

Study the Effects of Local Water Tanks on The Performance of Water Distribution Networks



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Research Abstract

Water supply is a complicated process by which the user receives clean potable water from the reservoirs. The process itself transports water by utilizing laws of fluids and physics through various components such as pipes, valves, tanks, and pumps. Throughout the course of history, the purpose of modelling such a network is to increase the efficiency while reducing its total cost. Furthermore, the accuracy of the water distribution network (WDN) computational models has been another constraint which is still being improved to bridge the gap between the design and actual operation of WDN. The gap occurs as the designed models are simplified for ease of calculation or analysis. One such limitation is that the models are designed without the presence of private tanks which results in loss of energy, water quality and increased carbon footprint. Therefore, the aim of this research is to study the reliability and impacts of the local tank under PDA on the network. Moreover, to investigate new approaches/techniques/settings to enhance the operation of private tanks in order to improve the overall performance of WDN.

Supervisors

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