February 16, 2022

A fire located in the warehouse of a non-sprinklered single-story mixed-use strip center caused over $1,000,000 in damages and loss to the contents and structure.

The company specializes in the installation of photovoltaic arrays (PV) and energy storage systems (ESS) systems. The last installation crew arrived back at the warehouse and parked their enclosed aluminum construction trailer inside the warehouse. The trailer was set up as a portable workshop with tool charging, parts storage, equipment transport space, etc. Utilizing a shoreline setup, power was connected to the trailer via an extension cord that supplied a junction where all of the tool battery chargers were connected. The crews described their day as uneventful, but when asked about possible damage to a battery they described a tool falling from a roof during an earlier installation and going back to work with the device.

The fire consumed the majority of the contents of the trailer, including melting the roof and walls. Fire spread was limited by firefighting operations, but the heat and smoke caused damage to approximately 100 PV panels and 12 power walls that were stored on racks nearby. The pressure and products of combustion caused the upper 5 courses of masonry block on the delta side of the structure to buckle outward, as well as section of the roof to burn through prior to fire arrival.

The entire vendors space was gutted and the affected equipment was recycled.
Round Table Discussion / High Points

- Large, single story, mixed use strip center, Type II construction, NON sprinkled.
- Working fire upon arrival. Flames visible from the roof with smoke stained windows.
- Non-hydranted area, water provided via Tanker / Tender.
- 2.5 miles from closest staffed fire station.
- Ignition point determined to be a catastrophic Lithium-ion battery failure while plugged into a 120vac charging base.
- Rapid fire spread contributed by fire load in work trailer and spread to the warehouse area.

View of the involved 16' enclosed work trailer stored in the warehouse side of the business.

A view of the block wall separation.

A view of the charging bank of a second work trailer not involved.