

Genetic algorithm application in problems of finding the required volume of load shedding.

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The paper considers the problem of ensuring the required volume of active power reserve, describes the main operators of the genetic algorithm, typical for the problems of optimizing the volume and composition of the disconnected load. A criterion for selecting the disconnected load is formed, based on determining the amount of expected economic damage during a power supply interruption when disconnecting each individual load. It is shown how a genetic algorithm provides a solution to the problem of optimizing the volume of disconnected load based on the extremum of the objective function, taking into account the additional criterion of the load value. Various combinations of genetic algorithm operators and the influence of this choice on the overall performance of the algorithm are studied.

Key words: genetic algorithm, active power reserve, load shutdown, optimization of the amount of shut-off power, hyperparameters of the genetic algorithm.