

Anekant Education Society's

JAYSINGPUR COLLEGE, JAYSINGPUR

National Accreditation and Assessment Council
(NAAC)

Criteria VII Innovations and Best Practices

Energy Audit Report

M/S RADHAMOHAN ELECTRICALS

(Government Licensed Electrical Contractor M.C.No.26802)

Erection of HT,LT &Transformer Work,
All Kind of MSEDCL Work.

21/64/1,Galli No.4,Bharat Mata Hou. Society.
Ichalkaranji -416115 Dst - Kolhapur
Ph- 9595741818
Mob.No.9850970923

Ref,

Date. 25/01/2016

The Principal,

Jaysingpur College Jaysingpur.

Sub: Submission of preliminary energy audit report

Sir,

This is with reference to your demand the preliminary energy audit of the college premise is carried out from the month of Sept.2015, and the report is prepared on the data provided by your good offices. The same is enclosed herewith for your ready reference.

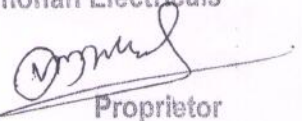
Also please find herewith enclosed the bill towards the charges for preparing the report, please make the necessary arrangement of payment.

Thanking you

Sincerely Your's

(Shri. Vinayak Badave)

M/s.Radhamohan Electricals


Proprietor

Preliminary Energy Audit

for

[ANEKANT EDUCATION SOCIETY'S]

JAYSINGPUR COLLEGE JAYSINGPUR

[JAYSINGPUR]

Report Date: [06.02.2016]

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1 Introduction

1.1 Site Visit

Organisation Name: Jaysingpur College Jaysingpur

Site Name & Address: CT S.No.2007, Jaysingpur, Tal.Shirol, Dist. Kolhapur

Buildings included: Administrative office, Infrastructure for classrooms and Laboratories, Hostels, Gymkhana etc.

Dates of Visits: [12.09.2015]
[11.10.2015]
[12.01.2016]

Visit Hosted by: [Shri. Vinayak Badave]

1.2 Objective

The objective of this Preliminary Energy Audit, is primarily to assess the viability of implementing an energy efficiency upgrade of the facility using energy contracting prior to investing extensive resources in procuring an Energy Performance Contract (or Energy Performance Related Payment), including a subsequent Investment Grade Audit, for a project which is not commercially viable.

This objective will be achieved by:

- Identifying a suitable energy performance indicator for existing and target energy use to quantify the potential for energy savings. This also helps to assess the impact of the energy conservation measures in achieving this potential and provide a sense-check of calculations.
- Identifying a suite of measures, including savings and implementation budget, which together are of sufficient scale and combined payback to create a financially viable project suitable for implementation as a single package of works.
- Identifying essential client requirements to be incorporated in the works (such as replacement of windows). Savings and implementation budget figures will be provided.
- Identifying other benefits, including renewal of plant which has reached end of life or resolution of comfort issues. These may need to be quantified.
- Identifying additional metering and recording requirements, including any environmental conditions that are likely to be required for a baseline should the measurement and verification of savings be necessary. The associated installation budget will be included.
- Identify any potential technical, financial or other risks to the project as currently defined.

This Preliminary Energy Audit is not an Investment Grade Audit and has been completed in a relatively short period of time with using readily available site information, and rules of thumb. It is a concise, or walkthrough survey that has been prepared with all reasonable skill, care and diligence possible within a short period of time. All figures are indicative and are based on the data provided by the institution. In the event that all or part of this report is circulated to contractors to assist in preparation of tenders, neither the author nor the Client accept liability or responsibility for the accuracy or completeness of the information contained herein, which is classified as 'verifiable', i.e. the tenderer is at liberty to verify any or all of such information.

1.3 Description of Site& Scope of Assessment

The site is located at survey no. 2007, Wadi road Jaysingpur, Tal.Shirol, Dist.Kolhapur. The institution is founded in the year 1968 and since then it has expanded the premise by constructing new buildings from time to time, the campus is spread over in about 25acres, the same is listed below,

Sr.No.	Name of building	Year of construction	Appr. Area in (m ²)
1	Old College	1968	930
2	Old Gymkhana	1968	186
3	Boy's Hostel	1968	278
4	Principal Bungalow	1989	186
5	Bhirdi Hall	1989	278
6	Ladies Hostel	1989	278
7	Library	1989	375
8	Canteen & Pavilion	1989	278
9	Indoor Stadium	2015	900
10	New Building	2015	950

The institution is an educational institute running various programmes under Arts, Science and Commerce faculties comprising above 3000 students. Being it's existence for a long time it has a gain of fully skilled teaching staff which consists 22 Ph.D holders, and number of NET/SET qualified teachers The institute opens early in the morning and have working hours of about 12Hrs a day in two shifts.

2 Energy Consumption

2.1 Annual Consumption

There are about 10 number of electrical connections at different locations and all are metered, supplied by the electricity utility of state i.e. MAHADISCOM and the billing is done by the utility by taking monthly reading of the meters. The average energy consumption per month and average energy cost per unit is listed in table no.1,

Table 1: Annual Energy Consumption & Energy Costs

Sr.No.	Name of Location	Consumer number	Average energy consumption (in no.of units/month)	Average cost of energy/unit (in Rs.)
1	Main Office	252580234622	2031	9.42
2	Boy's Hostel	252580234614	690	6.00
3	Ladies Hostel	252580234584	314	9.79
4	Bhirdi Hall	252580004121	86	11.75
5	Principal Niwas	252580234606	137	9.27
6	Old Gymkhana	252580234592	37	13.89
7	Main Gate Shirol Road	252580234576	37	13.37
8	Old Bore pump	252580004112	0	220**
9	New Bore pump	252580010775	1570	6.72
10	Street Light	252580307841	14	162.82**
The average cost of energy per unit				8.021

*The above consumption is calculated as an average over a period of one year i.e. Sept.2014 to Aug.2015, and the rate per unit is as per prevailing tariff of electricity utility.

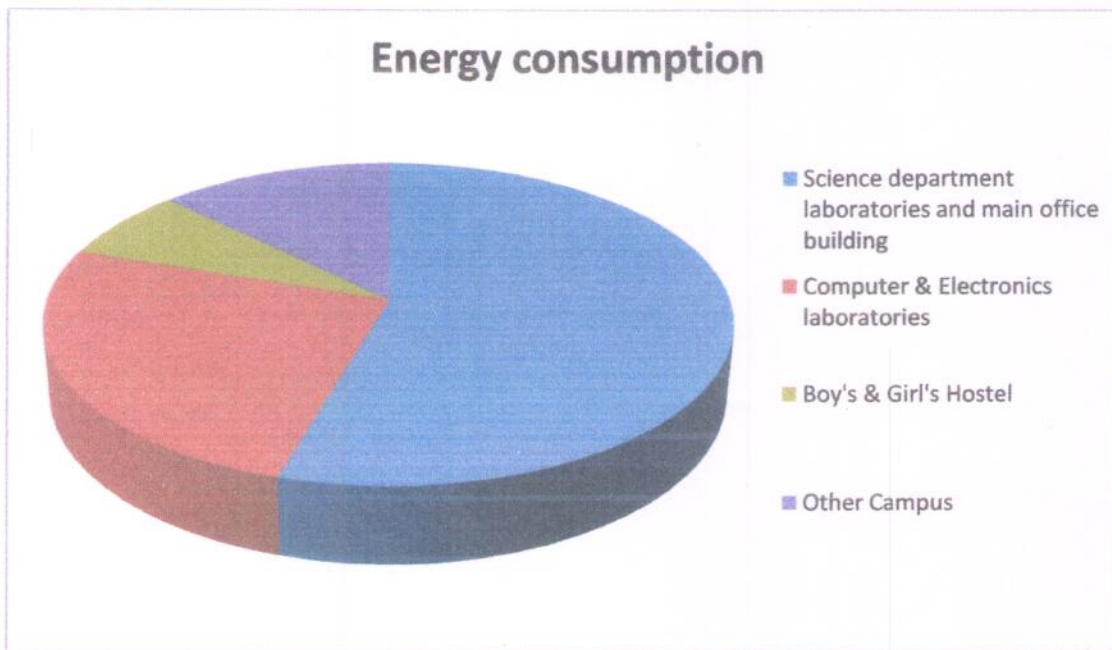
**There is no consumption or very low use hence only fixed charges levied by utility which shows huge hike in rate/unit, hence the same is not considered in total for calculation of overall cost of energy.

2.2 Main Energy Consumers

The main energy consumers at the site that have been quantified for this assessment are summarized in Tables 2 below.

Table 2: Summary of Primary Electrical Energy Consumers

Electrical Energy Consumer	% of Total	Comments
Science department laboratories	54.49	The electrical appliances that are mainly used are L&F load, the heating & cooling or other laboratory apparatus consumes energy for very less time
Computer & Electronic laboratories	25.66	The electrical appliances that are mainly used are L&F load, computers, printers etc.
Boy's Hostel Gir's Hostel	07.15	Only L&F load
Other Campus	12.70	



3 Scope and Expected Savings

3.1 Recent/Existing Energy-Saving Initiatives

There are number of ways that the institute can adopt for energy saving, some are as listed below,

1. The load of conventional florescent tube lights is about 20.43Kw, which is 29.36% of total connected load and consumes about 40% of total units. The same could be replaced by advance lighting equipment like 9W LED. The savings thus which may achieved is shown in table no.4
2. There are number of electrical connections provided over the campus which tends to non use of some of the connections and thus huge hike in per unit rate in energy as the institute is paying only fixed charges to the utility or sometimes the utility is charging on average basis.
3. Submeters to individual department may be installed to fix up the responsibility for energy saving by following the rule 'Switch on and off when needed'
4. The old building is constructed in 1968 and the electrical wiring being very old may cause for energy loss, the same may rewired, approximate costing for rewiring and saving in energy consumption is shown in table no.4

3.2 Suggested Opportunities for Energy Savings

We identified a number of opportunities for further energy savings at the site; these are summarised in [Table 5], The focus has been on measures suitable for implementation as a single cost-effective works contract There are number of ways that the institute can adopt for energy saving, some are as listed below,

1. The load of conventional florescent tube lights is about 20.43Kw, which is 29.36% of total connected load and consumes about 36.73% of total units. The same could be replaced by advance lighting equipment like 9W LED. The savings thus which may achieved is shown in table no.5
2. The load of old fans is about 06.45Kw, which is 09.26% of total connected load and consumes about 11.59% of total units. The same could be replaced by advance energy saving fans.The savings thus which may achieved is shown in table no.5
2. There are number of electrical connections provided over the campus which tends to non use of some of the connections and thus huge hike in per unit rate in energy as the institute is paying only fixed charges to the utility or sometimes the utility is charging on average basis.
3. Submeters to individual department may be installed to fix up the responsibility for energy saving by following the rule 'Switch on and off when needed'
4. The old building is constructed in 1968 and the electrical wiring being very old may cause for energy loss, the same may rewired, approximate costing for rewiring and saving in energy consumption is shown in table no.5

Table 3: Calculation of energy consumption and cost with conventional equipments

Sr.no.	Name of equipment	Kw x D.F.*	Hrs. Of use	Consumption/ Annum	Percentage of total consumption/ annum	Cost of energy (in Rs.)**
1	Conventional tube lights	5.10	08	14688	36.73	117812
2	Conventional Fans	1.61	08	4636	11.59	37185

*D.F. : diversity of 0.25 is considered

**Rate of energy/unit is derived from table 1

Table 4: Calculation of energy consumption with suggested equipments

Sr.no.	Name of equipment	Kw x D.F.*	Hrs. Of use	Consumption/ Annum	Cost of energy (in Rs.)**
1	LED of 9w	1.15	08	3312	26565
2	Fans	0.66	08	1900	15240

Table 5: Annual Energy Consumption & Energy Costs Savings

Sr.No.	Opportunity	Estimated Annual Savings				Budget Cost	Details / Additional Information
		[kWh]	Fuel Type	Energy Cost Savings [Rs]	Non-Energy Cost Saving [Rs]		
001	Replacement of tube light of 40 watt by LED of 9w	11376	Electricity	91247		102000	
002	Replacement of all Existing Fans by energy saving fans	2736	Electricity	21945		80250	

Cash Memo

|| Shree ||

ANUPAM SYSTEM



SALES & SERVICES : - Invertor, U.P.S. On line UPS, Stabiliser, SMF - Lead Acid Battery, Solar, Wind Power, Gas Geyser

12th lane, Shirol Wadi Road, Jaysingpur - 416 101. Cell No. : 9271208004, 9890274006. email : patil.shailesh@rocketmail.com

Bill No.

Date : 01-02-16

Name J.S.P. College J.S.P.

Sr. No.	Particulars	Qty	Rate	Amount
①	Solar Street light 9w with Exide 26AH SMF Battery.			12000-00
01 Year warranty				
जयसिंगपूर कॉलेज, जयसिंगपूर बिल आवक नं. 3842 दिनांक : 15/02/16				
Old Battery Replace Old Inv./UPS Replace				
TOTAL -				12000-00




Rs. in words Twelve thousand only.



For Anupam System

Proprietor

Jaysingpur College, Jaysingpur

 Progile Infotech Pvt. Ltd.		QUOTATION - SERVICES
To, JAYSINGPUR COLLEGE, JAYSINGPUR (of Arts, Commerce, Science & Computer Science) Jaysingpur - 416 101, Dist. Kolhapur, Maharashtra State, INDIA. Tel. :- (O) 225381 Tel. e-mail - jspcollegejsp@gmail.com		QTN No : 150942 Date : 09-09-2015 ENQ Ref : Office
Dear Sir,		
We are pleased to submit our quotation of the Annual Maintenance Contract (AMC), for the Purna Library Management Application Software, of your School, for your kind approval, for the period of <u>12 months</u> from 01-04-2015 to 31-03-2016.		
S.	Product Specifications	Amount
A.	Annual Maintenance Contract for Purna Library Management Application Software and Software Up-gradation	12,000.00
	AMC Amount Rs.	12,000.00
	Add Service Tax @ 14% Rs.	1,680.00
	Total AMC Amount Rs.	13,680.00
TERMS & CONDITIONS :		
1. Taxes & Duties :	The indicated prices are service charges only and are inclusive of indicated Duties and Taxes as on date. Amount towards any upward revision of Duties and Taxes, at the time of billing, are payable by the customer, at actual.	
2. Payment Terms :	100% Advance Only.	
3. Limited Liability :	a. No liability will be assumed by us on account of Data Loss or Data Corruption. Under any circumstances, our total liability against this supply / service shall not exceed 10% of respective Invoice amount. b. In case the contractor fails to provide service for a particular product due to Force Majeure the client may deduct the proportionate AMC amount for that particular product on Pro-rata basis.	
4. Other :	a. No pirated software shall be installed or supported by the supplier. The Customer will be solely & totally responsible for the consequences, if such pirated software is found installed or in use on their computer systems. b. The indicated price does not include the cost of site preparation, that is, preparing the computer cabin, furniture, air conditioner, electrical wiring to & from the UPS and supply & fixing of casing / capping for network cables. The customer shall appoint eligible subcontractors for supplying the said items & services. c. The above quoted prices are only for the existing application software maintenance. For any modification & development in the application software, we will quote such charges on learning your requirements. You are requested to consider it favorable and award us your valuable contract to avail our uninterrupted services. d. This contract can be terminated by both parties, Customer or PROGILE, by giving one month's notice. In case PROGILE decides to terminate the contract, the AMC Charges received, will be refunded for the balance period, on pro-rata basis, excluding the taxes and duties. e. PROGILE shall not be liable for Data Loss and Loss of Income on any account due to any of the aforesaid reasons. Customer is advised to insure the data against all these factors at his own cost.	
DH (Marketing)	Marketing Executive	  Prepared By :
PUNE Office: Row House No.3, Ujwal Regalia Soc, Next to Prabhavee Tech Park, Baner, Pune - 411 045. ☎ +91 20 2500 1466.		
SANGLI Office : 645/A, South Shivaji Nagar, Karmaveer Chowk, Miraj Road, Sangli - 416 416. ☎ (0233)2375000 ☎ 2344 Fax No: 2326885.		

Mr. S. K. Shinde
09/09/16

जयसिंगपूर कॉलेज, जयसिंगपूर
 बिल आवक नं. 372
 दिनांक : 15/09/16