management. Safety Camp training for Train Running and Operating Staff is also imparted.

Special Courses for some particular departments as well as multidisciplinary courses, including Management course for the Supervisors and Information Technology are also conducted.

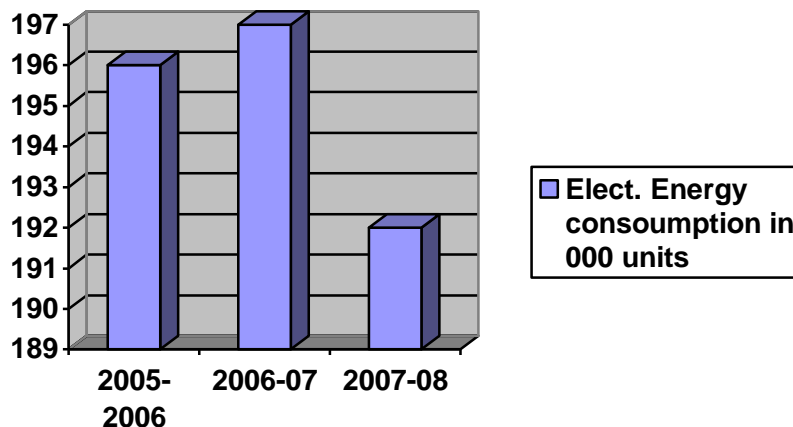
Competency Certificates are issued and re-validated for the nominated categories.

This Training Institute is nominated for training of Group 'A' IRTS probationary officers in the duties of ASMs and Guards. Other probationary officers also occasionally visit this Training Institute.

Officers from foreign countries are also trained at this Institute, who are sponsored through RITES, while Public and Private sector organizations like Delhi Metro, CONCOR, KRCL, Hindustan Zinc etc. also prefer this institute for getting their staff trained in certain categories.

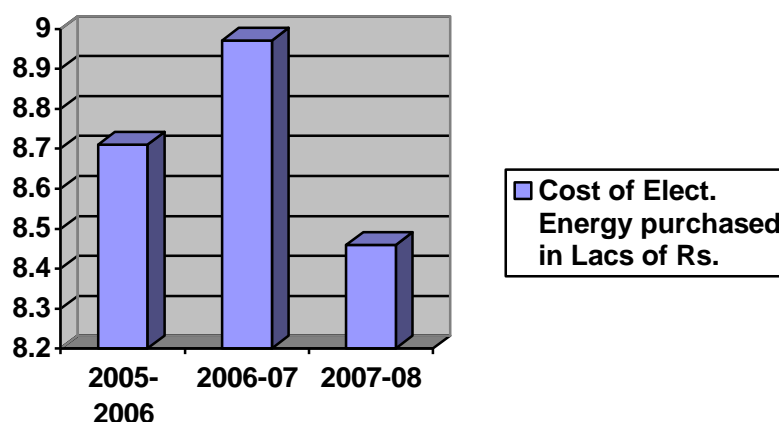
2. ENERGY CONSUMPTION

The source of Electrical energy for ZRTI is 11 kV supply received from Ajmer Vidhyut Vitaran Nigam Limited at Railway sub-station. The energy bill for year 2007-08 was Rs. 8.46 Lacs. The connected load is 226 kW. The electrical consumption for last three years is as under:-



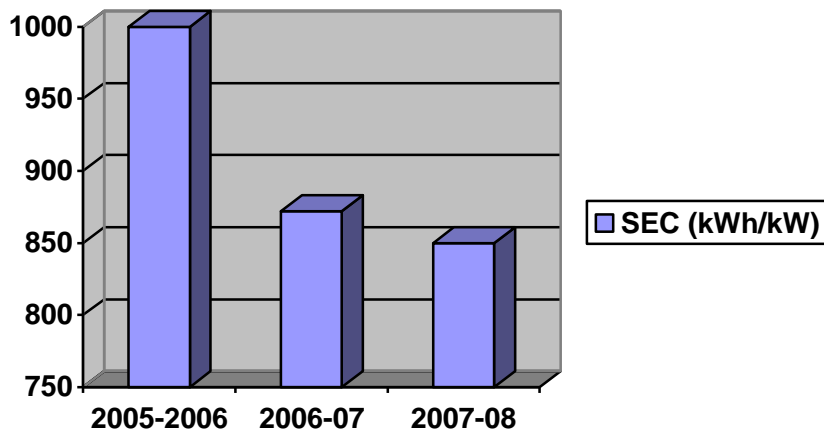
Electrical Consumption				
Energy used	Units	2005 - 06	2006 - 07	2007 - 08
Electricity Purchased	000 kWh	191	190	188
Self generated	000 kWh	5	7	4
Sub-Total	000 kWh	196	197	192

The cost of electricity purchased during last three years is shown as under :-



Cost of Electrical Energy Purchased				
Energy purchased	Rs.	2005 - 06	2006 - 07	2007 - 08
Electricity Purchased	Lacs of Rs.	7.67	7.62	7.53
Self generated	Lacs of Rs.	1.04	1.35	0.93
Sub-Total	Lacs of Rs.	8.71	8.97	8.46

Specific Electrical Consumption (SEC) in kWh / kW for last 3 year is follow:



Year	2005 - 06	2006 - 07	2007 - 08
SEC kWh/kW	1000	872	850

3. ENERGY CONSERVATION COMMITMENT, POLICY AND SETUP

Railway Organization of Energy Efficiency and Renewable Energy (RE) Management Group on this Railway, monitor the energy consumption intensively. Electrical staff has been regularly counseled about energy conservation & its importance.

3.1 ENERGY MANAGEMENT POLICY

- Adopt Cleaner and Eco - friendly Renewable Energy (RE) sources on Railways.
- Striving to reduce specific energy consumption (SEC & SFC) by continuously taking energy efficiency improvement measures & minimizing energy wastages.
- Incorporate energy efficient designs and technology in all future projects complying with Energy Conservation Building Code, 2007.
- To carry out internal and external Energy Audits on regular basis to identify areas for improvement.
- Involvement of employees at all levels in the energy conservation efforts.
- Extensive use of 3 star (★★★) and above labeled electrical products/equipments.
- Implementation of Energy Conservation Act, 2001 by involving all stake holders.
- Extensive use of LED based lighting products.

3.2 ENERGY CONSERVATION METHODS IMPLEMENTED:

3.2.1 Use of energy efficient fittings :

- (i)** In the years 2004-05 & 2005-06 energy conservation measures like provision of CFL fitting replacing incandescent lamp in toilets and galleries, replacement of conventional choke/ballast by electronic ballast, replacement of resistance type regulator with electronic regulator, electronic tube light fittings.
- (ii)** In year 2006-07 energy efficient T-5 tube light 1x28W, 2x28W fitting, were provided replacing T8/T12 36W/40W tube lights.

3.2.2 Use of Renewable energy sources

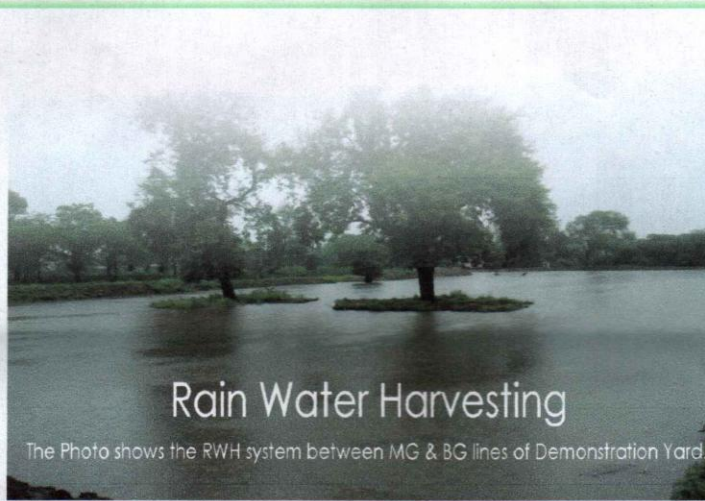
12 nos. Solar Water Heaters of capacity 1000 LPD each were provided in hostels to fulfill the requirement of hot water during winter season for trainees.

4.0 OTHER CONSERVATION ACTIVITIES :

Various conservation activities carried out to reduce Carbon emission/
Global Warming Effects in Zonal Railway Training Institute, Udaipur:

Zonal Railway Training Institute Udaipur

The Conservation



Rain Water Harvesting

The Photo shows the RWH system between MG & BG lines of Demonstration Yard.

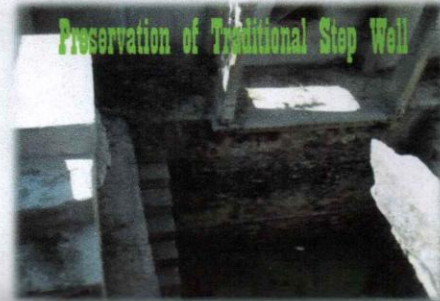
The Institute used to face scarcity of water, sometimes during summer. This problem has been solved, with invent of systems for harvesting of rain water. Earlier, the rain water, in large quantity, poured over the vast area of the Institute, has been flowing out of the campus. Three Ponds, one large and two small, have been dug and the rain water is being diverted to these Ponds, resulting in improvement in the underground water table. While one of the small Ponds was made by Railways, the other one was made with the co-operation of trainees, staff and

officers of the institute. The District Administration has been persuaded by the Principal to make the big Pond. This big Pond having a capacity ten million liters has been dug in the year 2006. This is going to have far reaching benefit especially when there is water starvation all around.



Energy Conservation

During the winter season, in Udaipur, especially in the Institute campus due to dense greenery, the temperature, at times, goes down as below as sub zero. Electric Water Heating Systems, with which the requirements of warm water were being met, have been replaced with Solar Energy based Water Heating Systems in all the Hostels, thus saving thousands of units of precious electricity every year.



Preservation of Traditional Step Well

It is said that there were around 15 Traditional Step Wells in the land on which the present campus had been developed. One such Traditional Step Well, having a depth of around fifty feet, has been retrieved, renovated, preserved and is being used for drawing water for plantation etc.

A much larger traditional Step Well is being maintained and used for tapping water regularly for household use in the Swaroop Sagar Railway Colony, which is around two kilometres away from the campus.

Zonal Railway Training Institute Udaipur



The Environment

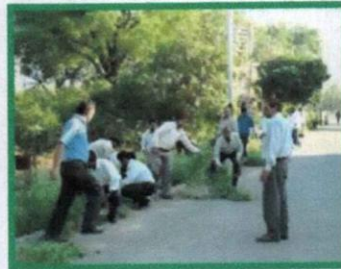
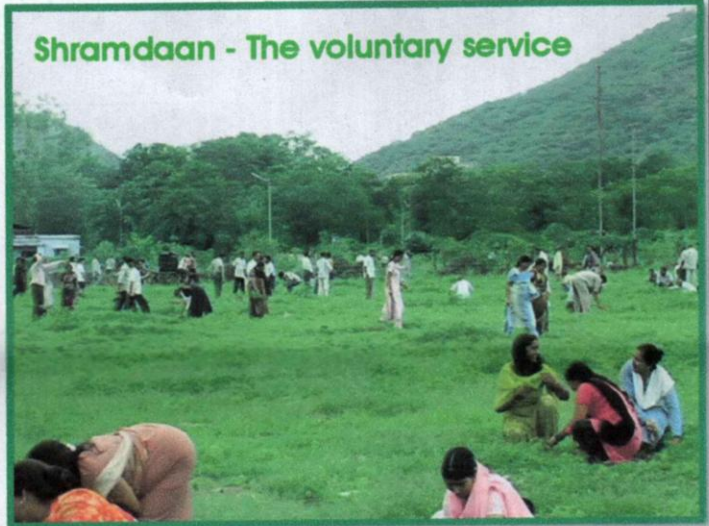
Situated in the heart of the beautiful city of Udaipur, closely surrounded by famous tourist locations, the Institute has an inspiring tradition of fifty years, of keeping the campus neat, clean, green and beautiful. It has been, perhaps, one of the most beautiful and green campuses of any Institution in Indian Railways, while for Udaipurites, it has been, undoubtedly, the best.

However, of late, due to ageing and other reasons, a substantial quantity of the trees and plants has either fallen down or dried up. Though replacements have been made from time to time, scarcity of water and lack of tree guards or other fencing material for protection from cattle and stray animals, prevented the same from growing, instead wild growth of Vilayati Babool and Ghazar Ghas took place, causing health hazards and major nuisance.

To reclaim the glory, each and every member of the Institute family, including children, ladies, trainees, staff, officers and Principal, took it as a challenge and now the result is for everyone to see to believe. Within a few years from now, the campus will again become an important Green Belt.

Over the last few years around 5000 saplings of different varieties have been planted and are being nurtured and grown by close monitoring. For this, a large area of the campus has been cleared off by uprooting Vilayati Babool and Ghazar Ghaas, a gigantic task, though!

Shramdaan - The voluntary service



Before



After..



After..



After..



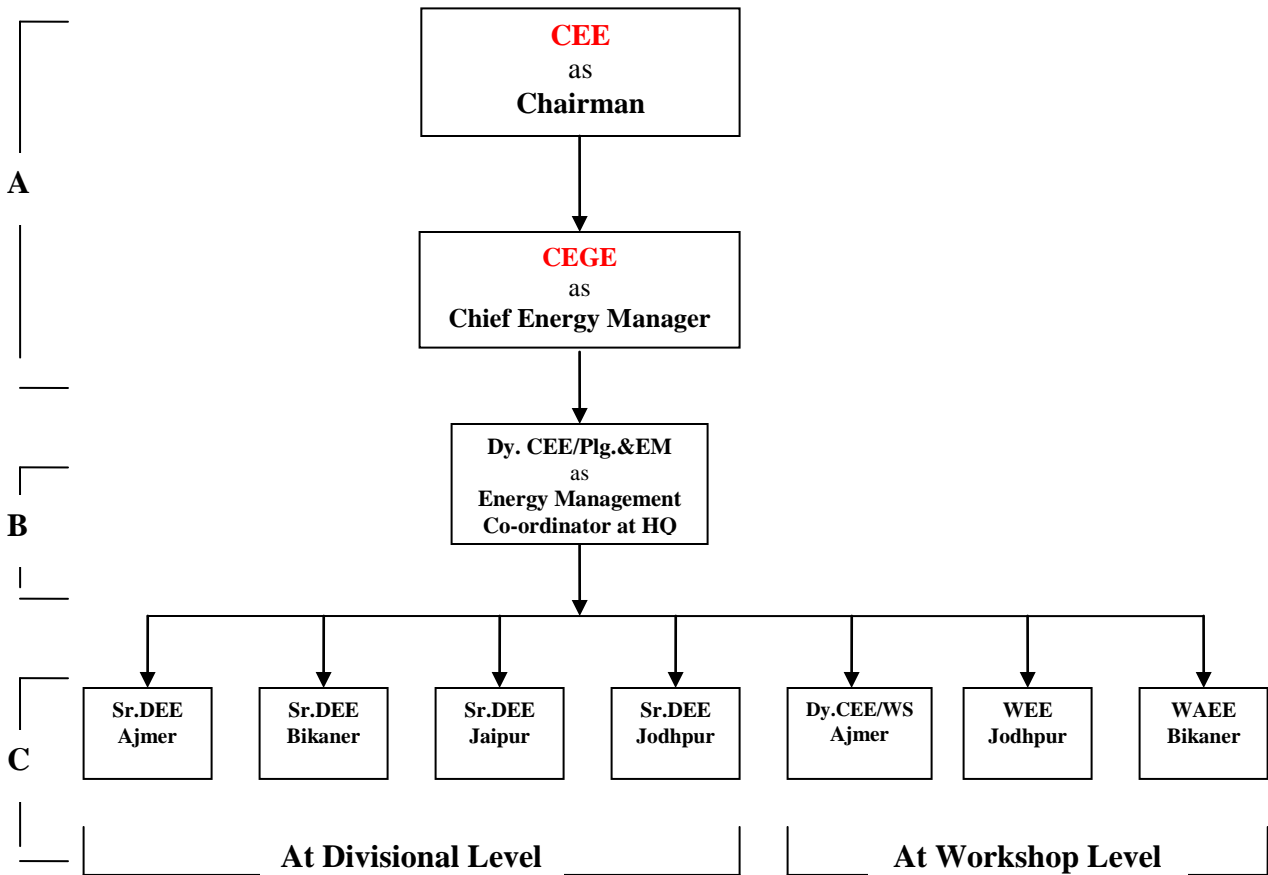
After



Garden

5.0 ORGANIZATION OF ENERGY EFFICIENCY AND RENEWABLE ENERGY (RE) MANAGEMENT GROUP:

The set up of Energy Efficiency & Renewable Energy Management Group is as:



A – Top Level Management
B – Middle Level Management
C – Field Level Management