Television and Film Design - Lighting Safety Workshop

The principles of risk assessment.

Safety at work is underpinned by the Health and Safety at Work Act 1974. Section 7 says that the employer must provide a safe working environment (as far as reasonably practicable) and Section 8 says that employees must co-operate in achieving this. As well as the Act there are Regulations and Codes of Practice, such as the Management of Health and Safety at Work Regulations. Rather than regulate for every situation, this says that risks need to be identified, reduced and controlled (or ideally, eliminated).

Five Stages of Risk Assessment, according to the Health and Safety Executive

- Look for the Hazards
- Decide who might be harmed and how
- Evaluate the risks and whether precautions are adequate, or whether more should be done
- Record the results
- Review the situation regularly

The Design Handbook also has a section on Risk Assessment.

Why do it this way?

- It's common sense
- Either as employees or employers you will come up against it one day
- You will be in a stronger legal position
- You may live longer

This is a sort of Risk Assessment. It is not complete and will change with each location

Risks with portable lights

General points

Check everything before use. Make sure all are there, and are tight.
Put everything away properly after use. Use cases; don't force them closed.
Don't transport them on the rear seats/window ledges of cars
Leave unplugged while setting up: there are no risks of shock, burn, dazzle and a reduced risk of trips.
Remember the domino effect: on a crowded set there can be further consequences of any action.

Personal

Footwear: Lights and cases can bruise, cut or break, feet. Glass shards may cause deep cuts to bare feet.
Clothing: use gloves, and hard hat, as appropriate
No drink or drugs
Lift and carry lighting kits correctly. Keep your back straight when lifting; ask for help when carrying.
Barn doors and other sharp parts can trap and cut fingers

Other people

Be aware of what everyone else on the set is doing
Don't blind them, tell them when you turn lights on
Run cables out of their way, don't wrap them around equipment.

Shock

Check that no terminals or wires are exposed
Check cables, heads, connectors and plugs. Do not use if there appears to be any damage.
Do not use in the rain, and also in other wet conditions, eg near standing water.

Fire and burns

Lamps heat (burn) anything which touches them. They also radiate like a fire, they also heat the air around them. Don't put it near anything which burns, (eg sets, props, people) and do allow air to circulate around it.
Lamp heads, barn doors, and metal parts get hot, let them cool and use (leather) gardening gloves
Use proper Filters and Gels, not any coloured plastic. Glass fibre is sometimes used, but this can cause skin problems (dermatitis).
Use proper accessories, rather than lash-ups.
There is some risk from UV exposure , ie sunburn , from 2,000w lights. Use glass filters.
Don't overload cables and circuits. Do not use adaptors, use multiway extensions.
Don't coil multiways when you use them , they may overheat.
Don't trail cables over lamp heads

Cables

You can trip over cables, or pull the lights over, or anything the cable is wrapped around. Run them out of the way and tie or tape them down.

Television and Film Design - Lighting Safety Workshop

Stands

Falling stands can cause shocks, burns, cuts, bruising and breaks, to you and others They can also fall on equipment .Make sure they are on a flat surface and stable. Weight the bases if necessary, especially if they are fully extended..

Glass

Glass filters, lens and lamps break most often when a stand falls over. Dropping them may also damage them and produce sharp edges and glass shards. Sweep them up - use gloves!

The effects of lamp failure

Some lamps are more likely shatter than others, always fit any safety glass or gauze supplied.

To calculate current

Divide the watts/240 (eg 800w, 2000w, 300w by 240), if the result is more than 13, the block will fuse, more than 30, a domestic ring will fuse. With a domestic ring allow for other uses, from cameras to kettles, and remember that older wiring may not take 30 amps safely.

Changing a lamp

Switch off light, and disconnect it from mains
Let it cool (cool enough to touch.)
Remove barndoors/filters/gauze
Remove old lamp, being careful not to break glass or cut yourself against the lamp holder (often on a strong spring) etc.
Replace lamp. You should not touch quartz glass lamps directly, use paper or the plastic wrap. This is not a safety point, however it does mean that your movements will be constricted.
Replace barndoors/filters/gauze
Reconnect light and switch on.

Changing the fuse

If the light does not come on, the fuse may have blown as the lamp failed. You can change the fuse if this has happened, but you are not allowed to change the fuse in any other circumstances, or on any other piece of equipment (Electricity at Work Regulations)
Check the wiring in the plug. Make sure it is not damaged, or that there is no sign of overheating (soot, melted or discoloured plastic, discoloured metal). If there is ,do not use the lamp and label it as faulty!.
If the wiring looks OK , don't touch it.: there is no need to.
Replace the fuse with one with the correct rating (watts/240 gives rating). Never overrate it with a 13 amp fuse, or try to bypass the fuse.

Finally…..

This is not a complete assessment and remember you will need to do an assessment for every situation. In other situations there may be other risks ("Three Phase Supply") and some of the above may not be there.