CIRCULATION FLOW RECORDING

UES Information SHEET 08 JUNE 05

In large Service reservoirs the occurrence of 'dead sports' where flow is static for long periods of time can give rise to water quality problems.

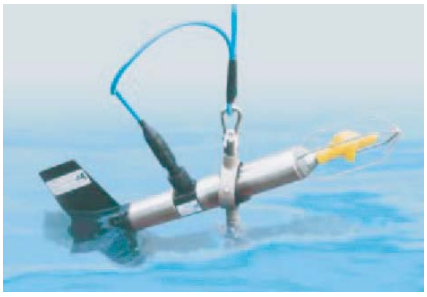
Deployment of flow meters at perceived 'dead spots' can confirm whether a problem exists.

Flow meters provide excellent data for calibration of 3D models.

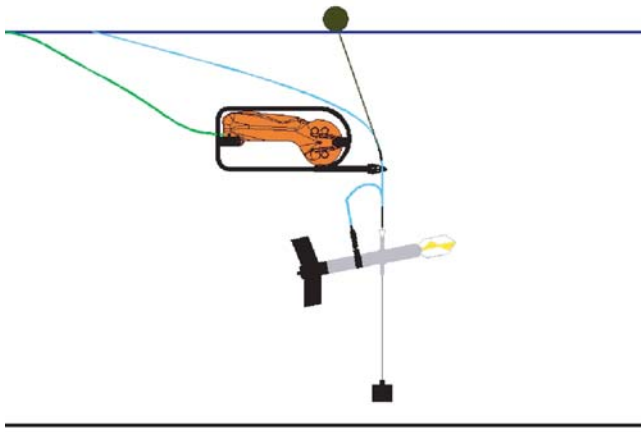
Flow surveys have been carried out in service reservoirs in the past from surface access locations.

The opportunity now exits to deploy flow monitors with an ROV into more remote locations, and then retrieve them with information stored on data loggers.

Data gathered in this way would show how the current patterns in the service reservoir change with flow condition and time. This information will be useful in its own right, but could also prove valuable in the verification of computer flow models.



Valeport 106



The most suitable equipment identified for this purpose is the VALEPORT106.This unit has an inbuilt data logger and rotates to the flow direction like a weather vane.

Alternative lower cost flow recorders are available but they are generally fixed direction and do not have the logged rotation to record varying flow directions.

The Valeport 106 is capable of detecting and recording flow rates as low as 0.03 m/sec. The 106 has an option to add temperature and pressure parameters. The instrument is manufactured from titanium and polymers, giving excellent resistance to corrosion, whilst maintaining a small size and low weight. It has 512 Kbytes solid-state memory.

When placed in the service reservoir by the ROV the co-ordinates are recorded using sonar measurement. The flow monitor senses its bearing relative to magnetic north. The orientation of the SR would be mapped externally so that the data can be related to the SR geometry.

Budget Price Guide: ***(ex. VAT)***

£4500 for 4 No. Valeport 106 unit recording for 4 weeks

Principal Benefits:

- Continuous and accurate flow records
- Data logged upto 8 weeks
- 3D model calibration

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