

**GOVERNMENT OF RAJASTHAN
ENERGY DEPARTMENT**

No. F.20(6)Energy/98/pt.

Dated : 1.7.2010

NOTIFICATION

In exercise of the powers conferred by section 18 of the Energy Conservation Act, 2001 (Central Act No. 52 of 2001), the State Government, hereby issues the following directions to be followed by all Municipal Corporations, Municipal Councils and Municipal Boards for the efficient use of energy and its conservation in the Public Street Lighting in the State of Rajasthan, namely:-

1.0 Use of Renewable Sources of Energy

1. The street lights installations should constitute a minimum 10% component of Energy Efficient Lights Powered by Non Conventional Energy Source e.g. Solar Photo Voltaic (SPV).
2. The Solar Photo Voltaic (SPV) module should be used with Energy efficient lighting fixtures like T-5, 28 W Florescent Tube Light/ LED Lights/CFL lights/Induction Lamps.
3. The use of Solar Lights to be promoted for Hilly Terrains/Historical Places/Places of Tourism interest/Parks/Recreational Facilities etc. Their use should also be done where it is expensive to lay electrical supply line for lighting purpose.

2.0 Traffic Signal Lights :

1. All Traffic Signal Lights, Blinkers shall be LED type lights only.
2. Solar Photovoltaic Module (SPV) is to be used for the above lights. In case the SPV module is used without battery an alternate utility supply with an auto-changeover facility is to be used as an alternate sources.

3.0 Advertisement Signage/Bill Board display :

1. The power requirement of signage/advertisement signage should not exceed 5 Watts /Sq feet for internally illuminated signage and 2.5 Watt/sq feet for externally illuminated signage.
2. The advertisement signage/billboard should have the provision of switching off the supply during off peak hours and a real time based On-Off controls.

4.0 Recommendations for Selection/ installation of Street lights :

1. The illumination level for different types of roads, as recommended by IS 1944 is to be followed. The illumination level for the main categories of roads is as following ;

Category of the Road	Classification	Average Lux
Group A-1	For Very important routes with rapid and dense Traffic	30 Lux
Group A-2	For other main roads with considerable mixed	15 Lux

	traffic like main city streets, arterial roads and thoroughfares	
Group B-1	For secondary roads with considerable traffic Principal local traffic routes, shopping streets etc	08 Lux
Group B-2	For Secondary roads with light traffic	04 Lux

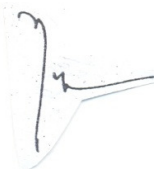
2. The selection of lighting fixtures to be done as follows for all the new installations :-

SN	Width of Road	Type of Light
1	Up to 30 feet road	T-5, Florescent Tube Light 28 W/ LED light 14 W/CFL lights (2 x 11 W)/ Induction Lamps 14 W
2	In colonies	T-5, Florescent Tube Light 28 W/ LED light 14 W/CFL lights (2 x 11 W)/ Induction Lamp 14 W
3	60 feet Main Road	Sodium Light 150 W/LED light 100 W / Induction lamps 100W
4	Main road greater than 60 feet	Sodium Light 205W/LED Light 125/ 150 W/Induction lamps 125 W
5	Divider Single Arm Pole/Highway Road /Main road/VIP Road	Sodium Light 205W/LED Light 125/ 150 W/Induction lamps 125 W

3. The Pole spacing/Height of Pole for Group A-1 are as follows and for the other categories the IS 1944 may be referred :-

Width of Road	Distance between Poles	Height of Pole above ground level	Length of Arm	Tilt Angle
Road with divider				
2 X 10 M	36 M	10 M	1.5 M	5 degree
2 X 09 M	40 M	10 M	1.5 M	5 degree
Road without divider				
15 M	25 M	10 M	1.5 M	15 degree

4. The installation of the New Street lights should be design based. High efficiency fixtures only have to be considered for this purpose which can result in more pole spacing, better illumination and less consumption of energy.
5. Incandescent bulbs (GLS) should not be used. Wherever these are installed the same have to be replaced with 11 W CFL of high power factor and low harmonics/ Induction Lamps.
6. Within the colonies, at the junctions of the roads Sodium light of 150 W/ 2X28W T-5 Florescent Tube lights/ LED Light 72W/ induction lamps 70 W only to be used. The use of Sodium Light within the colony is to be restricted and is to be used only where the width of both the roads meeting at the junction is more than 50 feet.
7. The High mast lights should be used only where highways or bye-passes cross or both the cross roads are 100 feet wide. The provision of street lights should be restricted within the effective illumination periphery of the High Mast Lights.



8. Preferably the 250 W lamps (HPSV/MH/ used on high mast lights to be replaced with 120/150 W Flood Light luminaries of LED lamps depending upon the application and location specific illumination requirements.
9. Star rated Tube lights only to be used as per Bureau Energy Efficiency (BEE) notification No. 2/11(5)/03-BEE -1 dated 6th July 2009.
10. Appropriate Color Rendering to be selected for the lights as per the location requirements.
11. The luminaries should be preferably Cut/off type.

5.0 Lighting Controls and Control Gears :

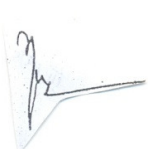
1. The Chokes of the Lighting systems for all the New installation shall be electronic ballast/multi tap ballast with sensor & time controlled switching.
2. The luminaries should be preferably Step down type. During the less traffic conditions/off-peak hours the illumination can be reduced by lowering the voltage. This results in energy savings and devices like dimmers/Programmable timers/Energy saving devices should be used for this purpose.
3. Group lighting control should be preferred rather than individual controls. The illumination level of the selected group can be reduced effectively with group controlled during off peak hours resulting in energy savings.
4. Photo-sensor/SPV based timer switch for On-off to be used in all the Lighting circuits.
5. Switching "OFF" alternate lights during off-peak hours to be ensured by modification in the electrical connections with switching/timer control.

6.0 Data Bank of installed Lighting Fixtures :

1. Data Bank comprising of the details of Type of lights installed, its Wattage, Road Width, spacing of lights, mounting height etc is to be maintained. A unique identification number is to be allotted to every light in the Data Bank.
2. Any subsequent change in the Type of installation is to be immediately upgraded in the Data Bank.

7.0 Replacement and Maintenance of Street lights :

1. The identification of the inoperative lights should be done only during night Hours. The lights which are 'ON' during daytime also have to be identified for rectification through regular surveys.
2. The replacement of all conventional chokes is to be done with Electronic Chokes/Multi tap ballast.
3. The replacement of complete florescent Tube light fixture is to be done with Energy Efficient T-5, Florescent Tube light/LED light/CFL.



8.0 Parks, Recreation centre, pedestrian way etc :

1. For the parks, Recreation centers, beautification/landscaping projects, pedestrian way etc energy efficient CFL/LED/Induction lamps only have to be used.
2. Solar Photo voltaic (SPV) based lights should be promoted in the above areas.

9.0 Evolving Energy Conservation Projects :

1. The energy use should be closely monitored and any excessive consumption should be analysed for corrective action.
2. Energy Conservation Project should be evolved and executed by the concerned Department of Municipality/council and urban local bodies for the reduction in energy consumption.
3. Energy auditing should preferably be carried in whole of municipal area at least once in two years.

10.0 Avoidance of Direct light points :

1. The new luminaries should be installed only on metered supply. The metered supply is to be ensured prior to any new installations.
2. The existing direct points should be converted into metered road phase supply point on priority basis.

These directions shall come into force with immediate effect.

By Order of the Governor,

(Naresh Pal Gangwar)
Secretary to Government

Copy to the following for information & necessary action -

1. Secretary, Ministry of Power, Govt. of India, Shram Shakti Bhawan, Rafi Marg, New Delhi.
2. Secretary, Ministry of New & Renewable Energy, Govt. of India, CGO Complex, Lodi Road, New Delhi.
3. Director General, Bureau of Energy Efficiency, Ministry of Power, Government of India, New Delhi.
4. Pr. Secretary, UDH & LSG, Govt. of Rajasthan Jaipur.
5. Chief Executive Officer, Municipal Corporation, Jaipur/Jodhpur/Kota.
6. Commissioner, Jaipur Development Authority, Jaipur.
7. CMD, Raj. Renewable Energy Corp. Ltd. Jaipur.
8. CMD Jaipur Vidyut Vitran Nigam Ltd. & Chairman, Discoms, Jaipur.
9. MD, Ajmer Vidyut Vitran Nigam Ltd. & Jodhpur Vidyut Vitran Nigam Ltd.
10. Director, Printing & Stationery, Rajasthan, Jaipur with the request to get it published in extraordinary gazette.
11. Guard File.

Secretary to Government