



Company of the Month: Roland's Electric's solar and LED upgrade lowers electricity bills by over 70% at corporate headquarters

July 14, 2014 - Long Island

According to Stephen Cadieux, president of Roland's Electric, Inc., the contractor has presented hard data that shows how they slashed their own existing commercial building's energy usage and expense by more than 70% with an energy efficiency installation, combining solar and newly emerged LED lighting technology. The impressive results can be easily duplicated in any existing commercial building or applied to new construction.

Electricity consumption at Roland's headquarters is no different than you will find at other commercial office, retail, and industrial buildings. Lighting, computers, servers, monitors, printers, copiers, fax machines, appliances, equipment, exterior lighting, and air-conditioning are in constant high-use for most of the day. In nearly every situation, the depth of the savings realized by an energy efficiency upgrade can be significant - case in point: Roland's Electric's own monthly average electric bill dropped from \$2,025 down to \$523 per month, slashing their greenhouse gas emission in the process. Hospitals, municipalities, restaurants, schools, and manufacturers may benefit even more.

Averaging Roland's Electric historical monthly data reveals a solid 77.9% monthly reduction in kilowatt hours/KWH, a 73.6% monthly reduction in kilowatt demand/KD, and a 74.2% reduction in monthly electric expenses.

The decision to retrofit Roland's Electric corporate headquarters over the winter months was an easy one for the large electrical contractor. Given their expertise and knowledge in the field, LEED accreditation, and the newly emerged technological advances in LED lighting, the time was right to take advantage of the commercial rebates and tax incentives to offset a large portion of the cost while they are still available. Roland's Electric started their two-phase conversion after conducting a comprehensive energy audit, one of the many services which they provide. Each phase was completed in a few days.

Case study: Roland's Electric occupies a 1970's single-story flat roof 22,000 s/f brick building in an older industrial area - 18,000 s/f warehouse and 4,000 s/f office space with standard 2' and 4' fluorescent ballast lighting fixtures in the drop ceilings, typical of what you would find in any commercial building.

Phase 1 - Solar: Roland's Electric's design & build team planned 19.1KW rooftop installation consisting of 78 solar photovoltaic (PV) 245 watt modules on a southern exposure, with about a 1170 s/f footprint. (Note: you can go larger for a bigger offset but the rebates may not apply or be proportional - Roland's can guide and assist with rebates). Installation by their own electricians took one week to complete in December 2010 causing no disruption to their daily operation. Results were immediate, dropping the monthly bills more than 61% from an average of \$2,025/month down to

\$757-\$781/month.

Phase 2 - LED Lighting: After three years of solar success, Roland's Electric began the second half of the design & build team's plan, earlier this year. They replaced 54 standard 2x2' and 49 standard 2x4' fluorescent overhead fixtures in offices, conference rooms, hallways, and common areas with new high efficiency LED fixtures. (Note: the highest efficiency benefits require complete fixture replacement). Over a dozen occupancy sensors were installed in offices and a few low traffic areas to shut off lights when unoccupied, and the warehouse received 21 LED high bay fixtures.

New advances in LED lighting technology allowed the lighting conversion to boost the already considerable energy savings of the solar PV system. Roland's Electric has averaged an additional 37% reduction in KWH, 32% less KWD, and 32% lower electric expense.

The solar panels came through Hurricane Sandy completely intact and operational due to expert installation and the custom aluminum frame they constructed - at a precise 30° angle for maximum solar benefit for their location. Proper techniques for connections and mounting are critical to withstand the force of winds, trees, and flying debris, and should always be done by an experienced professional.

Roland's Electric is a full-service electrical contractor for a wide array of industrial, commercial, municipal, institutional, and residential customers located in Nassau and Suffolk Counties on Long Island. Established in 1953, Roland's Electric Inc. has grown from a modest 300 s/f storefront to one of Long Island's largest and most respected electrical contractors, employing approximately 50 to 100 electricians and 23 management/office personnel.

New York Real Estate Journal - 17 Accord Park Drive #207, Norwell MA 02061 - (781) 878-4540