

Title: The use of modelling during all stages of developing new pressure managed areas.

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Pressure management is widely used across the water industry as a tool to reduce leakage by managing network pressure whilst maintaining adequate levels of service to customers. These tools are becoming increasingly important, with Ofwat outlining a target for the industry to halve leakage from the 2017-18 level by 2050, and with demand management also forming a key requirement in company supply-demand balances as part of their WRMPs. With investment having occurred over many AMP periods, the development of new and effective pressure management is becoming more challenging due to the increasing complexity of schemes.

Since 2020, Atkins has been working with a UK water company to support them in the feasibility, design, optimisation, and commissioning of pressure management schemes through modelling and targeted field work. Modelling has benefitted the development of PMAs in the following areas:

1. Identification of hydraulic restrictions through the validation of models against logger data, with targeted field investigations recommended to ensure the feasibility of schemes.
2. Design support by identifying the need to increase network capacity by proposing new cross connections or altering the PMA boundary.
3. Optimisation of schemes to ensure a maximum pressure reduction benefit through changes to the PRV and/or PMP location, target pressure, or by recommending changes to design.
4. Resolve challenges identified during the construction or commissioning stage of the scheme.