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# The Lighting Connection

Bright ideas to improve your bottom line

Central Maine Power Company, 83 Edison Drive, Augusta, Maine 04330 - www.cmpco.com

## Lighting helps an old building keep pace with 21st century medical practice.

As any Portland resident or visitor knows, Maine Medical Center's many services reside in a number of different buildings in various parts of the city.

One of these is McGeachey Hall, a late 19th century, 5-story brick building housing Maine Medical Center's psychiatric outpatient services. Interior space is about 40,000 square feet, and contains offices, meeting rooms, a small cafeteria,

and numerous hallways.

Outdated lighting was just one of the problems faced by Jeff Hanson, Energy Management Consultants, Inc. of Saco, the contractor called in for renovation, but it was an important one. Roger Boyington, Director of Engineering Services for Maine Medical, knew that he had to eliminate the "maintenance nightmare" of old fixtures, lamps, and ballasts. Mr. Boyington's other goal was to improve the levels and quality of the building's lighting.

### Meeting staff and patient needs

It's critical that patients, staff, and visitors enter the psychiatric outpatient facility and find an encouraging, positive atmosphere. To meet that goal, McGeachey Hall needed higher light levels and better-quality indoor light. Other practical needs included light for workplace comfort, safety, and security. And, at the same time, Maine Medical wanted to use energy effectively.

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## Right light, in all the right places

The lighting renovation was a mixture of new fixtures and retrofitted existing ones. The recessed cans were converted from incandescent to compact fluorescent, the drop-in troffers (fluorescent fixtures) were replaced (or retrofitted, depending on the fixture condition) with T-8 color corrected lamps and electronic ballasts. The upgrading of the building also included the conversion or replacement of exit signs with new LED signs or LED



*Color-corrected fluorescent tubes create a calming atmosphere.*

retro-kits. Many of the fixtures were repositioned to optimize use of the fixture output with the work and use space in mind. The recessed cans used in the halls were placed to create a well-lit walkway that was both safe and inviting. EMC Inc. did the majority of the renovation during off-hours to minimize disruptions to both staff and patient use of the facility. This off-

hours work schedule was very well received as it provided an opportunity to meet the occupants' needs without substantial relocation of all parties involved to create overcrowded conditions in other departments.

## Ideal for today's practice

Roger Boyington is satisfied. The system requires much less maintenance and a much smaller bulb inventory, now that the lighting is standardized. Under his leadership, and upon forming a working partnership involving Central Maine Power,



*Compact fluorescent lamps in recessed fixtures provide economical and pleasing*

EMC, and the plant engineer's office, the requirements for the hospital were outlined, reviewed, and acted upon.

Maine Medical management and staff are very pleased with the new lighting scheme at McGeachey Hall. People have mentioned that "colors are much brighter," the increased illumination levels are much easier to work under, and the "atmosphere" is improved overall.

## Prescription for healthcare facilities: the right lighting!

Hospitals, clinics, and other healthcare facilities face a lighting challenge. How do you provide illumination strong enough for physicians, nurses, and support staff to do their jobs — while keeping light levels comfortable for patients?

Think about all the things that go on in a healthcare facility — and all the different areas that need to be illuminated.

Let's look at one area common to most: the patient room.

## Routine care and observation

First, there are lighting needs for routine care and observation. Dimmer controls located near the door are recommended to manage day/night light levels in the room. Ideally, practitioners should be able to read charts and thermometers using this general illumination only. Task lighting placed below patient eye level allows nighttime observation of the patient and illumination for checking equipment, such as drainage tubes and containers. When night lights are in continuous use, the recommended configuration is a low-brightness lamp, with louvered or refractive cover, installed flush with the wall about 14" above the floor. This permits healthcare staff to move safely around the room.

## Specific task needs

Direct examination of the patient calls for more specific task lighting. It has to render skin and tissue color accu-

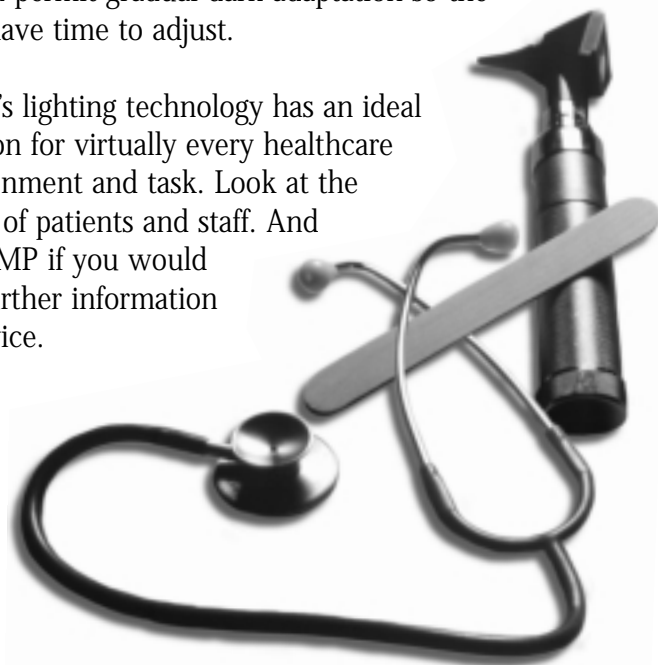
rately. (Lamp color temperature of 3500-6700K is recommended.) The practitioner has to be able to aim the light (into the eyes or nose, for example). It should cast shadow-free light about 2" in diameter to yield accurate illumination and avoid disturbing others in the room. The examination lamp should be hand-adjustable, but once positioned the lamp shouldn't drift. Heat output should not exceed 25,000 microwatts/cc at a distance of 42". And other safety issues, such as temperature of the lamp/fixture, any tipping hazard, electrical safety etc., should be considered as well.

How about other needs in the patient room? Reading lights should be about 45" above the floor, illuminating an area of not more than 3 square feet if adjustable — 6 square feet if fixed. This lets the patient read in comfort, without disturbing others in the room. There must also be enough light for the housekeeping staff to do a thorough job, as they search out and clean dust and dirt on the floor, room surfaces, and under furniture.

## Technology solutions for every area

Finally, it should be noted that lighting levels at nursing stations are higher than in patient rooms. If healthcare staff moves from 50fc lighting to 5fc too quickly, it can result in temporarily impaired vision. So it's important to install transition lighting in corridors between staff stations and patient rooms. Ideally this lighting should be controlled by a dimmer for day and night levels, and it should permit gradual dark adaptation so the eyes have time to adjust.

Today's lighting technology has an ideal solution for virtually every healthcare environment and task. Look at the needs of patients and staff. And call CMP if you would like further information or advice.



## SEE YOUR BUSINESS LIGHTING STORY IN PRINT!

Have you installed lighting that increases customer traffic and sales, or enhances health, safety or productivity? Let us publicize your success in *The Lighting Connection*. Please call toll-free 1-800-649-1169 and tell us about your lighting success story. We will feature selected submissions as case studies in future issues.

## Ask the Lighting Expert:

***I'm planning changes in the lighting in our hospital and have heard how light can help people feel better. What should I use?***

I'm not qualified to make any medical claims about the effects of lighting on wellness. But I have read a good deal about the subject, and have talked with many lighting experts. I'll pass what I've learned along to you.

The effects of lighting are largely psychological. This is true whether it's in a hospital setting or the local hardware store! The color, intensity, and source of light can easily affect our moods. Think about your own experiences in different lighting conditions.

That said, let's explore some different lighting options for your hospital.

All of your public and office areas would benefit from high quality light. Many people find hospitals intimidating. Light is an ideal tool for creating a warm and encouraging atmosphere, which can help reduce anxiety. In the business areas, light can be used to create the best possible working environment. In fact, many studies show that light can boost employee productivity, wellness, and general attitude.

What is the "right" lighting? You may want to look at the new color-corrected T-8 lamps and electronic ballasts. You can retrofit your existing fixtures to take these lamps. Or you can put in all-new fixtures with specular reflectors, color-corrected T-8 lamps, and electronic ballasts. Color-corrected simply means that these lamps will produce light that renders truer colors, and doesn't

mask them. I don't know what kind of lighting your hospital now uses, but it's likely any or all of the following. The very common Cool White (CW) lamp produces a bluish white light. The next most-common Warm White (WW) yields a brownish tone. Both mask certain colors; CW has a tendency to dull down red and green and it enhances blue. WW dulls blue and green and enhances red. The new T-8, and some of the T-12 lamps, now have special phosphors that render more truly the color of whatever they are lighting — including people!

And remember: quality lighting affects staff and visitors as well as patients, and is a terrific value for the money!

*CMP's Lighting Expert has over 25 years of experience in the lighting business working for major electrical wholesalers and Central Maine Power Company. Dick is a member of the Illuminating Engineering Society (IES).*

If you have a business lighting question, please contact our Lighting Expert:

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or call the Business Lighting Hotline:  
Toll-free: 1-800-649-1169

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