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CICL Round 3 Private Irrigation Infrastructure Operators' Program

Final Report

Overview

CICL submitted its Private Irrigation Operators' Program Round 3 (PIIOP 3) funding bid to the Department of Agriculture and Water Resources (hereafter referred to as "the Department") on 12th May 2015. The bid sought $1,198,500 in return for the transfer of 255ML of CICL conveyance water entitlement to the Commonwealth.

CICL's PIIOP 3 bid was based on three sub-projects: the enhancement of the capacity of some channels (SP 8); the installation of FlumeGates to automate the operation of escapes on one of CICL's major drains, DC 800 (SP 9); and the upgrade of some existing escapes elsewhere (SP 10). On 25th February 2016, CICL received advice from the Department that SPs 8-10 would be funded. The Deed of Agreement between CICL and the Department was signed on 29th March 2016.

The purpose of this report is to satisfy CICL's final reporting obligations under its PIIOP 3 agreement with the Commonwealth and to record, for its own purposes, key elements pertaining to the planning, delivery and administration of the project.

Project Detail

SP 8: The objective of this sub-project was to reduce water losses and provide an improved level of service to those CICL Members who were being supplied from channels that were constrained relative to elsewhere in CICL's delivery system.[1]

[1] CICL aimed to increase the minimum level of supply that could be provided to all standard-sized farms within the CIA with 1400 DE from 11ML/day to 14 ML/day

The constrained channels were Bundure 5 and 5-1; Coly 3-1 and 3-2; Coly 9, 9-4, 9-5, 9-7 and 9-9; Yamma 1-7 and 1B; and Yamma 4 and 4-1. Overcoming the constraints involved a combination of the following measures;

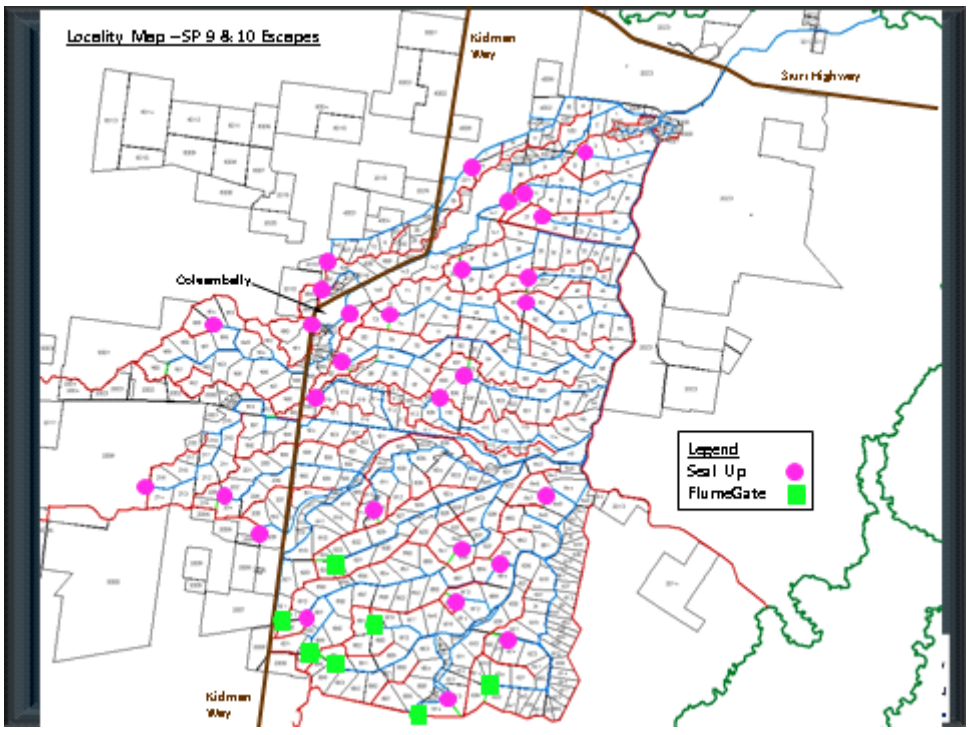
- the replacement of eight structures and the modification of another two,
- the installation of nine FlumeGates,
- enlargement of parts of nine channel sections and the raising of two sections of channel banks, and
- replacement of six culverts and raising of two bank sections

SP 9: The objective in this sub-project was to reduce water losses and the prospect of accidents associated with the manual operation of seven escapes on one of CICL's major drains (DC 800). The associated work involved the installation of seven FlumeGates (including telemetry).

SP 10: The objective in this sub-project was to upgrade 29 escapes of varying configurations and with seals in varying states to reduce water losses; to reduce maintenance requirements (especially weed control); and to remove drop boards, thereby reducing the prospect of accidents associated with manual handling of the boards.

Figure 1 indicates the locations at which escapes were either replaced by FlumeGates (SP 9) or upgraded (SP 10).

Figure 1 – SP 9 & 10 work locations



PIIOP 3 Outcomes

The outcomes of CICL's PIIOP 3 works were:

- SP 8:
    - water savings of 200 ML p.a.
    - Increased channel capacity, and therefore improved service to Members on the related channels
    - increased equity throughout the Co-operative as all Members in the CIA on standard-sized farms with 1400 delivery entitlements now have access to at least 14 ML of flow share/day

Photo 1 – upgraded culvert to increase channel capacity

Photo 2 - Upgraded regulator to overcome a previous channel constraint

- SP 9
    - water savings of approximately 30 ML p.a.
    - automated/remote control of the related escapes
    - accurate metering and greater control of flows in DC 800
    - Improved working conditions/safety along DC 800
- SP10
    - water savings of approximately 20 ML p.a.
    - Improved working conditions/safety

Planning Considerations & Risk Management

PIIOP 3 was a very small scale project for CICL – the major risk was weather and ultimately that risk was visited upon the project.

CICL's PIIOP 3 bid, especially SP 8, was informed by a capacity model developed in-house.[2] The model allowed CICL to establish where and the extent to which capacity was being constrained, and the options for and cost of overcoming the constraints.

CICL had anticipated that the work to increase capacity on Channel 9 would be complicated by the limitations of the original survey work done prior to its excavation. CICL also understood that it would have to do in-situ concrete pours at some locations, as opposed to using pre-cast concrete. These requirements were greatly complicated by weather with the 2016 winter period in the CIA being one of the wettest on record. The wet conditions limited drainage from the channels and made for difficult working conditions both within and above the channels. Ultimately, work which was planned to be completed by 31 July 2016 extended out to 30 September 2016; that the work was able to be completed by latter date was a credit to the contractors' flexibility and ability to improvise and also to CICL's maintenance staff who continually redeployed and operated pumps over much of the period.

CICL Organisational Arrangements: The following CICL staff were responsible to Mr Austin Evans (General Manager Operations) for the delivery of SPs 8-10:

- Mr Daniel Whittred (Manager Operations)
- Mr Kevin Kelly (Manager Maintenance).

Lessons Learned/Re-learned

The organisational arrangements employed by CICL to plan and deliver PIIOP 3 drew on lessons learned during CICL's PIIOP 1 and 2 projects. There is no question that SP 8 would have entailed greater risk and cost have it not been for the capacity model developed by CICL's Operations Manager – this was a major endeavour because there was no commercially available product that would allow the required modelling to be done in an open-channel system with Total Channel Control throughout. Once the PIIOP 3 work was underway, there were no new lessons learned but the value of contingency planning and good liaison with contractors was certainly reinforced during what proved to be a very wet winter works period.

Contract Administration & Communication

CICL welcomed the refined two-stage application process that pertained to PIIOP 3. The process meant that CICL was not required to submit as much detail in its initial bid but, having got through the Department's initial review, was able to submit additional detail and appear before a panel to

[2] The model was developed by CICL's Operations Manager, Mr Daniel Whittred.

present the business case that underpinned its proposal and to respond in person to technical questions relating to the bid. CICL preferred this approach for the following reasons:

- The time and cost of submitting a fully-developed PIIOP proposal is considerable and especially so if a proposal is unsuccessful.
- The risk of a proposal being rejected because it was not properly understood within the Department was reduced because CICL was provided an opportunity to deal with questions 'face to face'.
- The opportunity to present a business case 'face to face' is less bureaucratic and more commercially-oriented.

CICL benefitted from good lines of communication with the Department throughout PIIOP 3 and appreciated the confidence shown in it by the Department when it was beset by weather-related delays.

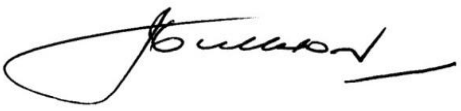
Conclusion

CICL's PIIOP 3 was a small-scale endeavour but one complicated greatly by bad weather.

CICL wishes to acknowledge the particular contributions made by the following individuals/entities:

- Mr Daniel Whittred for his pivotal work in developing CICL's capacity model
- Mr Kevin Kelly for the quality of his liaison with contractors and his adaptiveness in responding to the challenges presented by bad weather; and
- Contractors GV Unique, B & C Scott's Earthworks, Browns Project Solutions and Bidgee Excavations for their flexibility and adaptability in the face of weather-related delays and difficult working conditions.

CICL also wishes to acknowledge the many people that worked within the Department to facilitate PIIOP 3; as in PIIOP 1 and 2, their individual and collective commitment was fundamental to the success of CICL's PIIOP 3.



J. Culleton
CEO CICL
10th May 2017

Appendices:

1. Operational Water Losses since Privatisation
2. PIIOP 3 - Final Reconciliation (audited result)

Appendix 1 to

CICL PIIOP 3 Final Report

Dated 10th May 2017

Water Losses since Privatisation (in MLs)

• 99/00	75,800
• 00/01	85,806
• 01/02	99,690
• 02/03	110,312
• 03/04	90,123
• 04/05	108,026
• 05/06	39,784
• 06/07	35,704
• 07/08	30,627
• 08/09	32,046
• 09/10	39,839
• 10/11	32,316
• 11/12	33,081
• 12/13	28,813
• 13/14	25,056
• 14/15	26,975
• 15/16	27,084

CICL draws particular attention to the very significant decrease in its water losses commencing 2005-06 and the tightening of the losses 'band' commencing in 2012-13. The significant decrease in water losses in 2005 was a consequence of CICL's adoption of TCC. The further 'step' decrease, in 2012-13, was a consequence of work undertaken under PIIOP1, especially SPs 1 and 4. The slightly higher losses experienced in 15/16 need to be seen in context of a season in which CICL extended its delivery service for a month longer than is usual and operated its balancing storage for a full irrigation season for the first time.

Appendix 2 to

CICL PIIOP 3 Final Report

Dated 10th May 2017

PIIOP 3 – Final Reconciliation (audited result)

MILESTONE EXPENDITURE REPORT (Audited)

Summary table - comparison of budget vs spend

	As per Budget (Item 4.1 in the Funding Agreement)	Commonwealth Funds - Total project budget	Commonwealth Funds - Total Spend for all Milestones
1	Channel Capacity Upgrades & Upgrade of Escapes - Earthworks		
	Subtotal - Earthworks	$62,400.00	$128,393.94
2	Channel Capacity Upgrades & Upgrade of Escapes - Structures		
	Subtotal - Structures	$1,133,100.00	$1,070,106.06
3	Project Management, Design & Contingency		
	Subtotal - Project Management	$3,000.00	$0.00
	Total	$1,198,500.00	$1,198,500.00