

# **A centralized UFLS scheme using decision trees for small isolated power systems**

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## **Abstract-**

**This paper presents a centralized underfrequency load-shedding (UFLS) scheme using a decision tree to decide whether and how much load needs to be shed. UFLS schemes play an important role in protecting the integrity of small isolated power systems. Centralized UFLS schemes continuously measure and process critical system variables and act on the feeder breakers according to the system state. The decision determines the optimal amount of load to be shed by means of dichotomous tests applied to measured input variables related to the pre- and post-contingency state of the system. The applicability of the centralized UFLS scheme is shown for a Spanish small isolated power system.**

**Index Terms-** Frequency stability, underfrequency load shedding, clustering, decision trees

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