

## **M P STATE CENTRE**

### **The Importance of LED Lighting in Green Building Design**

November 17, 2012, Indore

The 37th breakfast meeting and lecture was held in November at Hotel Amar Vilas in Indore. In his welcome address Mr. Akhilesh Jain, Chairman MP State Centre highlighted the achievements of MPSC and mentioned that monthly meetings and lectures on various topics of general interest related to lighting had been organised by the centre for the last thirty six months without interruption and that this would continue in future as well.

The lecture on LED Lighting and Its Importance in Green Building Design was delivered by Ms. Priya Jain, Design and Development Engineer from Surya Roshni. She started her presentation by highlighting the electrical energy crisis in MP and explained that 1.4 billion people across the globe have no access to electricity. This energy crisis coupled with other problems like increase in pollution, concern for ecological conservation has led to the increase in the demand for green buildings.

She explained that the term Green Building refers to a structure which is built using processes that are environmentally responsible and resource-efficient throughout the building's life-cycle: from design, construction, operation, maintenance, renovation, and demolition. This requires close cooperation of the design team, the architects, the engineers, and the client at all project stages. The green building practice expands and complements the classical building design concerns of economy, utility, durability, and comfort. Although new technologies are constantly being developed to complement current practices in creating greener structures, the common objective is that green buildings are designed to reduce the overall impact of the built environment on human health and the natural environment by:

- Efficiently using energy, water, and other resources
- Protecting occupant health and improving employee productivity
- Reducing waste, pollution and environmental degradation

Ms. Priya Jain explained that for sustainable site planning and ensuring energy efficiency optimum lighting should be carried out through LED lighting.

The use of LED Lighting permits an optimum blend of the four elements of lighting; Luminous Flux, Luminous Intensity, Luminance and Illuminance.

She gave a comparative analysis of FTLs and CFLs and stressed the fact that they contain the harmful element Mercury which degrades the environment if not properly disposed of after the useful life of these lamps is over. The used FTL/CFL can impair the working of the nervous system, immune system and genetic system in the human body if disposed of in water and can even endanger marine species. LED lighting on other hand is far better as it consumes less electric energy, has better life and does not have adverse effects on human health.

She also explained that dimming should be carried out when less lighting is required to achieve energy efficiency. Similarly lights should be turned on only when occupants are available in buildings and lights should get turned off when daylight is available in abundance through the deployment of occupancy sensors and daylight sensors. The various other measures include optimum utilisation of renewable energy sources like solar energy for lighting and reduction in light pollution. She summed up

her presentation advocating compliance with the Energy Conservation Building Code (ECBC) to achieve further sustainability.

The programme continued with celebration of birthdays of ISLE members and musical presentations given by ISLE members of MPSC Indore and ended with dinner. Attended by ISLE members of MPSC with their spouses and other family members, the event was coordinated by Mr. Shailendra Kulkarni and the vote of thanks was proposed by Mr. Dinesh Wadhwa, Honorary Secretary, MPSC.