

Medium Voltage Equipment Installation: What Can Go Wrong?"

Presented by:

Brandon Sedgwick, PE – President of Hood-Patterson & Dewar, Inc.

Bio

With extensive experience in both newly constructed and existing “live-site” data centers and critical facilities, Brandon specializes in functional performance verification and troubleshooting of complex electrical distribution systems, and integrated building systems commissioning. He earned his Bachelor of Mechanical Engineering from Lehigh University and is a licensed Professional Engineer.

Duration:

45 minutes

Abstract:

Data centers continue to consume ever increasing amounts of power. Facility capacities on the order of 50MW to over 150MW of power are becoming more commonplace with each passing day. To deal with the resulting power distribution challenges, datacenters design engineers are turning to onsite power distribution at medium voltage levels. While this method allows for the flexibility of stepping down to low voltage as near to the load as possible, failure to use proper installation practices can lead to immediate or premature electrical failures.

In general, most contractors do not have daily experience installing MV equipment, cables and MV cable terminations. They may be unaware of voltage-related “gotchas” that do not exist at typical, lower utilization voltage levels. In fact, there are many important considerations regarding use of higher voltage equipment, including strict conformance to manufacturer’s installation instructions and a myriad of advisable “best practices” to follow. Misunderstanding or ignorance of installation “best practices” and failure to appreciate and painstakingly follow manufacturer instructions are common findings when investigating electrical “events” and unplanned outages in medium voltage electrical systems.

Join Brandon Sedgwick as he presents some of the installation-related problems and failures he has encountered and describes some means and methods of evaluating existing installations to determine if potential problems are imminent or likely to occur.

Learning Objectives:

Attendees will:

- Become familiar with MV cable termination kit design principles and installation / construction requirements
- Become familiar with common mistakes of sub-standard cable and MV equipment terminations
- Understand best practices for inspecting and testing MV cables
- Recognize the differences between VLF (Very Low Frequency) and DC Hi-Pot testing
- Become familiar with methods of detecting issues with MV equipment after it is placed into operation