



## **GCLF Project #100- 32**

### **Harvard Business School**

Tunnel Lighting Retrofit Upgrade

Project Completion Date: May, 2004

### **Project Overview**

Retrofit and rebuild existing light fixtures in all HBS tunnels to a highly efficient, low energy “Super T-8” system. This involved rebuilding 410 existing magnetic ballast / T-12 light fixtures to Super T-8 systems.

### **Project Goals**

Reduce energy costs and associated greenhouse gas emissions while maintaining high light quality.

### **Pre-Project Considerations**

Jim Brochu, Assistant Director of Physical Plant for HBS, knew that upgrading T12 lights in the tunnel would be an easy “low-hanging fruit” to go after with a quick payback. It would also kill multiple birds with one stone by reducing energy use and maintenance costs, as well as providing better quality light.

### **The Project Process**

Jim walked the tunnels and did the basic math to convince himself that the project would make sense. He then hired Northern Energy Services to do a full audit, turnkey installation, and NStar rebate paperwork.

### **Lessons Learned**

- Installation went smoothly; no one was disturbed by the work.
- In retrospect, Jim would have looked at other lighting control measures such as photosensors to fully or partially shut lights off during daylight hours. Jim had decided not to use occupancy sensors because of the high volume of traffic in the tunnels.
- Jim has used the vendor Synergy in the past but was much happier with Northern Energy. Synergy had made claims that it could not deliver.

### **For More Information**

Jim Brochu, Assistant Director of Physical Plant, HBS. [jbrochu@hbs.edu](mailto:jbrochu@hbs.edu), (617) 495-6813

#### **PROJECT SNAPSHOT**

**Description:** T12 fixtures replaced with T8 fixtures in Business School tunnels.

**Departments:** Harvard Business School

**Project Executive:** Francis X. Hayes

#### **Finances**

- Total Project Cost: \$ 24,988
- Rebate: \$ 12,494
- **Annual Savings:** \$ 7,469
- Payback: 1.7 years

#### **Environmental Impact Reduction**

- 128,938 lbs CO<sub>2</sub> / yr

#### **Lessons Learned**

- Consider lighting controls like occupancy and daylight sensors ahead of time.
- Northern Energy Systems was a good lighting vendor to work with.

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