

**CONSULTING
RISK ENGINEERING
RISK MANAGEMENT
TRAINING**

Inspired Solutions LLC is the preferred network partner for Risk Engineering Associates and the reference for outsourced Risk Engineering Services for the international insurance market.

Inspired Solutions is your trusted network partner delivering highly flexible, effective and efficient Risk Engineering services.

Inspired Solutions offers a wide range of services geared towards the insurance market. The associates provide a broad spectrum of network management support, field services and training.

The team comprises a network of self-employed Risk Engineering Associates with a minimum of 20 years of working experience in the insurance industry, with proven competences and skills.



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**Photovoltaic Panels
Risk Engineering**

Consulting
Risk Engineering
Risk Management
Training

Photovoltaic Panels

FIRE TRENDS INVOLVING PHOTOVOLTAIC PANEL SYSTEMS

Over the last decade the number of photovoltaic (PV) panel systems installed at facilities has increased rapidly. With that, fires related to PV panels have noticeably increased. This does not mean that all PV panels are prone to fires, but it is a factor to consider when making a risk assessment of a facility.

The scenario of a fire originating from a malfunction of a part of the PV panel system cannot be discounted.

Documentation on PV panels indicate an expected lifetime of 25 years. Experience shows that these panels remain operational for a long time, even though the efficiency of the panels decreases over time. Depending on the level of maintenance including inspections and testing, the probability of defects or malfunction could increase. Fires can occur through poorly maintained inverters and arcing on the connectors and therefore adequate preparation is paramount.

OTHER POTENTIAL CONSEQUENCES

Fire at the roof is not the only potential consequence of roof mounted PV panels. Also, damages to the roof, the panels or the surroundings as a result of a windstorm, lightning, overcurrent, hail, theft or vandalism should be considered.

Water damage to the contents inside the building as a result of higher wear and tear of the roof cover or via breaches in the roof for cabling should also not be forgotten.

Safe access to the roof for periodic inspections, testing, maintenance and cleaning is important.

'The perception of risk is driven by experience'

INSPECTION, TESTING & MAINTENANCE AND CLEANING

The inspection, testing and maintenance (ITM) of PV panels is still evolving. Documentation of PV panel suppliers refers to several norms and standards including thermographic imaging. There are nevertheless so far, no certification schemes or references to what norm a PV panel and the connected installation should be compliant.

Another point is cleaning. Cleaning is not specifically mentioned in any documentation and is clearly influenced by the specifics of the location. A tailored cleaning plan must be in place. This should include cleaning of the roof surface around the panels.

COMBUSTIBLE ROOF STRUCTURE

Most important aspect to consider with the installation of PV panels on the roof is the combustibility of the roof structure. Any combustible insulation material can contribute to the spread of fire over the roof and potentially into the building.

OWNERSHIP OF PV PANELS

Often PV panel systems are installed and managed by an external supplier and therefore remain their property. This implies that the supplier is also liable for any damages resulting from a defect of the PV panels.

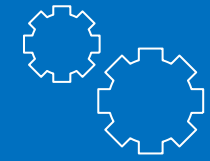
- Has anything been agreed on the warranty of the panels?
- What will happen when the supplier will be taken over, go bankrupt or otherwise disappears?



PROJECT EVALUATION

Inspired Solutions LLC has developed a structured PV panel project evaluation approach that will assure sound design and planning, installation, monitoring during the operational phase and applicable emergency response plans for the lifetime of the system.

Contact us at info@inspiredsolutions.ch



RISK ENGINEERING

Inspired Solutions offers hands-on risk engineering services comprising field-oriented services, distant interactive assessment (DIA), plan and project review, risk improvement follow-up and account engineering.



RISK MANAGEMENT

The risk management services of Inspired Solutions include Business Continuity related services such as defining the Strategic Risk Management approach, Business Impact Analysis, Hazard Analysis and Total Risk Profiling.



TRAINING

The training package of Inspired Solutions can be tailored to the needs of an organization and ranges from basic risk engineering activities to detailed risk management support for top management.