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Submetering: challenges and opportunities for its application to flexibility services

D. Davi Arderius; E. Faure; J.P. Chaves Ávila; P. Troughton; S. Cianotti; S. Gallego Amores

Abstract-

Purpose of Review
Implementing flexibility services from small resources in the power system requires addressing new technical challenges related to monitoring, baselining, validating their activation, and quantifying the delivery of services. This paper reviews the current usage, challenges, and opportunities of applying submeters, also known as dedicated measurement devices, in the scope of the upcoming European Regulation.
Recent Findings
In countries where smart meters are not yet deployed or are implemented but do not deliver the needed data, submeters can foster the participation of small resources in flexibility services. However, there are still few international experiences related to their use in these services.
Summary
The successful implementation of submetering requires addressing challenges such as standardization, certification, interoperability, data accessibility, and reliability. Future regulations must set their requirements, assign roles and responsibilities, and provide certification to ensure metrological, standardization, and interoperability requirements.

Index Terms- Submetering; Dedicated measurement device; Smart meter; Flexibility services; Flexibility markets; Ancillary services; Congestion management; Voltage control; Distributed generation; Demand side participation; Regulatory development

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