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Wipro

paving the way for
energy efficiency

Rising government initiatives, increasing awareness among customers regarding lower power consumption of LED lighting products and innovative product offerings like usage of smart lighting controls will support growth of lighting segment, asserts **Anuj Dhir, Vice-President & Business Head, Wipro Lighting** in an interaction with Electrical India.

What's on the cards for India's power sector lighting industry in 2020?

Power stations need to operate 24/7, 365 days in a year for continuous generation of electricity and power. Lighting in such heavy industry needs to be uniform, effective, safe and energy efficient. Adequate and appropriate lights for power station is the prerequisite of safe operation.

Refurbishment of the existing conventional lighting products with LED luminaires is one of the biggest developments with respect to power plant lighting. LED luminaires can be developed with highest standard of safety which is the prime requisite of power plants. Using high efficiency, LED luminaires can decrease the energy consumption and improve productivity and safety with increased intensity.

Use of lighting controls is another way to tackle energy saving at power stations.

Dimming lights, saves you energy and helps LEDs last longer. Lighting controls like Presence Detection sensors help in detecting absence of movement in non-rush hours and dimming the luminaires to a preset minimum level light output. The occupancy sensors can be used for the admin building (various offices) also can be used for the toilet areas, even at night times. Presence Detection sensors will lead to enhanced security in power stations.

Generally, the thermal power plants are located in the remote area where the plenty amount of daylight is available. This daylight can be utilised more precisely by incorporating Photocell Sensor to the lighting. The Photocell Sensors sense the amount of daylight level and dims the lamp intensity to the appropriate level, such that the total lighting intensity should be as per the predefined level. By using Photocell Sensors, the heavy amount of energy can be saved during daytime. Also, we make use of Photocell sensors to regulate luminaire light output as per the daylight intensity.

Preset lighting control systems and use of natural daylight can help to create the different ambient

conditions in control room in which long working hours can be transferred to pleasant working conditions.

The function of control room is very critical in power plant. Hence, the lighting intensity in control room should be proper and it shall be feasible to increase or decrease the light level intensity as per the requirement. Automatic and remote control of the light level intensity is possible with wireless – Bluetooth enabled connected lighting systems. Use of smart and connected streetlights in outdoor areas like yards will enable centralised control and remote based switch on-off for increase energy savings.

Despite its energy sufficiency, it is better to select the power-saving LED lights with automated control using smart lighting technology for power station to reduce its energy burden and cost of operation. Solar powered panel, motion sensors as well as explosion proof lighting are few more upcoming technologies which can be used to increase energy efficiency at power stations.

These techniques go a long way in enhancing energy and cost savings, increasing life of the luminaires, automated detection and action and remote access and control.

Where will the growth come from?

With replacement of existing conventional lighting fixtures made of halogen, mercury, sodium or metal halide flood lamps with LED, the energy consumption in the plant's lighting expenses will reduce by 60 to 80 per cent. Rising government initiatives, increasing awareness among customers regarding lower power consumption of LED lighting products and innovative product offerings like usage of smart lighting controls will support this growth.

LED power plant lights can be utilised in switchgear room, switchyard control room, service building, TG building, ESP building, ESP control building, boiler, switchyard area, transformer area, railway marshalling yard, coal and ash handling area and various utility buildings.

It is important to keep these areas well-lit with suitable lux levels and also make a provision for emergency DC lighting for critical areas. The luminaires provided in some sensitive areas

where ash and dust management is done, should be dust and water proof for longer service life. The surrounding areas should be well-illuminated with appropriate floodlight luminaires. Regular maintenance areas need to be lit uniformly for ease of person and material movement. Also, in case of high towers, aviation obstruction lights need to be erected.

How are you gearing up for the future opportunities and challenges?

Design and innovation have become a way of life at Wipro and cutting-edge work is happening on new products and new technologies. The in-house team of expert lighting and product designers ensure innovative and accurate lighting solution for uniform illumination and the execution team guarantees timely completion of the turnkey solutions from concept to commissioning.

Wipro Lighting being one of the key players in lighting infrastructure projects, has years of experience to offer the knowledge and expertise required for thermal and hydro power plant projects. We provide services for design, engineering, supply, testing and commissioning of illumination system for all areas of power plants such as TG hall, boiler, ESP, CHP, AHP etc and other service buildings.

Believing in the motto of 'Energy saved is energy generated', we promote development of sustainable eco-friendly infrastructure by leveraging of experience and expertise to design eco-friendly spaces. We put this to work by providing for green lighting solutions by promoting use of advanced LED technology use of energy optimisation techniques like lighting controls and reduce, reuse and recycle philosophy.

Internet of Lighting (IoL) is our platform for offering our customers best in class solutions in lighting and beyond. Wipro Lighting will be providing its applications and solutions right from smart homes, smart buildings to smart cities and infrastructure projects under the brand identity of IoL. Smart lighting solutions like wireless control of lighting with BLE technology, LiFi technology for secure data transmission in sensitive areas, Centralised monitoring and control of outdoor lights in large yards and power plant areas in possible with our IoL technologies. 