**Live Green Loan Fund – Project Proposal**

**Project Background:**

The University's power plant powers campus, 24 hours a day, 7 days a week. Due to the nature of operations and the need to have personal on staff during operating hours, lighting for the power plant is also needed on a 24/7 schedule. The existing high-bay light fixtures over the water treatment, storage mezzanine, turbine, and chiller areas inside the power plant currently use high pressure sodium and metal halide lamps. The current lamps are inefficient and do not last long when compared to different sources currently available.

**Project Description; Project # LG0016 Power Plant:**

Seventy-six inefficient lighting fixtures will be replaced.

In order to reduce energy consumption and maintenance costs, the existing high-bay fixtures will be changed to 28 watt, T8 linear fluorescent lamps with occupancy controls. Depending on the area, the fixtures will have between 4 and 6 lamps with multiple ballasts and will save between 60 and 100 watts per fixture, depending on the specific area. In addition to the energy usage reduction, the T8 lamps also have a higher efficacy (lumens per watt), are less expensive, and are anticipated to last one and a half times longer than the high-intensity discharge lamps currently in use. The reduced fixture cost and longer lifespan will result in significant maintenance savings as well as energy savings.

To maximize energy savings, the water treatment, storage mezzanine, and chiller areas would also have occupancy sensors in the fixtures to turn off half of the lamps while the areas are not in use (42 fixtures in total). The other half of the lamps will remain on in order to maintain low light levels for safety. The areas with occupancy sensors are not used frequently and are an optimal area for automatic shut-off.

An anticipated timeline for this project is as follows:

Upon securing funding for the project, RFP’s will be issued to for material and installation. The installation would begin approximately 8 weeks after receipt of funding to allow for procurement of material, and would take approximately 2 weeks to complete. The goal is to have the project completed by Fall 2011.

**Project Contact:** Marc McKee, 515-294-8436, [mmckee@iastate.edu](mailto:mmckee@iastate.edu)

**Project Return on Investment:**

Total project costs are estimated at $37,035. A $37,035 loan is requested. Expected annual savings equals $9,470/year ($7,080 in energy savings and $2,390 in maintenance savings) with a payback period of 3.91 years. The savings will come from a reduction of energy consumption from inefficient and unneeded lighting and unnecessary maintenance.

**Project Outcomes:**

In addition to the annual budget savings for ISU and Iowa taxpayers, this project serves as a demonstration project that can be disseminated throughout Iowa State University facilities using high bay lighting fixtures as well as other universities, and businesses in the Ames community and beyond.

This project is one that not only demonstrates leadership in operations and waste management, but also in awareness and education as related to students, faculty, staff, alumni, grantors, donors, and ISU’s community and professional peers and partners throughout the US and around the world.

**Live Green Loan Fund – Project Profile**

**Power Plant**

**Applicant**

Name/Contact Info: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Project Name/Location: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**On Behalf of the Live Green Loan Fund Committee**

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Director of Sustainability Date

**Confirmation of Due Diligence:**

Technical and financial viability is considered satisfactory for the scope of this project.

Required signatures for project administrative approval have been received (see attached application signature page).

**Funding Recommendation by Live Green Loan Fund Committee:**

$37, 035

**Recommended Action by Live Green Loan Fund Committee:**

Project approval by President and signature of attached Funding Agreement.