

ELECTRICAL BULLETIN

2009-03

From: David MacLeod, C.E.I., P.Eng.
Provincial Chief Electrical Inspector

Date: December 14, 2009

Pg 1 of 5

Subject: Electrical requirements for outdoor concerts, special events and events of a similar or temporary nature

This bulletin is intended to clarify when electrical permits and inspections are required for outdoor concerts, special events and events of a similar or temporary nature and to provide the general requirements to ensure a safe electrical installation.

All installations are to comply with the applicable sections of the Canadian Electrical Code Part 1 (CEC) and as indicated in this bulletin.

The following is not all inclusive in direction and where any subject is unclear it is the responsibility of the person performing the electrical installation to clarify with the electrical inspection department what is required.

Permits and Inspections

Unless the electrical installation is exempt, as indicated below, all electrical installations for concerts, stage shows, special events and events of a similar or temporary nature **require a wiring permit** prior to any electrical work being performed.

A wiring permit shall only be issued to a person holding a Nova Scotia certificate of qualification as a construction electrician.

Permits and inspections are to be obtained from the local electrical inspection department.

Some of the events, activities or items, but not limited to, that are intended to be covered under this bulletin are outdoor concerts, stage events, tent events, exhibits ,bazaars, food and beverage concessions, food trucks , office trailers involved in the event, or any other similar outdoor activity of a temporary nature that requires electrical power in order to operate.

Where more than one event or activity is occurring on the site a single permit may be issued to cover all the electrical installations on the site otherwise individual permits shall be obtained for each specific electrical installation or activity.

Any event or activity that does not obtain a wiring permit, where a permit is required, may have its power disconnected or the equipment ordered disconnected by an electrical inspector.

The following electrical work is exempt from requiring a wiring permit:

- a) the connection of six (6) pieces of certified cord connected electrical equipment or less for an entire site, to receptacles rated not more than 240 V, 30 A. The receptacles can be either part of or supplied from one portable generator that has a rating not more than 10 KW or those supplied by utility power (see note 7) ; **or**
- b) where all of the wiring for the event is contained within the stage area and the power is obtained from existing power supplies (ie receptacles or camlock connectors) located within the stage area.

For clarity the following is **not exempt** from requiring a wiring permit:

- a) where any combination of utility power and generator power is used or where more than one portable generator is used even where six (6) or less pieces of certified cord connected equipment is used; **or**
- b) any portion of the electrical wiring that extends beyond the stage area; **or**
- c) where the general public general will be using any of the electrical equipment on the stage on a regular basis. (ie open talent event where those involved do not have any input or general knowledge of the setting up of the electrical equipment being used).

The general public is defined as any individual who is **not** part of the event set up or the organizing event staff, a guest or person invited briefly onto the stage or performers that provide and set up their own equipment.

General Electrical Requirements

Where an electrical inspector considers any electrical installation to be unsafe, the inspector may require corrective action be taken to ensure compliance to the CEC.

Metal structures (staging, towers, bleachers, metal barriers and possibly fencing etc.) that may become energized shall be bonded to ground and inspected.

When new, additional wiring or modifications are made to an existing electrical system after an inspection has already been performed, the installer is required to apply for a reinspection by the electrical inspection department.

Any wiring or electrical equipment outside of the stage area will be inspected inclusive of generator installations, distribution equipment and associated cables and the bonding of remote installations.

Any time a portable generator is used to supply power it should be of the neutral grounded type or arrangements made to ensure it is properly grounded per the manufacturers recommendations.

Where more than one power supply is used on the site they may be required to all be bonded together.

All electrical equipment must be properly certified for its use and application and be in good operating condition.

Where cables are run on the ground, they shall be protected from pedestrian and vehicular traffic and any other possible damage by use of mechanical protection, barrier or location.

Access to electrical equipment such as, but not limited to, generators, transformers, lighting, disconnects and panels shall be restricted to the public either by barrier or location and such equipment shall be protected from the weather unless approved for outdoor use.

Where practicable, 15 A or 20 A, 120 V cord connected equipment that is readily accessible to the general public shall be protected by a **GFCI** of the class A type under the following conditions:

- a) where electrical equipment or the associated power supply cords are located in a possible wet area ,environment or in direct contact with the earth; **or**
- b) where anyone operating the electrical equipment can be exposed to a wet area or environment while in contact with the equipment; **or**
- c) the person while operating the electrical equipment can come in contact with a grounded structure or metal item which is in direct contact with the earth.

The above requirements for GFCI protection do not apply for stage equipment unless the stage is being used by the general public and applies even when the electrical equipment is installed in a tent or a similar type structure where the cords or equipment are in direct contact with the earth or the receptacles that supply power are located outside of the sheltered area.

Equipment and cords located outside of any sheltered area are considered to be in a wet environment.

Acceptable GFCI protection could be of any of the following ,GFCI receptacles, GFCI breakers or in line GFCI cord sets or any combination of these.

A wet area or environment is typically where significant water or moisture can occur, pool, flow or accumulate and it cannot be controlled by staff and is not typically accidental in nature.

Lighting for areas where the general public can gather shall be protected from damage by use of a suitable shade on the lights or by location.

Larger events may require more than one inspection and require more interaction with the electrical inspection department.

Electrical equipment that has been modified from its original condition may not be accepted

It should be noted that the inspection required by any Fire Inspector for a tent event does not preclude the requirement for a separate wiring permit to be obtained, unless exempt, and an electrical inspection to be performed by the electrical inspection department.

Notes:

1. NS construction electricians applying for permits within NSPI's jurisdiction should be previously registered with NSPI to obtain permits, this will facilitate a more efficient process for obtaining inspections of the event.
2. Those applying for a permit should make it very clear to the inspection department the work for which the permit is to cover and if there are requirements to inspect after normal hours, weekends or holidays. Permit cost are determined by the inspection departments.
3. Event organizers should coordinate to ensure that a single or individual permit has been obtained for all electrical work associated with each event where multiple activities are occurring at the site.
4. It is the responsibility of the person performing any electrical work to ensure a permit has been obtained ,unless exempt, prior to starting.
5. Electrical safety to the general public is a priority responsibility of the event organizer and all those involved in the installation of any electrical system. All electrical wiring and electrical equipment shall be kept inaccessible to the general public by barriers or location.
6. All of the above requirements apply even where portable generators are used.

7. The total of 6 pieces of certified cord connected electrical equipment does not include any connections of equipment that may occur on a stage unless the stage is being used by the general public.

In many instances the production services provider or the host of the event take responsibility for the installation for all or most of the electrical systems for the stage show .

The electrical systems on stage may include portable stage and studio lighting, sound, audio and visual effects equipment , power distribution equipment and all the associated cabling.

The installation of such systems shall be installed in a manner so as to ensure safety and minimize the risk of fire or electric shock .

Any questions regarding this bulletin contact:

David MacLeod, P.Eng.-Provincial Chief Electrical Inspector at Ph. No. 424-8018 or by email at macleodd@gov.ns.ca