

# CG2 Remediation

## Rationalisation

- The farm irrigation assessments have identified a number of outlets that could be removed.
- In addition seven spur channels have been identified for potential rationalisation due to property consolidations and alternative supply options that have been identified. These are currently being explored and vary in complexity. Offers have been made in some cases.

## Meter Accuracy Testing

- Many irrigators have expressed a lack of confidence in the FlumeGate as a measurement device. This is attributable to the drifting of the original pressure transducer level sensors. Whilst there has been significant improvement in this area with the replacement of primary sensors with ultrasonic devices there still remains healthy skepticism which will only be addressed with more testing.
- Over the past 18 months a sample of FlumeGate meter outlets have been tested with the REVS in the field validation device as part of an overall testing program across G-MW.

In February 2007 seven sites were selected on the CG2 and tested across three flow rates (approximately 4 ML/d, 8 ML/d and 12 ML/d). The results from these tests indicated that all were within the +/- 5% future in situ standard.

In October 2007 further REVS tests were carried out on two FlumeGates previously tested in February plus three new sites. The same flow rates were chosen for testing. These tests also confirmed that the devices measure flows within the +/- 5% in situ standard.

All metering tests undertaken by G-MW have identified the importance of ensuring installation conditions to metering devices are always maintained within design conditions.

- Over the coming months all sites will be inspected and approximately 20 sites will be selected for further on-site validation using the REVS unit. This data together with on-site testing data obtained from previous testing programs will be analysed and the results made available to irrigators. It is anticipated that this will need to be done on a regular basis to gain confidence.

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# CG2 remediation



## Progress report

### Background

A number of issues were identified at the outset of the Central Goulburn Area Reconfiguration program. G-MW has made a commitment to rectify these issues by the start of the 2008/09 irrigation season.

The outstanding concerns were assessed through property by property assessments by two consultants with Farm Planning experience. Whilst significant progress had been made with the upgrade of outlet size and the introduction of ultrasonic level sensing devices there were still concerns regarding the impact the new operating regime was having on some irrigation properties.

There was also concern regarding the accuracy and reliability of the FlumeGate metered outlets and the usability and flexibility in system operations. This project has been designed to address these concerns with the aim to have them addressed as much as possible before the commencement of the 2008-09 irrigation season.

The project was supported by the G-MW Board and the Central Goulburn Water Service and Reconfiguration Committees.

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## CG2 Remediation

### Overall status

- Significant progress has been made in implementing the solutions to the CG2 system. Our experiences to date have already resulted in a revised approach in outlet upgrades that is being discussed with NVIRP and DSE in relation to all modernisation projects.
- The increased focus on developing a better integrated solution will require more time to plan outlet replacements in conjunction with on farm assessments and as such require longer timeframes to install outlets.
- G-MW has completed Farm Irrigation Assessments on the majority of CG2 properties, with the remainder completed by the end of June.
- Channel Remediation works have commenced. 16 km of channel will be plastic lined by the Future Flow Alliance this winter.
- A measurement verification program is being developed.
- Software changes are being considered, in conjunction with customer representatives, to enhance ease of use and provide additional services.

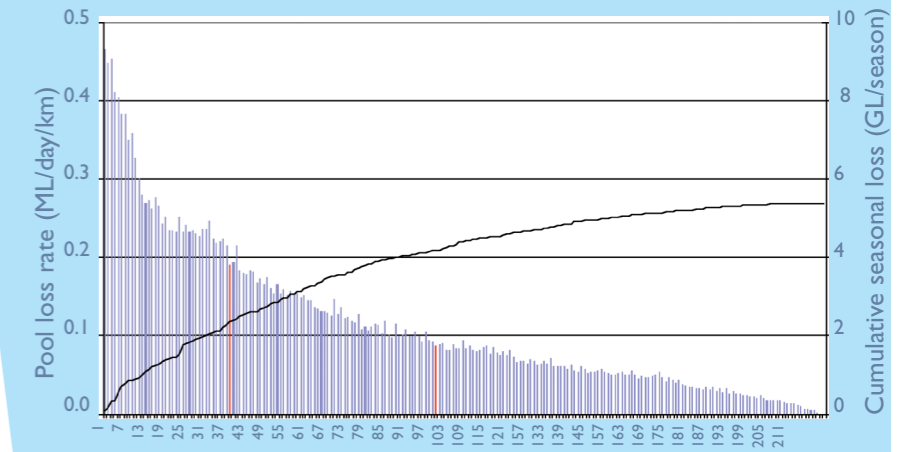
### Specific programs Farm Assessments

- Farm Planning consultant Colin Findlay has completed a large portion of follow up investigations with individual property owners. He is assessing options to restore irrigation efficiencies which had predominantly been reduced with the restoration of channel operating levels to design levels. These are basically preliminary Whole Farm Plan assessments but provide sufficient information to identify issues and allow easy fix solutions to be identified. In some cases levelling has been carried out. Each irrigator will be provided with a report from Colin at the end of the process.
- Colin has prioritised his visits to those property owners with significant irrigation issues, those along Channel 2/2 which is programmed for plastic lining and spur channels where there are opportunities for rationalisation.
- Colin has generally been well received and has been able to identify some farm improvement suggestions that will improve irrigation efficiencies. In some cases he predicts that on-farm distribution will be improved beyond pre-modernisation works, especially with upgrade of farm bay outlets. He has been able to alert irrigators to benefits available to them through other assistance programs.
- In some cases supply has been transferred to a different channel pool with better head or better location along the pool to match on farm distribution. We have also agreed to increase the operating level in two pools where this has been possible through channel remediation works and does not impact on regulator operations.

### Channel Remediation

- Channel remediation was always to be the next stage of the modernisation project, followed by outlet replacements across CGI,3 and 4.
- The original program has been varied to ensure that service improvements across CG2 system could be maximised.
- Works in the CG2 system have commenced by FutureFlow. Irrigators whose properties are affected have been approached and access arrangements made. Project Manager John Harvey is working closely with Area Manager Kevin Preece on detail issues such as fencing locations and access.
- De-watering is continuing at lower sections of channel system but has been completed in the upper sections.
- De-silting is progressing well along CG2 and CG 2/2. The contractor is progressing along the 16 km section at a rate of approximately 400 m per day.
- The majority of works including final fencing is anticipated to be completed by mid August.
- Sections that are being lined will have full continuous access to facilitate maintenance. A brochure is being prepared that will be distributed to all irrigators regarding HDPE lined channels covering safety and maintenance issues. (FutureFlow has produced an information brochure, a copy of which is attached.)
- Channel remediation works especially along the CG2 and CG 2/2 channels between Punt Road and Toolamba Road will greatly improve service across the system next season.

GC1234 pool losses calculated from pondage tests (2006 & 2007) and leak reports



Pool ranking (average of three rankings, not of average rate)

The identification of which pools to target for remediation has been greatly assisted by the use of the TCC technology. At the end of the season the rate of drop in channel pool level can be recorded by the level sensing devices at each regulator. This information is then used to calculate, for each pool, the loss rate and the nature of the loss by the shape of the curve of the level plot. This information can then be used to rank pools by their loss rate. The graph above shows the loss rate of all the pools across the CG1234 system. We have then assessed each pool and determined the best remediation technique to adopt in each case. The highest loss pools have been targeted for the first stage of works this winter.

### Customer Service

- G-MW has met with Southern Rural Water (SRW) to discuss the adoption of customer service reports by outlet and options for flexibility in operation especially at the end of irrigation where short extensions are required.
- SRW has been using a Satisfactory Irrigation Index that monitors the performance of the irrigation order devices. We are proposing to introduce a similar system this coming season. This will provide valuable information to Water Service Committee and customers on how the system is performing and assist in ongoing service improvement from regular assessment of causes of below standard performance.