

Operation of rapid start units in an AGC area

I. Egido Cortés; F. Fernández Bernal; L. Rouco Rodríguez; I. Saboya Bautista

Abstract-

Rapid Start units can be used in an AGC area as units that can participate in AGC regulation but that remain offline until they are needed. The generation cost of these units is high so usually it is preferred to keep them offline. However, they usually show good dynamic characteristics that make them very suitable for AGC operation. The startup process of these units is very fast so they can be online and providing regulation within just a few minutes. In this paper a simple algorithm is presented to determine when it is needed to start up an offline rapid start unit to provide AGC service. The algorithm proposed is tested using real operation data. The results obtained show that the algorithm proposed successfully starts up a rapid start unit so that it is online when needed to provide AGC regulation. How to select the most appropriate values for the algorithm parameters is also analyzed.

Index Terms- Ancillary Services, Rapid Start Units, Load Frequency Control, AGC.

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