

AMOSS UPLIFTS FOR LIGHT TOWERS

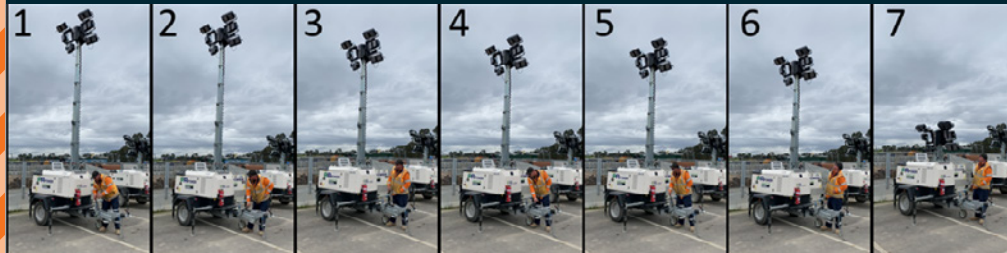
The Western Program Alliance (WPA) is increasing light tower safety by installing Automatic Mast Operating Safety System (AMOSS) Uplifts on mobile light towers that automatically lower the mast before the unit can be moved.

Equipping mobile light towers with the AMOSS Uplifts engineering control mitigates risks associated with the unit's raised mast.

By automatically lowering the mast when a unit's key is turned off, or handbrake disengaged, the operation is simplified and the opportunity for human error reduced.



Demonstration of light tower hand brake interlock at Cranbourne Line Upgrade.



Scan QR code for Video of interlocked operation

The Situation

Mobile light towers are an essential part of night-based construction works. Large modern construction sites require numerous light towers in close proximity to illuminate the works effectively. Additionally, light towers need to be mobile to illuminate works as they move around site.

Whilst invaluable during the night shift, the inverse can be the case during the day where mobile light towers can be seen as a nuisance.

These competing operational requirements result in different attitudes and behaviours, and sometimes, serious incidents. There have been several instances of lighting tower incidents where individuals have a lapse of concentration and drive off with a light tower mast still elevated, resulting in contact and damage to overhead structures such as bridges or overhead powerlines and a risk of a serious injury.

The Solution

WPA realised by addressing human factors involved in mobile light tower operations, they could reduce related incidents. Consequently, WPA implemented an initiative to equip LED mobile light towers with AMOSS Uplifts; the first of its kind in Australia.

The AMOSS Uplifts introduces a fail-safe mechanism, whereby the light tower mast is automatically lowered when the unit's key is turned off or the handbrake is disengaged. Lowering the mast drops the unit's centre of gravity, removing potential human factors and incident radius. This reduces incidents involving:

- Incorrect towing
- Impact of wind
- Mast raised longer than is needed
- Not level and subsidence
- Park Brake failure
- Incorrect unit orientation
- Outrigger failure
- Operator error or inattention.

Benefits and learnings

Eliminates, or significantly reduces, the cause of light tower incidents by automatically lowering the mast when the key is switched off, or the hand brake is disengaged, simplifying the operation and reducing room for human error.

Lowering the mast lowers the unit's centre of gravity and potential incident radius.

Easily installed on existing handbrake systems by a qualified fitter or mechanic.

The system has a cost of \$1200 per light tower plus the cost of install and fits most popular makes of light towers.

The system is tamper proof so the safety function cannot be turned off.

Program Office: LXP – Western Program Alliance
Work Package: Cranbourne Line Upgrade

Principal Contractor: McConnell Dowell
Contact: GregEvangelakos@wpalliance.com.au