SOLUTION OF THE PROBLEM OF OPTIMUM SELECTION OF THE TYPE AND NUMBER OF PUMPING AND POWER UNITS PUMPING STATION FOR MAIN PIPELINE IN THE URBAN WATER SUPPLY NETWORK

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At present, the urgent task of optimizing the urban water supply network can be solved more efficiently. The most important element of the network is the pumping station (PS). The article presents a solution to the problem of choosing the type and number of main pumping and power units (PPU) PS, providing the most economical energy consumption and maximum water saving while providing consumers with the required amount of water, which, as it is known, varies depending on the time of day and season of the year. The problem is solved on the basis of mathematical modeling of the active group operating characteristic (AGOC) of each type of PPU within the specified limits of water supply from the PS to the network with a given pressure, determination of its continuity and selection of the best from the NSA groups. In this case, intermediate efficiency indicators are: energy consumption to ensure the main mode of water supply to the network, the number of PPU, assessment of the AGOC continuity.

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