



# Explosion Inside Electrical Vault Leads to Complete Renovation by S&C

**S&C Featured Solution:** Vista® Underground Distribution Switchgear

**Location:** Chicago, Illinois

## Customer Challenge

The Montrose Harbor Electrical Vault, owned and operated by the Chicago Park District, fell victim to a catastrophic circuit breaker failure that resulted in an explosion and devastating fire. The vault had been served by two incoming sources connected to exposed overhead bus. Each source supplied four feeders. A tie switch allowed either source to serve both sides of the vault.

After the fire, the south side of the vault was completely inoperable and several critical loads were without power. The only way to restore power to these loads was to reconfigure downstream feeders and supply the entire load from the north side of the vault. Because the north side of the vault also experienced fire damage, it was extremely important to restore service to both sides as quickly as possible, before further damage could occur.

## S&C Solution

S&C was asked to provide a quotation for the equipment and associated services to completely renovate the vault and restore service to all loads. The solution that S&C proposed included two units of



*The completely renovated electrical vault.*

Vista Underground Distribution Switchgear, mounted side-by-side on specially fabricated racks. Each unit of Vista gear would be fed by its own source. A tie cable would permit both units to be powered from either source.

The Chicago Park District agreed to the proposal. There was just one problem: The standard 12-week lead time for the Vista gear would need to be cut in half! Given the urgency of the project, S&C pulled out the stops to make it happen.

The first step in the project was procurement of all equipment and material. In addition to the Vista gear, S&C provided the following equipment:

- Medium-voltage cable, cable splice kits, and elbow terminations
- A control power transformer
- A low-voltage circuit breaker panel and all associated wiring and conduit for lighting, heaters, and receptacles
- A new exhaust fan and duct work
- A new heavy-duty steel door

S&C was responsible for ensuring all work would be done safely and the completed installation complied

*Shortly after construction started.*





with all applicable codes. In addition to installing the Vista gear, S&C provided the following services:

- Design and fabrication of the custom mounting racks for the Vista gear
- Removal of all existing exposed overhead bus, bus supports, circuit breakers, medium-voltage cable, and potheads
- Installation of new medium-voltage cable, cable splices, elbow terminations, parking stands, and low-voltage circuits for lighting, heaters, and receptacles
- Cleaning and refinishing of the inside walls of the vault
- Backup generation during construction
- Overall project management

## Results

The Chicago Park District had used Vista Underground Distribution Switchgear at several other locations on its system, but this was the first installation where S&C provided a complete turnkey solution. In the end, the vault was completely renovated. It now provides a safe working environment for representatives of the Park District while dramatically improving the overall reliability of their distribution system.

