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I. PURPOSE

The purpose of this program is to define the procedures and standards for the use of High Intensity Discharge (HID) lighting as part of the temporary electrical service on Gallant Builders (Gallant) construction projects.

II. SCOPE

This safety program applies in its entirety to all Gallant projects unless a variance is granted by the Gallant Safety Director.

III. POLICY

Subcontractor's providing temporary lighting using HID lighting shall follow the procedures outlined in this program for the safe installation, inspection, maintenance and operation using HID lighting.

IV. PROGRAM OVERSIGHT

This program is intended to provide requirements for safe work practices using HID lighting during construction activities. Compliance with this program is required for all site workers involved in the installation, inspection, maintenance and use of HID lighting on a Gallant project.

The Gallant Superintendent and the subcontractor's supervisors will be responsible for ensuring all jobsite workers comply with the requirements of this program.

V. MANUFACTURER'S INSTRUCTIONS

The electricians installing HID lighting as part of the temporary lighting system shall follow the manufacturer's instructions. The electricians shall provide the Gallant Superintendent with a copy on the manufacturer's instructions for the lamps and fixtures.

VI. LAMPS & FIXTURES (LUMINAIRES)

HID lamps that automatically extinguish when broken shall be used on Gallant projects. Each HID lamp shall be protected by the use of a protective guard install around and underneath the lamp.

All HID lamps and fixtures (luminaires) shall be used according the manufacturers' instructions and shall never be field modified.

VII. APPROVED HID LAMP TYPE

Only HID lamps with a self-extinguishing feature are allowed to be used as part of the temporary electrical system on a Gallant Builders project.

These lamps are available in clear and frosted. The use of frosted lamps is preferred in order to reduce glare and cut down the possibility of high intensity light damaging workers eyes

VIII. SELF-EXTINGUISHING HID LAMP TYPE

The self-extinguishing light bulbs feature is a blub that shuts off the light within 15 minutes after the outer bulb is broken.

IX. MOUNTING HEIGHTS

The mounting heights of HID lighting has to be a key safety focus and mounting heights vary from manufacturer to manufacturer.

All HID lighting systems shall be mounted according to the manufacturer's instructions.

X. INSPECTIONS of HID LAMPS and FIXTURES

The electricians shall inspect, protect, maintain, change-out and dispose HID lamps and fixtures according the manufacturers recommendations/instructions and all applicable standards.

Lamp and Fixture (luminary) Inspections and Maintenance shall be conducted:

- In accordance with manufacturer's instructions
- Prior to installation and initial start-up
- Monthly – documented using the Galant HID Lighting Inspection Form
- Prior to bulb installation and re-starting
- After any report of damage or potential damage

XI. PROTECTION & MAINTENANCE (P&M)

Lamp and fixture protection and maintenance shall be conducted to help minimize hazards associated with HID lamps. For successful P&M program the following is required:

1. Follow the manufacturer's lamp installation specifications (located on the side of the bulb box) for clearance to combustible materials and lamp selection

2. Turn off lamps at least once a week for a minimum of 15 minutes. If a lamp is near failure, it is better for it to fail during startup rather than while operating at high pressures and temperatures

3. Replace HID lamps at or before the time recommended by the lamp manufacturer

4. Replace scratched or damaged lamps and lenses

5. Protect lamps from contact with water, moisture, oils, dust, etc.

6. All HID lamps shall have a protective cage that total encloses the lamp to protect it from accidental breakage

XII. LAMP CHANGE-OUT SCHEDULE

All HID lamps shall be changed out by the electricians according to the manufacturer's change-out schedule.

XIII. LAMP DISPOSAL

HID Lamps contain mercury and are considered hazardous waste at the time of disposal.

The subcontractor (electricians) shall be responsible for changing out extinguished HID lamps and also responsible for the removal and proper disposal of the burned out lamps in accordance to the manufacturer's instruction

XIV. LAMP MATERIAL DATA SHEETS (LMDS)

The subcontractor providing the HID lamps shall also provide the LMDS for the HID lamps brought to the Gallant project.

The LMDS shall be kept on file at the project as part of the temporary lighting package

XV. EMPLOYEE TRAINING

The electricians responsible for installing and maintaining the temporary electrical lighting system using HID lighting shall be trained in the following:

1. Proper installation and start-up of HID lighting systems
2. Manufacturer's instructions and change-out schedule
3. Inspection requirements of the luminaries and lamps
4. Protection and maintenance of HID lighting systems
5. Proper handling and disposal of the HID lamps

XVI. HID LIGHTING HAZARDS

HID lamps may fail due to internal and external factors. They may experience a normal lamp failure which occurs when the lamp does not illuminate when energized. Failure usually occurs as the bulb ages or when struck.

Occasionally, the lamp fails violently. If the arc tube ruptures, hot particles may be ejected from the lamp and can be an ignition source to combustible materials. The industry refers to an arc tube rupture as a "non-passive failure." The rupture may be caused by physical damage to the lamp, out of spec operating conditions or from the wearing down of the arc tube near the end of the lamps' age.

HID lamps may fail due to number of internal and external factors:

- Ultraviolet Radiation
- Fire - HID lamp tubes can rupture possibly sending hot particles to be ejected from the lamp which could ignite combustible materials.
- Burns – HID lamps can get extremely hot and handling the lamps without allowing them to properly cool can lead to minor to possibly severe thermal burns
- Normal lamp failure which occurs when the lamp does not illuminate when energized. The failure usually occurs as the bulb ages
- The HID blubs also fail due to being struck by ladders, scissor lifts or other means.