04

rec 9/25/19

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MTSU Clean Energy Initiative Project Funding Request

There are five (5) sections of the request to complete before submitting. See http://www.mtsu.edu/~sga/cleanenergy.shtml for funding guidelines. Save completed form and email to cee@mtsu.edu or mail to MTSU Box 57.

1. General Information

Name of Person Submitting Request Donald Turner	
Department/Office Building Services	Phone # (Office) 615-494-8671
MTSU Box # 32	Phone # (Cell)
E-mail don.turner@mtsu.edu	Submittal Date 9/25/19

2. Project Categories (Select One)

Select the category that best describes the project.

☑	Energy Conservation/Efficiency	☑	Sustainable Design
☐	Alternative Fuels	☐	Other
☐	Renewable Energy		

3. Project Information

a. Please provide a brief descriptive title for the project.
b. The project cost estimate is the expected cost of the project to be considered by the committee for approval, which may differ from the total project cost in the case of matching funding opportunities. **Any funding request is a 'not-to-exceed' amount. Any proposed expenditure above the requested amount will require a resubmission.**
c. List the source of project cost estimates.
d. Provide a brief explanation in response to question regarding previous funding.

3a. Project Title
Sternberg Lights LED Retrofit - Ezel Hall - Womack Area

04

3b. Project Cost Estimate $19800.00

3c. Source of Estimate
Supplier and MTSU Building Services

3d. If previous funding from this source was awarded, explain how this request differs?
N/A

4. Project Description

(Completed in as much detail as possible.)

a. The scope of the work to be accomplished is a detailed description of project activities.
b. The benefit statement describes the advantages of the project as relates to the selected project category.
c. The location of the project includes the name of the building, department, and/or specific location of where the project will be conducted on campus.
d. **List any departments you anticipate to be involved. Were any departments consulted in preparation of this request? Who? A listing may be attached to this form when submitted.**
e. **Provide specific information on anticipated student involvement or benefit.**
f. **Provide information for anticipated future operating and/or maintenance requirements occurring as a result of the proposed project.**
g. **Provide any additional comments or** information that may be pertinent to **approval of the project funding request.**

4a. Scope: Work to be accomplished

Replacing 55 each of the current 140 watt Cosmopolous lamps from the Sternberg fixtures and modifying the **fixtures to utilize a long life, energy efficient 75 watt LED** lamp that provides the same or greater foot-candles **of light as the 140 watt bulb it is replacing.**

4b. Scope: Benefit Statement

The current lamp uses 140 watts of electricity per hour. The LED only requires 75 watts per hour of electricity to generate the same amount of light intensity. Therefore, each fixture retrofitted to use LED lamps will save over 237,000 watts of electricity per year (based on being lit an average of ten hours per day for the entire year). That amounts to over 13,050,000 watt/hours, or 13,050 kWh saved. In addition, the useful life expectancy of the current bulb is 7,000 hours (or 700 days, or 1 year 11 months 5 days). Whereas, the useful life expectancy of the LED bulb is 100,000 hours (or 10,000 days, or 27 years 4 months 25 days), if each bulb lasted the full measure of its useful life expectancy and no more, saving the costs associated with dispatching a service technician more than 13 additional times to replace the current lamp over those 27+ years as compared to the LED. Also, changing to LEDs will reduce the amount of waste from relamping the Sternberg Lights going to the landfill by more than 92%. Finally, the added safety and security from having a more reliable and longer-lasting campus lighting system, that causes far fewer dimly lit spaces on campus, has tremendous value to the students and to the larger campus community.

4. Project Description (continued)

4c. Location of Project (Building, etc.)

Ezel Hall - Womack Area

4d. Participants and Roles

Building Services' associates to purchase and install the retrofit kits, and the vendor will supply the materials.

4e. Student participation and/or student benefit

The nighttime campus of MTSU will be more continuously lit for the safety and security of the student population and the entire campus community. The savings generated from retrofitting to LED lamps will be freed up for use to fund other initiatives at MTSU to improve campus life for all students and to put a more sustainable foot forward in the future by reducing the university's aggregate carbon footprint.

4f. Future Operating and/or Maintenance Requirements

Due to their longevity, the future operating and maintenance costs are unclear.

4g. Additional Comments or Information Pertinent to the Proposed Project

The current technology is being phased out. Utilizing LED technology is a more sustainable design.

5. Project Performance Information

Provide information if applicable.

a. Provide information on estimated annual energy savings stated in units such as kW, kWh, Btu, gallons, etc.
b. Provide information on estimated annual energy cost savings in monetary terms.
c. Provide information on any annual operating or other cost savings in monetary terms. Be specific.
d. Provide information about any matching or supplementary funding opportunities that are available. Identify all sources and explain.

5a. Estimated Annual Energy Savings (Estimated in kW, kWh, Btu, etc.)

13,050 kWh

5b. Annual Energy COST Savings ($)

$1330.00

5c. Annual Operating or Other Cost Savings. Specify. ($)

The total annual operating cost savings projected to be generated by retrofitting 55 current Sternberg light fixtures to LED is estimated to be an average of $2151.00/year.

5d.Matching or Supplementary Funding (Identify and Explain)

Facility Services to provide labor to install the LED retrofit kits.

LED Savings Calculator

	Existing Lighting	
Current Wattage of Bulbs:		150 Watts
Current Type of Bulbs		incandescent
Current Cost of Bulb:	$	44.37
Electricity Cost per kWh (includes delivery, excludes taxes):		TN: 10.19 Cents
# of Bulbs Currently In Use:		55 Bulbs
Avg. Hours of Daily Use:		10 Hours
Labour Cost to Change One Bulb:	$	75.00 per Bulb Change

LED Replacement Lighting

LED Replacement Lamp Wattage:		85 Watts
Unit Cost of the LED Light:	$	358.28
# of New LEDs To Be Used:		55 LED Lights
Lifetime of LED Lights:		100,000 Hours

Cost Savings Using LED Lighting: (Click to calculate)		
Initial Extra Cost for LED Lights:	$	19705.40
Cost of "Existing Bulb" Replacement Bulbs during LED Lifespan:	$	34164.90
Savings on "Existing Bulb" Replacement Bulbs during LED Lifespan	$	14459.50
Labour Cost Savings of Changing "Existing Bulbs" during LED Lifespan:	$	53625.00
Monthly Electricity Cost for "Existing Bulb":	$	238.66

Monthly Electricity Cost for LEDs:	$	127.85
Monthly Energy Savings	$	110.81
Total Energy Savings From LEDs:	$	36234.87
Payback In Months:		58.99 Months
Total Savings with LED Lights:	$	104511.19

825 8TH AVE SOUTH
NASHVILLE TN 37203-4143
Phone: 615-743-3300
Fax: 615-254-4337

To: MTSU-ELECTRICAL
1500 GREENLAND DR
MURFREESBORO TN 37132-3100
Attn: LINDA HARDYMON
Phone: 615-898-2944
Fax: 615-904-8007
Email: carey.smith@graybar.com

Date: 02/04/2019
Proj Name: **STERNBERG OLD MAIN CIR & Walnut Grove**
GB Quote #: **0231982937**
Release Nbr:
Purchase Order Nbr:
Additional Ref#
Valid From: 02/04/2019
Valid To: 03/06/2019
Contact: CAREY SMITH
Email: carey.smith@graybar.com

Proposal

We Appreciate Your Request and Take Pleasure In Responding As Follows

Item	Item/Type	Quantity	Supplier	Catalog Nbr	Description	Price	Unit	Ext.Price
100		87 EA	STERNBERG	STERNBERG LED RETROFIT		$325.71	1	$28,336.77
Item Note:		DOES NTO INCLUDE COPE LOTS & SIDEWALKS XRLED-1130-12L30T3-MDL14						
		Line Note: QTY: 20+ pricing						
200		16 EA	STERNBERG	STERNBERG LED RETROFIT		$325.71	1	$5,211.36
Item Note:		COPE LOTS AND SIDEWALKS ONLY XRLED-1130-12L30T3-MDL14						
		Line Note: QTY: 20+ pricing						

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Total In USD (Tax not Included): **$33,548.13**

This equipment and associated installation charges may be financed for a low monthly payment through Graybar Financial Services (subject to credit approval). For more information call 1-800-241-7408 to speak with a leasing specialist.

To learn more about Graybar, visit our website at www.graybar.com 24-Hour Emergency Phone#: 1-800-GRAYBAR

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1500 GREENLAND DR
MURFREESBORO TN 37132-3100
Attn: debbie
Phone: 615-898-2944
Fax: 615-904-8007
Email: carey.smith@graybar.com

Date: 02/19/2019
Proj Name:
GB Quote #: 0232085101 Rev-1
Release Nbr:
Purchase Order Nbr:
Additional Ref#
Valid From: 02/18/2019
Valid To: 03/20/2019
Contact: CAREY SMITH
Email: carey.smith@graybar.com

Proposal

We Appreciate Your Request and Take Pleasure In Responding As Follows

Item	Item/Type	Quantity	Supplier	Catalog Nbr	Description	Price	Unit	Ext.Price
100		~~156 EA~~ 132	SIGNIFY NORTH AMER	CPO-TW 60 WATT 157313 PHILIPS		$40.34	1	~~$6,293.04~~ $5,324.88
200		~~156 EA~~ 36	SIGNIFY NORTH AMER	CPO-TW 140 WATT 157321 PHILIPS		$40.34	1	~~$6,293.04~~ $1,452.24

Total In USD (Tax not included): ~~$12,586.08~~ $6,777.12

This equipment and associated installation charges may be financed for a low monthly payment through Graybar Financial Services (subject to credit approval). For more information call 1-800-241-7408 to speak with a leasing specialist.

To learn more about Graybar, visit our website at www.graybar.com 24-Hour Emergency Phone#: 1-800-GRAYBAR

Subject to the standard terms and conditions set forth in this document. Unless otherwise noted, freight terms are F.O.B. shipping point prepaid and bill. Unless noted the estimated ship date will be determined at the time of order placement.