

Project Management | LED Lighting Retrofit

Advancements in lighting technology from metal halide to fluorescent to LED have made an exponential improvement in the energy consumption and the quality of the light. For a Client with a worldwide portfolio of buildings in excess of 10 million square metres, and Governments offering a variety of tax credits for energy improvements, the return on investment both in \$ as well as productivity is a very short term proposition.

At face value energy efficiency programs need to consider initial capital cost, maintenance, energy consumption, energy cost and incentives. In the case of LED lighting retrofits, the fundamentals were simple:

- Metal Halide to LED = ROI 6-8 months
- Fluorescent to LED = ROI 18 months

From an energy consumption perspective, manufacturers such as General Electric (GE) and Lithonia promised savings of 60% for the retrofit of fluorescent to LED fixtures. In practice, the trial site realised actual savings of 80%.

From a maintenance perspective, re-lamping of each facility with fluorescent fixtures would occur on a 2-3 year rotation. While manufacturers typically promote warranties of 7 years, 10 year warranties were obtained, with an expectation that 15 years (life of a building lease) may be achievable owing to the use of occupant sensors cycling the fixtures on and off with activity.

From a productivity perspective, fluorescent fixtures suffer degradation reducing the illumination achieved at the working plane, ultimately resulting in very poor illumination towards the end of the serviceable life. Conversely LED fixtures are largely consistent over their life.

After completing a very successful trial, the retrofit was rolled out on a programmatic basis year over year based on available capital funds and remaining lease term. Furthermore, the magnitude of the program allowed the Client to work with manufacturers on R&D basis to develop a new fixture which delivered even better illumination at the working plane.

**Note, the examples provided above were undertaken in a past role, prior to MSP. These examples serve to further detail the experience MSP bring to the table for our Clients.*

CLIENT:	VALUE:	COMPLETION DATE:	PROJECT DURATION:	DELIVERY MODEL:	SERVICES OFFERED:	Task:
Confidential	USD \$53M	May 2012	8 months	Lump Sum (LS)	Project Management	Trial retrofit of fluorescent to LED lights and monitoring software, net energy saving 80%.