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**LED Exit Signs**

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**RLF Requested: $250,000**

This project will replace existing exit signs with efficient LED fixtures in approximately (14) campus buildings. As a result, energy use will be decreased, life safety systems will operate more reliably, and maintenance needs will decrease dramatically. This is a continuation of projects funded in FY07 and FY08. We are requesting funding in the amount of $250,000, although the work is very scalable and any funding amount can be successfully applied.

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08. VISIBILITY - Very visible. Building users notice when exit signs are burned out and it may make them feel uncomfortable or unsafe. It also creates a negative impression of the pride we take in our facilities.

09. PAYBACK PERIOD - When replacing incandescent, the payback from energy savings alone is about 6-7 years. Replacement of fluorescent exit signs yields a payback of 8-10 years. However, the old signs also require maintenance up to 3x/year. If one includes this expense, the overall payback improves to 1-2 years.

10. REDUCTION OF COAL - By reducing overall campus energy use, this will contribute to Abbott Power Plant s ability to reduce the number of generation units in use. An additional benefit is the reduction in GHG emissions from maintenance vehicles traveling to replace burned out lamps.

11. FUND SIZE IMPACT - F&S is working with the Illinois DCEO and this project would qualify for about $7,000 in grant rebates.

12. PROJECT COORDINATION - F&S has a record of success with these projects. We have developed a project execution method that keeps overhead to a bare minimum, avoids expensive consultant fees, purchases material at bulk prices, and achieves maximum labor efficiency. F&S Construction Services will execute the work, and F&S Engineering will document results for the DCEO grant.

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01. REPLACEMENT OF FACILITY SYSTEMS - Existing exit signs are typically long past their expected life, and have many maintenance problems. The new LED exit signs will have an expected useful life of at least 15-20 years.

03. IMPACT ON PLANNED PROJECTS - Very little impact on capital projects. We coordinate to ensure no overlap between buildings selected for exit sign replacement and planned major renovations.

04. WHAT IF PROJECT IS NOT FUNDED? - If this project is not funded, our campus will continue to expend many maintenance hours keeping these lights operational, and waste electricity on inefficient technology that is over 20 years outdated.

If this project is partially funded, we will install as many LED exit signs as possible with the funds allocated.

06. WHAT OTHER DEPARTMENTS ARE AFFECTED BY THE PROJECT? - The buildings we propose are all across campus and used by virtually every college and department. These units will benefit from improved safety and fewer maintenance disruptions.

07. RISK FACTORS - No known risk factors. In fact this work will reduce the risks associated with having nonfunctioning exit signs, and improve life safety for the campus community. We have executed this type of work in 25 buildings so far without major problems.

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**Occupancy Sensors**

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**RLF Requested: $500,000**

This project will install occupancy sensors for control of lighting and HVAC in approximately (30) campus buildings. As a result, energy use will be decreased up to 30% in affected areas. This is an expansion and continuation of projects in the past two years, which have focused on installation of occupancy sensors in student classrooms. We are requesting funding in the amount of $500,000, although the work is scalable and any funding amount can be successfully applied. The total campus need for occupancy sensors is over $6.5 million.

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08. VISIBILITY - Very visible. Lighting impacts every user of a space. Occupancy sensors are noticeable improvements which serve to bring conservation issues to the attention of the community.

09. PAYBACK PERIOD - Previous occupancy sensor projects have achieved an overall payback period of 3.9 years. We expect this group of buildings to have roughly the same payback.

10. REDUCTION OF COAL - By reducing overall campus energy use, this will contribute to Abbott Power Plant s ability to reduce the number of generation units in use.

11. FUND SIZE IMPACT - F&S is working with the Illinois DCEO and this project would qualify for up to $40,000 in grant rebates.

12. PROJECT COORDINATION - F&S has a record of success with these projects over the past two years. We have developed a project execution method that keeps overhead to a bare minimum, avoids expensive consultant fees, purchases material at bulk prices, and achieves maximum labor efficiency. F&S Construction Services will execute the work, and F&S Engineering will document results for the DCEO grant.

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01. REPLACEMENT OF FACILITY SYSTEMS - In most cases, these sensors will replace manual light switches. They have an expected useful life of at least ten years.

03. IMPACT ON PLANNED PROJECTS - Very little impact on capital projects. We coordinate to ensure no overlap between areas selected for occupancy sensors and planned major renovations.

04. WHAT IF PROJECT IS NOT FUNDED? - If this project is not funded, our campus will miss an opportunity to save money and energy. One of the iCAP goals is to install occupancy sensors in 80 buildings by 2015. Twenty (20) buildings have been done, but we have a long way to go.

If this project is partially funded, we will install as many occupancy sensors as possible with the funds allocated.

05. WHAT ARE THE PROJECT ALTERNATIVES? - One alternative is to use occupancy sensors to control only the lights and not the HVAC. This reduces costs, but also reduces savings. In general, we prefer to address both systems at once, even if it means covering fewer buildings.

06. WHAT OTHER DEPARTMENTS ARE AFFECTED BY THE PROJECT? - The buildings we propose are all across campus and used by virtually every college and department. These units will benefit from reduced energy bills.

07. RISK FACTORS - No known risk factors. We have executed this type of work in 20 buildings so far without major problems.

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**Lighting Retrofits**

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**RLF Requested: $1,500,000**

This project is part of a campus-wide effort to upgrade all T12 fluorescent light fixtures to yield improved lighting quality for the users while decreasing operating and maintenance expenses. This project involves energy-saving upgrades to lamps and ballasts of existing fluorescent light fixtures in (53) campus buildings. We are requesting funding in the amount of $1.5 million, although the work is scalable and any funding amount can be successfully applied. The total campus need for lighting retrofit is approximately $3.1 million.

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08. VISIBILITY - Very visible. Lighting impacts every user of a space. These new lights are not only more efficient, they are more attractive, cause less eye strain and improve productivity.

09. PAYBACK PERIOD - Previous lighting retrofit projects have achieved an overall payback period of 1.89 years. We expect this group of buildings to have roughly the same payback.

10. REDUCTION OF COAL - By reducing overall campus energy use, this will contribute to Abbott Power Plant s ability to reduce the number of generation units in use.

11. FUND SIZE IMPACT - F&S is working with the Illinois DCEO and this project would qualify for up to $800,000 in grant rebates.

12. PROJECT COORDINATION - F&S has a record of success with these projects over the past two years. We have developed a project execution method that keeps overhead to a bare minimum, avoids expensive consultant fees, purchases material at bulk prices, and achieves maximum labor efficiency. F&S Construction Services will execute the work, and F&S Engineering will document results for the DCEO grant.

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01. REPLACEMENT OF FACILITY SYSTEMS - The T12 fluorescent lights being replaced are obsolete, and beginning in 2012 new parts will no longer be available to repair or maintain these systems. Many are over 40 years old and past their expected useful life. The high-performance T8s are not just more efficient; they are better quality, longer lasting and contain less mercury. In addition, we are eliminating old PCB-containing ballasts which are a potential safety concern. All removed materials will be carefully stored and recycled.

03. IMPACT ON PLANNED PROJECTS - Very little impact on capital projects. We coordinate to ensure no overlap between retrofit work and planned major renovations, but with such a short payback period, it is often still worth proceeding with the retrofits as they will pay for themselves in energy saved.

04. WHAT IF PROJECT IS NOT FUNDED? - If this project is not funded, our campus will continue to waste over $400,000 in annual electricity costs, with all the pollution and carbon emissions that represents. In addition, as we near the federally-mandated deadline for T12 production, many of our building lights will no longer be able to be repaired, meaning longer delays and disruption to occupants when these lights fail.

If this project is partially funded, we will retrofit as many buildings as possible with the funds allocated.

05. WHAT ARE THE PROJECT ALTERNATIVES? - Total replacement of outdated fixtures (rather than retrofit) has been proposed, but would cost about four times as much, and would also produce much more waste in the form of the metal and plastic fixture housings.

06. WHAT OTHER DEPARTMENTS ARE AFFECTED BY THE PROJECT? - The buildings we propose retrofitting are all across campus and used by virtually every college and department. These units will benefit from improved lighting quality, and reduced energy bills.

07. RISK FACTORS - No known risk factors. We have retrofitted more than 60 buildings so far without major problems.