wrc infrastructure

Identification of Leakage Across 5000 km of Upstream Trunk Mains

WRc provide a detailed analysis of trunk main water balance and meter uncertainty to target in pipe leakage detection surveys and repair after locating 2 Ml/d leakage.

The Challenge

When a major water company established more than 400 discrete metered areas covering over 5000 km of their trunk mains network, they needed detailed analysis of both balance results and asset performance to target a programme of field work to determine the origin of leakages. When a trunk main bursts there can be significant disruption to communities and customers, and therefore understanding the condition of these pipes and identifying areas of high leakage is a growing priority for water companies.

The solution

WRc's Asset Management team carried out a major programme of balance creation and assessment for the client's entire upstream network, covering both trunk mains and service reservoirs. These efforts supported the development of a costed intervention strategy that allowed either focused targeting of leak detection and repair activity, or actions to reduce uncertainty in the underlying dataset, for instance recommending replacement of obsolete meters. WRc Infrastructure was then awarded the framework for the water main inspection and survey services. This meant that a number of recommendations could be efficiently followed up and the location of leaks pinpointed for repair.

The outcome

The first survey carried out under the framework located leakage of 2 Ml/day on a trunk main. An update to the relevant balance following repair of this leak shows that this is likely to have resolved the leakage in the local area. This is not only a great success for both the analysis and field teams, but proves that following a process of upfront data assessment before taking in-field action is extremely beneficial.

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