



LONDON BRIDGE BEST PRACTICE



Lighting Tower

Introduction

For the London Bridge Redevelopment scheme we required a powerful and portable lighting system to help ensure works could be completed safely during the hours of dark as well as being energy and cost efficient.

The solution to this was the mobile lighting tower VB9 LED Battery Ibird manufactured by Towerlight which Costain is now using across the project. This is the first hybrid lighting tower to address environmental issues particularly relating to fuel usage and transport costs: issues which are beginning to predominate within the construction industry. This design reduces fuel usage and therefore the carbon footprint and transport costs as well as providing safe and proper lighting.

LED Lamps

The lamps are made from robust polycarbonate, with no glass or bulbs to replace and unlike metal halide; LED lights will restart when hot. They also offer a high resistance to breakage and explosion. LED also results in operative savings; where 150 watts of LED power consumption yields an equivalent illumination level of 400 watts of metal halide. Their lifespan of 70,000h is considerably higher than the 6000h life for typical metal halide lights.



Additional Features

The VB9 incorporates a 170 litre capacity fuel tank, meaning that the running time between refuelling has increased significantly. The smaller engine has reduced fuel usage by 72%, using just 3 litres of fuel per 12 hours. The tank is bunded to avoid fuel spillage on the ground.

The air-cooled diesel engine is housed within a whisper-quiet sound proof canopy with easy access for maintenance via large lockable doors.

- 340 degree mast rotation by hand
- Hydraulic lifting system
- Certified wind stability up to 80Km/h
- 9m vertical mast – which improves efficiency and safety for operators (pioneered by TowerLight)

Summary and Savings

The LED lighting tower used at London Bridge offers significant environmental and cost benefits as well as providing safe lighting while working towards saving vital natural resources. Fuel savings of this lighting rig in comparison with older models can be seen below:

	VT1	VT1 Eco	VB9	VB9 LED Battery Ibird
Fuel cost for a week (7 days at .80/l)	£134.40	89.60	£33.60	£16.80
Weekly fuel saving		£44.80	£100.80	£117.60
Refuel period	10x per month	7x per month	Every 2 months	Every 4 months

Targets and objectives

The use of the VB9 LED Battery Ibird has helped us meet our targets and objectives in the following areas:

- CEEQUAL – energy;
- London Bridge Sustainable Delivery Statement – carbon; energy
- London Bridge Targets and Objectives – undertake a carbon and energy demand assessment for each project and to set and implement targets for reduction