

LEAK DETECTION – DOES IT COST OR PAY?

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ABSTRACT

A leak detection survey of a system or zone involves intensive labour to conduct a preliminary survey over a distance of several tens of kilometres, or more. This is then followed by a more detailed inspection of identified leaks, using ground microphones and correlators, recording of the location and estimation of the leak. The total equipment value is in the order of \$50,000 to \$80,000, and several hundred man-hours may be involved in conducting the survey and producing the report. Add to this the need to employ experienced skilled operators, who can differentiate between background “noise” and leak noise, understand water pipe systems, and who are required to work occasionally during early morning or late evening, and it is apparent that there are significant costs involved in conducting a survey.

Costs also include investigation and repair costs, along with the detection costs. However, within the Sydney Water Leakage Reduction Program, the benefits exceed these overall costs. Leakage surveys and repairs have been completed on six zones (up to May, 2001) involving over 1100 kilometres of mains. The demand saving from the leaks detected for these six zones amounts to 7.24 MLD and equates to a benefit exceeding \$1.0 M over a 3 year return period. These gains more than adequately support Sydney Water’s Demand Management Strategy to reduce overall demand.

Wider improvements include a better understanding of system operation and demands, improvements in the minimum night flow calculation process within IICATS, input into pressure reduction and control, and installation of additional flowmeters to measure demands. Efficiencies in response to repairs and service standards is also evident.

Overall, leakage reduction is a good way to do business, with the direct and indirect benefits outweighing the costs of the program.

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