

# Nebraska Medical Center

## COMPANY BACKGROUND



The Nebraska Medical Center (NMC) is Nebraska's largest hospital and a national leader in the areas of organ transplant, cancer treatment and neurology. Situated in Omaha, Nebraska, NMC's main campus is comprised of 14 buildings that provide more than two million square feet of space, 689 licensed beds and 29 operating rooms. NMC employs more than 1,000 physicians and nearly 5,000 hospital staff.

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## PROJECT BACKGROUND

The NMC Energy Management Team had outlined a number of energy-saving opportunities. The intern focused on the retrofit of lighting fixtures in two of the hospital complex's doctor's office towers. The retrofits will provide energy savings and other less quantifiable benefits as well.

## INCENTIVES TO CHANGE

The NMC Facilities Management Team has made a commitment to reduce the hospital's environmental impact. Increasing utility rates and aging light fixtures are further incentives for NMC to cut consumption and increase end-user satisfaction. The energy and dollar savings associated with this project amount to more than just bottom-line reductions; money saved from lighting costs can be put to use in future projects around the NMC campus.

## RESULTS

**Lighting Retrofit:** The goals of this lighting project are: (1) to increase light levels throughout the facilities, (2) to decrease energy consumption and (3) to utilize utility provider incentives and state-of-the art retrofit fixtures. Two out dated lighting technologies are targeted in this project. T12 fluorescent fixtures will be replaced with higher efficiency T8 fixtures, powered by electronic ballasts. Incandescent bulbs, which appear in a variety of wattages throughout the two buildings, will be replaced with compact fluorescent lamps.

Of top priority to the NMC staff is the satisfaction and safety of patients, doctors and other hospital personnel. Light levels throughout the doctor's buildings, including exam rooms, office and reception space, hallways and stairwells were insufficient. Through frequent use, lamp depreciation and the build-up of dirt, old lighting fixtures lose their ability to



effectively illuminate space over time. New lighting can significantly increase light levels with fewer lamps, while updating the aesthetic value of these facilities.

In the two buildings targeted by this project, there are more than 400 incandescent down-lighting fixtures and roughly 1,600 T12 light fixtures containing approximately 4,200 40-watt lamps. By replacing these fixtures, the electrical consumption attributed to lighting can be cut nearly in half. Due to annual increases in utility rates, dollar savings will be compounded year after year.

By standardizing the use of T8 and compact fluorescent technologies, demands on maintenance and inventory will also be greatly simplified, which will further reduce costs.

The fixtures chosen as replacements have many desirable qualities. They are retrofit kits, which utilize some of the existing fixtures, helping to reduce waste and disposal costs. They have a modern architectural style, which will breathe new life into dated facilities. These fixtures will also take full advantage of rebates made available through a lighting incentive program administered by the local utility provider.

## AIR POLLUTANTS DIVERTED IN TONS

Total for all sectors	
SO <sub>2</sub>	2.39
CO	0.24
NO <sub>x</sub>	1.14
VOC	0.04
PM	0.06

## GREEN HOUSE GASES DIVERTED IN TONS (CO<sub>2</sub> Equivalent)

Total for all sectors	
CO <sub>2</sub>	440.92
CH <sub>4</sub>	16.53
N <sub>2</sub> O	0.22
CFC	5.42

PROJECT	ANNUAL COST SAVINGS	ENVIRONMENTAL RESULTS	STATUS
LIGHTING RETROFIT	\$39,400	695,400 KWH	IMPLEMENTING