

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 a Monte 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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