

Zimoch, I. Pressure Control as Part of Risk Management for a Water-pipe Network in Service. *Ochrona Srodowiska* 2012, Vol. 34, No. 4, pp. 57–62.

Abstract: The study reported on in this paper includes risk assessment and technological reliability analysis for the water-pipe network supplying water to two Upper-Silesian municipalities, Bedzin and Czeladz. Analysis of the results obtained has produced the following findings. Water pressure head in the distribution system had a significant impact on the frequency of pipe failure and the resulting repair costs. Stabilization of water pressure in the pipe network examined brought about an improvement in the reliability and safety of water supply, which allowed the risk in these areas to be classified as tolerable. Other major benefits from pressure stabilization can be itemized as follows: increased reliability and reduced risk associated with the operation of the waterworks, reduction in repair costs, as well as in the costs incurred in compensation for damages, lowering of water loss, and improvement in the user's quality of life. The results of reliability assessment enable a reasonable management of the technical infrastructure of the waterworks, but they may also become an effective tool in making decisions about modernizing investments, or about strategies for the development of existing waterworks. Based on such research, it is possible to identify parts of the distribution system with potential risk of water recontamination as a result of pressure stability loss or increased pipe failure frequency.

Keywords: Water supply system, pipe failure, reliability, repair cost.