1. **Description of project**
   Replacement of older incandescent cyclorama and par lighting and work lights in the University Theatre and the Charlotte York Irey Theatre. Older heavy power consumption units will be removed and recycled. New LED units will be tested to determine the appropriate fixtures for each space. Chosen units will be purchased, through a bid and installed. The old large capacity dimmers and cables can then be retired from service and recycled as appropriate.

2. **Matching fund or in-kind support** from other sources.
   Departmental Program Fee funds, A&S capital funds and departmental production budgets will be applied to this purchase $48,400

3. **Project Timeline, Scope and Feasibility**
   a. **October 30 2016** - Research completed into possible alternative LED fixtures  
      **November 18 2016** Bids requested for supply of specified units  
      **December 2016** – Purchase effected – delivery - January TBD  
      **January/February 2017** Installation of new units  
      **February/March 2017** recycling of old units

   b. **Scope**
      Requested Sustainable CU funds $80000

      Research and testing by Theatre & Dance Instructors – 3 Instructors involved in this stage with a large portion of the work already completed.

      Installation by student volunteers (6-10) These will be lighting design and theatre and dance technology students.

      Other funds are already allocated to begin this project  
      Granted Theatre & Dance Program fee funds $8000  
      Additional A&S funds $38000  
      Production budget funds $2400

   c. We have initiated early stages of this research and from this it seems we are at an appropriate time to make this shift. Several new products are being released this September / October showing significant improvements in functionality and some
reduction in cost which makes this change finally a viable alternative. Additional infrastructure to support this is already in place in the theatre with an appropriate lighting console and digital control.

4. **Environmental Impact**
   
a. **Blueprint for a Green Campus,** *Achieve existing goal of 5%/sq. feet reduction in energy consumption under previous year (includes electricity, heating and cooling and starts at 2000 levels)*

   The old cyclorama lighting if installed as a top and a ground row consumes at maximum use 360 amps of power (43,200 watts) This is per theatre. The LED alternatives at maximum use between 30 and 45 amps for a similar coverage - that’s a saving of around 85-90%

   In addition, the units give off far less heat reducing the HVAC demands on warmer days

   Life of the unit is around 50,000 hours. By contrast a 1000watt FHM lamp for an incandescent cyclorama fixture has a life of 300 hours (that’s 6000 lamps to be purchased and disposed of over the life of the fixtures. The incandescent fixtures also burn lighting gel rapidly which needs to be replaced.

   Replacing the Par units has a similar saving of 200amps reduced to 23.1 amps as well as gel and lamp replacement saving.

   Studies of power consumption by work lights in the UT have established a significant saving by converting to LED units.

   b. N/A

5. **Student Involvement**
   
a. Students studying theatre and dance technology (BA & BFA) will be included in the team assessing and implementing options.

   b. Students will be part of the team testing and assessing options to choose an LED fixture. They will work on the removal of the old units and installation of the new units. Students will then be working with the new fixtures in creating designs enabling them to continue use of these new fixtures into their professional careers.

6. **Social Equity**
   
   N/A
7. **Innovation**  
N/A

8. **Detailed Project Budget and Savings**  
   a. Purchases of ground and top cyclorama fixtures and pars and work lights for both spaces could cost between $110,000 and $150,000 depending on the units chosen and negotiated prices and delivery. The aim is to be at around $130,000. See attached budget for the probable estimated budget. Sample prices are available for all except the newest units online at places like: B&H Photo, Full Compass and New/UsedLighting .com  
   
   b. We estimate the University will make a saving of power usage of over 40 kilowatts per hour of usage, plus a saving in the cost of running HVAC and a saving in the cost of purchasing replacement lamps ($75000 over the life of the units) and replacement lighting GEL ($1000 per year)

9. **Project Longevity**

   The equipment will have a life expectancy of perhaps 20 years and over this time will continue to return the savings and provide educational support for the students. Future students will continue to be able to work with this new technology and explore the added possibilities for their work.

10. **Applicant Information**

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