

Transit Time Flow Monitoring - Coleambally, NSW

Best in class ACCUSONIC® transit time flowmeters delivering high accuracy flow measurement for Coleambally Irrigation, for over 15 years

Transit Time flow monitoring of the Coleambally Channel

Coleambally, NSW - The Coleambally Irrigation Co-operative Limited (CICL) is a member owned co-operative which provides irrigation and drainage services to nearly 500 large farms in the Murrumbidgee valley in the NSW Riverina. Its irrigation delivery is via gravity through open earthen channel. The CICL area of operations is 456,821ha including 317,281ha which is serviced by the West Coleambally Outfall Channel, drawing water from the Murrumbidgee river. The intensively irrigated area is approximately 80,000ha.



Why was Monitoring Needed?

The Water Reform Action plan aims to address unaccounted for water, and effectively manage the water drawn from the Murrumbidgee River.

Measurements taken from Coleambally Channel

Two ACCUSONIC meters were installed on either side of the channel offtake, to ensure accurate billing from Water NSW, the governing entity who manage the Murrumbidgee River. The two meters at the offtake – one upstream installed in 2000 and a new 8510 meter installed 500m downstream of the regulator in 2016 measuring flow rates of 400-5000 MLD. The total volume in a season up to 300,000 ML. CICL cross checks the two meters on a daily basis as well as comparing the cumulative total of each meter. In addition to monitoring the recorded flow of each meter, there are a multiple parameters recorded, reported and alarmed. These all assist in ascertaining the health and integrity of the metering arrangements.



ACCUSONIC Installation

ADS® Installed two ACCUSONIC 4-path ultrasonic transit-time flowmeters in the West Coleambally offtake channel. The two monitor set-up assures calibration checks.

Installed downstream

Year 2016: 8510 with model 7612 transducers

Installed upstream

Year 2000: 7510+ with model 7612 transducers
Year 2015: Upgraded to 8510

ACCUSONIC Excelled in the Coleambally Environment

- The meters achieved a flow accuracy of +/- 2% over a 15-year period, verified via third-party independent gauging
- The installation and operation of the flowmeter is in accordance with the ISO standard 6416 Hydrometry - Measurement of discharge by the ultrasonic transit time (time of flight) method.
- ACCUSONIC's transit time method is ideal for large bodies of water as compared to other processes that use gate calculations or doppler velocity more suited to smaller applications.



Coleambally Channel ACCUSONIC Installation

ACCUSONIC's highly accurate data, reliable performance, and low failure rates result in fewer site visits and low ongoing maintenance costs that save time and provide a safer work environment making ACCUSONIC the optimal meter for large bodies of water in remote locations.



Monitor cumulative flow for accurate billing



Resolve issues quickly with alarming functions



Report to ensure path signal accuracy or recognize developing faults (gain db, gain %, signal to noise ratio)



Provide calibration checks for each other



The meters installed at the CICL offtake are **ACCUSONIC** Acoustic Transit Time Meters. This type of meter is considered best in its class for accurate metering of offtakes of our type.



- CICL Submission Water Reform Action Plan
April 2018 – NSW Government

Underground Intelligence by ADS

The Coleambally project is critical to the Water Reform Action Plan for NSW. It showcases accurate water accounting that has resulted in improved water management from the extraction point on the Murrumbidgee River, through channels and onto farms and provides the standard for water take measurement and metering in NSW.

ACCUSONIC® is a brand of **ADS**®
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