

Questions & Answers

Scottsdale Irrigation Scheme: Preferred Option

June 2013

1 Scheme overview

Q. How did the project come about?

- A. Over the past 15 years there have been numerous efforts by various parties to advance significant irrigation projects in north-east Tasmania. The development of the Scottsdale Irrigation Scheme (SIS) began in late 2010 as the Great Forester-Brid Irrigation Scheme, when members of the local community asked Tasmanian Irrigation (formerly Tasmanian Irrigation Development Board) to consider a scheme for the region.

Q. How has the community been involved?

- A. In October 2010, the Tasmanian Farmers and Graziers Association (TFGA) and Dorset Economic Development Group (Dorset EDG) held a public meeting at the Scottsdale RSL Club, which led to the formation of the scheme's community representative committee (now the SIS Working Group). It meets regularly to progress the project and provides valuable input to Tasmanian Irrigation on the SIS on behalf of the local community.

The members of the SIS Working Group are: Tas Rainbow (chair), Michael Powell (deputy chair), Peter Sattler, Robin Thompson, Victor Hall, Cameron Moore and Bob Bush.

Tasmanian Irrigation looks forward to continuing engagement with the community in further developing the SIS.

Q. Is the Preferred Option based on real local demand?

- A. Yes, the design of the SIS is based on an expression-of-interest (EOI) survey for water demand that was conducted in December 2010. This survey resulted in expressions of interest totalling approximately 11,600 ML from 90 local landowners.

Q. What studies have been done as part of the Preferred Option?

- A. Pre-feasibility studies completed as part of the SIS Preferred Option include assessments of: land capability and irrigation water demand; dam storage reliability (i.e. hydrology); dam site-selection; ecological (i.e. flora and fauna) assessments of the proposed dam site and pipeline route; preliminary desk-top Aboriginal and historic heritage assessments; and preliminary geotechnical assessments of the proposed dam site. In addition, preliminary engineering design and costing has been conducted.

Q. Were alternative dam sites considered?

A. Yes. Tasmanian Irrigation considered detailed studies of 11 dam sites, including the potential storages identified in the North East Irrigation Project run by Dorset EDG. A comparison found that the proposed Camden Rivulet dam to have the best overall sustainability outcomes, with:

- Lower potential environmental impact on aquatic ecology and geomorphology than a major in-river dam;
- Lower potential environmental impact on flora and fauna as land at the dam site is largely under eucalypt plantation;
- Underlying hydrology sufficient to achieve 95% average reliability; and,
- Opportunity for incorporation of a mini-hydro power plant and potential for irrigation under gravitational pressure.

Q. How will water be stored?

A. Tasmanian Irrigation plans to build a roller-compacted concrete dam on Camden Rivulet (a tributary of the St Patricks River) with an annual yield of 8,600 ML. The dam would be filled predominantly by winter flows from the Camden Rivulet with capacity to be topped-up via flows piped from the St Patricks River during winter, if needed. In summer, the full natural stream flow of Camden Rivulet will be allowed to pass through the dam.

- Capacity (at full supply level): 9,300ML
- Annual yield for irrigation: 8,600ML
- Dam wall height: 15m
- Dam wall length: 280m
- Surface area at full supply level (FSL): 181 ha

Q. Will downstream users on the St Patricks River be affected?

A. No. As the dam will retain only 5% of the average annual flow in the St Patricks River catchment (measured at Nunamara), the impact on downstream users will be negligible. A potential benefit is that that the dam could be accessed as an emergency water supply for Launceston, if required.

As part of the Business Case, TI will investigate potential impacts and opportunities of the scheme on recreation activities on the St Patricks River.

Q. What does 95% reliability mean?

A. Reliability is defined as the sum of the annual allocation of water that is available for supply in each irrigation season during a 100-year period, divided by the sum of the annual volume of water that is contracted for supply under irrigation rights over that same period.

It means that over the 100-year life of the URIS an average annual allocation of not less than 95% will be made without an annual allocation greater than 100% being made in any one year. Two examples of this are:

- over 100 years, a 100% annual allocation being made in 95 years and a zero annual allocation being made in the remaining 5 years; or
- an annual allocation of 95% being made in every year of 100 years.

Any individual case will lie somewhere between these two examples.

Q. How will water be distributed?

A. Water will be delivered directly to irrigators through the following methods:

- A two-way pipeline will run between the Camden Rivulet dam and a pump station on the St Patricks River at East Diddleum Road Bridge. The same pipeline that can be used to top the dam up with flows from the St Patricks River if needed in winter will also take water out of the dam during summer.
- The pump station on the St Patricks River will push the water over a 50 metre rise before the water descends some 300m over the Sidling Range under gravity through a mini-hydro station and into the recently built Headquarters Rd dam.
 - From the Headquarters Rd dam, a network of 56 km of buried distribution pipeline will take the water to the region around Scottsdale without the need for additional pumping except for the Springfield branch line which will require a boost pump.
 - The pipeline will also delivery water to three watercourses (Great Forester and Brid rivers and Hurst Creek) for direct-take by riparian landholders with their own pumps.
 - A pump station on the Great Forester River at Waterhouse will transfer water via a 10km buried pipeline to the Waterhouse region.

Q. How will the mini-hydro station be integrated into the SIS?

A. The scheme will include the ability to generate clean, renewable electricity through a mini-hydro power station at South Springfield. The mini-hydro station would be connected to both the St Patricks River pump station and the Tasmanian electricity distribution network at Springfield via a new 8 km long power line. The mini-hydro scheme would be owned and operated independently from the irrigation scheme by Tasmanian Irrigation.

Power would be sold to irrigators at a rate which, based on current pricing, will result in an 8.5% saving in annual pumping costs. The summer 'variable charge' pumping rate is based on wholesale value of energy of \$0.10/kWh generated from the mini-hydro plus a 15% operating margin. If the mini-hydro component of the scheme did not progress then the summer retail rate would be \$0.13/kWh.

Q. How will the Great Forester Irrigation Scheme (Headquarters Road dam) be affected?

A. While Headquarters Road dam will act as a storage buffer for the mini-hydro and header dam for the SIS, it will continue to supply irrigators of the Great Forester Irrigation Scheme as normal, without change to their existing arrangements.

Q. How will the pipelines be constructed?

- A. The proposed pipeline route totals approximately 73km in length. Pipes would be laid underground wherever practical and would generally be constructed from durable, high density polyethylene (HDPE). A nominal 20m wide corridor will be required for installation. The trenches would be approximately 1m wide and deep enough to bury the pipe with a top cover of at least 700mm to ensure that normal farming activities may continue to be conducted above the pipeline. Where trenching is unviable and above ground pipe is required, or where pressures are too high, ductile iron cement lined (DACL) pipe will be used.

Q. When will water be delivered and what is the delivery capacity of the scheme?

- A. Water will be delivered to irrigators during the summer irrigation season. This is nominally between 1 December and 30 April (around 150 days), however the scheme manager will have discretion to start earlier or finish later each year in consideration of irrigators needs. To provide improved flow rates the scheme will be designed to deliver water over a shorter, nominal 120-day period. To manage the capital cost of the project, the scheme will be designed to deliver water evenly over this nominal 120-day period, with some capacity for water transfer and rostering between irrigators. The total delivery capacity of the Preferred Option is 8,600ML per year.

Q. Will I be able to obtain out-of-season water?

- A. In addition to supplying water during the summer irrigation season under water entitlements, the SIS may be able to supply water outside the irrigation season when surplus water is available.

The water entitlements sold during this landholder water sale relate only to water supplied during the irrigation season and do not give any rights to supply outside the irrigation season (nominally December through April).

If available, water supplied outside the irrigation season will be sold on a 'spot sale' basis, with the price set at an appropriate level to ensure the protection of the value of water entitlements and encourage the purchase of any unsold water entitlements.

Q. What are Transmission Losses and how will they affect my water entitlement?

- A. If your water is being supplied via either the Great Forester or Brid River or Hurst Creek it will be subject to transmission losses. In an open channel, some water being transferred is "lost" to evaporation and seepage into the banks. If losses were not borne by river users the scheme could run short of water by the end of the season.

For the purpose of the SIS Preferred Option, transmission losses are estimated to be 15% for each waterway. This means that if you purchase **100ML** and take your water via a river, you will be able to take **85ML**, because 15ML will have been lost along the way.

As part of the Business Case detailed analysis of transmission losses will be undertaken and the current Preferred Option estimates refined for the purpose of Water Sales. The final Transmission losses will be determined by DPIWWE under a watercourse authority to be issued to allow the transportation of water from the SIS along local rivers.

Water supplied entirely by pipeline is not subject to any transmission losses.

Q. What will my flow rate be like?

- A. If you are supplied by a pipeline, the scheme will be designed to deliver water evenly over a nominal 120-day period. For example, if you purchase 120 ML your contracted flow rate will be 1 ML/day (i.e. approx 12 litres/second). To allow some flexibility for water trading, your outlet will generally be capable of delivering at least 300% of your contracted flow rate, except where the capacity of the pipeline on which the outlet is located is exceeded by doing so. Although outlets will have the capacity to deliver water at a flow rate greater than the contracted rates, increases above contracted flow rates will only be permitted where water transfer or rostering arrangements have been reached with other irrigators.

Q. What will my water pressure be like?

- A. If you are supplied by pipeline, the pressure at your outlet guaranteed under contract will be 5m (7 psi). However, the actual pressure received will be higher in most areas. Actual pressures experienced at your outlet will vary depending on the proximity of your outlet to a pump station, the relative height of your outlet and can also vary depending on where and how much water is being taken elsewhere in the scheme. The expected pressure to many irrigators in the Scottsdale vicinity may be more than 50 m (or 70 psi) under gravity alone.

Q. If I choose not to take water on some days, can I catch up?

- A. Water will be available to be taken over approximately 150 days per season and delivered at a rate over a nominal 120-day period. This means that you could not take water for up to 30 days per season and still be able to take all of your allocation. If you are supplied by a pipeline, then to be able to catch up for periods greater than the 30 days you will need to use on-farm storage or seek to trade (i.e. buy, lease or share) flow rate from another irrigator.

Q. Can the current proposed pipeline route be moved?

- A. Yes – the current alignment is based on desktop assessments and designed to meet the December 2010 ‘expression of interest’ survey demand. This will be used for development of the Business Case. Following approval of the Business Case and securing of government funding commitments, TI will hold landowner Water Sales for the scheme. The pipeline route will then be redesigned to meet the actual Water Sales demand. As part of this process TI will consult with landowners to identify preferred on-farm pipeline routes and outlet locations.

2 Scheme costs

Q. How much will the scheme cost to build?

- A. This comprises two separate components: the irrigation scheme and the mini-hydro power scheme. The estimated total capital cost of the project is \$46m. The irrigation scheme will be funded by a contribution from the Commonwealth and State governments of \$28m and a private contribution of \$12m raised through the sale of water entitlements to irrigators. The mini-hydro scheme will be funded by alternate (non Water Infrastructure Fund) funding of \$6m.

Q. What is the one-off upfront capital cost to landholders to buy water?

- A. The expected cost of a SIS water entitlement is **\$1,400/ML** (2012-13 dollars). Upon application during the water sales period, you will be required to pay a non-refundable deposit of either 10% (binding contract) or 25% (option to complete purchase), with the balance payable once the scheme has been commissioned.

The Working Group noted that there was high demand for a direct-irrigation scheme, which reduced the need for on-farm storage and pumping. In consideration of this, a gravity scheme was designed with increased pipeline pressure ratings and flow rates. These improvements are reflected in the price of landowner water entitlements. The water entitlement price does not include any contribution towards the mini-hydro power scheme.

Q. Will there be ongoing costs?

- A. Yes, water entitlement holders will be required to pay annual charges made up of a fixed charge levied on water entitlement holdings and a variable charge levied on water consumption.

The fixed charge will be set to recover the fixed costs of the scheme (operations, maintenance and administration) as well as to provide for asset renewal. It is payable on the full Water Entitlement volume each year regardless of the amount actually used. Based on cost information for 2012-13 the fixed charge is *estimated* to be **\$56/ML** (2012-13 dollars). No charge is levied for operation of the mini-hydro electric scheme.

The variable charge will be set to recover the costs associated with pumping and is payable only on the volume of water that is actually consumed/supplied. The variable charge in 2012-13 dollars is *estimated* to be:

- **\$29/ML** for Camden, Scottsdale, Upper Brid, West Scottsdale, Stronach, Jetsonville, Mt Zion and **\$48/ML** for Upper Brid branch lines, to which no transmission losses apply; and
- **\$29/ML** for the Brid River, Hurst Creek, Great Forester River delivery; **\$53/ML** at Waterhouse and **\$69/ML** for Waterhouse branch line, to which transmission losses of approximately 15% will apply.

The variable charge includes a forecast 8.5% saving in annual pumping costs through use of power supplied by the mini-hydro scheme.

Q. Do I have to pay GST on the purchase of water entitlements?

- A. Tasmanian Irrigation does not collect GST on the purchase of water entitlements because water is not currently taxable for GST purposes. Should this change as a result of a change to the law or a change to the interpretation of the law, GST will apply.

3 Farm Water Access Plans

Q. Why do I need a Farm WAP and what will it cost?

- A. A Farm Water Access Plan (Farm WAP) will be required for every property that receives water from the SIS to demonstrate that the application of that water is sustainable and complies with Australian and State Government requirements. A Farm WAP needs to cover only those areas of land that will be directly affected by the use of water supplied from the SIS. As an indication of the cost of a Farm WAP, the net cost to farmers in other schemes has been between \$550.00 and \$2,200.00 (inc. GST). This cost range is only provided as a reference and includes the current government subsidy of \$1,000. A verified Farm WAP, completed by prequalified consultants, will need to be obtained before the water is applied to the land.

4 Next step

Q. Can I provide comment on the Preferred Option?

- A. Yes, your comments on the Preferred Option will be considered in the development of the Business Case for the project. A feedback form is included in your information pack. Please complete the form and send it to SIS Project Manager, Andy Corbould by:

Mail: Tasmanian Irrigation
PO Box 84
Evandale TAS 7212

Fax: (03) 6398 8441

Email: andy.corbould@tasirrigation.com.au

The period for public comment closes on **15 July 2013**.

Q. What happens next?

- A. The next stage in the process is feasibility and the development of a Business Case for the project. On approval from the TI Board it will be sent to the State Government for assessment. Further development of the SIS project beyond the Business Case phase is dependent on success of the Tranche Two funding application (this was submitted to Infrastructure Australia in mid-2012).

Subject to securing funding and receiving State and Commonwealth Government approval for the Business Case, the project will proceed to the detailed design and approvals phase, which includes water sales.

Feasibility studies to be undertaken over the next six months include: environmental flow; transmission loss; transmission viability for Hurst Creek; aquatic ecology and geomorphology; dam site geotechnical; preliminary mini-hydro design; aboriginal and historic heritage; recreational impacts and opportunities. Many of the assessments will require access to private property for visual inspections. We will seek approval from landowners before entering any private property.

Q. Who will manage the scheme once it has been constructed?

- A. After commissioning, the scheme will be operated by Tasmanian Irrigation. During this period the necessary operational resources will be acquired and policies and procedures to operate the scheme will be established. During the development of the scheme, irrigators will be consulted to determine the most appropriate structure for the long-term operation of the scheme.

Contacts:

- SIS Project Manager - Andy Corbould on 0417 341 141 or andy.corbould@tasirrigation.com.au
- SIS Working Group Chairman - Tas Rainbow on 0418 123 028 or vrainbow@bigpond.net.au
- TFGA Irrigator Co-ordinator - Ian Herbert on 0400 006 095 or Ian.Herbert@tfga.com.au