Forensic of Solar PV: A Review of Potential Faults and Maintenance Strategies

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ABSTRACT

Photovoltaics (PV) technology has grown strongly over the last decade, and along with this growth, there are issues and challenges related to electrical faults and fire hazards. Forensic is the investigation of any incidents or crimes in a legal context. Forensic electrical in a PV system is usually associated with incidents due to electrical equipment damage, design errors, improper installation, or product defects. Forensic work aims to identify the cause of the damage and ways to repair the damage. This paper aims to present electrical-related faults analysis and safety issues in PV systems, including fault maintenance involving corrective, predictive and preventive. A comparative study of these different maintenances strategies is discussed. The study is necessary for the improvement of PV system development safety, efficiency and reliability. Also, to speed up operating time and prevent financial losses consequences. Overall this study shall provide researchers and PV system/plant's operators with a valuable reference for better maintenance options to sustain PV systems optimally.

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