

## **Interpretation of the Electrical Safety Committee – March 2008 Use of Cord Pendants as Receptacles**

### **Summary**

A cord connector that is supplied by a permanently connected cord pendant is considered by the National Electrical Code (NEC) as a receptacle outlet. The use of such an installation is acceptable at BNL provided the installation is consistent with other articles of the NEC concerning flexible cord and pendant boxes.

For cord connected equipment that is permanent in nature, the preferred method of connection is to a permanent, rigidly mounted receptacle rather than a pendant.

Prior to any further installations, the cord pendant installation must first be approved by the AHJ.

### **Relevant Code Sections**

#### **NEC Article 400 – Flexible Cords and Cables**

##### **400.7 Uses Permitted**

**(A) Uses.** Flexible cord and cables shall be used only for the following:

- (1) Pendants

#### **NEC Article 210 – Branch Circuits**

**210.50 (A) Cord Pendants.** A cord connector that is supplied by permanently connected cord pendant shall be considered a receptacle outlet.

**314.23(H) Pendant Boxes.** An enclosure supported by a pendant shall comply with 314.23(H)(1) or (H)(2).

(1) Flexible Cord. A box shall be supported from a multiconductor cord or cable in an approved manner that protects the conductors against strain, such as a strain-relief connector threaded into a box with a hub.

**400.14 Protection from damage.** Flexible cords and cables shall be protected by bushings or fittings where passing through holes in covers, outlet boxes, or similar enclosures...

### **Analysis**

NEC Article 210.50 (A) states that a pendant “receptacle” is to be considered the same as receptacle outlet. From this and other relevant Code sections, it is clear that pendants are an acceptable means for both temporary and permanent construction, provided the installation is consistent with all other relevant articles in the NEC (i.e. appropriate strain relief, protection of flexible cord from damage, etc). The LESC has concluded that, for most locations, a better method of installation is for the receptacle to be installed in a permanent, rigidly mounted box. This is because the installation is less likely to be damaged. Also, the operation of plugging into a pendant is a two handed operation. If there is a failure, the path of electricity would be from one hand, through the chest, to the other hand. Designers should choose the permanently mounted option when the flexibility afforded by the use of a pendant is not needed.

The designer and user of cord pendants should keep in mind good engineering and work practices. These include length of the pendant (they should not be too long), and location (they should not lay on the floor when not in use).



Cord Pendant

Cord Connector