

Reliability assessment of hydrothermal generation systems containing pumped storage plant

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Abstract— Previous models and evaluation techniques based on the Monte Carlo simulation for the reliability assessment of mixed hydrothermal generation systems are extended. Models for reservoirs on multiple rivers and pumped storage plants are developed. Operating and water management policies are extended to include the relative economical effects of operating alternative sources of generation. These effects and the benefits are described and discussed using an extended IEEE reliability test system.

Index Terms— Reliability, Power systems and plant, Generators, Simulation

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