**Temporary Electrical Installation Risk Assessment**
prepared by Pete Wintercrane on behalf Bigtopmania

viz/ marquee hire operations.
viz/ entertainment activities.
viz/ electrical kit hire and use.
viz/ electricity at work
viz/ electrical installation work

**NB;**
No formal pre-prepared risk assessment
replaces the constant updating
and decision making process
being made by workers on the ground.
Dynamic risk assessment is prefered by
both management, sub contractors & workers.

**NB: most of our own installations work invariably falls**
under the scope of section 5 of BS7909.
**"Small /Simple events and activites requiring up to 6KVA".**
**then follow**
**Section 6 "large/complex events and activities requiring in excess 6kva"**

**To be read and adhered to in addition to guidelines./ references including; (non exhaustive nor exclusive).**
(nb; Much more guidance and Reg's info' available at HSE, BSI ,the IEE & the Electrical Safety Council with constant updates available.)
The Health and Safety at Work Act 1974 / manual handling regs/ Working at Height regs/ Noise Reduction regs.
Management of Health and Safety at Work Regs. 1992
Electricity at Work Regs 1989
P.U.W.E.R & L.O.L.E.R regs.
BS 7671: 2008 IEE 17 the Edition Wiring Regulations; Requirements for Electrical Installations
IEE 3rd ed.Code of Practice for inservice Inspection and Testing Electrical Equipment.
IEE BS 7671: 2008. On Site Guide.
Bs; 7909:2008 Code of Practice for temporary electrical systems for entertainment and related purposes.
HSE; 2004. Maintaining Portable and Transportable electrical Equipment
HSE:1997. Electrical Safety at Places of Entertainment
HSE; 2003. Electricity at Work; safe working practices
HSE; 1996; Maintaining portable electrical equipment in offices and other low risk environments
HSE:1997. Electrical Safety for Entertainers
HSE; 1999. The Event Safety Guide.
HAE, EST 2012. Guidance on Electrical Safety Testing in the Hire industry, code of practice.

IET Guidance note 3 Inspection and Testing.

**NB> ELECTRICITY IS INHERENTLY DANGEROUS**

**Un-Safe Working Practices / kit**
may cause fatalities or serious injury to
employees, sub contractor, other workers and general public.

Work is only to be done according to competence and training.
above which level it is unsafe & permissible to not do the work.
The More suitable, currently qualified persons are to undertake this work.

Most Installations should be tested and results recorded pre use.

| **notes on calculation of risk** | **severity** | **probability** | **Determination of action** | risk rating **severity x probability** | risk level **Priority** | **Action ?** |
|---|---|---|---|---|---|---|
| no injury | 1 | improbable | 1 | | | |
| minor injury | 2 | remote | 2 | 1-5 | risk acceptable | No action needed |
| reportable injury | 3 | possible | 3 | 6-10 | low priority. | If reasonably practical |
| major injury | 4 | probable | 4 | 11-15 | medium priority | Must take action |
| fatality | 5 | likely | 5 | 16-25 | high priority | Must take action |

**GENERAL RISKS; general work methods.**

| **Identifiable Hazard / Risk** | **Persons at risk** | **Control Measures and Safeguards** |
|---|---|---|
| slip and trip<br>bending and lifting<br>i.e.; Manual Handling | all | safety tool-box-talks before work activity starts<br>re; personal responsibility for health and safety,<br>welfare of self and others, objectives, methods, responsibities etc..<br>try to keep working area tidy and constant awareness. |
| Equipment. | all | pre-activity checks and regular maintenance<br>equipment suitable for needs. |
| Place of Work | all | ensure suitable location and check safe before commencing |
| location of activity | all | vocational risk assessment undertaken by organisers |
| electric | all | Vocational maintenance undertaken by management. |
| fire | | sufficient space for activity to happen safely. |
| Presence of General Public or<br>working with children<br>and persons with special needs<br>animals | all | Ideally work in public free zone.<br>adhere to national guidelines & staff are police checked.<br>experienced and qualified staff<br>be aware of animals and keep separate, watch for rodent attack on cables etc. |
| Training for equipment use/work | all | Ensure adequate training/how to use safely and correctly and highlight that<br>accidents can be caused by inappropriate behaviour.<br>only work to levels personal competency |
| Worker unfit/unsuitable/un-trained/<br>incorrectly dressed for activity | all | Training/ Use of PPE; work skills appropriate to the participant<br>advise suitable work footwear and clothing |

**Event Manager** for most installations;
Client or Pete Wintercrane

**Senior Person Responsibl**e for most temporary electrical installations;
Pete Wintercrane

**Responible Person** for small installations; tent master/ foreman

**Specific Risks Associated with Electrical Safety** **Temporary Electrical Installations**

| | **Risk Level** | **Severity** | **Possibility** | **Risk** | **ACTION** |
|---|---|---|---|---|---|

**and use of equipment**

**Rating**

**Operations and activities**

| **Identifiable HAZARD covering provision, setting up, operaton and removal of system** | **Identifiable Harm** | **Persons at risk** | **Control Measures and Safeguards** FOLLOW REG'S GUIDANCE AND LAWS in all operations with electrics. | | | | | |
|---|---|---|---|---|---|---|---|---|
| Electric shock from "build" equipment whilst working with it.<br>e.g.; drills, power saws, catering equipment, computers. Work lights | shock ranging minor to death<br>other injury, burns, fire | workers.<br>others. | Ensure Power supply/ Installed System is safe and with RCD.<br>Visually inspect pre-use and follow safe working practices.<br>Use 110 v equipment where possible<br>Maintain and test equipment regularly according to regs,.<br>Only competent people to do such work. | medium. high | 5 | 5 | 15 | MUST FOLLOW SAFEGUARDS><br>competent worker<br>ensure use correct equipment<br>ensure use of PPE.<br>follow regs.<br>inherent danger if not followed. |
| Installation /removal of Temporary Electrical Equipment | shock ranging minor to death | workers.<br>installers<br>crew | Follow safe working practices.<br>inc' de-energising system.<br>plan well and follow design. Think! | | | | | |
| e.g.; cables, lighting, sockets, pa systems, heating systems, | manual handling,<br>trip hazards.<br>working at height<br>cuts, burns, fire. | others.<br>installers<br>artists<br>public | Pre-Plan & ensure power supply is safe & sufficient & equipment appropriate .<br>Only competent people to do work.<br>Maintenance and inspection of kit as above<br>Ensure kit installed safely, leaving no identifiable extra hazards.<br>e.g. use RCD's safe cable runs, safety chains when rigged at height<br>Ensure correct earthing and bonding, take care with metal work and fittings.<br>Only connect Live when fully satisfied safe system.<br>Record findings. | medium high | 5 | 3 | 15 | as above |
| Use of installed electrics and kit.<br>e.g. before, during and after an event | shock, burn, fire,<br>trip, | public.<br>workers.<br>artists. | test and ensure the system is installed safely.<br>Use marquee hire checklist/ electric system sign off sheets<br>Visually check again before use/ constant vigilance and checking.<br>Energise in sequence<br>awareness of extra items/ changes to circuits changed.<br>Only competent people to use kit and no tampering/ changes advised.<br>Advise key people of risks./inform responsible person about the install requirements and how to use safely.<br>Do not leave unattended or without a responsible person.<br>try and keep cables and items out of public reach or routes. | medium/ high | 5 | 3 | 15 | as above |
| Other persons or companies electrical kit | shock ranging minor to death | all | Other persons kit must be similarly safe, tested and installed correctly. | medium | 5 | 3 | 15 | as above |
| weather conditions | can affect safe install, use and remo<br>as well as the kit itself | all | monitor weather and forecasts. Adapt install accordingly if needed<br>ensure corrcet IP ratings and weather protection/ shield from sun | medium | 5 | 4 | 20 | as above |
| the effects of any lighting installed on nearby traffic routes | eg drivers could be affected by glare<br>or attention diverted by lighting effects | all | avoid pointing lights at traffic routes.<br>event signage?<br>avoid flashes. | low | 5 | 3 | 15 | as above |
| time of day | will affect the power requirements<br>and public/ staff presence | all | plan and expect variation in demands | low | 3 | 3 | 9 | as above |
| hazadous envrionments , eg mines, petrol stations, flammable dust, explosive materials | fire, explosion, flammable material.<br>unsafe working / install/ removal/ use | all | check in planning stages and avoid if possible | high<br>if present | 5 | 2 | 10 | as above |
| Presence of water | may affect IP ratings, earthing, bondi<br>slip hazards.<br>shock hazard<br>failure of system | all | keep an eye on effects and ponding locations<br>avoid laying cables or kit in possible water runs.<br>be aware of drips from tent roof and where kit is then installed.<br>be aware of equipment ratings and location<br>be aware of expected wet areas, eg bars, extrerior lighting | medium | 3 | 3 | 15 | as above |
| length of time the system is needed | may affect system safety and equipment security | all | ensure a plan in place for system safety and security. Daily visual tests.<br>there should be a competent person present during use,<br>check regularly. | medium | 5 | 3 | 15 | as above |
| possible mutal EMI effects between temporoary and permanent systems | may affect planned results and interfi<br>installed system and earthing | all | plan correctly to try and avoid. | medium | 5 | 3 | 15 | as above |
| removal of system | shock.<br>manual handling,<br>trip hazards.<br>working at height<br>cuts, burns, fire. | all | ensure system is dead before work commences, visually check items.<br>de energise in sequence<br><br>perhaps leave work lights on if dark<br>check each item as removed and packed.<br>remove and label any suspect items for further inspection. | low to medium<br>if de energised. | 5 | 3 | 15 | as above |