

A market approach to long-term security of supply

C. Vázquez Martínez; M. Rivier Abbad; J.I. Pérez Arriaga

Abstract-

The problem of ensuring that there is enough generation capacity to meet future demand has been an issue in market design since the beginning of the deregulation process. Although ideally the market itself should be enough to provide adequate investment incentives, there are several factors that prevent this result from being achieved, and some actual markets have already experienced problems related with a lack of generation capacity. A regulatory framework to address this question is presented. The procedure is based on an organised market where reliability contracts (based on financial call options) are auctioned, so both their price and their allocation among the different plants are determined through competitive mechanisms. This results in a stabilisation of the income of the generators and provides a clear incentive for new generation investment, with a minimum of regulatory intervention. Additionally, the method represents a market-compatible mechanism to hedge demand from the occurrence of high market prices.

Index Terms- Capacity markets, capacity payments, long term guarantee of supply, generation adequacy, wholesale market design, electricity markets

Due to copyright restriction we cannot distribute this content on the web. However, clicking on the next link, authors will be able to distribute to you the full version of the paper:

[Request full paper to the authors](#)

If you institution has a electronic subscription to IEEE Transactions on Power Systems, you can download the paper from the journal website:

[Access to the Journal website](#)

Citation:

Vázquez, C.; Rivier, M.; Pérez-Arriaga, I.J. "A market approach to long-term security of supply", IEEE Transactions on Power Systems, vol.17, no.2, pp.349-357, May, 2002.