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A review of the state of the art of UFLS schemes for isolated power systems

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Abstract— This paper presents a review of the state of the art of UFLS schemes for isolated power systems. Isolated power systems are especially sensitive to power imbalances and underfrequency load-shedding (UFLS) schemes are crucial to avoid frequency instability. UFLS schemes can be grouped into manual and automatic schemes, where the former are used for frequency restoration and the latter to arrest frequency decay. Automatic schemes can be further divided into conventional and advanced schemes. This paper focuses on the review of the design methods of conventional UFLS schemes as well as the review of architecture and functionalities of advanced schemes. The paper further discusses the main findings and trends.

Index Terms— Power system protection; Conventional load shedding; Adaptive load shedding

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