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Performance analysis of UFLS schemes of small isolated power systems

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Abstract-

This paper presents a method for analysis of the performance of underfrequency load-shedding (UFLS) schemes. UFLS schemes play an important role in protecting the system integrity. The proposed method makes use of aMonte Carlo (MC) approach to evaluate the impact of step size variations and non-responding turbine-governor systems on the performance of UFLS schemes. The approach is applied to two isolated Spanish power systems of different size. Step size variations and non-responding turbine-governor systems are modeled by different probability density functions and their impact on the UFLS schemes of the two power systems is analyzed and compared.

Index Terms- Frequency stability, load shedding, Monte Carlo methods.

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