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Stochastic simulation and Monte Carlo methods applied to the assessment of hydro-thermal generating system operation

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Abstract-

Simulation can be defined as a numerical technique for conducting experiments on a digital computer, which involves certain types of mathematical and logical models that describe the behaviour of a system over extended periods of real time. Simulation is, in a wide sense, a technique for performing sampling experiments on a model of the system. Stochastic simulation implies experimenting with the model over time including sampling stochastic variates from probability distributions. This paper describes the main concepts of the application of Stochastic Simulation and Monte Carlo methods to the analysis of the operation of electric energy systems, in particular to hydro-thermal generating systems. These techniques can take into account virtually all contingencies inherent in the operation of the system. Also, the operating policies that have an important effect on the performance of these systems can be realistically represented. © 1994 Sociedad Española de Estadística e Investigación Operativa.

Index Terms- Stochastic Simulation Monte Carlo Hydro-Thermal Systems

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