

UNIVERSITY OF ILLINOIS  
AT URBANA - CHAMPAIGN

Campus Recreation  
Activities and Recreation Center  
Suite 1430, MC-556  
201 East Peabody Drive  
Champaign, IL 61820



March 20, 2009

Student Sustainability Committee  
ATTN: Suhail Barot

RE: Campus Recreation Sustainability Proposals

Dear Committee Members:

Campus Recreation has actively engaged in the effort to be a more energy conscious unit on the University of Illinois Campus. On February 27<sup>th</sup>, we submitted a letter of intent for 12 projects. Since that time, our internal green team has spent countless hours researching, meeting, and discussing these projects while prioritizing where we could make the biggest impact. Our operations are listed in the Big 80 energy users for this campus. Given that listing, we realized that we could make an impact almost immediately, and it was with that knowledge last summer that we began to make changes. Attached is a listing of the actions we have already taken, as well as those that are currently in process.

We hope that you realize that Campus Recreation understands the seriousness of the efforts needed and supports the university in its efforts, and that you will assist us with funding support for the proposals attached. If you should need further information, please feel free to contact either myself, Brian Baxter, or Mike Litchford. We would like to thank you all for your efforts with these reviews and hope that together we can all work toward a more responsible and efficient campus.

Sincerely,

A handwritten signature in black ink that reads "Robyn M. Deterding".

Robyn M. Deterding  
Campus Recreation Green Team Chair



# Campus Recreation

## Sustainability Statement

Campus Recreation is striving to reduce its energy consumption and cost, along with its carbon footprint by eliminating waste and increasing energy and water efficiency. While accomplishing these goals, we hope to promote awareness for and educate our users about their effect on the environment. Furthermore, Campus Recreation is resolute in supporting companies offering “green” products and services through our purchasing power.

*Initiatives Campus Recreation has already taken:*

- **Facility Controls**
  - Worked with Facilities and Services in preparing CRCE to be part of the “Runtime Reduction Program” regarding heat/air usage. ARC is on the list for this project.
  - Meters installed at CRCE and ARC
  - Installed 18 separate switches for lighting at CRCE
  - Computers being configured to sleep earlier when not in use, including monitors
  - Fitness equipment sleep mode set at 2 minutes
  - Hosted two conferences in which materials were placed on website vs. paper copies
  - Ice Arena has Astro-foil ceiling: it is reflective, providing additional light while not absorbing heat.
  - Ice Arena replaced 122 lights with the energy-efficient T8 lights
    - Between new cooling towers, a new ceiling, new lights and a low-emissivity foil system, the energy load at the Ice Arena should be reduced by 30-45%.
  - All outdoor lighting has been changed to fluorescent, metal halide or mercury vapor.
  - Installed two synthetic turf fields which help cut down use on seed, water, fertilizer, pesticides and herbicides.
  - Installing all native Illinois plants in outside landscaping decreasing use of water and fertilizers.
- **Reduce, Reuse, Recycle**
  - Ice Arena locker room and lobby benches are made from recycled plastic.
  - Adventure Center countertop made from 100% recycled wood.
  - Semester guides, annual report, aquatic brochures, and ice skating brochure all printed on recycled paper.
  - Recycling all waste materials through Facilities and Services.
  - Recycled the old multipurpose room 6 wood floor by giving it to Dance Department.
  - Installation of digital signage throughout ARC to help reduce need of paper posters for promotional materials.
- **Cleaning and Maintenance**
  - Installation of automatic towel dispensers and foam soap dispensers at all facilities. Foam soap is a green product.
  - Switched to green cleaning chemicals when possible, as well as installing automatic dispensers to insure we are getting the right ratio of water to chemical instead of depending on each person to always use the right ratio.
  - Snow-melt for ice, snow, etc is a green product.
  - Replaced paper towels with cloth toweling to clean fitness equipment.

- **Education/Awareness Initiatives**

- Developed “Go Green” campaign with educational posters, digital signage, and web site displaying what Campus Recreation is doing and what users can do.
- Hosted an event in fall semester where we distributed 100% recycled water bottles so people could stop using their plastic water bottles.
- Internal Green Team Committee
- Participate in the Student Affairs Green Team Committee
- Two staff serve as Energy Liaisons to Campus Sustainability Office
- Collected 32-pounds of used electronics and then took to appropriate recycling centers.
- Taking part in Earth Hour on Saturday, March 28, when Campus Recreation will turn off lights and televisions at the ARC for one hour.

*Initiatives Campus Recreation has activated:*

- **Energy Reduction**

- Work orders have been placed to reduce the number of active ballasts in the ARC while still providing adequate and safe lighting
- Current research on a reduction effort on CRCE
- Ice Arena currently operates on half-lighting
- Research done on solar panel roofing system for the ARC, CRCE, and Ice Arena

## Racquetball Court Energy Reduction

### Project Lead Contact Information

Name: Michael Litchford

E-mail: [litchfor@illinois.edu](mailto:litchfor@illinois.edu)

Title: Staging and Building Coordinator

Organization/Department: Campus  
Recreation

P Phone: 244-9534

A Address: 201 E. Peabody Drive  
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### Secondary Contact Information

Name: Brian Baxter

E-mail: [bbaxtr@illinois.edu](mailto:bbaxtr@illinois.edu)

Title: Assistant Director of Strength and  
Conditioning

Organization/Department: Campus Recreation

P

A Phone: 333-2677

Address: 201 E. Peabody Drive  
Champaign, IL 61820

### I. Detailed Project Description:

This project is designed to eliminate a significant amount of energy waste by automatically turning off lights in unoccupied spaces. The racquetball and squash courts at the ARC are currently on a single switch through our main building lighting control computer, and all of these courts have the lights turned on as a part of the facility opening procedures. They currently remain on until the building closes. These lights are also turned on during the overnight cleaning shift, resulting in a daily burn time of approximately 20-22 hours a day.

Our proposed project would entail retrofitting the 192 fluorescent troffers to a high-performance T8 system, and replacing the 96 existing recessed mercury vapor fixtures with new compact fluorescent fixtures in the 12 racquetball courts. (The squash court lighting was upgraded during the recent renovation.) In addition to the lighting retrofit, we will install occupation sensors in the 12 racquetball and 3 squash courts. The resulting system would be accessed via the existing master controls for all courts, which when ON, would allow the occupancy sensors to control lights in each court individually as needed. Our estimated energy savings from the lighting retrofit will be about 16,500 max watts.

### II. Budget & Fundraising:

The estimate requested from F&S engineering includes material cost and labor for the T8 retrofit, fixture cost and labor for the mercury vapor light replacement, motion sensor cost and labor overhead. The retrofit would reuse existing T12 troffers and replace current ballasts with electronic ones. The mercury vapor lights will be a new compact fluorescent light, the specific type of which has not yet been decided so the price per unit is only an estimate. Occupation sensor installation includes both the product and labor expenses. The labor overhead will be used for miscellaneous wiring and installation issues not specifically outlined in the estimate.

	Number of fixtures	Estimated cost	Total
T8 Retrofit	192	\$60.00	\$11,520.00
Mercury replacement	96	\$310.00	\$29,760.00
Occupation Sensor	15	\$1,500.00	\$22,500.00
Labor overhead	n/a	\$11,220.00	\$11,220.00
			<b>\$75,000.00</b>

The current plan is to complete this job by May 31<sup>st</sup> in order to take advantage of Department of Commerce and Economic Opportunity (DCEO) program incentives. They would yield the following amounts:

**Racquetball**

Fluorescent retrofit: \$2,688  
 Mercury Vapor to CFL: \$4,800  
 Occupancy Sensors: \$1,882

**Squash**

Occupancy Sensors: \$240

**Total project incentive: \$9,610**

Our approximate energy savings will be approximately 16,500 max Watts or \$17,200 per year with a simple payback of 4 years and 3 months.

For this project we will be requesting full funding of \$75,000 to facilitate an expedited construction schedule. If the full amount is not awarded we will seek to fund this internally and seek alternative funding.

**III. Timeline:**

The project timeline is currently being guided by a May 31<sup>st</sup>, 2009 completion date in an attempt to be eligible for DCEO program incentives.

**IV. Energy, Environmental, Social and Economic Impact:**

The estimated savings for this project are around 237,771 kWh yearly. We do anticipate that the lighting reduction could be greater due to use patterns of the racquetball and squash courts during the summer months. Our annual savings will be approximately \$17,500 and expect for the light retrofit lifespan to be at least 10 years. Minimum expected project lifetime savings is 2,377,710 kWh with a GHG emissions reduction of approximately 3,975,531 CO<sub>2</sub> lb/kWh. All efforts will be made to recycle old lamps and fixtures.

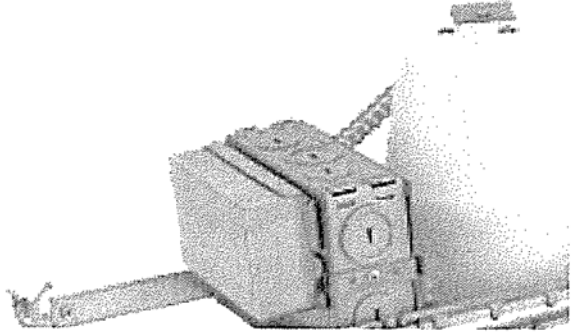
**V. Outreach and Education:**

This project will be added to our Green Initiative list currently in place on our department website and will be added to the overall marketing campaign advertising our efforts. We will be seeking LEED certification for existing buildings with the ARC and this project will help us obtain that goal by reducing our energy consumption.

# Product Specifications Report



Job Name:	Job Type:
Comments:	Quantity:

<b>1170LE: Manufactured by Sea Gull Lighting</b>		<b>Dimensions:</b>	
 <p><b>1170LE - Fluorescent Non-IC Housing</b>                  Fluorescent Mini-Recessed Non-IC Housing                  UPC #: 785652011702      Fixture Type: Fluorescent                  Finish:</p>		Length: 13 1/2"	
		Diameter: 4 1/4"	
		Width: 5 1/4"	
		Height: 5 5/8"	
		<b>Bulbs:</b>	
		1 - G24q-3 PLT26 26w max - Bulb Not Included	
		<b>Material List:</b>	
		<b>Safety Listing:</b>	
		cUL Listed for Damp Locations ENERGY STAR Qualified Title24	

<b>Features:</b>	
	<b>Instruction Sheets</b> •English(HC-931) •French(n/a)

Shipping Information (UPS Shippable: YES)														
Individual	Weight	Length	Width	Height	Carton	Weight	Length	Width	Height	Case	Weight	Length	Width	Height
Qty: 1	3.2 lbs	14.5"	7.5"	5.75"	Qty: 6	21.85 lbs	22.25"	18.75"	6.58"	Qty: 180	576 lbs	48"	40"	72"