Tasmanian Irrigation

Submission on the Future Management of water rights and associated assets administered by Tasmanian Irrigation

Submitted: 20th December 2017

Contents

EXECUTIVE SUMMARY

On 14 November 2017, the Legislative Council resolved that a Select Committee be appointed to inquire into the future management of water rights and associated assets that are currently administered by Tasmanian Irrigation Pty Ltd (TI).

TI welcomes the opportunity to provide a submission to the Legislative Council Select Committee.

This Submission aims to provide context regarding TI's many roles and responsibilities as they pertain to the management of water rights and associated assets.

This Submission also outlines how TI is working to support its irrigators through continuous improvement of services and identification of efficiency in delivery.

The key to the success of our schemes from a farmers perspective:
"Having water that is 95% reliability is the game changer for us. With that certainty we can invest in and grow things we couldn't even consider before."
South Esk Irrigator

Water scarcity is something that impacts every farmer during dry seasons and it is during times of scarcity that the strength of TI, its systems and its governance comes to the fore.

The benefit of independent governance and oversight provided by TI was proven during the 2015/2016 extreme dry conditions. TI ensured that all water was delivered state-wide; it worked in the South East to harness newly built TI infrastructure to supply water to older schemes where reliability could not be sustained and it negotiated strongly with Hydro Tasmania to ensure that supply to the Midlands irrigation scheme was secure.

Who we are

TI is a State-Owned Company that develops, owns and operates irrigation schemes in Tasmania.

TI is governed by a Board comprised of five independent non-executive Directors who oversee the operations of TI and are constantly looking to the future for further irrigation development opportunities and to drive operational efficiencies to the benefit of our irrigation customers.

The TI management team shares its time and resources between the core functions of the business and delivers to the business significant experience within the agricultural,

commercial, water management, environmental and engineering sectors. They support the on-ground capability provided by the operational team; it is everyone's job to ensure that day in day out, TI delivers water and maintains its social licence to continue to deliver water by meeting its compliance obligations.

What we do

Manage a portfolio of assets valued in excess of half a billion dollars.

Manage and maintain infrastructure which includes:

25	Dams
38	Pump Stations
3	Power Stations (includes assets in construction)
1042	KM of delivery pipeline
992	Property outlets

Interact with the individuals or entities who own the 979 active irrigation rights and 732 delivery rights throughout TI irrigation schemes.

Supply water through three different delivery mechanisms; pipelines, channels and waterways.

Source water from catchments under licence or from TasWater or Hydro Tasmania

Coordinate 13 irrigator representative committees, providing them with detailed scheme operational information including maintenance plans, financial information and water delivery plans.

Meet with individuals and entities who are interested in enhancing irrigation development within Tasmania.

Why we do it

All schemes developed by TI are designed to last 100 years and deliver water at an average reliability of greater than 95 per cent. For an irrigator, this is certainty of water for now and well into the next generation, allowing investments to be considered for on farm infrastructure and changing farming practices.

This commitment made by TI around reliability and longevity of scheme infrastructure brings with it responsibilities which TI takes very seriously, recognising the very significant investment made by the State Government, the Australian Government and the nearly 1,000 individuals and entities who have invested in water entitlements in irrigation schemes.

TI is implementing strong asset management practices across its portfolio, recognising that scheduled preventative maintenance is far preferable to reactive repair which could result in water delivery being delayed.

Dam safety management is also a crucial role as TI has an extensive dam portfolio which must be managed in accordance with all Australian National Committee on Large Dams (ANCOLD) guidelines.

How we do it

TI believes that there are many advantages to having a centralised structure creating economies of scale and efficiencies, with TI being able to invest in a small pool of key resources across water management, engineering, commercial and environment. These resources are able to work across schemes far more efficiently than if individual resources had to be organised for each scheme.

However, one of the key risks of having centralised management is that management can become distanced both from operational staff in the schemes and from its irrigators.

TI recognises this risk and is working to address it, there have been improvements made with communications, including plain English now being used in all communications that leaves the TI office, with the aim to establish a working relationship with irrigators and others that is more of a partnership and less of a dictatorship.

Economies of Scale

Scheme operators have been formed into clusters within a region so that between two or three schemes, resources are pooled and operators can move between the schemes providing coverage and additional support. Where schemes cannot justify a full-time scheme operator, this pooling of resources is paramount.

TI understands that in order to reduce costs on a per ML basis to irrigators;

- Costs need to be spread over a greater volume of water thus gaining efficiencies. We will see this both as new schemes move into operation and also as we continue our drive to sell the remaining water allocations that are currently unsold.
- Costs need to be reduced at all levels of the business
    - This past year the focus was very much on analysing all expenditure and ensuring that where it could be attributed to a specific scheme or project that this was done. Previously many of these costs had been allocated to everyone as part of an overhead.
    - The cost of the operations team (which includes asset maintenance and energy) has been split out from overheads so that there is transparency around the costs in this part of the business, as they are now fully allocated to operational schemes.
    - Structural changes will continue to be implemented with the focus being on how best we support scheme operators on the ground, whilst also ensuring all obligations as the asset manager and responsible water entity are met.

Influence within Tasmania

Strong TI negotiation and government intervention saw power price increases for irrigators held at within 5% to10 % for most irrigators; early pricing indications were increases of 43% or more.

Strong TI negotiations with Hydro Tasmania saw water price increases held at 13 % for most schemes; early pricing indications were for 100 % increases.

TI lobbies State Government and major industry groups within Tasmania to ensure they understand the value of irrigated agriculture to Tasmania and the impact of policy and pricing decisions on irrigation.

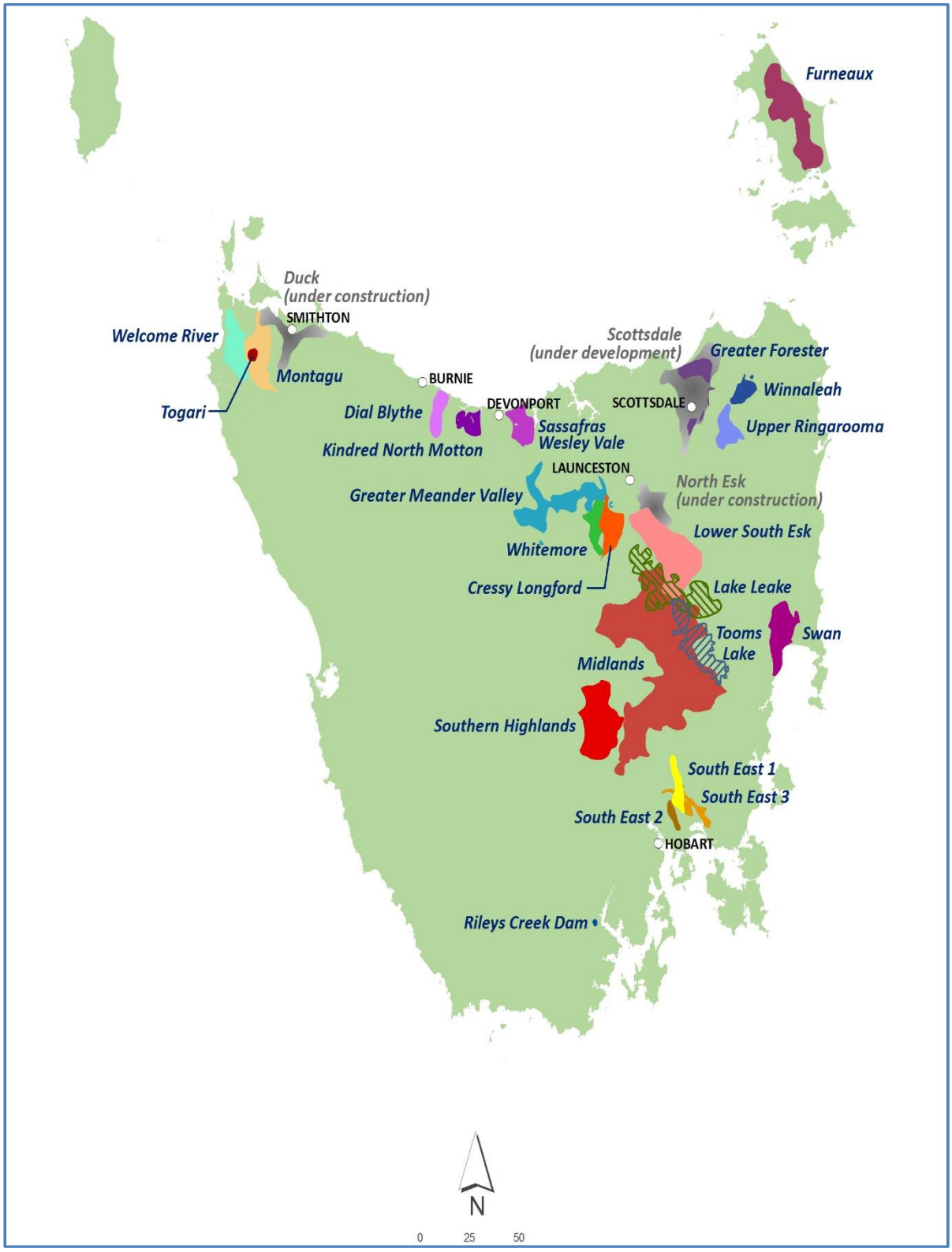
Transparency

A far higher degree of transparency has been in place this year, in particular around financial matters. TI acknowledges that with transparency comes greater scrutiny and TI welcomes that.

What people say

An irrigator satisfaction survey carried out by DPIPWE found that 83% of those surveyed and who identified themselves as TI irrigators were satisfied or extremely satisfied with service and support provided by TI during the 2015/16 season.

Location of infrastructure operated or managed by TI



1. THE BUSINESS OF DELIVERING WATER

1.1. Irrigation Schemes

Every scheme that TI manages has a degree of difference, both in its infrastructure and design. During the design phase TI goes to considerable lengths to determine a scheme design that will best suit the individual circumstances of the scheme, often arriving at unique engineering solutions. As TI matures its construction business, there is a move to try and standardise some of the infrastructure and componentry when designing new schemes.

Typically, TI uses 3 delivery mechanisms for supply of water to irrigators; pipes, channels and waterways. Schemes deliver by a combination of one or more of these mechanisms.

To deliver the water into these delivery mechanisms requires either pumping or gravity feed.

Water sourcing for direct supply to irrigators or into storages is provided under the following arrangements:

- Water Licences for catchment runoff and pumping from rivers;
- Water Supply Contracts from either Hydro Tasmania or TasWater

Having different scheme water delivery mechanisms and operations means that comparison between schemes can be problematic. For example, a scheme supplying water via gravity from a pump filled dam will have different variable charges compared to a scheme which sources water from Hydro Tasmania and then pumps that water to irrigators. Likewise, the less or simpler the infrastructure (e.g. fewer pumps) will mean lower maintenance costs.

Conversely, water that is supplied down a waterway will have adjustments made for transmission losses which is an additional variable cost.

Water storage volumes held in the dams TI manages may hold the entire irrigation season requirements and rely on annual fill; in some instances, the dam holds additional water as a buffer for future irrigation seasons.

Power generation is incorporated into the Greater Meander and Midlands irrigation schemes with a third power station to be built as part of the Scottsdale Irrigation Scheme. (Note: Winnaleah which is a self-managed scheme also has two power stations which are owned and operated by a separate company).

Appendix one contains a summary of each irrigation scheme and its infrastructure

1.2. Water Sources

TI is the holder of eighteen water licences under the *Water Management Act 1999*. These licences have 46 allocations that authorise access to water for operational schemes, and for those currently under construction. TI is responsible for management of these licences.

TI also has a number of contractual water supply arrangements in place with Hydro Tasmania and TasWater.

1.3. Water Supply

In TI contracts, "water entitlements" are defined as meaning the Irrigation Rights (per the *Irrigation Clauses Act 1973*) and Zoned Flow Delivery Rights (right to convey water through the scheme) and in accordance with National Water Initiative (NWI) requirements these are fully tradable irrigation rights not tied to the land.

TI has a statutory obligation under the *Irrigation Clauses Act 1973* to supply water each irrigation season in accordance with irrigation rights issued to irrigators. These rights provide access to highly reliable irrigation water. Allocation announcements are made at the start of the irrigation season and then at intervals during the season should conditions change. The volume of entitlements on issue and the percentage of that volume available to be supplied underpins those announcements.

For most years, the full volume of water entitlements would be expected to be available at the start of the irrigation season. Allocation announcements made during the irrigation season allow for management of the supply of water in the irrigation district in a fair and equitable way, as all irrigators are advised of changes to water supply availability.

In addition, TI has a contractual arrangement with irrigators for zoned flow delivery rights. These apply in all schemes except Greater Meander and South East Stage 1 (Coal River) and South East Stage 2. Zones arise because of variations in pipeline diameters and other factors that limit the capacity to deliver water into different areas of a scheme. The zoned flow delivery rights can be traded, and are allocated a share of the scheme capacity during each irrigation season.

Some people hold water entitlements which are active, but do not have delivery rights. These people can trade water from one season to the next if they need, to fulfil their seasonal demand, without having to re-sign all their entitlement contracts.

Water sales can occur in two different ways, depending on whether sales are happening during the schemes development or when the scheme is fully operational.

Appendix two contains the approach for both processes.

1.4. Reliability of Irrigation Schemes

TI's has been a recipient of significant State and Australian Government funding and this funding was premised on TI having stringent design parameters around reliability and longevity of the infrastructure.

All newly constructed TI irrigation water is premised on 95% reliability, allowing irrigators to make significant long term infrastructural investments based on this reliability.

The forecasting and management of water demand within each scheme is a crucial role undertaken by TI.

The 95% reliability commitment means that over the 100-year life of the scheme, each irrigator must have the ability to receive their water over the contracted delivery time and at the correct flow rates, for 95% of the time. TI investigates requests to extend irrigation seasons and works with irrigator committees to allow this, but must always ensure that reliability, contractual obligations and certainty of future water is considered.

TI schemes were built with a 100-year time frame, the assets have been designed and engineered to operate and deliver throughout this timeframe and are maintained to ensure this reliability with an asset renewal levy set for each scheme to ensure a true "user pays" system when planned major infrastructure refurbishments or replacements works are required.

The schemes demonstrated the importance of the reliability premise in the 2015/16 extreme dry season where TI delivered 67,085 ML of water across an extended irrigation season.

1.5. Water Available for Sale

The development of irrigation schemes through Tranche 1 and 2 has been highly successful with considerable up-take of irrigation water. The Business cases developed for schemes was always prefaced on firstly reaching an agreed sales volume prior to receiving approval to proceed to build and then a sales profile over the first ten years of the scheme's operation to sell the balance of the water.

Only 5% of total scheme volume remains unsold.

The sale of this unsold water remains a priority and TI has introduced both a retail (individual schemes with smaller volumes) and a wholesale (the large tracts of water at Midlands and at Greater Meander) to ensure that sales are targeted.

Appendix Three – Water Available for Sale

2. IRRIGATION SCHEME MANAGEMENT

TI governs each of the irrigation schemes it manages, providing independent oversight to ensure that water resources are always managed equitably.

2.1. Scheme Operations

The scheme operators are the on the ground face of TI, they:

- ensure that water is delivered as required
- perform the majority of preventative and routine maintenance on the scheme assets
- work with the environmental team to monitor water and environmental compliance and the maintenance team to ensure maintenance is completed so that as required all infrastructure is operational
- work with the wider operational team to ensure that water forecasts, including dam volumes, river flows and future weather forecasts are monitored in order to manage water balances into the future.

The scheme operators are supported from within TI by the management team, corporate services team and environmental team.

Section 4 expands in some detail the range of functions undertaken by each part of the team in order to support water delivery.

2.2. Irrigator Involvement in Schemes

Irrigator Representative Committees (IRCs) are established for each TI scheme from the outset of the scheme. They are and will always be a vital part of the process for consulting and engaging with irrigators in each district. As the schemes progress from a concept to a formal project, these committee members were involved through the build process until the scheme was officially commissioned and then opened. Once the construction is completed the focus of the IRC moves to the operational management of the scheme.
The IRC is there to provide representation for water entitlement holders in Tasmanian Irrigation schemes.

TI is in the process of updating its irrigator representative committee charter to better reflect the changing focus of the groups as TI moves more from a construction focused business into having a greater operational (water delivery) business focus.

IRC members are elected from all entitlement holders with nominations sought and members selected by scheme water entitlement holders. The IRC aims to have between 3 and 8 members with TI staff providing secretarial support.

IRC Member role:

- Provide input and constructive feedback on TI's operating policies, water trading, procedures, pricing structures, and billing arrangements
- Update TI on operational matters including water delivery and quality, metering and supply issues
- Using local knowledge and on-farm experience to identify opportunities for system, service and delivery improvements and efficiencies
- Provide a better understanding of the business risks and opportunities facing irrigators
- Provide TI with an understanding of the medium to long term opportunities that will be enabled by access to water
- Raise and discuss ideas, issues, and concerns with the committee
- Provide guidance on demand profiles for farms water usage

TI has well-established process in place to regularly communicate with each IRC as issues arise and importantly, there is also a formal process annually ahead of each irrigation season as prices and other operating rules are being set. This includes formally (and regularly) communicating with IRC chairman from each scheme, including them in briefings on proposed pricing changes and water and energy pricing from external suppliers.

TI then convenes meetings with irrigator committees in each region providing them with a detailed review of the previous season including financial performance and asset management.

This presentation was then repeated for meetings called within each region for all irrigators.

One of TI's concerns has been lack of attendance of irrigators at general scheme meetings and TI continues to look at ways to improve direct communications to individual irrigators.

TI ensures that all information provided at scheme meetings is sent to irrigators so that they do receive the information, however this is no substitute for being able to discuss and query information in a face to face setting.

TI has continued to seek to improve communication and within that, transparency of information with all irrigators. Our on-ground scheme operators play an important role in irrigator communications.

2.3. TFGA Involvement

A member of the TFGA water committee has a standing invitation to attend all briefings provided to TI Irrigator Representative Chairs.

TI attends a section of each of the TFGA water committee meetings, provides updates and answers scheme specific questions and is committed to being available to engage at all levels of the business as required.

2.4. Irrigator Satisfaction Survey

A survey was completed by Department of Primary Industries, Parks, Water and Environment (DPIPWE) following the 2015/16 dry season with the Minister of Primary Industries and Water, writing to over 2,500 farmers seeking their feedback on the extreme dry conditions.

Some 212 of the 571 responses received were from TI customers.

Irrigators were asked if they were satisfied with service and support provided by a water entity. 83% of the irrigators who identified themselves as TI irrigators were satisfied or extremely satisfied.

3. IRRIGATION SCHEME COSTS

TI is required to operate each scheme on a cost recovery basis. TI's approach is consistent with the National Water Initiative.

TI receives revenue through fixed and variable annual charges matched directly to the costs associated with the operation of the irrigation schemes.

Most irrigation schemes have two Annual Charges; being Fixed and Variable charges.

3.1. Fixed Charges

Fixed charges consist of three components:

Operation & Maintenance - charges to recover day to day operating (fixed) costs for running the scheme. Charges are based on scheme budgets. In 2017/18 there has been increased analysis and transparency with a more direct allocation of costs and reduced ambiguity around the allocation of overheads.

Fixed charges also reflect two overhead costs; operational and corporate overheads.

The first being the indirect cost of **operational overheads** which largely comprises staff members who are not a scheme operator. This includes operational management staff and maintenance staff.

The next major cost contributor within operational overheads is information technology which includes systems such as GIS mapping technology and SCADA control technology. This cost is allocated between operational schemes (81.5%), power stations (15%) and other schemes for which TI has management responsibilities (3.55%). The allocation between operational schemes is based on both number of customers within the scheme and the number of ML of entitlements by scheme.

The second overhead cost is the **corporate costs** of TI which includes the costs of governance, compliance, financial and audit management, environmental costs which are not charged elsewhere, as well as and the running costs of the office (lease, power, rates). This cost is only partially charged to operational schemes (25%) with the balance of 75% a cost which is met by the build part of the business.

Appendix Four, Overhead Cost analysis for TI

Asset Renewal Levy (ARL) – annuity charge to cover costs of asset refurbishment and replacement over the life of the scheme (100 years). An asset renewal levy puts money aside to ensure that scheme assets can be replaced as needed. TI has no funding mechanism to pay for replacements other than through the asset fund. Normal routine maintenance is covered through an annual maintenance budget which forms part of the fixed charges.

Storage Charges – this does not apply to all schemes but relates to the cost to replenish major storage due to evaporation and seepage. The charge is very scheme specific and in the order of $0.23 - $6.54 per ML or between 1% and 9% of the total fixed charge.

3.2. Variable Charges

Variable charges are driven by the estimated variable expenses to deliver water, including:

- Electricity costs associated with pumping water from the dam to the irrigator's outlet.
- Water purchase costs from source mainly Hydro Tasmania and TasWater.

Input costs incurred by TI, such as water purchase or electricity charges are passed through to customers. There is no margin added to these costs.

Variable Charges - Electricity Prices

The State Government announced an Energy Rebate, capping the retail electricity costs at $85/MWh an increase of around 25% compared to 2016/17. Without the rebate retail electricity prices were set to rise by 43% in 2017/18.

Electricity price increases were able to be held at below market levels because TI undertook a tender process to obtain the most favourable prices for retail electricity rates for energy supply (consumption) and the power purchase of generation in the Tasmanian region. Contracts are in place for retail consumption and generation, until 30 June 2020. Also included in this tender process was the sale of Large-scale Renewable Energy Certificates (RECs). A contract is now in place for all RECs created between 1 July 2017 until 30 June 2020.

Most schemes have received an increase of 5-10 % after the rebate was applied.

A negotiated reduction in regulated network charges for 2017/18 helped to minimise the impact of increased retail costs for electricity.

Variable Charges - Water Purchase Pricing

As noted, TI has contracts for supply of water primarily from Hydro Tasmania. TasWater also supply water in some areas.

Hydro Tasmania prices for water are based on estimated foregone generation revenue, with a change of methodology introduced in 2017/2018. The new methodology uses the 12-month average Tasmanian wholesale electricity prices, rather than a snapshot of Victorian prices at the end of April each year.

Most Hydro Tasmania prices have increased by around 13% in 2017/2018, based on a five-year rolling average of the annual pricing calculation. Negotiations between TasWater and TI led to the change in methodology, before this occurred, the increase in water purchase costs was predicted to be over 100% in some areas.

Water sourced from Arthurs Lake, into the Midlands scheme is not averaged over 5 years, due to the inclusion of a power station in this scheme to offset water purchase costs. The increase in the cost of water from Arthurs Lake is around 39%.

4. MANAGING AN INDIVIDUAL IRRIGATION SCHEME

In order to understand what is involved in managing an individual irrigation scheme TI has prepared the following summary:

4.1. Agreement between the Irrigator Committee and the Asset Owner

Assignment of all responsibilities under the water entitlement contracts.

This agreement would need to include responsibilities and costs for
Governance and operational obligations including:

- Adherence with all legislative, regulatory and policy obligations associated with the scheme;
- Special terms or obligations as determined by the asset owner;
- Maintenance of all assets in good working order and participation in asset management planning processes;
- Maintenance of appropriate levels of insurance;
- Compliance with any reporting obligations;
- Maintenance of the entity within approved legal form;
- The term of the agreement including clauses for extension of the contract;
- Terms relating to indemnities, releases and dispute resolution;
- Setting of charges including asset Renewal Levies;
- Assignment of rights for use of bulk water licenses and/or water supply agreements;
- Schedule of the state-owned assets being provided;
  This will include the major storage and delivery infrastructure developed for each scheme and their condition at handover;
- Details of the operational assets that will be purchased. This will include assets such as vehicles, tools, general office and workshop plant and equipment not covered as part of a scheme capital expense item at construction.

There are then a number of specific duties which must be performed:

4.2. Scheme operator role

Water Ordering: Receiving and administering water orders from irrigators and aggregating then into a daily supply requirement.

Water Scheduling: Scheduling of water to meet the order requirements and reconciling these aggregated orders against storage and supply to ensure there are no shortages.

Water Allocation: To allocate water equitably when there is insufficient water to satisfy the demands of the scheme.

Water Harvesting and Storage: To undertake the harvesting and storage of water (where applicable), ensuring that there is sufficient capacity within the system to supply the irrigation season.

Financial Budgeting/Forecasting: To assist in the preparation of annual budgets and forecasts. In particular, a key role in preparing maintenance plans for general wear and tear, asset management planning and demand forecasting.

Permanent and Temporary Trading of Water Entitlements: To review each permanent and temporary trade request. Their role will be to ensure that the delivery capacity is available for the trade and make a recommendation to the management committee accordingly.

Meter Reading: To read and maintain the meters including reconciling water usage.

Management Reporting: The preparation of regular management reports to the committee.

Annual Reporting: To assist in the preparation of the annual reporting obligations.

Asset inspections and general maintenance: To ensure that assets can operate as required and deliver water without delays.

Preventative maintenance on infrastructure: Programmed to ensure that assets do not deteriorate thereby requiring more expensive repairs and preventing outages during irrigation delivery periods.

Dam Safety Monitoring: Responsible for visual inspections of dams and taking action if variations are discovered.

TI employs scheme operators who work across the schemes on a regional basis as often a scheme will be of a size where only a 0.3 FTE or similar is appropriate. By working on a regional basis, TI maximises the efficiency of scheme operators and allows them to build skills and experiences across different schemes which is also a major risk management strategy. The above duties are completed by the Scheme Operator with guidance from the Manager of Water Delivery.

4.3. Other tasks

In addition to the roles covered by the Scheme Operator the committee will need to consider the following tasks:

4.3.1. Compliance

- Preparation of the annual report as the Responsible Water Entity for the irrigation district, as directed under the *Water Management Act 1999* and in accordance with any conditions associated with the district;
- Provision of information to DPIPWE and Bureau of Meteorology (BoM) (or as advised);
- Establish or maintain processes associated with Farm WAPs;
- Coordinating annual Farm WAP audits and monitoring compliance;
- Farm scale monitoring and reporting;
- Any additional conditions associated with the Irrigation District;
- Australian Government approval conditions.
- Dam Safety compliance with all dams needing to be reported on to DPIPWE and regulators

Every scheme has unique requirements, water licences and watercourse authorisations include a range of conditions that must be met to comply with the requirements of the *Water Management Act 1999*. In some cases, these impose obligations to undertake comprehensive water quality or water quantity monitoring, water metering, specific circumstances under which water may be taken, requirements to release flows at certain times of year, including provision of environmental high flow events. Conditions also cover the operation of gauging stations and on-going monitoring and maintenance at those sites.

TI completes this work primarily through its Environmental Team.

4.3.2. Administrative and Secretarial

- Administering of the water entitlements registers and trading;
- Administering of scheme trading zone capacity information;
- Preparation of the Board papers;
- Meeting organisation, attendance and minute taking;
- Preparation of operation manuals and amendment to policies and procedures;
- Preparation, organisation and attendance of general meetings of members, including preparation and distribution of meeting papers to members;
- Maintenance of statutory information including members register and annual ASIC returns;
- Assistance with preparation and lodgement of the annual report;
- Ensuring compliance with Water Award conditions for scheme operators and other employment provisions for other staff;
- Ensuring compliance of scheme with all workplace health and safety obligations;
- Maintenance of Dial before you Dig services.

TI completes this work through the commercial team and the Manager People and Workplace Health and Safety.

4.3.3. Commercial

- Preparation of the annual budgets and reporting budget versus actual reports;
- Maintenance of general ledgers;
- Billings and collections;
- Supplier invoice processing and creditor payments;
- Preparation and lodgement of taxation returns (including GST and income tax r eturns);
- Preparation of annual financial statements;
- Management of annual audit processes;
- Monitor cash flows and funds invested including asset renewal funds;

- Maintenance of fixed asset registers; and
- Calculation of asset renewal charges.
- Organising appropriate Insurance cover;
- Setting of water charges and formally notifying same;
- Negotiating with energy and water suppliers prior to establishing variable charges (if applicable).

TI completes this work through the commercial team.

4.3.4. Governance

- A governance structure will need to be established to oversee all the functions detailed above;
- A mechanism to ensure that independent and unbiased management is applied to all commercial matters will be critical.

TI completes this through its team at all levels, being at commercial arm's length from irrigators, and ultimately through the governance of a non-executive independent board.

5. COMPLIANCE REQUIREMENTS

5.1. Legislative

TI operates under a broad legislative framework.

TI's irrigation scheme management must be compliant with the *Irrigation Company Act 2011*, the *Water Management Act 1999* and the *Irrigation Clauses Act 1973*.

The objectives of TI are to develop, own and operate irrigation schemes in Tasmania and operate its businesses and activities effectively and efficiently and in accordance with sound commercial practice. These objectives are set down in legislation in section 7 of the *Irrigation Company Act 2011*.

Under the *Irrigation Company Act 2011* the Minister for Primary Industries and Water and the Treasurer are the shareholder members of TI. These Shareholding Ministers may issue a statement of shareholders expectations specifying the member's expectations in relation to the strategic priorities of TI; and the policy expectations of the members for the performance of TI. This provides a direct link between TI and delivery of the Tasmanian Government's policy agenda for irrigation in Tasmania.

TI as the responsible water entity must comply with the *Water Management Act 1999* and is responsible for managing the water within a water district. That Act governs irrigation districts, provisions relating to water licensing, dam permits and safety, and the like. These regulatory provisions apply to all irrigators and water entities.

The *Irrigation Clauses Act 1973* provides the statutory basis for the construction and operation of irrigation schemes and setting of scheme tariffs and charges by TI. It also provides for the supply of water for irrigation under the system of irrigation rights, or general availability, and for trading of irrigation rights.

TI's mini-hydroelectric generation facilities are regulated under the *Electricity Supply Industry Act 1995*. The Tasmanian Economic Regulator has issued a licence to TI for these facilities.

TI is a State-Owned Company under the *Government Business Enterprises Act 1995.* The *Corporations Act 2001* (C'wth) and the constitution of TI govern the operation of the company.

In keeping with all businesses, TI must comply with all safety and employment legislation and many staff are covered under the provisions of the *Water Industry Award 2010*.

In addition to the legislative requirements TI must also take account of the following:

5.2. National Water Initiative

Tasmania became a signatory to the National Water Initiative (NWI) on 2 June 2005.

The NWI sets out objectives, outcomes and actions for the ongoing process of national water reform and timelines to achieve this reform.

The irrigation right system under which TI operate is compliant with the requirements of the NWI and the Council of Australian Governments water reform obligations. Namely, those rights are separate from land title, exclusive, tradeable and mortgageable, are enforceable and are recorded in publicly-accessible water register.

Appendix Five – Key NWI Features

5.3. Environmental Compliance

Each TI construction project was required to refer an environmental assessment to the Australian Government; and all fourteen referrals and the Midlands strategic assessment submitted by TI were received positively.

To receive this level of confidence from the Australian Government has meant that TI has itself developed a range of environmental management protocols; some of these during construction and others are for the long-term environmental sustainability of each scheme through water quality monitoring, Australian Rivers Assessment System (AusRivas) surveys and Farm Water Access Plans (FWAPs).

A Farm Water Access Plan is developed in conjunction with landholders for each irrigated land area in schemes developed by TI. This plan details where irrigation water will be applied and so allows close monitoring to ensure there is no negative environmental impacts from irrigation.

Appendix Six contains details on all environmental work competed by TI either internally or using contracted experts.

5.4. Dam Safety

TI oversees a portfolio of 19 operating dams with a further two currently under construction and one in design.

TI is required to do so under the *Water Management (Safety of Dams) Regulations 2015* and uses referenced Australian National Committee on Large Dams (ANCOLD) guidelines to establish the monitoring framework.

Where a dam has a safety risk of Significant or greater, the ANCOLD Risk Assessment guidelines require more monitoring. A Dam Safety Management Plan must be developed to show how the risks will be managed.

TI must report annually to the Department of Primary Industries, Parks, Water and Environment (DPIPWE) on progress being made on the Portfolio Risk Analysis and the dam safety program, including detailing completed works and any works proposed within the next 12 months, and a 5-year schedule for future works.

TI, with this significant portfolio of dams, is also a required member of the State Regional Emergency Committees. In accordance with this role TI is required to have in place a Dam Safety Emergency Plan (DSEP) that is shared with both Tas Police, SES and Local Government.

5.5. Reporting

TI is required to report against each of its compliance obligations to a range of authorities predominantly within State Government.

The primary report is the Water Entity report which is prepared for each water district that TI manages (roughly equates to an irrigation scheme). This report provides a detailed analysis of the scheme including water rights issued, water used, transferred permanently or traded; full details on all environmental compliance undertaken and a review of the farm water access program.

Appendix Seven, A standard water entity report

Additionally, TI meets with the state regulator (DPIPWE) to review the management of all water licenses and separately the management of all dams under its control.

Additional reporting is required to the Australian Government for environmental compliance over and above that referred to in water entity reports.

TI is compelled to provide information to the Bureau of Meteorology under the *Water Regulations 2008 (C'wth)*. W*ater Regulations 2008* specify eleven categories of water information that must be supplied and requires provision of global data about water information.

6. ABOUT TASMANIAN IRRIGATION PTY LTD (TI)

6.1. Background

Tasmanian Irrigation Pty Ltd (TI) is a State-Owned Company that develops, owns and operates irrigation schemes in Tasmania.

TI was formed in 2011 when the State Government disestablished the Rivers and Water Supply Commission (RWSC) which comprised two distinct entities, Tasmanian Irrigation Development Board (TIDB) and Tasmanian Irrigation Schemes (TIS) and merged them into TI. This merger saw TI move in a new strategic direction incorporating the services previously delivered by each of the organisations.

Since 2008, TI (and TIDB previously) has established a suite of fifteen market-driven irrigation schemes, eleven of which are operational and the remaining four currently under construction or in final design.

All schemes developed by TI are designed to last 100 years and deliver water at an average reliability of greater than 95 per cent.

TI provides irrigation water and services to more than 900 irrigators.

The primary aim of the schemes developed and operated by TI is to grow the wealth of Tasmania by developing and enhancing the productive capacity of the State's agricultural industries.

Irrigation is critical to support the Tasmanian Government's Agri-Vision 2050 plan which aims to increase the value of agriculture in Tasmania to $10 billion by 2050.

Irrigation scheme development is completed through a unique public-private partnership which sees the Tasmanian Government work in partnership with the Australian Government and private investors.

TI builds these irrigation schemes in partnership with local communities with the aim to manage reliable, efficient, environmentally responsible and self-funding projects that ensure sustainability in the State's agricultural sector.

6.2. TI's core functions

The core activities of TI are:

Water Delivery: TI now operates a total of 13 irrigation schemes (comprising 10 that TI built and 3 that it inherited), oversees the management of two self-managed schemes as well as management of inherited assets.

Water trading facilitation: As part of TI's role of operating irrigation schemes, TI is responsible for facilitating the trading of water within individual schemes whether that be permanent water transfers or the short-term trading of water which often happens within a season.

Infrastructure management: TI has to manage a wide portfolio of assets. The TI built schemes were built and water sold on the premise that they would last 100 years, reliably delivering water and so strong asset management is required to deliver on this. TI was also given many previously government controlled assets to manage. TI have identified the ongoing maintenance costs and operational costs for the balance of the inherited schemes and assets and are working with government to secure support into the future.

Irrigation advisors: TI often provides irrigation advice either to the Tasmanian government or at their direction project managers or engineers are made available as requested to assist local communities with irrigation concepts.

Construction of Irrigation Schemes: TI is continuing to construct irrigation schemes (four remain in various stages of design or construction from tranche two). The Australian Government is also jointly investing with the Tasmanian Government to investigate a potential third stage of development. Eight possible schemes are being considered for development with the potential to make more than approximately 45,000 ML of summer irrigation water available. Opportunities to capitalise on unmet irrigation demand and water capacity in other districts are also being explored. This suggests that the construction aspects of the business may continue beyond 2020.

TI's highly successful development of tranche one and now tranche two schemes means that TI has achieved national recognition for its construction, engineering and project management skills. The TI model is endorsed by the Australian Government and other States are encouraged to emulate the model.

TI's 2017 / 18 strategic objectives are to:

- Deliver reliable water;
- Build irrigation schemes in partnership with the local community;
- Provide value to our customers;
- Support an active water market in Tasmania which ensures that maximum value is generated from Tasmania's irrigation infrastructure and resources;
- Fully realise the benefits of Tasmanian Irrigation's irrigation schemes through increasing high value agricultural production; and
- Where feasible and appropriate, to facilitate local community management of these schemes.

6.3. Board of Directors

Corporate Governance is provided by a 5-member Board who are appointed by the two shareholder ministers, the Treasurer and the Minister of Primary Industries and Water. The *Irrigation Company Act 2011* states that "they must have the experience and skills necessary to enable the Company to achieve its objectives".

2016 and 2017 have seen many board changes as inaugural directors completed their terms and new appointments were made. The skills focus has changed from construction to more commercial, water delivery and strong agricultural knowledge.

- Samantha Hogg; Chairman; Samantha serves on a number of boards and farms in Northern Tasmania
- Michael Chilvers; Northern Midlands farmer
- Roger Gill; Hydro engineering consultant
- Guy Kingwill; Director of Agricultural and Water Companies
- John Whittington; Secretary of Department of Primary Industries, Parks, Wildlife and Environment (DPIPWE).

6.4. Management

The composition of the management team has changed to better to reflect a more operational and customer focussed water delivery business as opposed to the previous focus on construction.

The TI leadership team is:

- CEO, Nicola Morris
- CFO, Leigh Nicholas
- Manager Water Delivery and Services, Sonia Green
- Manager Water Assets and Energy, Mike O'Shea
- Manager Build, Paul Ellery
- Manager HR and WHS, Simone Reynolds

6.5. Staff Numbers

Work Area	Employee # as at Nov 2017
Corporate	12
Build	10
Operations	21
Environment	4
Totals	**47**

6.6. Infrastructure Operated or Managed by TI

TI operates and manages 13 irrigation schemes. In addition to the recently constructed schemes which TI operates, TI also operates and manages numerous inheritances including the Greater Meander irrigation scheme and power station, the Coal River (South East Stage One Irrigation Scheme including Craigbourne Dam), South East Stage Two Irrigation Scheme, including Daisy Banks Dam and is assuming responsibility for Lake Leake and Tooms Lake. TI also has responsibility for the Galesford Dam and infrastructure for the Togari Water Supply, two river improvement schemes and a drainage scheme on Flinders Island. TI owns the assets of two self-managed schemes and remains as the Responsible Water Entity for one of the two.

Inherited irrigation schemes operate under different conditions to TI built schemes, reliability is not 95%, water restrictions can apply and compliance requirements are less stringent.

Irrigation Schemes under management	
South East Stage 1 (Coal River)	Inherited
South East Stage 2	Inherited
Greater Meander	Inherited
Great Forester	Tranche 1
Sassafras Wesley Vale	Tranche 1
Whitemore	Tranche 1
Lower South Esk	Tranche 1
Kindred North Motton	Tranche 1
Midlands Water	Tranche 1
Dial Blythe	Tranche 1
Upper Ringarooma	Tranche 1
South East Stage 3 (Sorell)	Tranche 1
Southern Highlands	Tranche 2
Irrigation Schemes under Self-Management	
Cressy Longford	Inherited
Winnaleah (including augmentation)	Inherited / Tranche 1
Water Supply / Drainage Districts / River Improvement) Managed	
Togari Water Supply	Inherited
Furneaux Drainage Scheme	Inherited
Montagu Catchment Area River Improvement	Inherited
Welcome River Improvement	Inherited
Irrigation Schemes – In Commissioning	
Swan Valley Irrigation Scheme	In Commissioning
Irrigation Schemes – In Construction	
Duck Irrigation Scheme	Under Construction
North Esk Irrigation Scheme	Under Construction
Scottsdale Irrigation Scheme	In Detailed Design
Hydro Stations	
Meander Mini-Hydro Station (2MW)	Operating
Midlands Power Station (6MW)	Operating
Scottsdale Mini-Hydro Station (2MW)	In Detailed Design

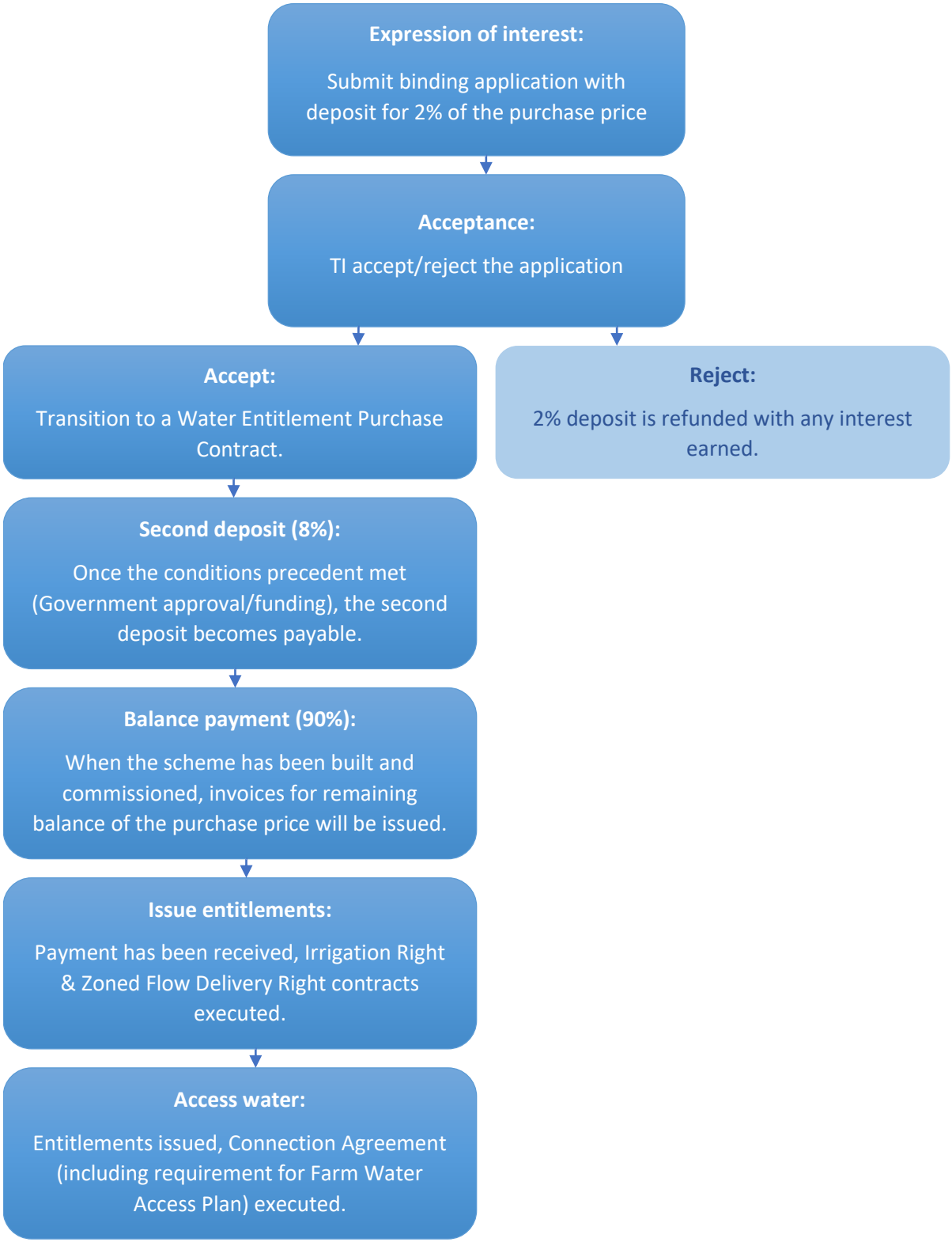
APPENDICES

Appendix One – Infrastructure owned, operated or managed by TI

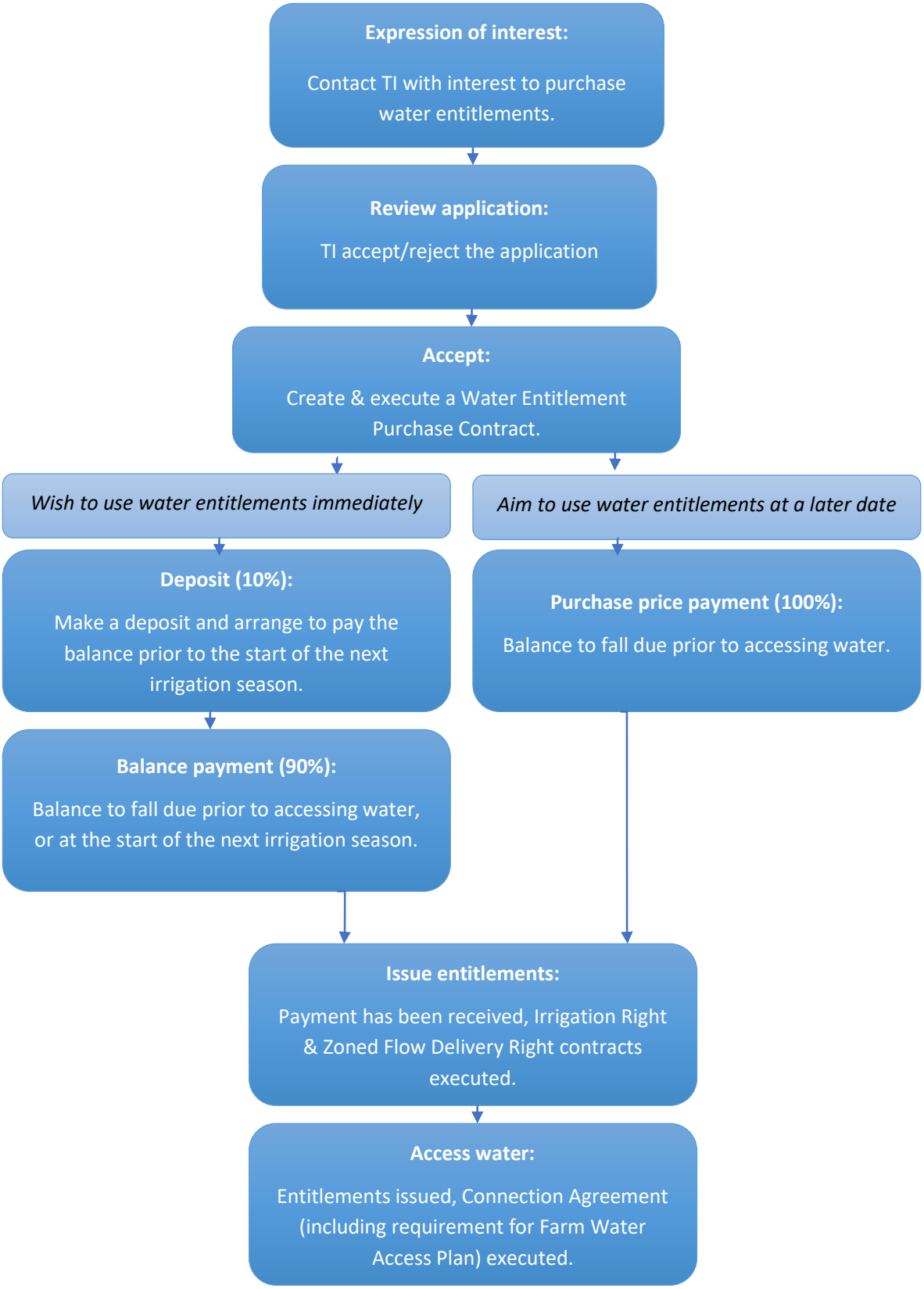
Schemes	Current Water Entitlements ML	Number of Dams	Dam Name	Number of Pump Stations	Number of Power Stations	Total length of delivery pipes (KM)	Water delivery through water courses (Y/N)	Number of Outlets for water
Managed By TI								
South East 1 (Coal River)	2,650	1	Craigbourne	4	0	11.5	Y	86
South East 2	1,980	1	Daisy Bank	1	0	29.6	N	127
Greater Meander	28,800	1	Meander Dam	4	1	47.5	Y	225
Greater Forester	1,980	1	Headquarters RD	1	0	0.0	Y	0
Sassafras Wesley Vale	5,460	0	Great Bend Concrete Reservoir	4	0	85.3	N	122
Whitemore	5,500	1	Liffey	1	0	37.8	Y	45
Lower South Esk	5,298	1	Milford	1	0	1.5	Y	14
Kindred North Motton	2,500	1	Sprent	2	0	43.6	N	49
Midlands Water	38,500	1	Upper Floods Creek	3	1	133.5	Y	83
Dial Blythe	2,855	1	South Riana	2	0	43.6	N	54
Upper Ringarooma	5,700	1	Dunns Creek	2	0	38.7	Y	52
South East 3 (Sorell)	3,000	1	Rekuna	3	0	85.3	N	68
Southern Highlands (T2)	7,215	1	Southernfield	3	0	58.5	N	35
	111,438	**12**		**31**	**2**	**616**		**960**
Under Construction								
Swan (T2)	2,000	1	Melrose	1	0	36.6	N	23
Duck (T2)	5,200	1	Mill Creek	2	0	61.5	Y	N/A
North Esk (T2)	4,658	1	Dalness	2	0	62.9	N	N/A
Scottsdale (T2)	8,600	1	Camden	1	1	92.1	Y	N/A
	20,458	**4**		**6**	**1**	**253**		**23**
Self Managed								
Cressy/Longford	8,295			0	0	99.8	Y	
Winnaleah (including augmentation)	6,954	5	Cascade Dam Frome Dam Wyniford, Pioneer & Frome Weirs	1	0	48.4	Y	9
	15,249	**5**		**1**	**0**	**148.2**		**9**
Other Infrastructure managed by TI								
Riley's Creek DAM		1	Riley's Creek	0	0		Y	
Lake Leake DAM		1	Lake Leake	0	0		Y	
Tooms Lake DAM		1	Tooms Lake	0	0		Y	
Togari Water Supply		1	Galesford	0	0	24.7	N	
Furneaux Drainage Scheme							Y	
Montagu Catchment Area River Improvement							Y	
Welcome River Improvement							Y	
TOTALS	**147,145**	**25**		**38**	**3**	**1,042**		**992**

Appendix Two – Process for buying water from TI

Water sales process for new irrigation schemes (prior to commencing operations)



Water sales process for existing irrigation schemes (after commencing operations)



Appendix Three – Water Available for Sale

Schemes	Tranche	Water Entitlement Capacity (ML)	Water Unsold at Scheme Commencement	Water Unsold 1 Dec 2017	Unsold %
Greater Meander (capacity revised 2017)	Pre-Tranche 1	28,800	20%	3,059	11%
Whitemore	Tranche 1	5,500	30%	1,555	28%
Kindred North Motton	Tranche 1	2,500	37%	665	27%
Midlands	Tranche 1	38,500	27%	9,282	24%
Dial Blythe	Tranche 1	2,855	33%	405	14%
Upper Ringarooma	Tranche 1	5,700	34%	1,455	26%
South East Stage 3 (Sorell)	Tranche 1	3,000	22%	390	13%
Southern Highlands	Tranche 2	7,215	1%	60	1%
Swan Valley(T2)	Tranche 2	2,000	N/a	-	0%
Duck (T2)	Tranche 2	5,200	N/a	30	1%
North Esk (T2)	Tranche 2	4,685	N/a	-	0%
Scottsdale (T2)	Tranche 2	8,600	N/a	1,912	22%

Appendix Four – TI overhead analysis

IRRIGATION SCHEME OVERHEAD (FIXED) COSTS

Sold (ML) 95,907 — Corporate Overheads

	Total Corporate Overheads	Allocated to Operations 25 %	Allocated to Build 75 %		Cost of Operations direct overheads	Corporate overheads allocated to Operations 25 %	Total Overheads allocated to Operations	81.5% Schemes	$ / ML
	2017/18	2017/18	2017/18		2017/18	2017/18	2017/18	2017/18	2017/18
Fixed Expenditure	3,758,441	939,610	2,818,831		1,642,655	939,610	2,582,265	2,104,546	**21.94**
- Employee Benefits	2,092,594	523,149	1,569,446		1,174,225	523,149	1,697,374	1,383,359	**14.42**
- Board Expenses	289,780	72,445	217,335		-	72,445	72,445	59,043	**0.62**
- Accounting Fees	46,726	11,682	35,045		-	11,682	11,682	9,520	**0.10**
- Auditing Fees	52,123	13,031	39,092		-	13,031	13,031	10,620	**0.11**
- Professional Services	109,735	27,434	82,301		-	27,434	27,434	22,359	**0.23**
- External Professionals & Contractors	*76,735*	*19,184*	57,551		-	*19,184*	*19,184*	*15,635*	**0.16**
- Internal Consultants	-	-	-		-	-	-	-	-
- Dam Safety	-	-	-		-	-	-	-	-
- Legal Expenses	*33,000*	*8,250*	24,750		-	*8,250*	*8,250*	*6,724*	**0.07**
- Monitoring & Testing	-	-	-		-	-	-	-	-
- Emergency Expenses	-	-	-		-	-	-	-	-
- Environmental Expenses	-	-	-		-	-	-	-	-
- Licences	-	-	-		-	-	-	-	-
- General Operations Expenditure -Gov Grants	-	-	-		-	-	-	-	-
- Prof & Other Contract Services	-	-	-		-	-	-	-	-
- Non Scheme Projects	-	-	-		-	-	-	-	-
- Motor Vehicle Expenses	76,271	19,068	57,203		48,545	19,068	67,613	55,104	**0.57**
- Travel & Meeting Expenses	44,883	11,221	33,662		14,702	11,221	25,923	21,127	**0.22**
- Office & Administration Expenses	403,959	100,990	302,969		37,353	100,990	138,343	112,749	**1.18**
- Power Station/Irrigation Scheme Contributio	-	-	-		-	-	-	-	-
- Scheme Expenses	-	-	-		-	-	-	-	-
- Land Compensation	-	-	-		-	-	-	-	-
- REC Registry Fee	-	-	-		-	-	-	-	-
- Water Licences	-	-	-		-	-	-	-	-
- Water Purchases - Fixed	-	-	-		-	-	-	-	-
- Vermin Control	-	-	-		-	-	-	-	-
- Weed Control	-	-	-		-	-	-	-	-
- Finance Expenses	6,000	1,500	4,500		-	1,500	1,500	1,223	**0.01**
- Bank Charges	*6,000*	*1,500*	4,500		-	*1,500*	*1,500*	*1,223*	**0.01**
- Bad Debt Expense	-	-	-		-	-	-	-	-
- Bad Debt Expense Collection Costs	-	-	-		-	-	-	-	-
- Interest Expense	-	-	-		-	-	-	-	-
- Guarantee Fee	-	-	-		-	-	-	-	-
- Advertising, Promotional & Communication	12,100	3,025	9,075		-	3,025	3,025	2,465	**0.03**
- Depreciation	177,978	44,495	133,484		40,116	44,495	84,611	68,958	**0.72**
- Insurance	71,705	17,926	53,779		81	17,926	18,007	14,676	**0.15**
- ICT Expenses	352,487	88,122	264,365		304,320	88,122	392,442	319,840	**3.33**
- Plant & Equipment Expenses	22,100	5,525	16,575		23,313	5,525	28,838	23,503	**0.25**
- Equipment - Hire	*4,600*	*1,150*	3,450		-	*1,150*	*1,150*	*937*	**0.01**
- R&M - Plant & Equipment	-	-	-		*20,863*	-	*20,863*	*17,003*	**0.18**
- R&M - Other	-	-	-		-	-	-	-	-
- R&M - Asset Replacement Levy (ARL)	-	-	-		-	-	-	-	-
- Equipment - Purchases under $10,000	*17,500*	*4,375*	13,125		*2,450*	*4,375*	*6,825*	*5,562*	**0.06**
- Contingency	-	-	-		-	-	-	-	-
Additional Costs - Break Downs			-						
CEO Costs - included in Employee Costs	349,558	87,390	262,169		-	87,390	87,390	71,222	**0.74**
Chairman's Costs - include in Board Costs	82,421	20,605	61,815		-	20,605	20,605	16,793	**0.18**
Rent Costs - include in Office & Admin Costs	112,440	28,110	84,330		-	28,110	28,110	22,910	**0.24**

In allocating costs to schemes the 81.5% consisted of: - 41.5% based on Number of customers and - 40% ML sold per scheme

Appendix Five – Key National Water Initiative Features

The objective of all states and territories in implementing the NWI is to provide greater certainty for investment and the environment, and to underpin the capacity of Australia's water management regimes to deal with change responsively and fairly.

To meet this broad objective, the NWI outlines many key areas requiring national water reform.

- water access entitlements and planning framework
- water markets and trading
- best practice water pricing
- integrated management of water for environmental and other public benefit outcomes
- water resource accounting
- urban water reform
- knowledge and capacity building
- community partnerships and adjustment

Appendix Six – Environmental work completed by TI

What we do	Frequency
Surface Water Quality Blue Green Algae surveys	82 sites monthly (13 districts) 82 sites monthly (13 districts)
Groundwater Level and Quality	13 sites monthly (1 district)
Aquatic Habitat Condition - AusRivas surveys	18 sites twice annually (6 districts)
Aquatic weed survey Declared aquatic weed survey Sediment and Erosion surveys	82 sites monthly (13 districts) 6 sites annually (1 district) 10 sites annually (2 districts)
Flora Surveys	2 regeneration surveys annually (1 district)
Fauna Surveys Burrowing Crayfish Green and Gold Frog	 15 sites annually (1 district) 5 sites annually (2 districts)
Fish surveys Pest Native	 4 sites twice annually (2 districts) 4 sites once annually (2 districts)
Farm Water Access Plan Audits – to ensure compliance with water application provisions (e.g. amounts, locations, soil monitoring)	Continually throughout year Formal Audit (10-15% of all Farm WAPs) once annually (10 districts) (29 conducted in 2017)
Compliance with annual water allocations (e.g. amount of water taken under licence)	Continual review and formal compliance audit once annually (13 districts)
Compliance with environmental flow provisions (instream storages, CTT)	Continual review and formal compliance audit once annually (13 districts)
Due administration of the Irrigation Districts – Water Entity Reports	1 annually

Appendix Seven – Water Entity Report