

## **Photovoltaic System Fire Risks, an Insurers Perspective – Tom Hall**

Solar PV system use has increased three-fold over the last three years, which means more and more businesses need to understand the risks associated with them in order to help protect their property and business operations.

This presentation will address PV system concerns from

- A property insurer's perspective
- And, specifically in regards to
- The peril of fire, and
- PV systems installed on building roofs

The addition of solar panels or photovoltaic panels on a building roof can create new hazards:

- Increased fire ignition sources introduced on exterior building surfaces that are beyond the reach of fixed or automatic fire protection and fire detection systems.
- Presence of solar power generation features that cannot be reasonably de-energized before fire suppression activities begin.
- Increased difficulty for fire department operations, with responding fire service making a reasonable decision to use defensive firefighting tactics to avoid placing personnel on roofs or within buildings equipped with solar panel systems.
- Increased flame spread or combustibility of roof coverings as the heat from a roof fire may be inhibited from dissipating upward away from the roof surface by the presence of rack-mounted photovoltaic modules.
- Unexpected structural loads not anticipated by codes and standards such as snow or ice loads that accumulate in shaded areas below panels, or deflection of structural members creating the potential for ponding of rainwater.

Fires on the roof are often outside the range of fire suppression systems and also present challenges to fire departments, which may opt to keep firefighters off the roof of a building with photovoltaic arrays due to the risk of electrocution.