

रक्षा लेखा महानियंत्रक
Controller General of Defence Accounts
उलान बटार मार्ग, दिल्ली छावनी 110 010
Ulan Batar Road, Delhi Cantt. 110 010

No.18001/AT-X/Energy/C/Measures

Dated: 19.2.2015


To,
Regional PCDA/CDA

Sub:- Implementation of Energy Conservation Measures in street lights in Cantonments.

E-in-C branch DO letter No. 62888/Gen-Misc-2/E(U-4) dated 16.01.2015 along with enclosures is forwarded herewith for your information, guidance and necessary action.

This has the approval of Jt.CGDA.

Encl: As Above


Sr.A.O.

Copy to,

1. Dy.CGDA(Admin): For information and similar action please.
2. EDP Section(Local): For uploading of circular on website.

-sd-
Sr.A.O



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रत्ना लेखा महानियंत्रक सचिवालय
CGDA Secretariat

डायरी सं / Dy No. 310

दिनांक / Date: 02/02/2015

62888/Gen-Misc-2/E (U-4)

-16 Jan 2015

Shri Arvind Kaushal Rana
Controller General Defence Accounts
Ulan Batar Road, Palam
Delhi Cantt-110010

र ले सं म नि (ए.एन.डी)

Jt CGDA (AND)

डायरी सं / Diary No. 383

दिनांक / Date: 3/2/15

Jr-att/AN

IMPLEMENTATION OF ENERGY CONSERVATION MEASURES IN
STREET LIGHTS IN CANTTS

Dear Shri Rana

- As you are aware the replacement of existing lamps with LED lamps is being taken up on National Level as a step to conserve the electric energy. However, these efforts, when included in renewal/replacement works through, special repairs, are being objected to in audit as enrichment of existing specifications.
- The change of lamps which give better service with less consumption need to be encouraged at all levels (copy of Do letter from Secy Power to Secy Defence is enclosed).
- A typical comparison between conventional street lighting and similar lighting using LEDs is shown in Appx att to bring about the overall saving to state, on account of reduction in tariffs. This is in conformity with directions & policy statements issued by Ministry of Power & Ministry of Defence.

Contd...2

रत्ना लेखा उप महानियंत्रक (प्रशा)
Dy. CGDA (AN)
डायरी सं / Dy No. 295
दिनांक / Date: 04/02/15

4. May I, therefore, request indulgence of your good offices in promotion of LED lamps by issuing necessary instructions in this respect.

With best regards

Yours sincerely

[Signature]
/as hr

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05.08.2014



भारतीय गणराज्य

Ministry of Power
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New Delhi - 110001

प्रदीप कुमार सिन्हा
सचिव

भारत सरकार

PRADEEP K. SINHA

Secretary

Government of India

D.O. No. 9/20/2014-EC

17/8

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BCCWS

18/8

Dear RK

This is regarding promotion of Light Emitting Diode (LED) bulbs in place of Compact Fluorescent Lamp (CFL) and Incandescent Lamp (ICL). Lighting accounts for more than 15% of the total electricity consumption. The general lighting demand is estimated to be around 40 GW of which the residential demand is about 30 GW and the commercial demand is about 10 GW. The Low Carbon Committee report of the Planning Commission of India estimates that 45-65 TWh of electricity can be saved by 2020 through efficiency measures in lighting.

2. There are approximately 1400 million lighting fixtures in residential and commercial sectors with 50% share of CFL, 25% share of Fluorescent Tube Lights (FTLs) and 25% share of ICL. LED lamps and LED tube-lights relatively have a very small market share. However, LED lamps and LED tube-lights are the most efficient and have a much longer life. They are about 25% more efficient than CFLs, 23% more efficient than T5 tube-lights and 80% more efficient than ICLs. Though the price of LED is relatively high as compared to other light sources, their lifetime cost is much lower. The lifetime cost comparison of LEDs over CFLs and ICLs is attached as Annexure. Moreover, the cost of LED bulbs will come down significantly as the volume increases.

3. The high energy efficiency of LED can be gauged from the fact that a 9W LED bulb would give the same light output as a 12W CFL or a 60W ICL. An ASSOCHAM study of 2011 shows that widespread use of efficient lighting devices mainly LEDs would save India around 34,723 MW of generating capacity. Apart from this, life of LEDs is about 4-5 times that of CFL and 20-30 times that of ICL and they also work over a wide voltage range.

4. In view of the given consideration, I would like to suggest that your Ministry / Department and attached subordinate offices may procure only LED bulbs instead of CFL or ICL for future lighting.

With regards,

Yours sincerely,

(Pradeep K. Sinha)

Encl : as above

Shri Radha Krishna Mathur,
Secretary,
Department of Defence Production,
South Block, New Delhi

Director (L&E)

DIR (L&E)

Director (L&E)

13/8/14

Pl. Enclosed

13/8/14

Office of Director (L&E)
Defence Production Office
Dy. No. 2772
Date 06/08/14

11/8/14
Dy. No. 2772
Date 06/08/14

10/8/14
Dy. No. 2772
Date 06/08/14

Office of JS (L&E)
Dy. No. 4883
Date 08-08-14



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COMPARISON BETWEEN 700 Nos 150W HPSV
LAMPS / 25W STREET LIGHT FITTING PLG NORMS

Total perimeter assumed for purpose of street light in a Cantonment - 20 km.

Street light provided on fixed poles @ 30M spacing and minimum 5 Lux illumination considered.

Working norms is 10 hour/night and 30 night/month.

Average cost of electricity @ Delhi rates @ Rs 6/kwh.

Replacement schedule: -

(a) HPSV - One replacement in 5 years.

(c) LED - Nil; life as claimed by manufacturer is minimum of 10 years.

Replacement cost: -

(a) No cost on account of pole.

(c) No cost on account of swan neck on which lights are mounted.

Initial cost of 25W LED with fitment is Rs 23,000/- (as per price obtained from vendor).

Initial cost of 150W HPSV is Rs 5,000/-.

COMPARISON BETWEEN 700 Nos 150W HPSV LAMP STREET LIGHT FITTING
AND 25W LED STREET LIGHT FITTING FOR FIVE YEAR

Ser No	Description	25W LED	150W HPSV	Net Saving due to LED	Remarks
1	Consumption / Month / light	7.5 kwh	45 kwh		
2	Effective Lum / S.Ft	5 Lux	5 Lux		
3	Initial Cost	Rs 23,000/-	Rs 5,000/-		
4	Maintenance Cost / Year / light	Nil	Rs 700/-		
5	Cost of Electricity / Unit	Rs 6/-	Rs 6/-		
<u>Considering 700 Lights for 5 years</u>					
a)	Total Consumption	3,15,000 kwh	18,90,000 kwh		
b)	Total cost of Power	Rs 18,90,000/-	Rs 1,13,40,000/-	Rs 94,50,000/-	
c)	Initial Cost (and replacement after 5 years)	Rs 1,61,00,000/-	Rs 70,00,000/-	(-) Rs 91,00,000/-	
d)	Maintenance Cost	Nil*	Rs 19,60,000/-	Rs 19,60,000/-	* under warranty for 5 years.
e)	Net Financial Effect	Rs 1,79,90,000/-	Rs 2,03,00,000/-	Rs 23,10,000/-	

NET SAVING FOR FIXING OF LED STREET LIGHT OF CAPACITY

25W = Rs 23,10,000/-