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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](mailto:cee@mtsu.edu) or mail to MTSU Box 57.

1. General Information	
Name of Person Submitting Request James Chancy	
Department/Office Building Services	Phone # (Office) 898-2414
MTSU Box # P.O. Box 32	Phone # (Cell)
E-mail <a href="mailto:jchancy@mtsu.edu">jchancy@mtsu.edu</a>	Submittal Date 02/25/2011

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. <b>Any funding request is a 'not-to-exceed' amount. Any proposed expenditure above the requested amount will require a resubmission.</b></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 John Bragg Mass Communication LED Lamps	
3b. Project Cost Estimate <b>\$19,833.00</b>	
3c. Source of Estimate <b>Manufacture information and KWH calculation</b>	
3d. If previous funding from this source was awarded, explain how this request differs?	

#### 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

The scope of this project is to remove (168) 90 watt - plus incandescent lamps and replace with 8 watt LED (Light Emitting Diode) lamps. All incandescent lamps are to be recycled.

##### 4b. Scope: Benefit Statement

The benefits of the LED lamps are multiple. The LED lamps have a lower energy consumption that promotes environmentally friendly. They contain no Mercury, no Lead. In comparison to incandescent lamps, LED lamps have lower CO2 emissions than incandescent; 451 lbs/year vs. 4500 lbs/year.

LED's do not have special recycling issues.

LED is made with recycled plastics.

<b>4. Project Description (continued)</b>
<p>4c. Location of Project (Building, etc.)  John Bragg Mass Communication Building, Classrooms and Mixing Labs.</p>
<p>4d. Participants and Roles  Facility Services - Purchase LED lamps and remove/recycle incandescent lamps.  Vendor - Supply LED lamps.</p>
<p>4e. Student participation and/or student benefit  The students will have a better quality of light that is dimmable for compatibility with building dimming systems.</p>
<p>4f. Future Operating and/or Maintenance Requirements  Lamp replacement on average of 10 years.</p>
<p>4g. Additional Comments or Information Pertinent to the Proposed Project  The ROI, or Return on Investment, has a payback of less than 2 years. This project will assist in providing an atmosphere that will promote a better learning environment and assist in protecting the environment.</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.)

38,411.52 kwh.

5b. Annual Energy COST Savings (\$)

\$2,396.43

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

Labor cost savings after initial investment: \$14,112.00 per year on average for up to 10 years.

Recycling savings: \$63.84 annually

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



## TECHNICAL SPECIFICATIONS

VER. 4.1

PROJECT:	TYPE:
VOLTAGE:	COMMENTS:

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# Array™ LED R30 7.8 Watt

## SPECIFICATIONS FEATURES

Approximate Equivalence	45 Watt Incandescent
Base Type	MED (E26 or E27), GU24
Power Factor	All lamps > .92
Voltage	120VAC (60Hz) 230VAC (50Hz)
Average Wattage	7.8 Watts at 120V 9.0 Watts at 230V
Color Temp (ANSI)	Cool White (6500K) Natural White (5000K) Warm White (3000K) Incandescent WW (2700K)
CRI	Cool White: 78 Natural White: 77 Warm White: 84 Incandescent WW: 85 Quantum WW: 90
Output (Lumens) *+/- .5%	Cool White: 536 Natural White: 545 Warm White: 500 Incandescent WW: 470 Quantum WW: 519
Beam Angle	Flood (60° - 100°) Narrow Flood (25° - 30°)
Weight	6.8 oz
Width	3.75" (95.3mm)
Length	4.7" (120mm)
Operating Temp.	-40°F to 113°F (-40°C to 45°C)
Dimmable <sup>1</sup>	100% to 10% on most commercial and incandescent dimmers
RoHS Compliant	Contains no mercury or lead
Rating	Open or Enclosed Fixtures
Rated Life	50,000 Hours
Listings	UL Listed, CE
IEC Certified	IEC61000-4-5/ IEC61000-4-12
Warranty	3 Years

\* All Array LED lamps are tested to LM-79 and LM-80 standards.

<sup>1</sup> Some dimming systems require a minimum load to operate properly. Array lamps are energy efficient, low power devices. With only a few lamps in a circuit, they may not meet the minimum load required for an existing dimming systems. As a result the LED lamps may glow or may not dim properly. Please consult the dimming systems manufacturer for minimum load requirements or contact Array Lighting to help you determine the proper dimming systems to operate the LED lamps.

\*Data subject to change without notice.



U.S. PATENT NO. D560, 077, D601, 276 AND OTHER WORLDWIDE PATENTS PENDING

Available Colors:



SKU: AE26R3083060  
SKU: AE26R3083025

- Over 500 lumens at 3000K at only 7.8 watts
- UL Listed for Open or Enclosed Fixtures
- RoHS Compliant
- Dimmable<sup>1</sup> on most commercial and incandescent dimmers
- Lightest weight R30 in it's class.

## DESCRIPTION

Array LED R30 is a LED high output R30 lamp. The Array R30 is equivalent up to a 45 watt incandescent bulb but uses up to 80% less energy and lasts up to 25 times longer. The R30 lamps are Edison based and can be used with standard screw sockets for interior applications. Worldwide patent pending SELECTIVE HEAT SINK TECHNOLOGY™ (SHS) ensures reliable operation for 50,000 hours which makes these lamps ideal for retail, commercial, and hospitality applications, as well as long duty cycle, "always-on" applications and/or hard to reach locations. The Array LED R30 offers a choice of beam angles and is available in cool, natural, warm white, and incandescent warm white color temperatures. Unlike many compact fluorescent bulbs that require a warm up period, the Array R30 is "instant" on and is fully dimmable on most commercial and incandescent dimmers.



ARRAY LED LAMPS  
OFFER THE BEST FOR  
FLUORESCENT AND  
PACKAGING WASTE REDUCED

## ORDERING INFORMATION

MODEL	TYPE	COLOR TEMP	BEAM ANGLE
AE26 (120VAC)	R308	QW - 2700K (QUANTUM)	25° - NARROW FLOOD (25° - 30°)
GU24 (120VAC)		27 - 2700K (INCAN. WARM WHITE)	60° - FLOOD (60° - 100°)
AE27 (230VAC)		30 - 3000K (WARM WHITE)	
BE26 (120VAC) - BLACK		50 - 5000K (NATURAL WHITE)	
BG24 (120VAC) - BLACK		65 - 6500K (COOL WHITE)	
BE27 (230VAC) - BLACK			

Ordering Example: AE26R3082760

Array Lighting ■ 124 Floyd Smith Drive ■ SUITE 300 ■ Charlotte, NC 28262 ■ t 704.405.9745 ■ f 704.973.0331 ■ arraylighting.com ■ NASDAQ: NEXS