

# Solve Electrical Safety & Maintenance Issues on OVERHEAD BUSWAY SYSTEMS with...

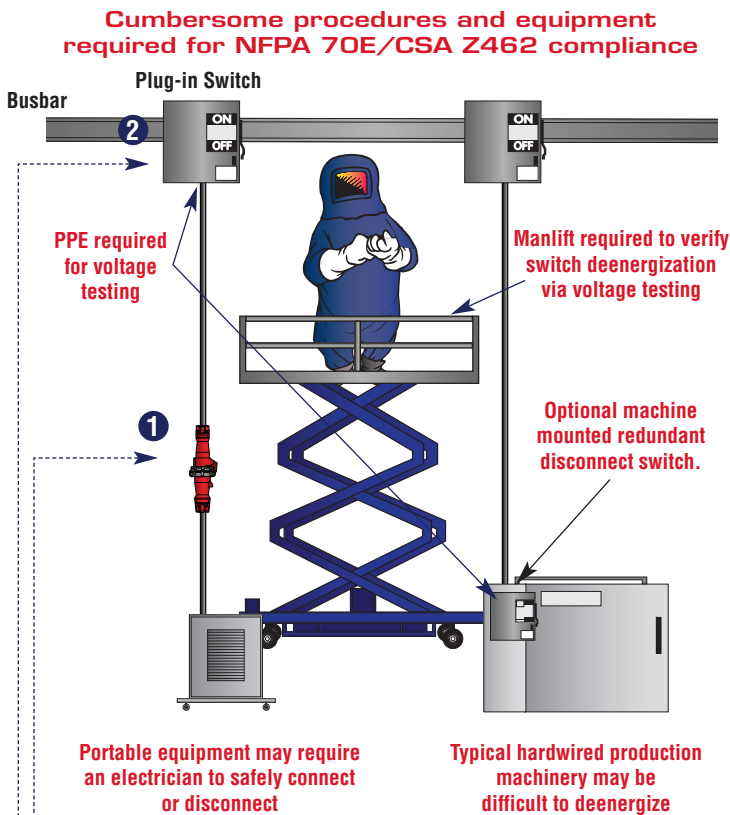
## DECONTACTOR™ Series Plugs & Receptacles



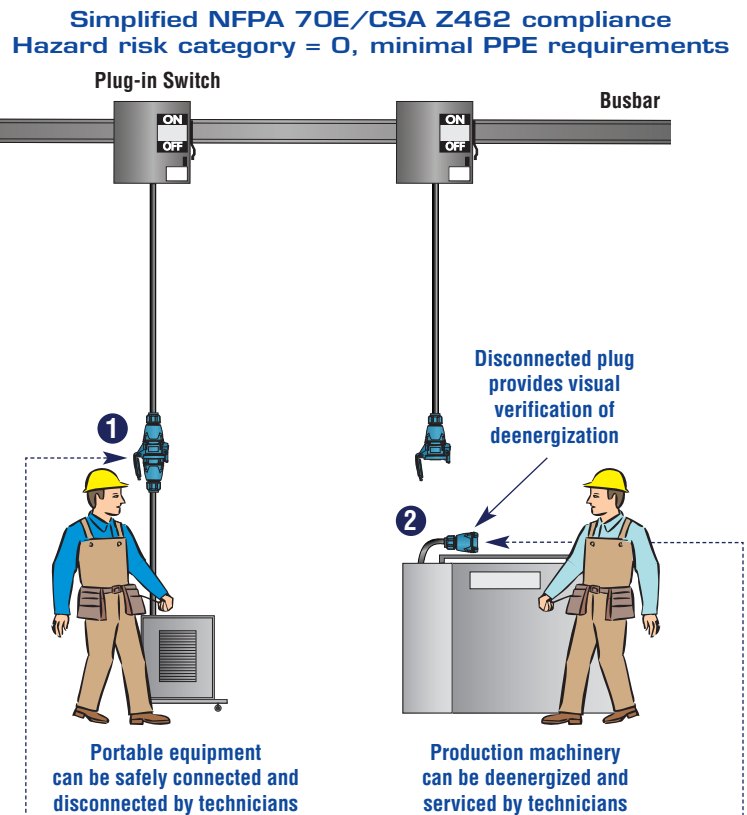
Meltric's DECONTACTOR™ Series switch rated plugs & receptacles combine the safety and functionality of a disconnect switch with the convenience of a plug & receptacle. They are designed to allow users to safely make and break connections under full load and provide significant protection in overload and short circuit conditions. Safety features ensure that users are protected from exposure to live parts and potential arc flash at all times during the operation of the product.



### Typical Busway System



### Busway System with Decontacter Plugs/Connectors



**1** Drawing an arc during plug removal is an inherent hazard with traditional pin & sleeve and twist type devices.



**2** After operating the disconnect switch using a 'hook stick,' a worker still needs to verify deenergization. Exposure to live parts is possible, so cumbersome PPE is typically required.



**1** Decontacter devices are safe to make and break under full load. When separated, a safety shutter maintains an NFPA 70E defined hazard risk category = 0.



**2** Decontacter plugs and receptacles provide visual verification of deenergization. The plug can be easily locked out and tagged out.



# Improving Safety and Efficiency of connections to an Existing Busway System – Edison Welding Institute

## Facility Description:

Edison Welding Institute's (EWI) 40,000 sq. ft. high-bay laboratory provides the space to set up individual work stations for a large number of projects simultaneously. Three 1,600 amp bus bars provide 480 volt power throughout the laboratory, with more than 100 separate power drops for welding power supplies. Andy Joseph, EWI's Manager for Welding and Testing Labs, says, "We have nearly every one of the recognized welding processes commonly used today, and they all require electricity. The equipment for all these different procedures takes space, but we're not using them all at the same time, so we need to be able to change them out."

## Problem:

At EWI, the need to continually move welding equipment between more than 100 different work stations made it difficult to quickly and safely disconnect electrical power each time. Joseph explains, "With the disconnects overhead, we would have had to suit up with PPE (personal protective equipment) because there was no way to verify that the power was disconnected without someone going up in a manlift."

## Solution:

EWI first considered installing disconnect switches at ground level for each location. This still would have required pin-and-sleeve plugs to connect the equipment, and the switch boxes would have taken up valuable space. Joseph notes, "With 120 of the old connectors, we would have had to buy 120 disconnect boxes that would have required extra wiring."

Instead, Joseph selected Meltric's Deconnector Series switch rated plugs and receptacles, which combine the functions of a disconnect switch with plug and play connectivity. **Now with Deconnector devices installed at more than 100 locations in the lab, disconnecting power is a simple and safe operation.** Pressing a push button off-switch on the Deconnector receptacle breaks the circuit and ejects the plug to its rest position. Then the plug can be withdrawn from the receptacle in complete safety, since the circuit is already dead. When the plug and receptacle are separated, deenergization can be visually verified, and a safety shutter on the receptacle prevents access to live contacts. "Having the disconnect switch right in the plug eliminates the need for an arc flash hazard assessment or suiting up," notes Joseph.

Deconnector devices provide greater flexibility in EWI's operations. "Probably the biggest benefit for us has come from efficiency improvements," Joseph points out. "We have a limited amount of space and are continually changing out equipment for different projects. When we start or finish a project, we can pull out one setup and bring in another quickly and safely." Approximately half of the laboratories are set up for systems welding, with the other half divided between arc welding and laser welding. Joseph explains, "We may have to move one technology into another area, and the Deconnector plugs make that very simple."



Switch rated welding receptacles (background) are connected to overhead busway system via cord drops.



Switch rated plug and receptacle (background) enables technician to safely deenergize and relocate welding equipment.



Switch rated plugs and receptacles eliminate the need for auxiliary disconnect switches at the ground level, saving space and connection time.



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