



Reactive Power Procurement: Lessons from Three Leading Countries

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Abstract : This paper explores the international experience in the procurement of reactive power and related electricity ancillary services. It involves system operators from different jurisdictions including Australia, the United States and Great Britain. The paper evaluates the different procurement mechanisms and related compensation schemes. In addition, it also appraises a novel approach (from the Power Potential initiative in the UK) for contracting reactive power services from distributed energy resources (DERs) using a market-based mechanism. The conceptual auction design applicable to the procurement of reactive power is also discussed. Our findings suggest that competition in reactive power is very limited in comparison with other ancillary services such as frequency regulation and capacity reserves. The introduction of more market oriented mechanisms for acquiring reactive and active power services by the system operator opens new opportunities and new ways to deal with voltage stability issues. Power Potential trails a technical and commercial solution, new market roles and the new interactions required in the introduction of a competitive reactive power market.

Keywords reactive power, system operators, distributed energy resources, procurement methods, auction market design

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