THE REDUCTION OF WATER MAIN FAILURES AT CITY WEST WATER

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Abstract

For the 2002/03 financial year City West Water (CWW) experienced over 3600 failures on its water mains at a failure rate of 99.7 breaks/100 kilometres. The authority had the worst failure rate of all the major water utilities in Australia as reported in WSAA Facts for that year. The Essential Services Commission’s regulated KPI targets and CWW’s own KPI business targets for breaks, unplanned interruptions and response times could not be achieved by the utility. Failures were increasing at the rate of 10% per year and the organisation’s responsive maintenance crews were struggling to cope. Ten years on and with failure rates of around 33 breaks/ 100 km the authority is now in an enviable position with all our actual KPIs well within the targets and our responsive maintenance cost for this asset class at lower cost in real terms.

This paper will detail how CWW reduced the water main breaks. The process for assessing the likelihood of failure of a water main will be explained and the various preventative maintenance and renewal programs will be outlined to show how CWW identified works to manage both the risk of failure of water mains and their long term performance. The paper will also detail CWW’s knowledge management tool known as the State of Assets Report and will show how the analysis documented in the report has enabled a 10 year program of water main renewals to be developed, a key requirement for the utility’s Asset Management Plan and the regulator approved Water Plan.

Key Words: Water Main Failures, Failure Analysis, Renewal Planning, Knowledge Management, Regulated Performance Indicators, Risk Management