

Exploring the interaction between electricity distribution network reconfiguration and local flexibility markets

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Abstract-

Purpose of Review

This review aims to explore the potential benefits of integrating electricity distribution network reconfiguration (DNR) and local flexibility markets (LFMs) in the operation and planning of distribution networks.

Recent Findings

Benefits of DNR (distribution system operator-owned flexibility resource) and LFMs (mechanisms for integrating third-party flexibility resources) have been reported extensively in the literature. However, there is a lack of studies analyzing the benefits resulting from their interaction.

Summary

This study establishes a framework that comprehensively elucidates the concept of distribution system flexibility and investigates the current and emerging trends in DNR and LFMs through an extensive analysis of pertinent literature. Furthermore, a general approach for the interaction of DNR and LFMs focused on congestion management is proposed. The findings from this paper serve as a foundation for future research, highlighting potential areas for further exploration in the integration of DNR and LFMs.

Index Terms- Distribution system services; Distribution network reconfiguration; Flexibility mechanisms; Local flexibility market

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