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(54) **METHOD FOR FLEXIBLE COORDINATED OPERATION OF URBAN DISTRIBUTION NETWORK AND WATERSHED NETWORK**

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(71) Applicant: **Hunan University**, Changsha (CN)

(57)

ABSTRACT

(72) Inventors: **Bin ZHOU**, Changsha (CN); **Zhihao HUA**, Changsha (CN); **Zhikang SHUAI**, Changsha (CN); **Quan ZHOU**, Changsha (CN); **Jiayong LI**, Changsha (CN); **Cong ZHANG**, Changsha (CN); **Yingping CAO**, Changsha (CN)

A method for flexible coordinated operation of an urban distribution network and a watershed network, including: constructing a watershed network dynamic operation model; constructing a river water storage model a lake water storage model based on the watershed network dynamic operation model; constructing a distribution network linear alternating-current (AC) power flow model and an operating power-flow rate operation model of the pump stations to obtain a coordinated operation model of the urban distribution network and the watershed network; constructing a watershed-electricity composite sensitivity matrix; quantifying a time-varying adjustable power domain of each pump station through a pump station flexibility assessment method based on the watershed-electricity composite sensitivity matrix; constructing a power flow optimization model of the urban distribution network and a hydraulic energy flow optimization model of the watershed network; and performing electricity-water energy flow interactive optimization involving a flexible resource of the pump stations.

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