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Managing fire risk related to photovoltaic (PV) systems on buildings

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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FOREWORD

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IEC TR 63226, which is a Technical Report, has been prepared by IEC technical committee 82: Solar photovoltaic energy systems.

The text of this Technical Report is based on the following documents:

Draft TR	Report on voting
82/1500/DTR	82/1553A/RVDTR

Full information on the voting for the approval of this Technical Report can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

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INTRODUCTION

PV systems provide electric energy in an environmentally beneficial way. They work silently, without pollution or other emissions and can be mounted nearly anywhere in close proximity to where people use electricity including living, working and sleeping facilities. However, since they contain electrical equipment, they share a similar risk of causing damage on both the DC side and on the AC side of an installation as any electric or electronic equipment.

This document is about fire prevention measures and additional measures for supporting firefighters. In general, PV systems are considered safe when relevant product and installation standards are applied. But even for PV systems installed according to relevant safety standards, there is a remaining risk that a fire is caused by the PV system. Additional measures are considered to further improve the situation at special locations, independent of whether the PV or an external event is the source of a fire. Also the restrictions to firefighters facing damaged PV systems in case of fire are considered in general.

At some locations or buildings there are greater needs due to higher risks. For such locations additional requirements often apply. This is why building and fire codes often vary based upon risks to safety. Also in the installation standards there are additional requirements for fire safety, for example IEC 60364-4-42 or IEC 60364-5-51. In case of higher risks regarding fire, people's safety, and financial risks, additional measures are reasonable depending on the building itself. This document is designed to assist PV designers and insurance companies to select suitable measures to address the on-site specific needs of special locations. This document contains measures for reducing risks in general and depending on the on-site conditions.

General information is provided to further reduce fire risks of PV systems. Also, information is given how to handle PV systems after a fire.

MANAGING FIRE RISK RELATED TO PHOTOVOLTAIC (PV) SYSTEMS ON BUILDINGS

1 Scope

This document, which is a Technical Report, is intended for use as guidance for reducing fire risks in general and for site-specific needs for buildings with PV systems. In addition to the general recommendations, technical, installation, and maintenance measures can be selected to reach the intended safety level of the PV system and building, depending on the results of a risk assessment. This document contains general information about building related risks and includes measures for reducing those risks. These measures are not general requirements or recommendations. They are explained as a guide for selecting suitable measures depending on the on-site needs.

2 Normative references

There are no normative references in this document.