

## عنوان مقاله:

Introducing a New Optimized Emergency Demand Side Management Method to Restore the Power System Frequency

## محل انتشار:

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## خلاصه مقاله:

Emergency demand response (EDR) and under frequency load shedding (UFLS) are used as two separate methods for frequency restoration of power system after the usual methods of frequency control are not able to maintain the frequency stability of the system. This paper proposes the optimized emergency demand side management (OEDSM) method which improves the performance of previous methods by integrating UFLS and EDR methods along with introducing new critical status detection and optimization modules. The advantages of the proposed method are simultaneous operation of EDR and UFLS processes, the high speed of critical condition detection using the proposed emergency index, increasing the speed of the algorithm with parallel operation of modules, and optimal load shedding by providing a separate optimization module. In order to validate and evaluate the performance of the proposed method, the power system was tested under different scenarios using DIgSILENT software, which the extracted results indicate better performance of the proposed method in frequency restoration, as well as improvement of utilization and power quality of the system compared to previous methods.

## کلمات کلیدی:

Adaptive control, Emergency demand response, Frequency restoration, Optimal load shedding, Under frequency load shedding

## لینک ثابت مقاله در پایگاه سیویلیکا:

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