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**PORT MACQUARIE-HASTINGS COUNCIL**  
**STANDARD ELECTRICAL SPECIFICATION**

**Installation and Use of Electrical Equipment at  
Council Controlled Parks, Reserves and Sports  
fields.**

**Revised: February, 2014**

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**PORT MACQUARIE  
HASTINGS**



# Preface

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This Standard was prepared by PMHC to provide safety standards and procedures for Sporting Organisations, Volunteer Groups, Committees, Contractors and their staff, Sub-contractors and their staff, Suppliers of equipment and individuals who wish to use electricity on any Council controlled parks, reserve and sports fields.

This Standard is to ensure that when electricity is utilised in a public place, the safety of the General Public is paramount as is the protection of all underground services including electrical/communications/water/sewer and gas

Failure to comply with any of the requirements within this document could result in heavy penalties from both Council and WorkCover NSW.

# **STANDARD ELECTRICAL SPECIFICATION**

**Installation and Use of Electrical Equipment at Council Controlled Parks,  
Reserves and Sports fields**

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# Section 1 – General

## 1.1 Scope

This Specification details the Council's General, Safety and Installation requirements for the use of electricity on any Council controlled reserve or property.

It includes, but is not limited to, electricity supply for concessions and rides, tents and other temporary structures used for entertainment or displays, shows and carnivals.

It includes, the Use and Safety Requirements when using extension leads, portable generating sets, current operated (core balance) earth leakage circuit breakers (RCD's) and lighting equipment.

All of the above listed items fall under the heading of temporary installations.

## 1.2 Compliance with Authorities and Standards

Equipment, all switchgear and control gear assemblies, plugs, leads and their installation shall comply with the requirements and recommendations of the latest relevant "Standards Association of Australia" Standard or Code including:

AS3002	Electrical Installations – Shows & Carnivals
AS3000	Electrical Installations – Wiring Rules
AS3005	Electrical Installation of Tents & similar structures
AS3105	Approval & Test Specifications – Plugs & Sockets
AS3112	Approval & Test Specifications – Electrical Portable outlet devices
AS3126	Approval & Test Specification for extra Low Transformers
AS3152	Approval & Test Specification – Decorative Lighting Outfits
AS3167	Approval & Test Specification for Protective Isolating Transformers
AS3190	Approval & Test Specification – Residual current devices
AS2790	Electricity Generating Sets – Transportable (up to 25kw)
AS3533	Amusement Rides & Devices
AS3017	Electrical installations - Verification guidelines
AS3760	In service safety inspection and testing of Electrical equipment

The requirements of PMHC Specification is a Guide to safe electrical work procedures and the Event Organiser will ensure their engaged workers also meet the requirements of the NSW Work Health & Safety (WH&S) ACT 2011 and WH&S Regulations 2011

Specifically the following must be considered:

- Work health and safety regulations - All electrical safety requirements
- Competent person for inspecting and testing
- Requirements for residual current devices (Clause 164/165 WH&S Regulations)
- Management and control of work places
- Roles and responsibilities of person conducting a business or Undertaking (PCBU)

All work shall be carried out in accordance with the Service Rules of the Supply Authority, the requirements of Telstra and all relevant Statutory Authorities.

### 1.3 Abbreviations and Expressions

Where abbreviations and expressions occur in the Specification, they shall mean as follows:

Accepted	Accepted by Councils Electrical Officer
Approved	Approved by Councils Electrical Officer
Council	Port Macquarie - Hastings Council
Directed	Directed by Councils Electrical Officer
Supply Authority	The Authority that supplies electricity to the locality of the project
Wiring Rules	The current edition of the SAA Wiring Rules AS3000
GPO	General Purpose Outlet
IP Rating	Degrees of Protection as described in AS1939
PVC	Polyvinyl chloride
SAA	Standards Association of Australia
Concession	Any booth, display, riding device or any other single entertainment units.
Concession Installation	All the electrical wiring, accessories, luminaries, switchboards, control panels, fittings, consuming devices, control and protective gear and other equipment associated with the wiring of the Concession.  The Concession installation shall be deemed to commence at the plug socket, terminals or links provided on the site for installation for the connection of the Concession
Site	Any area used for shows, circuses, carnivals, fairs, temporary entertainment or displays and the like, that is under Port Macquarie - Hastings Council control
RCD	Residual Current Devices (electrical safety devices that provide protection against faults to earth)
Site Installation	All the electrical wiring, accessories, luminaries, switchboards, control panels, fittings, consuming devices, control and protective gear and other equipment associated with the wiring of the site.
Event Organiser	Any person/s representing themselves or a committee, club or any other organisation or business.

#### **1.4 Council Assistance**

In an endeavour to assist the Organisers with their various requirements and taking into account the technical and legal requirements now required to conduct an event in a public place, Council will provide electrical technical advice for the site prior to the start of the festival/show/event.

Details regarding the provision of this assistance are to be agreed between the organisers and the Councils Electrical Officer.

Any changes to the agreed amount of power required or alteration to the location of extension leads, power outlets etc, are not to be made without the written approval of the Councils Electrical Officer.

It should be noted, that the provision of all temporary electrical equipment such as extension leads, power outlets etc, is the responsibility of the organisers, and that all of the equipment to be used on-site will comply with this document and relevant Standards.

Once Council is in agreeance with the organiser in regard to the demand/electrical requirements and the manner it is intended to be used, the ongoing electrical safety for the site is the responsibility of the Organisers.

A licensed electrical tradesman, engaged by the Organisers, will then complete the electrical safety checklist as shown in Appendix A.

## **Section 2 – Site Loading**

In order to assist the Organisers with their requirements, Council needs to know what the intended electrical load may be as there are parks and reserves throughout the Council controlled area that have only limited power and have not been established to cater for heavy demands?

It is the responsibility of the Event Organiser to obtain from each participant the electrical ratings of their concession, ride, stall, tent, etc, to enable Council to ascertain the maximum current requirement for the venue.

Information required on each piece of electrical equipment should be listed on Addendum “A” and forwarded to Council 21 days prior to the event.

Voltage	=	240 volts or 415 volts
Current	=	in amps
Power	=	watts or kilowatts
Motor Rating	=	Horse power / Kilowatts

(If electric motors are being used)

## Section 3 – Equipment Tagging

It should be noted that in the interest of public safety, it is a requirement of WorkCover NSW that all electrical equipment used in a public place shall be inspected, tested and tagged by a licensed electrician before being brought onto site.

Council will make electrical staff available the week prior to the event and provide advice to the organisers on any intended equipment they envisage using, provided reasonable notice is given.

All extension leads, portable RCD's, portable generators, and plug in type appliances shall be inspected, tested, and tagged by a licensed electrician before being brought on site.

The only form of inspection duration accepted by Council is Monthly - 3 monthly inspection tags will not be accepted

These tags will show the following information:

- i. Date of inspection
- ii. The plant number or inspection number of the item inspected
- iii. The name of the testing company
- iv. The licensing number and signature of the electrician

## Section 4 – Cabling

### 4.1 Overhead

Overhead wiring for a temporary site installation shall consist of stranded, insulated and sheathed type heavy duty flexible cords.

The height clearance of cables from the ground shall be as follows:

- i. Around concessions, rides or any movement amusements – 4.5 metres
- ii. Where used across vehicular access or roadways – 5.5 metres
- iii. Where used over other areas – 2.5 metres.

Where an overhead span exceeds 13 metres, cables shall be fixed to a catenary wire.

The maximum acceptable distance of an overhead span without an intermediate upright support is 45 metres.

#### **4.2 Dial before you Dig/Disturbing the ground**

It is the responsibility of the event organiser to consult appropriate bodies and make relevant enquiries regarding in ground services that may be present on any council owned or controlled park or reserve **BEFORE** any ground is disturbed to erect temporary marquees/tents/posts/poles etc.

#### **4.3 Onground**

Cables shall not be laid on the ground in areas accessible to the public. In all other situations, cables may be laid on the ground for short distances provided that suitable means of protection is provided. This protection must be rated for pedestrian and/or trafficable areas.

The suitability of protection will be determined by the Event Organiser.

#### **4.4 Joints in Cabling**

Where possible, cable runs shall be free of joints and continuous over their entire length.

If joints are required, they will be enclosed in approved IP rated weather proof enclosures

Conductors shall be joined within junction boxes or suitable enclosures by means of connectors, soldering, crimping or approved compression fittings. Joints shall be suitable insulated and taped.

Provision shall be made to remove any tension from all joints.

NOTE: All joints will be inspected before supply is connected by the organisers electrician.

#### **4.5 Flexible Cords/Cables**

All flexible cords/leads shall be heavy duty sheathed type having a minimum current carrying capacity of 15 amps.

All flexible cords/leads shall be inspected, tested & tagged in accordance with the requirements of Section 3 before being allowed to be put into use.

## **Section 5 – Switchboards**

Where a temporary switchboard having connection facilities is installed within 2.5 metres of the ground in an area accessible to unauthorised persons the switchboard shall:

- a) Have no exposed live parts
- b) Be enclosed within a cupboard or box fitted with a door or lid provided with facility for locking. Such a cupboard or box shall be:



- i. Constructed to permit the opening or closing of the door or lid without the removal of, or damage to, any cables or flexible cords attached to the connection facilities; and
  - ii. Provided with a tie-bar or similar arrangement for the anchorage of the cables or flexible cords in order to prevent strain at the termination of the cables or cords.
- c) Each plug socket shall:
  - i. Be individually controlled by a switch which interrupts all live conductors
  - ii. Incorporate an earthing contact which shall be connected to the earthing conductor of the supply flexible cord.

Every connection facility or outlet device shall be protected by a Residual Current Device (RCD) over current circuit breaker with a related tripping current not exceeding 30mA.

Every connection facility shall be connected to a separately protected final sub circuit.

## **Section 6 – Portable Generators**

All portable generating sets up to 25 kilowatts in rating shall comply with the performance and construction requirements of AS 2790.

The power outlets on all portable generating sets shall be protected by core balance earth leakage device (RCD) with a rotated tripping current not exceeding 30 mA.

All portable generating sets shall be inspected, tested and tagged by the organisers electrician before being brought onto site as detailed in Section 3

## **Section 7 – Connection to Supply**

### **7.1 Portable Outlets**

Electrical portable outlet devices shall be connected to a site installation or generating set by means of plug and plug socket connection facilities.

Where the supply flexible cord or cable attached to the device is of insufficient length to permit an unbroken connection, approved heavy duty sheathed cord extension sets, or sheathed cables fitted with plug and socket connection shall be permitted. Supply for the device shall not be obtained from another electrical portable outlet device.

Electrical portable outlet devices shall be adequately supported by a rigid section of the concession structure and shall not be laid on the ground. The device shall not be installed within 1 metre of flammable materials unless provided with a suitable cover.

All plugs sockets provided on an electrical portable outlet device shall be protected by one or more current-operated (core balance) earth-leakage circuit breakers complying with AS 3190 or other earth monitoring devices such as RCD's

Single phase and multiphase electrical portable outlet devices shall comply with the relevant requirements of AS 3105.

All portable outlet devices shall be constructed of suitable impact resistant and durable material.

## 7.2 Concession Installation

Concession installations shall be connected to the site installation or to generating sets by means of cables or flexible cords and suitable plugs connecting devices.

Each consuming device within the concession shall be connected to the supply either:

- a) An independent cable or flexible cord connected to the site installation or generating set.
- b) An electrical portable outlet device.

However, where only two consuming devices are installed within a concession, connection to the supply may be made by means of a plug-socket adaptor provided that the adaptor is:

- i. Located within the concession; and
- ii. Not laid in contact with the ground or exposed to the rain

In determination of the number of consuming devices in a concession, each system of festoon lighting and each decorative lighting outfit shall be considered as one device for each plug provided for connection to the supply.

## Section 8 – Riding Devices

Electrical equipment installed on riding devices shall be supplied by one of the following methods:

- a) Extra Low Voltage (not exceeding 32 volts AC or 115 volts DC)

The extra low voltage supply shall be obtained from the unearthed secondary of a transformer complying with AS 3126

- b) Low Voltage (exceeding extra low voltage but not exceeding 1000 volts AC)

The low voltage supply shall be protected by a current operated (core balance) earth leakage device (RCD) with a rated tripping current not exceeding 30 mA.

## Section 9 – Lighting

### 9.1 General

All lighting, whether festoon, general or flood shall comply with the requirements of AS 3000 wiring rules.

Light fittings designed for indoor use only shall not be used in an outdoor situation.

### 9.2 Floodlights

Due to the amount of heat generated from various types of floodlights, all floodlights will not be mounted or positioned within 3m of any flammable material.

Where the organiser wishes to use a floodlight for display purposes, suitable support bracketry will be required to ensure a minimum of 3m is maintained.

### 9.3 Festoon Lighting

Festoon lighting shall be located and supported so that:

- a) no lamp is within 3m of flammable material
- b) no lamp holder is within 2.5m of the ground or any place where a person is likely to stand, unless:
  - i. the lamp holders are installed immediately below a ceiling or fixed to a structure, in a position not exposed to mechanical damage, or
  - ii. precautions are taken to prevent inadvertent contact by members of the public, and
- c) No part of the lighting system is within 5.5m of the ground in areas subject to vehicular traffic.

#### Loading of final sub circuits

The number of lighting points per festoon lighting final sub circuit shall be limited only by the total loading of the final sub circuit which shall not exceed 15A.

#### Decorative lighting outfits

Decorative lighting circuits shall comply with AS 2152 and may incorporate flexible cords having conductors not smaller than 0.75mm<sup>2</sup> provided that the flexible cord, lamp holders, connections and other parts of the system are suitable for outdoor use.



**Installation of Electrical Equipment at  
Council Controlled Parks, Reserves and Sports fields**

**Note:** This checklist is to be completed by the Organisers Electrician prior to the commencement of the event.

**Completed checklist to be emailed to leanne.lean@pmhc.nsw.gov.au  
Alternatively fax to PMHC 6581 8190**

LOCATION: \_\_\_\_\_ Date: \_\_\_\_\_

EVENT: \_\_\_\_\_

EVENT ORGANISER: \_\_\_\_\_

**CHECKLIST IS BASED UPON COMPLIANCE WITH PMHC ELECTRICAL SPECIFICATIONS**

	Yes	No	N/A
SITE LOADING AS PER SECTION 2			
EQUIPMENT TAGGED AS PER SECTION 3			
OVERHEAD CABLING AS PER SECTION 4.1			
UNDERGROUD PRECAUTIONS AS PER 4.2			
ONGROUND CABLING AS PER SECTION 4.3			
JOINTS IN CABLING AS PER SECTION 4.4			
FLEXIBLE CORDS/CABLES AS PER SECTION 4.5			
SWITCHBOARDS AS PER SECTION 5			
PORTABLE GENERATORS AS PER SECTION 6			
CONNECTION TO SUPPLY SECTION 7			
RIDING DEVICES AS PER SECTION 8			
LIGHTING AS PER SECTION 9			
ELECTRIC MOTOR SYSTEMS			
CONTROL SYSTEMS			

SUPPLY AUTHORITY		START	FINISH
METER READINGS:	Meter No 1	_____	_____
(If required)	Meter No 2	_____	_____
	Meter No 3	_____	_____

**COMMENTS:**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**INSPECTION CARRIED OUT BY:**

Print Name:.....Signature:.....

Electrical Licence No:.....Date:.....