

CASE STUDY *Melbourne Hydrographic Billing Sites*

Melbourne Water is the wholesale water utility for Greater Metropolitan Melbourne. Three retailers, on behalf of Melbourne Water, utilise Melbourne Water's existing infrastructure to provide water utility services to the public.

These services include water supply, drainage and sewerage. Melbourne water incorporates a user pays system for the volume of sewage each retailer contributes to the system. As the sewerage system crosses the retailer boundaries, Melbourne Water need detailed information on the flows at these boundary points.

To accurately determine these billing flows, Melbourne Water contracted Ecowise to install and operate the latest Acoustic Doppler Current Profiler (ADCP) equipment as a trial at a selected test station. Following a year of rigorous trialling, recommendations were made to Melbourne Water for the equipment that best suited their needs. Melbourne Water adopted Ecowise's recommendations over the competitors, and contracted Ecowise to install and operate the 18 Billing Stations.

The ADCP equipment outputs a 4-20mA signal which is fed, via a web station, into a RTU and uploads into Melbourne Waters SCADA system MOSAIC. In addition to the ADCP, Ecowise installed and operate an in-house designed separate-level monitoring system to provide an independent comparison that offers 24 hour auditing of the ADCP data.

This project involves the operation and maintenance of the 18 sites strategically situated within the sewerage system. The data from these sites is continuously monitored by Ecowise and Melbourne Water via the SCADA system. Should errors occur with the monitoring, alarms immediately warn the relevant staff and sites are attended to within six hours for problem diagnosis and remediation.

Data from these sites are retrieved off the SCADA system, processed and fed into a series of equations. Once the data is verified by Ecowise Hydrographic staff, it is then tabulated into weekly reports and supplied to Melbourne Water showing the contributions each retailer adds to the system. These reports are used by Melbourne Water to invoice the retailers each week.

As with all projects involving access into confined spaces, safety and training are of paramount importance. All Ecowise staff involved in the project must undergo annual training updates on confined space entry, as well as other important Occupational Health and Safety aspects, including first aid. In addition, all staff are supplied with the required PPE for safe work in the field.

Project Summary

Application Type

Network of 18 critical billing sites

Location

Around metropolitan and greater metropolitan Melbourne, Victoria

Contracting Agency

Melbourne Water

Measured Parameters

Hydrological: water level, sewer level flow and velocity

Communications

Radio telemetry and GSM mobile phone



Typical Melbourne Water Sewer billing station.



Maintenance of equipment in the sewer requires personnel to be trained in confined space entry.