

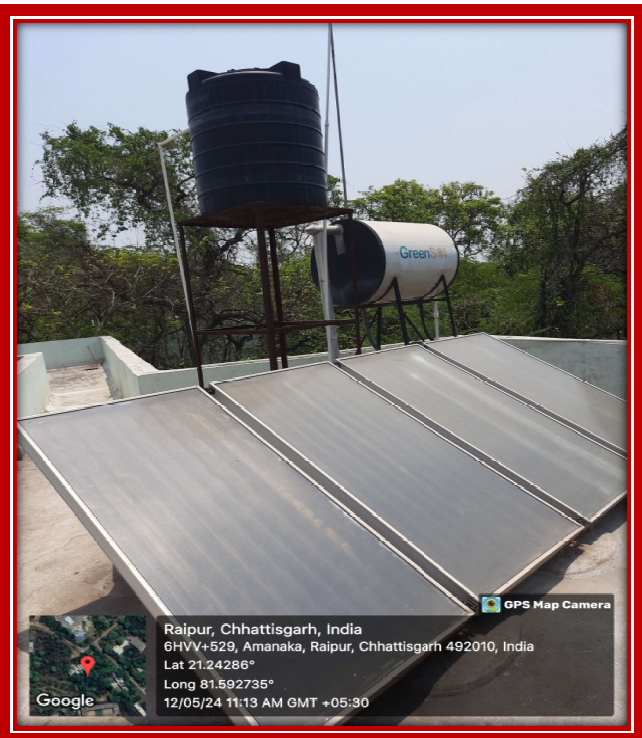
CRITERION-VII

EVIDENCE(S), ASPERSOP

METRIC No. 7.1.2	Environmental Consciousness and Sustainability.
<p>The Institution has facilities for alternate sources of energy and energy conservation measures.</p> <ol style="list-style-type: none">1. Solar energy2. Biogas plant3. Wheeling to the Grid4. Sensor-based energy conservation5. Use of LED bulbs/power efficient equipment	

1. Solar Panels :

Solar Panels Installed at SoS in Renewable Energy Technology & Management, Human Resource Development Center, Guest House and Hostels of the University.





Documents related to Procurement of Solar panels/Solar water heater system/LED Lights etc.

पं० रविशंकर शुक्ल विश्वविद्यालय, रायपुर (छ. ग.)

नस्ती क्रमांक ----- **IOAC** पृष्ठ क्रमांक -----
प्रभावी अधिकारी श्री ----- शाखा ----- प्रभावी बिपिड श्री -----

विषय :- विश्वविद्यालय कार्यपरिषद की बैठक दिनांक 17-10-2016 में लिये गए निर्णय क्रमांक 13 पर्याप्त आवश्यक कार्रवाई हेतु आपकी और अग्रपिहित है।

13. विश्वविद्यालय परिसर स्थिति भवनों में सौर गर्म जल संयंत्रों स्ट्रीट लाइट/स्टीम कुकिंग संयंत्र एवं विश्वविद्यालय ग्रंथालय में 50KWH संयंत्र की स्थापना हेतु अनुमानित व्यय की राशि 42,75,948.00 एवं टैक्स की राशि अनुमोदित करने बाबत।
- निर्णय : (1) विश्वविद्यालय परिसर में आवश्यकता के अनुरूप 1 MW सोलर पावर संयंत्र स्थापित किये जाने हेतु सैद्धांतिक सहमति दी गई।
- (2) विश्वविद्यालय परिसर में छात्रावास, गेस्टहाऊस, कुलपति निवास में सोलर गरम जल संयंत्र स्थापित करने हेतु रु. 6721140/- की स्वीकृति दी गई।
- (3) विश्वविद्यालय परिसर में स्थित छात्रावास के लिये 500 छात्रों के लिये सोलर कुकिंग संयंत्र स्थापित करने हेतु रु. 18,86,000/- की स्वीकृति दी गई।
- (4) विश्वविद्यालय परिसर में बाह्य स्थलों (स्ट्रीट लाइट) ऊर्जा दक्ष एल.ई.डी. लाइट की स्थापना हेतु प्राक्कलन राशि रु. 7,60,948/- की स्वीकृति दी गई।

~~30 अक्टूबर (अका)~~
~~IOAC/Cell~~
107 अका.
24/10/16
5228/IOAC
25/10/16

Please process immediately
Coordinator, REIM

Rycom
22-10-16
Manish Kumar Bhat
25/10/16

IQAC

पं० रविशंकर शुक्ल विश्वविद्यालय, रायपुर (छ० ग०)

नस्ती क्रमांक - 1

प्रभाषी अधिकारी श्री A.K.Pati

शाखा I.Q.A.C.

पृष्ठ क्रमांक - 1

प्रभाषी लिपिक श्री Chandrabhan Sahu

विषय :-

The meeting of committee constituted for implementation of recommendation of energy audit of university campus conducted by TCS Hyderabad and CREDA was held at 3:00PM on Thursday 13th Oct., 2016 at meeting hall of IQAC, PRSU Raipur

Following members were present:

1. Prof. AK Pati
2. Prof. AK Gupta
3. Prof. KK Ghosh
4. Prof. N Bodhankar
5. Prof. Sanjay Tiwari
6. Shri KP Tiwari – Special invitee.

The minutes of the meeting are as follows the members discuss at length four proposals received by University from CREDA, Raipur for implementation of energy efficient and Renewable Energy based systems.

1. Proposal on replacement of tube lights, sodium light and others in campus with energy efficient LED luminaries.
2. Installation of rooftop solar photovoltaic power plant in administrative block & University library
3. Installation of solar water heating system in all girls & boys hostels, guest house & other buildings.
4. Installation of solar steam cooking system for hostels.

Following recommendations were made unanimously by the members. It was decided to go for following installations in the first phase in view of the upcoming NAAC Peer Team Visit.

- (A) Installation of various outdoor streets LED lights with 5 year warranty against manufacturing defects. Total cost = Rs. 7,60,948=00 Lakh (S.No. 4,5,6, Page-1)
- (B) Installation of grid connected solar phase photovoltaic power plant on rooftop of Pt. Sundarlal Sharma Library building total cost= Rs.16.29 Lakh
- (C) Installation of solar steam cooking system for all boys & girls hostels total project cost. = Rs. 18, 86,000=00 Lakh

The total estimation for all three proposals amount to Rs. 42, 75,948=00 Lakh + taxes. The University has allocated Rs. 50.00 Lakh in budget for 2016-17

As university has proposed in Self Study Report (SSR) submitted to NAAC under criteria VII: Innovations & Best Practices. It becomes extremely urgent to install the above proposals related to energy efficient systems.

Submitted for approval in the for the coming EC,

Coordinator, RETM

Director, IQAC

Registrar

14 IQAC
13/10/16

Q. Anand
13.10.16
R. C. Sahu
13/10/16

M. K. Pati
13/10/16
S. K. Tiwari
13/10/16

Shri K. P. Tiwari

Shri K. P. Tiwari
13.10.16



CREDA
CHHATTISGARH STATE RENEWABLE ENERGY DEVELOPMENT AGENCY
(Dept. of Energy, Govt. of Chhattisgarh)

V.I.P. Road (Airport Road), Near Energy Education Park, RAIPUR (C.G.)
Tel.: +91-771-2971482, 2971483 Mob.: 09977123035 E-mail: info@creda.in Website: www.creda.in

CREDA/EC/F 11N/ 16949

Raipur, Date.. 6 OCT 2016

प्रति,

कुलसचिव

पं. रविशंकर शुक्ल विश्वविद्यालय

रायपुर (छ.ग.)

विषय:-विश्वविद्यालय परिसर के समस्त बाह्य एवं आंतरिक स्थलों में एलईडी लाइटों का प्रदाय का प्रस्ताव बावत्।

संदर्भ:-आपका पत्र क्र. 268 दि. 29.08.16

उपरोक्त विषयांतर्गत संदर्भित पत्र के माध्यम से विश्वविद्यालय परिसर में समस्त बाह्य एवं आंतरिक स्थलों में स्थापित पुराने/सामान्य लाईट, (जो कि ज्यादा विद्युत खपत करते हैं) को सौर संयंत्र स्थापित कर ऊर्जाकृत करने हेतु लेख किया गया है।

इस परिप्रेक्ष्य में अवगत कराना चाहेंगे कि मेसर्स टी.क्यू. सर्विसेस हैदराबाद द्वारा विश्वविद्यालय के समस्त परिसर का एनर्जी ऑडिट माह दिसम्बर 2015 में किया गया है। एनर्जी ऑडिट अनुसार समस्त पुराने/साधारण लाईटों को ऊर्जा दक्ष एलईडी लाईटों से बदलने का सुझाव दिया गया है।

अतः उक्त के संबंध में एनर्जी आडिट रिपोर्ट अनुसार ऊर्जा दक्ष एलईडी लाईट प्रदाय का प्राक्कलन (क्रेडा द्वारा अनुमोदित दर अनुसार) पत्र के साथ संलग्न कर प्रेषित है। कृपया मान्य होने की दशा में ऊर्जा दक्ष एलईडी लाईट प्रदाय हेतु कुल लागत राशि रू. 21,86,920.00 "निदेशक क्रेडा प्रधान कार्यालय रायपुर" को देय डी.डी./बैंकर्स चेक के माध्यम से उपलब्ध कराने का कष्ट करें।

संलग्न:-उपरोक्तानुसार।

(राजीव ज्ञानी)

कार्यपालन अभियंता

**PROPOSAL FOR INDOOR & OUTDOOR LIGHTING OF PANDIT RAVISHANKAR SHUKLA
UNIVERSITY CAMPUS**

As per the Investment Grade Detailed Energy Audit conducted by M/s TQ Services, Hyderabad at Pandit Ravishankar Shukla University Campus, Raipur and report submitted in the month of decemeber'15, following are the existing lightings (both indoor & Outdoor) at present in the campus.

S.No	Type of Fittings	Wattage	Total (in Nos.)
INDOOR FITTINGS			
1	T12Tube Light	40	3067
2	T8Tube Light	36	141
3	Incandescent Bulb	40	12
4	Incandescent Bulb	60	03
OUTDOOR FITTINGS			
1	T8Tube Light	36	30
2	Sodium Vapour Lamps (SVL)	150	04
3	Sodium Vapour Lamps (SVL)	250	72
TOTAL FITTINGS			3329

BUDGETORY ESTIMATE:

- The following is the estimated cost of the project for **Supply** of various outdoor LED lights with 05 years warrantee against manufacturing defects.
- Warrantee period against manufacturing defects for the indoor LED lights will be of 03 years.

S.No	Existing Fittings	Replacement Fittings	Nos.	CREDA approved Unit Cost (₹)	Total Cost (₹)
INDOOR FITTINGS					
1	T12 Tube Light (40W)	LED Tube Light (20W)	3067	444.00	13,61,748.00
2	T8 Tube Light (36W)	LED Tube Light (20W)	141	444.00	62,604.00
3	Incandescent Bulb (40W &60W)	LED Bulb (9W)	15	108.00	01,620.00
OUTDOOR FITTINGS					
4	T8Tube Light (36W)	LED Street Light (25W)	30	2116.00	63,480.00
5	Sodium Vapour Lamps (150W)	LED Street Light (90W)	04	7993.00	31,972.00
6	Sodium Vapour Lamps (250W)	LED Street Light (120W)	72	9243.00	06,65,496.00
Total (₹)					21,86,920.00

- Based on the above, the estimated cost of the project shall be ₹ 21,86,920.00 including all taxes & applicable VAT.

P.T.O.

COST BENEFIT ANALYSIS

Assumptions:

- 1) All the Luminaries are in working condition
- 2) Indoor Lighting operates for 10 hours/day.
- 3) Outdoor Lightings operates for 12 hours/day
- 4) College opens 290 days in a year.
- 5) Rate of electricity supply Rs 7.2 per Unit form the current month electricity bill (Excluding Fixed Cost for Contract Demand)

S.No	Existing Fittings (i)	Replaced Fittings (ii)	Quantity (iii)	Net Savings (KW) (iv) {(i-ii)xiii}/1000	No of Operations hours (Yearly) (v)	Net savings in Energy Consumption in Kwh (Yearly) (vi)	Net Savings per Year (₹) (vii)
INDOOR LIGHTINGS							
1	T12 Tube Light (40W)	LED Tube Light (20W)	3067	61.34	2900	1,77,886.00	12,80,780.00
2	T8 Tube Light (36W)	LED Tube Light (20W)	141	2.256	2900	6,542.00	47,102.00
OUTDOOR LIGHTINGS							
1	T8 Tube Lights (36W)	LED Tube Light (25W)	30	0.33	3480	1148.00	8,268.00
2	Sodium Vapour Lamp (150 W)	LED Street Light (90W)	04	0.240	3480	835.20	6,013.00
3	Sodium Vapour Lamp (250W)	LED Street Light (120W)	72	9.360	3480	32,572.80	2,34,524.00
NET SAVINGS PER YEAR						2,18,984.00	15,76,687.00

SIMPLE PAYBACK PERIOD:

Cost of Project: ₹21,86,920.00

Savings from Project: ₹15,76,687.00


Simple Payback Period = Savings from Project / Cost of Project

$$= 15,76,687 / 21,86,920$$

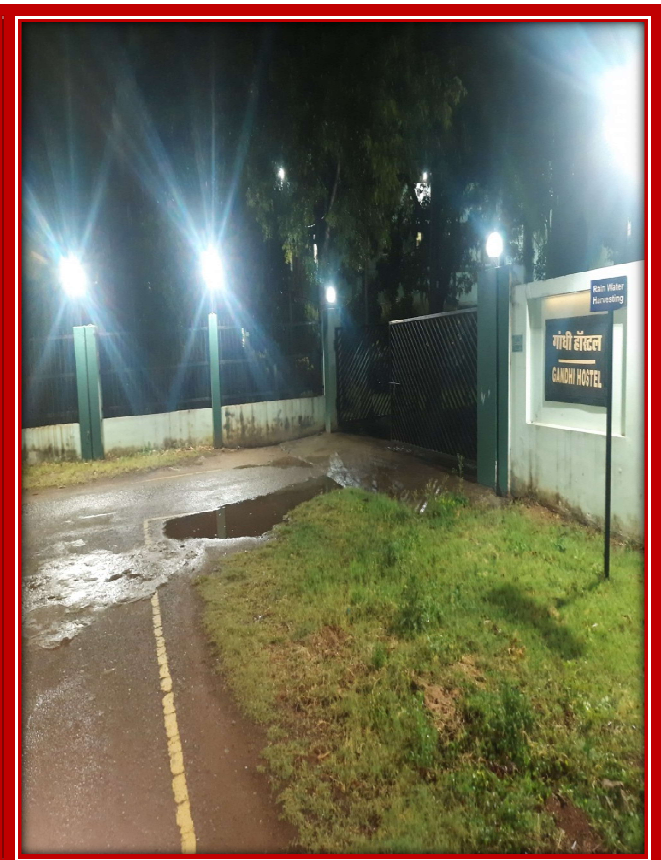
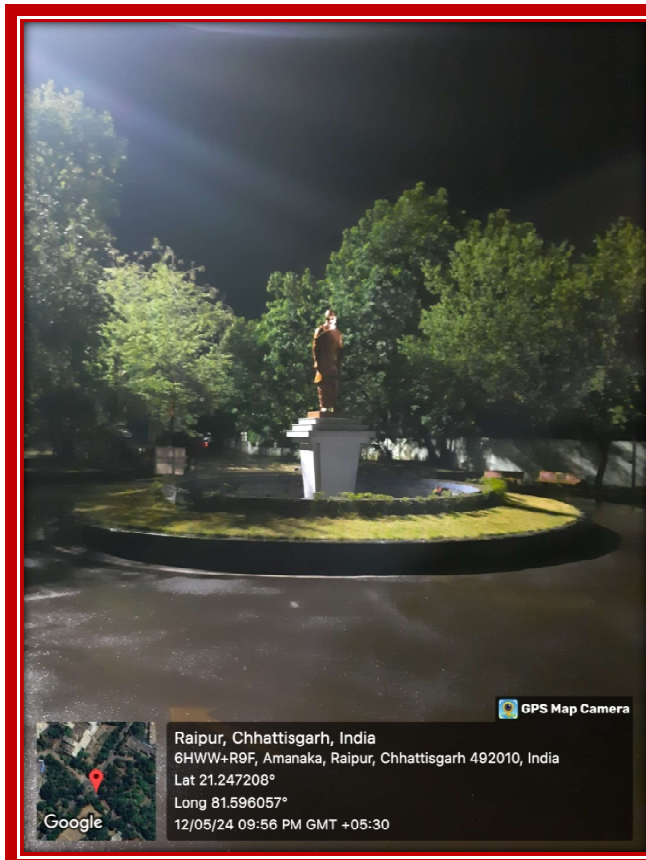
$$= 1 \text{ Year \& 5 Months}$$

Providing & Fixing of Solar Photo Voltaic power plants installed in Various building of Pt.R.S.U. Raipur –

S.No.	Name of Site (Buildings)	Capacity (in KW)	Remarks
01	Guest House	20 KW	
02	Teacher Hostel	05 KW	
03	P.G. Girls Hostel	15 KW	
04	Research Girls Hostel	10 KW	
05	Professional Girls Hostel	10 KW	
06	Navin Kanya Hostel	05 KW	
07	Azad Boys Hostel	15 KW	
08	Gandhi Boys Hostel	15 KW	
09	Aditorium Garden	04 KW	
	Total Capacity	99 KW	


15/02/2022
JUS-ENGINEER (ELECT.)
Pt. Ravishankar Shukla
University, RAIPUR

4. Sensor-Based Energy Conservation



5. Use of LED bulbs/power efficient equipment

