Network	Concept Proposals	Proposed Project Activities
Box Yards Rd Water	S&D Pipeline (Gunbar Water extension)	Provide piped and filtered water with 24 hour a day supply to grazing operations and households covering an area of approximately 50,000 ha in the Hay and Balranald LGA. The new system, which is a potential extension of Gunbar Water, will replace an inefficient and unreliable open channel delivery system.
Bringan Irrigation Trust	Bringan Irrigation Trust Upgrade	This project will enable the provision of a reliable and secure stock and domestic water supply for landholders and enable the efficient and measured annual delivery of both irrigation and environmental water to the end of the system. The irrigation network has annual losses which impacts the ability to deliver water to the end of the system efficiently. The losses rise significantly in low allocation years and will significantly impact on agricultural productivity into the future. Works include installation of S&D pipeline, meters, drive pump and upgrading of channels.
Coleambally Irrigation Co-operative Ltd	Off Channel Storage	This project will enlarge off channel storage and create a pumping facility to better manage over/under take of water ordered 7 days in advance (lead time from Blowering and Burrenjuck Dams) , reducing risk of restricted supply to more than 450 irrigation farms or rejection of ordered water at the river-offtake.
Coleambally Irrigation Co-operative Ltd	WCC Control Structures	This project will upgrade and provide improved flow control and monitoring structures on West Coleambally Channel to more effectively deliver stock and irrigation water to 41 farms and environmental water to 3 of the wetland areas along the channel. This irrigation network delivers around 10

Network	Concept Proposals	Proposed Project Activities
		000 ML water per year with losses of up to 40%.
Coleambally Irrigation Co-operative Ltd	Control & Metering for low Flow River Offtake	This project seeks to replace 2 large flow capacity Radial Gates at the river-offtake with smaller capacity gates (e.g. SlipMeters™) to enable small flow rate adjustments and enhance metering at low flow rates. Provide a permanent lining for a section of channel at the downstream accusonic meter to ensure a stable profile and limit aquatic weed's influence on gauging and gauging verification.
Coleambally Irrigation Co-operative Ltd	Culvert and Peak Flow Upgrades	This project will remove flow restrictions to enhance irrigation water Peak Flow supply to farms and improve access and safety for present day large vehicles serving the farming community.
Coleambally Irrigation Co-operative Ltd	Bridges, Channels and Drains upgrades	This proposal will improve capacity and safety of bridges to cope with increased vehicle sizes and loads, and improve scour protection for bridge foundation against more frequent and larger storm waters flows. Our bridges were constructed to the bridge load ratings applicable in 1944 and this significantly constrains agricultural and regional transport productivity.
Coleambally Irrigation Co-operative Ltd	Aquifer Storage and Recovery	This project is to re-establish the recharge of local aquifers by capturing damaging flood water and diverting it via the original riverine creek system into recharge zones to the aquifers to store water into the future.
Elwah Pumpers	Modernisation	Modernise the delivery system, which has high conveyance losses, through channel upgrade and re-routing,

Network	Concept Proposals	Proposed Project Activities
		installation of compliant telemetered meters and replacement of river offtake pumps. Proposed saving of 1720ML of conveyance losses.
Gunbar Water Private Irrigation District	Gunbar Water pipeline extension	This project will extend the existing pipeline deliver a secure supply of filtered water for Stock & Domestic use for an additional 100 customer covering over 100,000 hectares. This project has the potential to deliver a secure supply of filtered water to 3 local townships, including schools, which have significant water supply problems.
Gunbar Water Private Irrigation District	Gunbar Water PID (NSW)- Water Pipeline Extension – Booligal Leg	Currently the Booligal community receive their water (unfiltered) from the Lachlan River and /or transport it by road to their properties. Some people have bores in place for water access. Through the extension of its existing pipeline, Gunbar Water will be able to deliver a secure supply of filtered water for Stock & Domestic use to the Booligal township and surrounding areas.
Hay Private Irrigation District	Hay Private Irrigation District (HPID)	Extend the current pressurised irrigation pipeline system from the main pipeline by 5 km to incorporate additional outlets with a capacity of 12 new farms. It includes installations of compliant meters and solar battery storage system.
Jemalong Irrigation Scheme	Farm offtake metering	This project will involve the installation and commissioning of 61 mag flow meters retrofitted to existing farm outlets. The new meters will ensure accurate deliveries to members, while also ensuring compliance with the pending AS4747 metering regulations.

Network	Concept Proposals	Proposed Project Activities
Jemalong Irrigation Scheme	Channel Remediation	This project will re-build, re-shape and desilt the existing irrigation delivery channel system. The remediation will also include the trimming and removal of identified trees and shrubs located along the channel system, to provide an unsealed access and spraying track, as well as the removal and replacement of existing property fence crossings. These works will improve on farm water delivery and reduce conveyance losses.
Jemalong Irrigation Scheme	Channel Lining	This project will provide HDPE lining to 5-300km of irrigation channels reducing leakage and infiltration; wetting up of channels and increased system efficiency.
Jemalong Irrigation Scheme	Channel Fencing	This project will design and construct 314 km of fencing adjacent to the channel system, to provide access for JIL and contractors, as well as protecting the channels and other infrastructure from potential damage caused by stock. This damage includes erosion, widening, and low points where stock crossings occur.
Jemalong Irrigation Scheme	Channel Automation Software	This project will improve the productivity of approximately 90 irrigators within the district by installing an automatic channel control system to compliment JIL's existing automation and SCADA systems. The software will enhance JIL's ability to control its automated gate network driving improvements in delivery efficiency, reliability, and overall improvement in the viability of the system, especially in marginal years.
Jemalong Irrigation Scheme	Automated Gates	This project will provide 28 new automated regulators and 101

Network	Concept Proposals	Proposed Project Activities
		automated farm offtakes within the Jemalong Irrigation District (JID) to improve the delivery efficiency and overall level of performance within the scheme. It is expected that the project will improve the level of service to the irrigators thereby improving farm production and a more reliable monitoring and control the delivery network.
Marthaguy Irrigation Scheme	Seepage and Evaporation Management	Investigation has identified seepage and evaporation from the channel, plus dead water issues as major sources of loss. These increase the costs for the scheme and reduce the volume of water available for use. Activities to address these issues include lining leaky areas, reducing channel capacity and removing dead water and non-beneficial water from the system by re-grading channels.
Moira Private Irrigation District	Moira PID System Modernisation	This project aims to complete a full irrigation supply system modernisation of the Moira Private Irrigation District (MPID), which services approximately 53 members, delivering irrigation and stock and domestic supplies to some 94 properties. Modernising, including lining of the delivery network will save in the order of 2,400 – 4,200 ML/year (seepage and evaporation reduction), improve the accuracy of water measurement and delivery, and allow the delivery of stock and domestic water to meet critical human and livestock needs.
Moira Private Irrigation District	Moira PID system reconnection	This reconfiguration project would have the ability to delivery water 24 hours/day, 7 days/week to all properties within the scheme area. The project is structured around construction of a new supply channel from the Murray River to the MPID pumping station. The new connection

Network	Concept Proposals	Proposed Project Activities
		point would be located upstream of the Barmah Choke, and run through the Murray National Park to the existing pumping station. When the Murray River flows fall below 2,500 ML/d, water levels drop such that the pumping station cannot operate. MPID must be able to (as a minimum) supply S & D and water to high value (horticulture) crops year-round.
Murray Irrigation Ltd	Upgrade of Public Bridges	This project will first assess then immediately commence the upgrade of 416 public bridges along Murray Irrigation's channels to allow the transport of agricultural products to meet Gross Vehicle Mass (GVM) requirements. The poor state of many of these bridges is a significant financial risk to councils (who own the structures), to Murray Irrigation (that maintain them and need to pass water under these structures) and to the local community that needs to cross over them for everyday travelling and farmers transporting agricultural produce.
Murray Irrigation Ltd	Emphemeral Creek Restoration	This project will restore flows into the Jimaringle-Cockran-Gwynnes as well as the Yarrein and Murrain-Yarrein creek systems using upgraded Murray Irrigation infrastructure. The creeks have been largely disconnected from the adjoining rivers for several decades. The creeks regularly connected with the rivers providing productivity boosts for aquatic foodwebs that supported healthy native fish populations. This project can help to reinstate these environmental values plus provide ongoing social, cultural and economic benefits to the region.

Network	Concept Proposals	Proposed Project Activities
Murray Irrigation Ltd	Infrastructure Rationalisation Project	This project will reduce the infrastructure liability base that Murray Irrigation is required to look after through either the removal, modification or handover of these structures to the value of around $100 million. Compared to privatisation in 1995 the company delivered around 1,000GL of water for consumptive use, today the delivery of water in total is less than half of this amount yet our infrastructure liability has stayed the same at around $1 billion.
Murray Irrigation Ltd	Upgrade of Access Bridges	This project will address issues with 787 Access Bridges and Culverts that are no longer fit for purpose by upgrading the bridges to handle modern day agricultural machinery. The project will significantly improve farm efficiencies and productivity through significantly improved access to meet requirements of modern-day machinery and transport.
Murray Irrigation Ltd	Solar Powered Pumping and Desalination Pilot	The aim of this proposal is to initially develop a pilot project to determine the feasibility of extracting and desalinating shallow groundwater in the Wakool-Tullakool Sub Surface Drainage Scheme area building on the successful groundwater extraction scheme currently in place. If the pilot was successful it would lead to not only addressing problems caused by shallow saline water tables but provide a tangible benefit to the irrigation district by adding a meaningful volume of consumptive water into the system - estimated at up to 10GL annually.
Murray Irrigation Ltd	Restoring Farm Wetlands	Murray Irrigation has a very large network of channels that are strategically located to deliver targeted environmental water to ephemeral creeks, rivers and wetlands located throughout the area of operation.

Network	Concept Proposals	Proposed Project Activities
		There are an estimated 2,000 wetlands located on farms throughout the area. Many have the potential to be restored to be healthy wetlands and achieve substantial environmental outcomes. This can occur by completing a range of on-ground works and incentivising landholders to participate in these projects. This project is to commence restoring the health of 200 of those wetlands.
Murray Irrigation Ltd	Channel Capacity Upgrades	Increase the flow capacity of 100KM of channel systems. A key driver of productivity and efficiency in gravity fed irrigation systems is higher irrigation flow rates. There are some parts of the channel system that do not have enough capacity to meet customer demand and this has a direct impact on their agricultural productivity and Murray Irrigation's capacity to volumes.
Murrumbidgee Irrigation Ltd	MI Stage 3 Automation Project Proposal	This project is required to complete MI's final stage of automation of its supply network to allow the full benefits of automation to be captured. It will allow MI to be more efficient, agile and adaptable in the way water is delivered and will underpin customer business resilience and growth.
Murrumbidgee Irrigation Ltd	MI Capacity Increase	Recent investment in automation of the delivery network has improved water delivery precision. However, several structural constraints within the main arteries of the network significantly limit MI's ability to meet customer demand for flow rate during peak usage periods. This project will widen and refurbish concrete and clay lined channel and increase the flow capacity of multiple bridges and culverts.

Network	Concept Proposals	Proposed Project Activities
Murrumbidgee Irrigation Ltd	Urban Channel Rationalisation	This project will provide over 1000ML of water savings through piping and rationalisation of low volume irrigation channels in and around urban areas of the Leeton and Griffith townships. The existing delivery network consists of open concrete lined and earth channels and is no longer fit for purpose.
Murrumbidgee Irrigation Ltd	Lake Wyangan Project	This project will address serious water quality issues in Lake Wyangan by facilitating increased circulation of water in the North Lake. Construction of a pump station and pipeline to turn-over water in the lake will improve water quality and provide irrigation capabilities for adjacent farmers.
Murrumbidgee Irrigation Ltd	MI Seepage Reduction	The project will line approximately 8% of channel network (90 km) to produce water savings of 4000 ML annually and develop a sound knowledge of seepage losses across the network. 75% of the capital expenditure is projected to flow to local contractors. The project will also assist with the training and work experience for four PhD scholars and three post-doctorates from the fields of groundwater modelling, hydrogeology and groundwater monitoring.
Murrumbidgee Irrigation Ltd	Surge Management Project Proposal	This project proposes four additional surge reservoirs with a combined capacity of 16GL, strategically located within the water delivery network to ensure river orders are taken and river shortfalls are met to minimise excess being released from the storages and not utilised. On average every year 70GL of releases intended for MI are not taken at the offtake. MI believes that approximately 50% of these releases are losses.