

The shift to LED court lighting – selecting the right light fitting for your situation

Why is everyone moving to LED lighting? If the right fittings are selected, there are quite a few benefits of upgrading to LED lighting:

- Energy consumption savings – often a 30-40% saving in electricity usage is usually achievable
- Instant on and off – no warming up and cooling down periods
- Longer warranty periods offered – up to 10 years for high quality fittings
- Minimal maintenance costs during the warranty period
- Lower maintenance costs and life cycle cost benefits as a result
- Capable of better spill light management to court surrounds and adjoining properties
- Capable of better light uniformity over the court playing areas
- Better quality light that is more similar to daylight rather than the yellow-ish light output from metal halide lights

With metal halide light fittings being phased out, spare parts for these fittings are going to become harder and more expensive to source over time. It is not uncommon for the cost to repair a metal halide light fitting to now be \$1,000 or more. By the time you include a replacement bulb, replacement capacitor (the capacitor should be replaced every time a bulb is replaced), access equipment (platform lift or cherry picker) plus a qualified electrical contractor's time, these costs quickly mount up. A metal halide light bulb may only last 3-5 years in a high use environment, so these can become a high recurring maintenance cost for a tennis club, especially if they have a lot of courts and lights at their venue.

As with many electrical products the LED lighting market is full of good, mediocre, and just plain terrible products – some of which are not even designed to light up tennis courts. Many are designed for industrial applications rather than for sports lighting. From our experience, even most electrical contractors and engineers don't know what fittings are suitable for lighting tennis courts and other sports infrastructure. It's a potential trap for anyone without any specialist knowledge in this field.

So how does a volunteer club committee, facility manager or owner know where to start? Many have just asked their regular electrical contractor that does maintenance works on their facility to provide a quote for potential LED, but they may not have any experience in LED court lighting and end up quoting on the installation of a fitting that is not suitable and end up with a sub-standard outcome.

TQ's Facilities Development Manager has been involved in the installation of LED lights to over 700 courts throughout Queensland and is more than happy to help select the best fitting and design for your site and work with your preferred electrical contractor to install these fittings at your venue. We can also prepare Quantity Surveyor certified estimates (at no cost for TQ Affiliates and schools) for your funding application that will typically be recognised by most funding providers in lieu of obtaining quotes.

TQ's Facilities Development Manager is regularly approached and meets with new LED lighting suppliers wanting to offer their products to our affiliates. They are required to demonstrate they can achieve the required minimum average lighting levels and lighting uniformities on standard court

lighting configurations before they are invited to submit design proposals and quotes to Tennis Queensland for potential projects we are working on with our clubs, schools and other clients.

Upgrading to LED court lighting – the process you need to go through before installing new LED light fittings

The very first step – even before preparing a grant application for an LED lighting upgrade at your facility – is obtaining consent and permission from your land owner (unless of course you are the land owner). Most of our affiliated clubs are on leased land from either their Council or a Queensland Government Department and it is generally a condition of these leases to notify them of any proposed upgrades or new works on their land. Evidence of this permission is often a funding application requirement.

If the installation of new lights and poles is proposed to a site, there will be a Development Approval and Building Approval process to go through with your Council as well. This can take time to obtain but is essential before any works commence on site. Don't take the risk of Council shutting down your project if you haven't obtained the required approvals before starting works.

If the project is to swap out your old metal halide or other types of floodlights and replace them with LED fittings, you still need to obtain Council permission. You will also be required to obtain an Engineer's certification that state the existing light poles are in a structurally sound condition to support the proposed new light fittings. This is to protect your club – and the land owner – from a potential future legal claim if the light poles fail and damage people or property as a result of this installation and not obtaining such certification.

There are two main reasons for this. One is the light poles – be they metal or timber – deteriorate over time and may no longer be capable to supporting the weight of the proposed new fittings. The second is the typically heavier weight of LED light fittings and increased area of these fittings and therefore sail area under high winds that can place more stress on the poles when subjected to high wind loads.

Before a suitably qualified and experienced Engineer can provide this certification, they will need to know what light fitting is proposed to be installed to the existing light poles. Every LED light fitting has a different mass and sail area, so they need to know what fitting their assessment is to be based upon before they can provide their certification – which will be light fitting specific. It can also depend upon whether the driver units for the new LED light fittings are proposed to be mounted integrally with the light fitting at the top of the pole, or if the driver units are mounted separately, lower down on or within the pole.

TQ's Facilities Development Manager has been involved in the installation of LED lights to over 700 courts throughout Queensland and has a good feel for whether the existing light poles may also need to be replaced in conjunction with any proposed LED lighting upgrades. We can also prepare Quantity Surveyor certified estimates (at no cost for TQ Affiliates and schools) either with or without the

inclusion of new light poles if required for your funding application. Our Quantity Surveyor certified estimates will typically be recognised by most funding providers in lieu of obtaining quotes. Once the project funding has been secured, we are more than happy to help select the best value for money fitting and design for your site. Once this has been determined, we can then help engage a suitably qualified Engineer to undertake an assessment of your existing poles to support these new fittings before any quotes are accepted and the new LED fittings ordered. We can also work with your preferred electrical contractor to install these fittings at your venue.