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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 09/08/2022

2. Project Categories (Select One)	
Select the category that best describes the project.	
<input checked="" type="checkbox"/> Energy Conservation/Efficiency	<input checked="" type="checkbox"/> Sustainable Design
<input type="checkbox"/> Alternative Fuels	<input type="checkbox"/> Other
<input type="checkbox"/> Renewable Energy	

3. Project Information
<p>a. Please provide a brief descriptive title for the project.</p> <p>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.</p> <p>c. List the source of project cost estimates.</p> <p>d. Provide a brief explanation in response to question regarding previous funding.</p>
3a. Project Title Sternberg Lights LED Retrofit - Library-Quad Area
3b. Project Cost Estimate \$35,625.00
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 hours 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 years (based on being lit an average of 10 hours per day for the entire year). That amounts to over 13,035,000 watt-hours or 13,035 kWh of electricity saved per year for all 55 lamps. 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 lasts the full amount of its useful life expectancy, and no more, additional savings of the costs of dispatching a service technician more than 13 additional times to replace the current lamp compared to the LED over those 27+ years for each lamp plus the landfill charges for all the hundreds of additional lamps would be realized. Finally, the added safety and security from having a more reliable and longer-lasting lighting system that causes far fewer low-light or dark spaces on campus has significant value to the students and to the larger campus community.

4. Project Description (continued)
<p data-bbox="266 216 854 247">4c. Location of Project (Building, etc.)</p> <p data-bbox="302 279 493 304">Library-Quad Area</p>
<p data-bbox="266 468 672 499">4d. Participants and Roles</p> <p data-bbox="306 531 1295 594">Building Services' associates to purchase and install the retrofit kits and the vendor will supply the materials.</p>
<p data-bbox="266 814 1011 846">4e. Student participation and/or student benefit</p> <p data-bbox="289 888 1300 1066">The nighttime campus of MTSU will be more continuously lit for the safety and security of the students and the entire campus community. The reduced carbon footprint of the campus due to the electricity saved, the landfill space not filled with hundreds of additional spent lamps and boxing materials, and all the extra vehicle emissions from the hundreds of additional service calls that will not be needed are all consistent with the purpose of the SCF funds.</p>
<p data-bbox="266 1176 1127 1207">4f. Future Operating and/or Maintenance Requirements</p> <p data-bbox="302 1249 1260 1333">The future operating and/or maintenance requirements for the LED lamps will be significantly reduced compared to the requirements of the current Cosmopolous lamps.</p>
<p data-bbox="277 1503 1312 1566">4g. Additional Comments or Information Pertinent to the Proposed Project</p> <p data-bbox="285 1608 1235 1661">The current technology is being phased out. Utilizing LED technology is a more sustainable design.</p>

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.)

13,035 kWh will be saved per year for all 55 lamps.

5b. Annual Energy COST Savings (\$)

\$1,330.00 for all 55 lamps

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 \$2,151/year.

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

Facilities Services to provide labor and support to acquire and install the LED retrofit kits.