Contingencies ranking in power system security studies considering load modelling

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Abstract: Economic progress in different countries of the world, as well as the tendency towards restructuring in the electricity industry, has made power systems work more closely at the margins of their own security. On the other hand, the performance of a power system requires that all types of security restrictions, including static and dynamic restrictions, be observed in all system operating conditions. Breaking these restrictions could have severe consequences such as extensive system shutdowns. In order to assess the security of this research, a hierarchy ranking has been made, and with the definition of the quadrant associated with the exit of the transmission lines. Innovation is an evaluation study, taking into account load modeling. It is assumed that this modeling will make the results more realistic than the non-modeling state. All simulations have been done using Matpower's powerful tool Matlab software. Keywords: power systems, security margins, load modeling, matpower.

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