

Reactive power pricing: A conceptual framework for remuneration and charging procedures

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Abstract— A new electrical sector regulation is being implemented in different countries all over the world. The new regulation stresses the role of competitive markets for the procurement and remuneration of ancillary services. Among these services stand the ones associated with reactive power supply and transmission network voltage control in order to maintain the required system security levels. The object of this paper is twofold. On one hand, reactive power supply and voltage control services, which today are bundled, are decomposed in two types: (i) voltage profile management and reactive dispatch, and (ii) voltage regulation. A theoretical approach based on marginal pricing is proposed in order to clarify the principles to remunerate the suppliers and to charge the consumers of these services. On the other hand, a practical organization of reactive supply and voltage service markets is presented to be implemented in a competitive environment.

Index Terms— Ancillary services, voltage control, reactive power pricing, spot pricing, competitive markets.

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