

Gippsland Environment Group Inc

Submission on the draft report of the Ten-year review of the Snowy Water Licence

By email to snowylicence.review@dpi.nsw.gov.au

General comment

The *Ten Year review of the Snowy water Licence: draft report* prepared by the NSW Department of Industry (May 2018) has failed to propose any licence variations that will deliver improved environmental outcomes for the Snowy River, Snowy Montane Rivers or the River Murray and has ignored recommendations from the community in this regard.

The integrity of the NSW Government's ten year review of the Snowy water licence (SWL) has been seriously limited by a lack of independent scientific information on the condition of the whole of the Snowy Scheme catchments – information that should have been available to inform public submissions prior to the review and should have informed the Department's draft and final reports. The fact that ten-year review of the obligations under the licence in relation to increased flows has been undertaken without provision of any public state of environment reports on the Snowy Rivers and catchments would indicate that the review is primarily focused on Snowy Hydro Limited's compliance with the existing licence provisions regarding increased flows rather than a transparent and scientifically informed assessment of the adequacy of these increased flow provisions to deliver the environmental objectives detailed in the Snowy Water Licence and the Snowy Water Inquiry Outcomes Implementation Deed (SWIOD).

Whilst the draft report proposes that the Department of Industry will prepare a Work Plan for completion in 2018, to address a number of 'more complex issues' to be delivered by 2020, with a second round of licence variations, Gippsland Environment Group has little confidence that this will result in any actual amendments to the licence to benefit the environmental health of the many rivers affected by the Snowy Scheme. The NSW Government has repeatedly failed to deliver on its commitments to restore the health of Snowy and other rivers affected by the Snowy Scheme.

Gippsland Environment Group (GEG) recommends therefore that key licence variations in relation to the increased flows provisions must be included in the Department of Industry's Final Report of the Ten-year Review rather than further delayed. These will be detailed below following a brief comment on the administrative variations proposed in the draft report.

Re: Proposed Administrative Variations to the Licence.

Proposal 1A: *Snowy Hydro will be obliged to prepare a public version of the AWOP.*

The public version of the AWOP should also include the volumes targeted for release of Snowy Montane Rivers Increased Flows (SMRIF) and River Murray Increased Flows (RMIF).

As the SMRIF volume is calculated proportional to the SRIF annual allocation which is included in the AWOP, there is no reason why the volume of SMRIF should not also be included in a public version of the AWOP.

The SWIOID (part two cl 23.1) requires NSW to maintain water accounts for (i) *the volumes of water released against the River Murray Annual Allocation*. This information should also be included in the public version of the AWOP.

There is frequently a considerable delay after the beginning of the Snowy Water Year (1 May) before any of the SMRIF or SRIF strategies are posted on the Snowy Water Initiative website. This year the strategies for 2018-19 are still not available almost three months after the beginning of the Water Year. Including this information in the AWOP and making it available to the public on SHL's website would improve public access to the information.

Gippsland Environment Group recommends that the licence is varied to require SHL to prepare a public version of the AWOP which also includes the volume of SMRIF and RMIF allocation scheduled for release. (Further discussion re RMIF see below)

Proposal 5: *The Licence will be varied to remove all provisions relating to the construction of the outlet works at Jindabyne and Tantangara Dams.*

As SWL s6.1 refers to the *Outlet at Tantangra Dam and Snowy Montane River Works* Gippsland Environment Group is concerned that only subclause (1)(a), which refers to Tantangara Dam is to be removed and NOT subclause (1)(b) which refers to the montane riverine works. As was explained in detail in our initial submission to this review the montane riverine works have not been completed. The Final Report must include clarification that only the provision s6.1(i)(a) in relation to Tantangara Dam is to be removed.

Proposal 10: *The licence will be varied to capture the agreement for Snowy Hydro to continue making a riparian release of:*

- *Approximately 1.4 megalitres per day (0.5gigalitres per year) from Mowamba River, as part of nine gigalitres per year Snowy River Base passing flow requirements.*
- *Up to 2.4 megalitres per day from Eucumbene dam to maintain a visible flow in the Eucumbene River at Nimmo.*

Re: the Mowamba River: The riparian release from Mowamba River since 30 Jan 2006 when the aqueduct was re-commissioned would appear to be less than the daily release prior to the initial decommissioning of the aqueduct on 28 August 2002. The historic Mowamba flow data should be in the public domain and SHL should clarify if in fact base flows have been reduced since Mowamba Aqueduct was re-commissioned.

A base flow of 1.4ml/d Or 0.5GL/yr is less than 1% of the Mowamba River average annual flow of at least 56GL (i.e. 38GL diverted, 18-24GL spills).

Re: the Eucumbene River: the riparian release of 2.4 ml/d or 0.87GL/yr is approx. 0.3% of the Eucumbene River's pre-dam average annual flow of 290GL.

Such minimal base flows are extremely environmentally damaging. The riparian outlet at Eucumbene Dam¹ has a capacity of 0.07 m³/s or approx 6 ML/d. The Mowamba weir gate is barely opened to make the 1.4ML/d riparian release; this gate has the capacity to release much a greater volume.

The base flow daily releases are also flat-lined even though flow variability, with high flows and low flows, is essential to maintain the health or ecological integrity of flowing waters (Poff et al. 1997, Bunn and Arthington 2002²). Flat-lined flows for any extended duration will have detrimental effects on habitat availability and condition, food resources, longitudinal and lateral connectivity.

Gippsland Environment Group recommends that before these licence amendments are approved the volume and method of base flow releases to Mowamba River and Eucumbene River must be assessed by independent aquatic scientists as to compliance with the SWL environmental objectives for SRIF(re: Mowamba) and SMRIF (re Eucumbene).

Re: Proposed Work Plan

Gippsland Environment Group has concerns that the Department of Industry's proposal to prepare a Work Plan ('expected' to be delivered by 2020) to address some increased flow issues (including evaluation of Mowamba River flows as part of SRIF) will result in further delay of at least two years and risks never resolving the issues by way of additional licence variations that would deliver beneficial environmental outcomes.

There are a number of increased flow issues that could be dealt with immediately and included as recommended additional licence variations in the Final Report to be published in late 2018. As follows:

GEG Recommendations regarding additional Licence Variations that must be included in the Final Report:

- The Licence should be amended to allow the option of delivering SRIF from a combination of Mowamba River and Jindabyne Dam rather than further delaying a decision on this matter.

The NSW Government's final report of the first five-year review³ in 2009 proposed that the Office of Water would *investigate by 2012 options for better achieving environmental objectives under low flow conditions, including options for the decommissioning of*

¹ SWL schedule 2,p46

² Poff, N.L., J.D.Allan, M.B.Bain, J.R.Karr, K.L.Prestegard, B.D.Richter, R.E.Sparks and J.C.Stromberg. 1997. The natural flow regime, a paradigm for river conservation and restoration. *BioScience* **47**: 769-784.
Bunn, S. E. and A. H. Arthington 2002. Basic principles and ecological consequences of altered flow regimes for aquatic biodiversity. *Environmental Management* **30**: 492-507.

³ *Final report- Five-year review of the Snowy Hydro Water Licence, Licence review – May 2002-May 2007* (Nov. 2009:6) NSW Office of Water

Mowamba Aqueduct. The Victorian Minister for Water Peter Walsh stated⁴ in 2011 that *the investigations are scheduled to be completed in 2012 for consideration by governments.*

It is clearly not necessary to undertake further investigations (Proposed Work Plan - Proposal 7) prior to varying the SWL to permit SRIF to be delivered by a combination of Mowamba and Snowy River releases. Even if additional studies are required before the final decision is made it is critical that the Licence is varied now in the initial phase of the Ten-year Review to ensure that the option is available to deliver SRIF via a combination of Mowamba and Jindabyne if required as soon as final studies are complete. This would go some way to restoring public confidence in the commitment of the NSW Government to restoring the Snowy River.

- The Licence should be amended to permit the carryover of SRIF allocation to the subsequent year if in any one year the annual allocation is over 212GL

Carryover is a standard environmental water management operational measure in the Murray-Darling Basin and it is an unfortunate oversight that it was not included in the initial SWL (2002). The SWL Schedule Three Part One s2.1 *Limits on Volumes of Increased Flows* should be varied to include a clause that permits SRIF to be carried over for release in the subsequent year if the annual allocation is above 212GL. This amendment would be an effective measure to ensure that any SRIF annual allocation over 212GL does not remain undelivered in the subsequent year. This water year 2018-19 the Snowy annual allocation plus regulated base passing flow is only 137 GL (i.e. less than 12% MANF) but 2.3GL remains undelivered from the 2017-18 SRIF allocation. The draft report suggests (6.3.5 p26) there is less value in allowing carryover for SRIF *as it is very unlikely there will be surplus allocation to carryover*. This is evidently not the case. One of the recognised impacts of climate change is extremes of rainfall it is highly likely that there will be further occurrences when the carryover rule would be of benefit to the Snowy.

In addition the Agreement on the Outcomes of the Snowy Water Inquiry (AOSWI) signed by Victoria and NSW (5th December 2000) which is embedded in the NSW Snowy Hydro Corporatisation Act 1997 prevents the release of more than 212GL to the Snowy unless compensation is paid to Snowy Hydro Limited. A carryover clause in the SWL therefore is critical to ensuring that no volume of SRIF allocation remains undelivered.

- The Licence should be amended to require measurement of the total annual volume of SRIF below the junction of the Snowy River and Mowamba River in compliance with SWIOID 1.2 (1)(O)(i).

Installation of an automatic public gauge below the junction of the Mowamba and Snowy Rivers would ensure that the community has access to accurate real time flow data that would confirm whether or not SRIF volumes as a percentage of the MANF as designated in the SWIOID Part T 7.3 *Derivation of Increased Flows Volumes* is being delivered.

⁴ Letter from Victorian Minister for Water to Louise Crisp Vice-chair Snowy River Alliance 23 June 2011

- The Licence should be amended to remove the 2010 SWL variation (Schedule Three Part Two s 6.5) which requires SHL to take water for SRIF and riparian releases from the near surface horizon of Jindabyne Dam.

It is evident that cost to SHL is the primary reason that the draft report did not recommend that this licence provision be removed. The Snowy Scientific Committee advised in 2009 that the near surface water in Jindabyne Dam to a depth of 5 metres can be higher than 20°C which is unsuitable for montane fish. It is clearly inconsistent with the SWL environmental objectives for SRIF for the Ministerial Corporation to allow SHL to continue to release water from above the thermocline when the surface water temperature is far too warm for montane riverine ecosystems such as the Snowy below Jindabyne.

The draft report suggests that the warm water pollution be considered as part of the Mowamba River investigations to be completed under the Work Plan. However a study by Brookes et al in 2011⁵ into the effects of the first environmental flow releases to the Snowy River from Mowamba River from 2002 to 2005 indicated that the Mowamba River flows were of insufficient volume to change the mean daily water temperature in the Snowy.

There is no justification for retaining this provision in the Licence. As sole shareholder of SHL the Commonwealth must ensure that the company is not required to continue releasing warm water pollution.

- The Licence must be amended to ensure RMIF annual allocation is accounted for separately from SHL's Above Target Water, and actually delivered on an annual basis independent of the volume of ATW in storage.

It is clear from the Heads of Agreement (2000) and SWIOID (2002) that the Commonwealth funded RMIF of 70GL was planned as an annual release. According to the SWL s 4.1(2) *it is the intention of the Ministerial Corporation that this Licence gives full effect to the provisions of the Snowy Water Inquiry Outcomes Implementation Deed.* Clearly this has not happened. There is now 537 GL of accumulated RMIF in SHL storages. Since 2002 RMIF has been released on only two occasions and since the call out and trigger volume provision was incorporated into the SWL seven years ago RMIF has not been called out by the Ministerial Corporation.

The draft report (p31) states that *submissions provided little evidence the arrangements have resulted in unforeseen and perverse outcomes to date.* The fact that \$75million of Commonwealth taxpayer funds was spent to acquire 70GL/yr of environmental water for the Murray but there have been only two releases of RMIF (both via less than transparent intergovernmental deals) and there is currently 537GLof unreleased RMIF, would indicate there has been a perverse outcome.

It is the responsibility of the Commonwealth Environmental Water Holder and NSW Ministerial Corporation to ensure that the RMIF allocation is released annually for the

⁵ A. Brooks, M. Russel, R. Bevitt, and M. Dasey, 2011. Constraints on the recovery of invertebrate assemblages in a regulated snow melt river during a tributary-sourced environmental flow regime. *Marine and Freshwater Research* **62**, 1407-1420.

environmental benefit of the Murray River rather than withheld by SHL for the benefit of its *commercial operations*.

As detailed in our initial submission, RMIF of 70GL/yr was included in baseline environmental water acquired for the Murray pre-Basin Plan so cannot be considered as a supply measure under the Basin Plan. The MDB and OEHL must ensure that an annual management plan for delivery of RMIF is prepared (as per SRIF) prior to beginning of each water year so that RMIF can be strategically included in environmental watering plans for the MDB. This must be underpinned by Licence amendments that detail SHL's delivery obligations for RMIF.

- The Licence must be amended to allow carryover for SMRIF as credit GWh. SHL's submission to the ten-year review re SWL Schedule 3 Part Five - Snowy Montane Rivers Increased Flows, states (un-paginated) that releases from the smaller weir structures *are made and accounted for based on long term historical or modelled data on a largely 'set and forget' basis rather than measuring releases and adjusting SMRIF targets annually based on over or under releases from the previous year*. SHL argues that *this approach is the most practical for the Montane catchments (with the exception of the Murrumbidgee) as the Works located in these catchments have little or no storage capacity...* Instead releases to the Murrumbidgee from Tantangara Dam are allowed to *absorb the variation in apportionments*. As a consequence however the two sections of the Upper Snowy River scheduled to receive SMRIF continue to receive greatly reduced volumes (with a concomitant loss of environmental benefit) compared to the SWL target volumes identified in Schedule 3, Table One.

The SWL Schedule 3, Part One 2.1 (2) *Limits on Volumes of Increased Flows* limits SMRIF volumes to no more than the applicable GWh per annum foregone electricity generation (i.e. up to 150GWh). This clause does not currently include any provision for carryover of SMRIF volumes. However whilst the montane tributary weirs are unable to store unreleased SMRIF, there is no reason why the GWh value should not be carried over as credit to subsequent years. This would address the significant and continuing shortfall in upper Snowy releases.

**GEG Recommendations regarding other matters to be addressed in the Final Report:
Re: SMRIF**

1/ During the SWL ten year review process Gippsland Environment Group has requested clarification on the status of SMRIF re the upper Snowy River a number of times but has received very little response.

The SWL Schedule 3, Part Five, s23 *Amendments to Table One* determines that amendments to Table One may be made by the Ministerial Corporation not more than once between every fifth anniversary of the operative date referred to clause 21.1(1) i.e. the commissioning of Tantangara Dam outlet, which occurred in 2005.

The draft report (p51) states that: *Two variations to the SWIOID target* [which are replicated in the SWL Schedule 3, Table one] *annual targets are currently being implemented in the Snowy montane rivers weirs.*

However more than two variations to Table One have been made:

Two sections of the upper Snowy River are included in the five montane rivers scheduled to receive SMRIF i.e. the two sections are identified separately in Table One. The upper Snowy River below Guthega was scheduled to receive 30GL/yr by 2010-11 from Perisher and Rams Flat Creeks via modification of these weirs. However it has only received 3.4GL beginning in 2016-17 from Falls Creek. Both the release sites and the volume have been varied. Similarly with the Snowy River below Island Bend Dam which was scheduled to receive up to 29GL by 2012-13 from the Gungarlin River. The release site has been changed to Tollbar and Diggers Creek weirs and the target volume reduced from 29GL to 18.9 GL with the first flows delivered in 2013.

In addition the target volumes for the Upper Murrumbidgee and Geehi Rivers have both been varied to increase the SMRIF releases to those rivers.

This is a total of at least four variations if only the volume is considered and at least six variations if the release sites are also counted as amendments to Table One.

The variation to the Geehi volume is now permanent due to the infrastructure failure on Strezlecki Creek⁶.

What is not clear is to what extent the variations to SMRIF to the upper Snowy are temporary or permanent – re: the section of the Snowy River below Island Dam (Snowy River – Gungarlin) it would appear that both the release location AND the target volume has been permanently varied; re: the Snowy River below Guthega Dam (Snowy River – Perisher/Rams Flat) section it is not clear if the variation of both release location AND volume is a temporary or permanent measure. The Final Report must clarify whether the Department of Industry plans to increase the volume of SMRIF to the two sections of the upper Snowy River in future.

Nevertheless the Ministerial Corporation has approved at least four significant variations to the volume of SMRIF releases (to two sections of the upper Snowy River, and the Murrumbidgee and Geehi) when there is a requirement under the SWL for no more than one variation every five years. In addition as a result of these variations the total volume of SMRIF available for distribution to the five rivers identified in Table One is also considerably reduced as the conversion ratio of GWh to GL is so much higher for the Murrumbidgee and Geehi River releases than the upper Snowy. The total volume of SMRIF available in 2017-18 when a full allocation was made (i.e. equivalent to 150GWh) was only 92.8GL significantly less than the 117.8GL identified in SWL Schedule 3, Table one. The Final report must identify whether this is a breach of the SWL.

2/ The SWL Schedule 3, Part Five, s18.2 *Objectives of Increased Flows Along Each River* requires that for each river along which SMRIF are to be made the Governments will:

⁶ S Williams (2017). *Release Strategy for the Snowy Montane Rivers Increased Flows, 2017-18*. NSW DPI.p15

(1) *determine a set of objectives for those Snowy Montane Rivers Increased Flows together with associated performance measures;*

(2) *prepare a riverine management strategy ...*

(The SWIOID Annexure Two, s 2.3 requires the management strategies to be prepared prior to the second anniversary of Corporatisation.)

It is evident that an individual management strategy has not been prepared for each of the five rivers referred to in Table One nor an assessment of the environmental consequences (i.e. measure of performance) of providing much reduced flows to the two sections of the upper Snowy compared to the target flows in Table One.

The Final report must identify whether this is a breach of the SWL.

3/The draft report (Proposal 21 dot point 2) states that: *the Department of Industry will procure an expert panel to independently review performance with conditions of the Licence to date, including; the appropriateness of the management approach taken for spills of SRIF and meet SMRIF targets.*

However this proposed Expert Panel would appear to have a legal compliance role rather than an independent scientific review role.

An independent scientific assessment of the appropriateness of the management approach to SRIF spills and SMRIF as per the environmental objectives and performance measures is urgently required. The Final Report must include recommendation for this independent scientific work to be undertaken.

Re: SRIF & SWIOID target of 21% average flow

The draft report (Proposal 8) recommends that: *the Department of Industry, SHL, MDBA and the Victorian and Commonwealth Governments will work together to ensure governments can deliver a long-term average flow of 212GL per year down the Snowy River cost-effectively in accordance with the intent of the SWIOID.*

However as the total volume of entitlements acquired by Water for Rivers to offset increased flows to the Snowy and Murray Rivers is only 308GL or which 70GL is intended for the Murray, and approximately half of all the entitlements are general security or low reliability, and the Snowy apportioned entitlements were to be converted to at least 142GL of high security in 2012 (SWIOID (Part Two s 17.4), it would appear impossible to deliver an average flow of 212GL to the Snowy below Jindabyne dam (212GL annual allocation plus 9GL regulated BPF plus 18-14GL in Mowamba/Cobbon Ck spills being equivalent to 21%) unless additional environmental entitlements are acquired. The Snowy River is unlikely to receive average flows of more than 15% over the long term based on the level of entitlements currently acquired.

More than fifteen years ago three governments agreed (Heads of Agreement 2000 and SWIOID 2002) to return up to 28% MANF to the Snowy below Jindabyne after 2012. An additional 82 gegalitres is required to bring flows up to 294GL (i.e. 294 GL annual allocation plus 9GL regulated BPF and 18-14GL Mowamba spills is equivalent to 28% MANF). In light of the impossibility of achieving an average flow of 21% with the entitlements currently acquired for the Snowy, it would appear that the only option is to fund the acquisition of the

additional 82GL for the Snowy as a means to achieving an average flow greater than 15% and possibly up to 21%.

Gippsland Environment Group recommends that the relevant parties⁷ finally make a commitment to return the promised 294 GL increased flows to the Snowy, identify a timeline and for acquisition of additional entitlements, and compensation owed to SHL. This commitment should be detailed in the Final Report of the Ten-Year Review of the SWL and clarified as part of the Work Plan Proposal 8.

Re: Snowy Trust Fund

The draft report (p22 Fees and Charges) rejects the proposal that the Licence should be amended to require SHL to fund ongoing monitoring and environmental programs. It does so on the basis the SWL clause 9 states that SHL must pay an annual licence fee to the Ministerial Corporation and this annual fee does not include the cost to the Ministerial Corporation of catchment management fees etc with respect to the Snowy water catchment.

However the SWL does not prevent SHL paying any other monies to whomever the company sees fit. The SMHEA was established by the Commonwealth Government and as the Commonwealth Government is once again the sole owner of SHL it is the responsibility of the Commonwealth to repair the damage incurred by the Snowy Scheme during its construction and ongoing operations.

The Final Report could recommend therefore that the SWL is amended to require SHL to pay an environmental contribution to the Commonwealth Government to establish the Snowy Trust Fund. Alternatively the Commonwealth could agree during the period of this review but outside of the terms of the Licence to establish such a Fund.

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⁷ As the Commonwealth is now sole shareholder of SHL, GEG recommends that the Commonwealth funds this proposal.