

**SUBMISSION TO THE PROPOSED VARIATIONS TO
THE SNOWY WATER LICENCE
Following the 5-Year Review**

From:

Snowy River Alliance and Gippsland Environment Group.

To:

Snowy Licence Review
Corporate Licensing Unit
NSW Office of Water
PO Box 323
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By Email: information@water.nsw.gov.au

Date: 29th January 2010



Total Snowy River Increased Flows - Jindabyne Dam mini hydro, April 2009

EXECUTIVE SUMMARY

The first Five-Year Review of the Snowy Water Licence is a review of the provisions of the Licence relating to Snowy River environmental flows.

1. The Snowy River (and other rivers in the Snowy Scheme) remains in severe ecological crisis. The current Snowy Water Licence provisions relating to environmental flows have failed to deliver the scheduled Snowy River Increased Flows and Environmental Objectives.

2. The Review has been seriously compromised by the NSW Government's lack of compliance with due process of the Review according to the Snowy Hydro Corporatisation Act (1997) (in effect June 2002), and its lack of co-operation with co-shareholders the Victorian and Commonwealth Governments.

3. The Final Report of the Five-Year Review has failed to recommend any amendments to the Licence that would remedy the failure of the current Licence provisions to deliver the intended improved environmental outcomes. The critical environmental needs of the Snowy River, specifically delivery of major increased flows and permitting releases via Mowamba Weir have been ignored. The majority of amendments proposed do not relate to Snowy River Increased Flows and those that do may have negative ramifications and require either further clarification from the Office of Water or advice from the Snowy Scientific Committee.

4. The Office of Water is proposing to establish the 2009/10 Upper Murrumbidgee target increased flow as the minimum mandatory release, to guarantee Cooma's town water supply. No such provision has been recommended for environmental reasons to any other river referred to in the Licence.

5. In our view, the Licence must be amended to deliver real improved environmental outcomes for the Snowy River (and other rivers in the Snowy Scheme). A list of required amendments is provided in our submission.

In particular, the Licence must be amended:

- a) To permit environmental releases via Mowamba Weir as well as Jindabyne Dam;
- b) Establish the target scheduled increased flows as mandatory minimum releases;
- c) Cancel the Mowamba Borrowings Account.

6. Management of Snowy River environmental flows and those of all the rivers covered by the Snowy legislation must be transferred to an independent environmental water authority such as the Commonwealth Environmental Water Holder.

7. Snowy River Alliance reserves its right to challenge the legality of the first Five-Year Review as has been undertaken to date by the NSW Government.

Introduction

Snowy River Alliance and Gippsland Environment Group welcome the opportunity to make a submission on the proposed changes to the Snowy Water Licence following the first Five-Year Review.

According to the NSW Snowy Hydro Corporatisation Act (1997) (the Act), the first Five-Year Review is intended to be a review of the Licence provisions relating to the first environmental releases to the Snowy River¹. In which case, the critical issue of the Review is whether the current Licence provisions have achieved the intended environmental outcomes or not, and if not, to identify what amendments to the Licence are required to deliver those outcomes.

The next review of the Snowy Water Licence is not due until 2017 and it is specifically a review of the Licensee's obligations. Therefore the outcomes of this first Review potentially will determine the long-term survival of the Snowy River.

1. Environmental context

The Snowy River and other rivers and streams affected by the Snowy Hydro Scheme are in severe ecological crisis. The current Snowy Water Licence has failed to deliver the scheduled Snowy River Increased Flows (SRIF) and Snowy Montane Rivers Increased Flows, and the associated Environmental Objectives, as detailed in the Heads of Agreement (2000) and the Snowy Water Inquiry Outcomes Implementation Deed (2002) (SWIOID).

The Snowy Scientific Committee's first report on the *Adequacy of environmental releases to the Snowy River*, October 2008, identified the continued environmental degradation of the Snowy River², which has occurred since corporatisation of Snowy Hydro Ltd in 2002. The Snowy River annual allocation remains around 4% mean annual natural flow (MANF), despite a legislated target SRIF of 15% by 2009 and 21% by 2012. The river has now received flows of less than 5% MANF below Jindabyne Dam for more than forty years, this "is a very severe stress for a riverine ecosystem."³ (For details of actual releases see Attachment 1).

2. Comments on the Review Process

In our view, the first Five-Year Review has been seriously compromised by the NSW Government's lack of compliance with the due process of Review, according to the Act.

In particular,

- The NSW Government failed to publicly exhibit any Snowy Scientific Committee annual state of the environment reports to inform public submissions to the Review as required under s27 of the Act.
- The NSW Government failed to initiate the Review process by the fifth anniversary after corporatisation of Snowy Hydro Ltd and failed to give effect to the Review within six months as required under s25 of the Act
- The NSW Government failed to adequately consult with the Victorian and Commonwealth Government co-signatories to the SWIOID even though

¹ NSW Snowy Hydro Corporatisation Act (1997) (in effect June 2002), s.25 (2) (a)

² *Adequacy of environmental releases to the Snowy River*, Snowy Scientific Committee, Oct 2008.

³ Ibid, p.22.

according to the Licence s4.2, the terms of the Licence must not be varied to be inconsistent with the SWIOID.

In addition,

- We have serious concerns regarding the adequacy of the Final Report⁴ of the Five-Year Review.

2.1 Failure to provide state of environment reports.

The NSW Government failed to establish the Snowy Scientific Committee (SSC) as required by the Act⁵ when the Act came into effect in June 2002.

The Snowy Scientific Committee was finally established on 31st January 2008, the same day that public submissions to the Review closed.

According to the Act⁶ due process of the Review required public exhibition of each annual public state of the environment report⁷ produced by the SSC, to inform public submissions to the Review. No such reports were available.

The failure by the NSW Government to comply with the Act regarding the establishment of the SSC and consequently its failure to publicly exhibit the SSC state of environment reports as required by the Act has had serious repercussions on the public's ability to make informed submissions to the review.

The Snowy Scientific Committee's state of environment reports, were required before the public could make informed submissions to the Review for the following reasons:

1. State of environment reports, under s57 of the Act, are reports on the state of the whole catchment, including the Snowy River and all the rivers and streams affected by the Snowy Mountains Hydro-Electric Scheme. They would have provided the public with scientific information on the health of all the rivers including the Mowamba River, the entire length of the Snowy River and also the Montane Rivers. The state of environment reports would have informed the public of the state of the Snowy River within a catchment wide context.
2. State of environment reports are annual reports so by December 2007, when the NSW Government initiated the Licence Review, there should have been at least five reports, which would have provided the public with cumulative scientific information on the state of all the rivers in the Snowy Scheme since corporatisation in 2002, including the Mowamba River pre and post re-commissioning of the Mowamba Aqueduct. Extensive detailed information on the environmental benefit of environmental releases from Mowamba Weir on the health of the Snowy River would have been fully completed. In the two years to date since the Scientific Committee was established no annual state of environment reports completed and released to the public.

⁴ *Final report, Five-year review of the Snowy Hydro Water Licence, Licence review – May 2002- May 2007*, NSW Office of Water, November 2009.

⁵ NSW Snowy Hydro Corporatisation Act (1997) s57

⁶ NSW Snowy Hydro Corporatisation Act (1997) s 27 (2) (b)

⁷ According to the Act, s 57 (4), the Committee was to produce annual public state of the environment reports on the catchments (and the Snowy River and other rivers and streams) affected by the Snowy Mountains Hydro-Electric Scheme

3. The reports produced so far by the Snowy Scientific Committee are inadequate because:
 - a) They are based on monitoring data spanning only three years from 2002 to 2005⁸.
 - b) They are not comprehensive because unlike a state of environment report they refer only to the Snowy River below Jindabyne Dam.

The extensive scientific information that should have been available to inform public submissions, as well as submissions from the Victorian and Commonwealth Government and the relevant NSW Government authorities such as Southern Rivers CMA and the then Department of Environment and Climate Change, could have profoundly influenced the outcomes of this first Five-Year Review.

In addition, contrary to the requirements of the Act the NSW Government made major decisions on environmental releases without the advice of the Snowy Scientific Committee.

- According to the Act⁹ the principal functions of the SSC are to provide advice to the Water Administration Ministerial Corporation (WAMC) each year on the regime for environmental releases under the Snowy Water Licence; and to advise the WAMC on the adequacy of those releases and the programs for management and restoration of the catchments (and the Snowy River and other rivers and streams) receiving environmental releases. However, for at least six years, the WAMC made major decisions on environmental releases to the Snowy River, including drafting of the Annual Water Operations Plans and re-commissioning Mowamba Aqueduct, without the SSC's advice.
- The NSW Government justified delaying making a decision on de-commissioning Mowamba Aqueduct until 2012 on the grounds that further scientific evidence was required and there was insufficient time to conclude such studies before finalisation of the Review. Yet the Snowy Scientific Committee's *Adequacy of environmental releases to the Snowy River* report had identified the vital environmental benefit of the Mowamba flows at least 12 months before the Final Report of the Review was released. The NSW Government had more than sufficient time to request any further scientific studies, including the required state of environment report, during the Review period.

2.2 Failure to initiate and complete the Review in a timely manner

According to the Act s 25, the first Five-Year Review of the Snowy Water Licence should have been initiated after the fifth anniversary of corporatisation¹⁰. The NSW Government initiated the Licence Review six months late in December 2007. According to the Act s25 (3), the WAMC must use its best endeavours to complete the first review and give effect to the results of the review within six months after that fifth anniversary. The NSW Government released its Final Report of the Review two years overdue, in November 2009.

⁸ *Adequacy of environmental releases to the Snowy River*, Snowy Scientific Committee, Oct.2008, p18.

⁹ NSW Snowy Hydro Corporatisation Act (1997) s 57 (3) (a), (b).

¹⁰ The Snowy Water Licence was issued in May 2002, however its issue was under the NSW Snowy Hydro Corporatisation Act which came into effect in June 2002.

2.3 Failure to co-operate with joint signatories.

The review process has been compromised by the NSW Government's lack of co-operation with its joint signatories to the Snowy agreements, the Victorian and Commonwealth Governments. Victoria and the Commonwealth had representation on the review committee however:

- The NSW Government released the Final Report of the Licence Review unilaterally without the knowledge or agreement of the Victorian and Commonwealth Governments.
- The NSW Government failed to take into consideration the Victorian and Commonwealth Government submissions to the Review regarding support for flexible delivery of environmental releases to the Snowy River, and ignored the Victorian Government's recommendation that the Final Report of the Review recommend an amendment to the Snowy Water Licence to permit releases via Mowamba Weir as well as Jindabyne Dam.

2.4 Inadequacy of the Final Report

Despite the importance of this first Review to the survival and restoration of the Snowy River the Final Report of the Review has not recommended any amendments to the Snowy Water Licence, which would redress the failure of the current Licence to deliver the scheduled Snowy River Increased Flows and improved environmental objectives, and to permit releases via Mowamba weir. In addition the Office of Water specifically excluded the adequacy of the volumes of the environmental releases from the terms of reference of the Review despite no such restriction according to the Act.

The Final Report ignored:

- Advice from the Snowy Scientific Committee¹¹ regarding the continued environmental degradation of the Snowy River and environmental benefit of the natural variable flows of Mowamba River to Snowy River Increased Flows;
- Legal advice from the NSW Environmental Defender's Office (EDO)¹², provided at the Office of Water's own request during the Review period, regarding the key reform issues relating to Snowy River environmental flows. (See Attachment 2)

The Final Report also contains numerous inaccuracies, misinformation and omissions.

- A detailed Comment on the Final report is attached to this submission.(see Appendix 1)

3. Licence amendments required

Amendments must be made to the Snowy Water Licence that will deliver real improved environmental outcomes for the Snowy River and other rivers covered by the Snowy legislation. The failure of the current Licence provisions to deliver the legislated Snowy River Increased Flows and Environmental Objectives must be remedied.

¹¹ *Adequacy of environmental releases to the Snowy River*, Snowy Scientific Committee, October 2008.

¹² NSW Environmental Defender's Office (EDO) to Tim Holden, Executive Director, Water Legal, NSW Office of Water, 6th August 2009.

Specifically, the Licence must be amended to:

- a) Permit environmental flows to the Snowy River to be released via Mowamba Weir as well as Jindabyne Dam;
- b) Permanently decommission Mowamba Aqueduct;
- c) Establish the target scheduled Snowy River Increased Flows and Snowy Montane Rivers Increased Flows as mandatory minimum releases; and
- d) Require independent monitoring of compliance with mandatory minimum releases of scheduled Snowy River Increased Flows by a body independent of the NSW Office of Water and Snowy Hydro Ltd;
- e) Cancel the Mowamba Borrowings Account or at the very least suspend repayment until SRIF reach the threshold of the 2009 legislated target flow of 15% MANF;
- f) Include an emergency environmental release provision (equivalent to that already permitted Snowy Hydro Ltd in relation to electricity generation or water storage management). To enable the NSW Water Administration Ministerial Corporation (WAMC) to direct Snowy Hydro Ltd to release a volume of water, additional to the Snowy River annual allocation detailed in the Annual Water Operations Plan, if required in an emergency environmental situation and this water not be deducted from the Snowy allocation in the following year;
- g) Require that the River Murray Increased Flows (RMIF) annual allocation is released on an annual basis and not withheld by Snowy Hydro Ltd.
- h) Remove the override provision¹³ that allows the NSW Water Administration Ministerial Corporation (in effect the Minister for Water) and Snowy Hydro Ltd to agree to vary the volume of water released from Jindabyne Dam despite any other provisions relating to Snowy River Increased Flows. This provision has the potential to compromise future environmental releases and the environmental objectives of the Snowy legislation.

4. Other legislative amendments required

To deliver real improved environmental outcomes additional amendments to the SWIOID and/or the Act are also required.

In particular,

- a) Responsibility for all environmental flows referred to in the Snowy legislation i.e. Snowy River Increased Flows, Snowy Montane Rivers Increased Flows and River Murray Increased Flows, must be transferred to an authority independent of the NSW Office of Water, such as the Commonwealth Environmental Water Holder;

¹³ Snowy Water Licence, 2002, Schedule 3, Part Four, s12.4.

- b) The Act must be amended to provide open standing for any member of the community to enforce the mandatory minimum requirements to release target levels of Snowy River Increased Flows.
- c) The SWIOID must be amended to ensure all water savings entitlements acquired by Water for Rivers listed on the NSW Environmental Entitlement Register as of the end of January in any year, are available for release to the Snowy River (and Murray) the coming Water Year beginning 1st May, to remedy the current situation where some entitlements are not available for release for nearly two years.

5. Comment on proposed amendments

In our view, the Licence amendments proposed¹⁴ by the Office of Water following the 5-Year Review will not deliver any improved environmental outcomes for the Snowy River. The Office of Water has failed to propose any amendments to the Snowy Water Licence that would address the critical environmental needs of the Snowy River, specifically delivery of major increased flows, and permitting releases via Mowamba Weir.

As noted above, according to the Act the first 5-Year Review is a review of the provisions of the Licence relating to Snowy River environmental flows. The terms of reference of the Review outlined in the information for public submission provided by the Office of Water in December 2007, stated that the Review would not address the provisions of the Licence relating to montane rivers and western flowing rivers or town water supply issues.

However when the Final Report of the Review was finally released two years overdue, only two variations to the current Licence were proposed from the Review process itself: one of which relates to a montane river (the Upper Murrumbidgee), and town water supply issues; and the other to a requirement for Snowy Hydro Ltd to produce an annual compliance report on environmental releases and releases to the west for irrigation which is simply an extension of an existing requirement under the current Licence.

The other proposed amendments have resulted from variations proposed during the development of the Annual Water Operations Plans or during the Initial Public Offer (IPO) process.

The majority of proposed amendments do not relate to Snowy River Increased Flows and those that do may have negative consequences for Snowy River environmental flows and require either further clarification from the Office of Water or advice from the Snowy Scientific Committee. Similarly some of the proposed variations may have negative impact on Snowy Montane Rivers.

A - Licence amendments proposed during the Licence review process.

1. New clause - 4.3 Licensee to report annually, 4.4 Contents of Compliance report These clauses propose that Snowy Hydro Ltd must produce an annual

¹⁴ Proposed variation of the Snowy Hydro Water Licence, in accordance with clause 26(1)(b), and (e) of the Snowy Hydro Corporatisation Act 1997 (NSW), NSW Office of Water, Department of Environment, Climate Change and Water, November 2009.

compliance report on matters relating to Snowy River Increased Flows and Snowy Montane Rivers Increased Flows and the Required Annual Releases to the western rivers for irrigation.

- The Snowy Water Licence¹⁵ already requires a compliance report with respect to annual, monthly and daily releases from Jindabyne Dam.
- In our view, the Annual Compliance Report must also include details of daily, monthly and annual releases from Mowamba Weir, as well as details of the River Murray Increased Flows current account and annual releases; and
- The River Murray Increased Flows annual allocation should be accounted for as a separate item in Snowy Hydro's Murray Below Target Water account, as it results from savings acquired by Water for Rivers and is deducted from the Murray Development Required Annual Releases; rather than as Above Target Water over which Snowy Hydro Ltd currently has complete discretion.

2. New Clause - 12A Releases from Tantangra Dam, 12A.1 and 12A.2

These proposed clauses amend the Licence provision to re-define the Upper Murrumbidgee Base Passing Flow from 2GL/yr¹⁶ up to the lesser of either inflows into Tantangra Dam or 83mgl/d, to guarantee Cooma's town water supply¹⁷.

- The Base Passing Flow will be increased from 5.5mgl/d to up to 83mgl/d.
- 83mgl/d is equivalent to 30.29GL/yr.
- This proposed amendment will re-define the base passing flow of the Upper Murrumbidgee to the equivalent of the total 2009/10 target scheduled releases to the Upper Murrumbidgee¹⁸.
- In effect the Office of Water is proposing to establish the 2009/10 target scheduled flow as the minimum mandatory release to the Upper Murrumbidgee.
- Similar recommendations have not been made for the Snowy River or other Snowy Montane Rivers despite releases to all the rivers being only a fraction of the scheduled target increased flows, resulting in continued environmental degradation.

B – Variations proposed and agreed to by WCLC¹⁹ during AWOP.

3. New Clause - 8 Annual Water Operating Plans

This clause implements revision of the process of preparing the Annual Water Operating Plans.

- It would appear that the proposed clause, (also the current un-amended clause) does not contain provision for the WAMC to amend the AWOP during the Water Year once that Water year has commenced other than in relation to an amendment to the second draft AWOP that has been previously referred to an independent expert for determination and that determination has not been finalized prior to the commencement of the Water Year.

¹⁵ Snowy Water Licence 2002, Schedule 3, Part 4, s12.2

¹⁶ Defined in SWIOID (2002), Definitions, 1.1(6), (b). 2GL/yr is equivalent to 5.5 mgl/d.

¹⁷ *Final report, Five-year review of the Snowy Hydro Water Licence*, Office of Water, Nov. 2009, p12.

¹⁸ Snowy Water Licence, 2002, Schedule 3, Table 1, Schedule of Snowy Montane Rivers Increased Flows: 2009/10 Upper Murrumbidgee target increased flow is 27GL/yr plus 2GL base passing flow.

¹⁹ Water Consultation and Liaison Committee, which advises the WAMC on the Annual Water Operating Plan (AWOP).

- However the current Licence does contain provision²⁰ in relation to the Required Annual Releases for irrigation, for the Licensee to release a volume of water from either Development up to 100GL greater than the maximum probable annual water release as detailed in the AWOP for that Water Year, to meet electricity requirements and/or to manage storage levels.
- In our view, Clause 8 of the Snowy Water Licence must also include a provision for emergency environmental releases similar to the provision granted Snowy Hydro Ltd, outlined above. Clause 8 should include an additional sub-clause to permit the WAMC to direct Snowy Hydro Ltd to release a greater volume of SRIF or Snowy Montane Rivers Increased Flows than is identified as the annual allocation in the AWOP, if required for emergency environmental purposes.
- An emergency environmental release provision would be consistent with the intent of the SWIOID. Such a provision would ensure that additional water released to remedy unforeseen environmental damage, as was the case when the Snowy River was contaminated with silt pollution in late 2006, is not identified as an 'over-release' and deducted from the following water year's annual environmental allocation.

4. New Clause - Schedule Four: Water release requirements, clause 8 Dry Inflow Sequence Volumes.

The Dry Inflow Sequence Volumes (DISV) is a mathematical formula of considerable complexity, which determines the reduced volume of Required Annual Releases Snowy Hydro Ltd may release to irrigators as a consequence of reduced inflows due to drought conditions. The proposed monthly calculation of the DISV formula now includes reference to the annual base passing flow (BPF) of the Snowy River and Upper Murrumbidgee. The notes identify the BPF in the equation as 1/12th of 4.5GL being half the Snowy River Base Passing Flow, and 1/12th of 6.5GL being half of the Snowy River Base Passing Flow and all of the Upper Murrumbidgee Base Passing Flow.

- The Office of Water has proposed (see Clause 12A above) to amend the Licence to re-define the Upper Murrumbidgee Base Passing Flow from 2GL/yr to approximately 30GL/yr. Therefore the definition of Upper Murrumbidgee Base Passing flow as referred to in the proposed amended DISV will be inconsistent with its proposed revised definition in Clause 12 A.

In our view the Office of Water must clarify:

- Whether the addition of the volume of Snowy River and Upper Murrumbidgee BPF and other proposed variations to the formula will result in the dry inflow sequence provisions being triggered sooner than would have been the case under the existing Licence DISV formula.
- Whether the proposed variations to the DISV formula will impact on the repayment of the Mowamba Borrowings Account in any way. The Victorian

²⁰ Snowy Water Licence, 2002, s8.14, (and proposed amended clause s8.15)

Government's information²¹ is that the triggering of the DISV in 2006/07 due to drought conditions resulted in repayment of the Mowamba Borrowings Account with all water above 38GL of the Snowy annual allocation. In which case if the amended DISV formula results in earlier triggering of the drought provisions then the repayment of the Borrowings Account would be consequently affected and therefore the volume of SRIF. The NSW Minister for Water on the other hand has stated²² that the triggering of the DISV has not directly affected the repayment of the Mowamba Borrowings Account. However, the Office of Water has provided contradictory information²³ to the public regarding the Mowamba Borrowings repayment process on its Snowy Initiative website compared to that provided in the Final Report of the Review.

C – Variations proposed and agreed to during Initial Public Offer process (IPO)

5. Schedule 3: Increased flow requirements – Part Two clause 6.5

Operation of Outlet at Jindabyne Dam & Part Five Clause 20.3 Operation of Outlet at Tantangra Dam (new additional clause).

Both these clause will make it mandatory for the Licensee to withdraw water from the near surface of the respective dams for releases for riparian releases and Increased Flows.

- Due to continued low levels of Increased Flows into both the Snowy River and Upper Murrumbidgee the requirement to release near surface water may result in warm water²⁴ being released in summer to already warm shallow rivers and exacerbate the existing loss of habitat for fauna adapted to cold montane riverine systems.
- In our view, these proposed amendments must be referred to the Snowy Scientific Committee for consideration before a final decision is made. The advice of the Snowy Scientific Committee must be acted upon.

6. Schedule 3 – Part Five, Clause 20.2 Outlet specifications – Tantangra Dam (replace current clause)

This proposed clause determines that the new outlet constructed by the Licensee at Tantangra Dam must be sufficient size to allow a flow rate of at least 1.5GL per day. However the current clause in the Licence²⁵, requires that the outlet be able to release 2GL per day.

In our view the the Office of Water must clarify:

- Why the outlet capacity to release Upper Murrumbidgee Increased Flows has been reduced from 2GL to 1.5GL per day?

²¹ Victorian Minister for Water, Tim Holding to Philip Davis MP Member for Eastern Victoria, 12 Feb. 2009.

²² NSW Minister for Water, Phil Costa, response to Questions on Notice from Dr John Kaye, Budget Estimates 2009-10 General Purpose Standing Committee No.5. Water, Regional Development, Friday 18th September 2009.

²³ See extensive discussion of Mowamba Borrowings Account under the relevant heading in our Comment on the Final Report, attached.

²⁴ Summer temperatures in upper layer of Jindabyne dam can be up above 20 degrees Celsius, see: *Environmental releases from Jindabyne Dam: recommendations for 2009/10*, Snowy Scientific Committee, June 2009, Appendix 3.

²⁵ Snowy Water Licence, 2002, Schedule 3, Part Five, s20.2

- Whether Snowy Hydro Ltd failed to construct an outlet of sufficient size to enable a flow rate of 2GL per day, as was required under the terms of its Licence?
- Whether this proposed variation will prevent the Licensee complying with the Snowy Montane Rivers Increased Flow requirements for the Upper Murrumbidgee, according to the SWIOID?

5. Other concerns related to the Snowy Water Licence

In addition to our comments on the Licence amendments, we have the following concerns:

- Repayment of the Mowamba Borrowings Account is effectively capping Snowy River Increased Flows at 4% MANF and preventing the rehabilitation of the river;
- The Office of Water has provided contradictory and incomplete information to the public on Snowy River environmental flows, in particular regarding the accounting and repayment procedure of the Mowamba Borrowings Account;
- There is no independent data publicly available on historical Mowamba River flows (including average diverted flows and average unregulated flows over Mowamba Weir) despite the fact that Snowy River Increased Flows calculations must include a considerable volume of unregulated Mowamba flows.
- Water savings entitlements acquired by Water for Rivers and listed on the NSW Environmental Entitlement Register are sometimes not released to the Snowy River for nearly two years;
- River Murray Increased Flows are withheld by Snowy Hydro Ltd;
- Snowy Hydro Ltd may not have complied with set monthly release requirements of SRIF;
- Snowy Hydro Ltd's practice (with approval of WAMC) of permitting forward borrowings to irrigators whilst storages are below Target Storage levels is contrary to the drought proofing strategy the Scheme was designed to operate by and would appear to put at risk the Scheme's long-term storage capacity and therefore Snowy Hydro's ability to comply with terms of its Licence regarding Required Annual Releases and Environmental Releases;
- Snowy Hydro Ltd's discretionary control of Above Target Water in the Snowy Scheme storages may not be in the best environmental and social interests of judicious water management, of what is in fact a huge public water reserve.

6. Actions required to address these concerns

In our view the following actions are also required to deliver real improved environmental outcomes:

1. If further studies are to be undertaken by the Snowy Scientific Committee to determine the environmental benefits of Mowamba releases to the Snowy River, finalisation of the Review must be delayed until such studies are completed and the public has an opportunity to comment on the studies
2. The three shareholder governments must immediately negotiate the cancellation of the Mowamba Borrowings Account or at the very least suspension of repayment until SRIF releases reach the 2009 target of 15% MANF
3. The Office of Water's Snowy Initiative website summary table of environmental entitlements and releases must also include details of the total accumulated Mowamba debt as of 2005/06; RMIF current account, annual allocation and annual releases; Snowy Montane Rivers Increased Flows current account and annual releases..
4. The Office of Water must clarify inconsistencies in its accounting of the Mowamba Borrowings Account and statements it has made regarding the repayment procedure.
5. The Office of Water and Snowy Hydro Ltd must make publicly available the historical and current flow data on the Mowamba river, including average annual volumes diverted via Mowamba Aqueduct and average annual volume of unregulated flows over MowambaWeir.
6. The Office of Water must clarify why Snowy Hydro Ltd did not comply with set release requirements for the Snowy River in February 2006 when it could not have been due to low flows down the Mowamba River as justified by the Office of Water²⁶ as the Mowamba Aqueduct was re-commissioned on 31st January 2006.
7. The three shareholder governments of Snowy Hydro Ltd must review the Licence provisions which grant Snowy Hydro unfettered control over Above Target Water in Snowy Scheme storages, and whether such control is in the best interests of judicious management of a considerable public water reserve.
8. The three shareholder governments must review the current practice of WAMC and SHL permitting forward borrowings to selected irrigators (for an undisclosed fee) in contravention of the drought proofing strategy
9. The three shareholder governments must negotiate increased funding for Water for Rivers to obtain high security entitlements that will deliver the scheduled increased flows as real water in the Snowy River not paper water.

7. SRA Reserves right to legal challenge

The first Five-Year Review of the Snowy Water Licence has failed to recommend any variations to the Licence that would remedy the failure of the current Licence provisions to restore the Snowy River and other rivers affected by the Snowy Mountains Hydro Electric Scheme.

²⁶ As stated in the *Final Report of the Five-year Review*, NSW Office of Water , November 2009, p11.

In our view the process of this first Five-Year Review has been invalid because the NSW Government failed to provide the required state of environment reports. We have used our best endeavours to contribute but without the Snowy Scientific Committee state of environment reports neither the public nor the Victorian and Commonwealth Governments could make a fully informed submission to the Review.

The outcomes of the first Five Year Review of the Snowy Water Licence will determine the future of the Snowy River. We therefore urge the NSW Government to amend the Snowy Water Licence and implement such actions as are required to deliver real improved environmental outcomes for the Snowy River.

Should the NSW Government fail to act, the Snowy River Alliance reserves the right to challenge the validity of the first Five-Year Review process as has been undertaken by the NSW Government.

Louise Crisp

On behalf of Snowy River Alliance and Gippsland Environment Group.

29-1-10

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Attachment 1

Snowy River Increased Flows since 2002:

Year	Jindabyne	Mowamba	Total releases	Percent MANF ²⁷
2002/03		10.7GL	19.7GL	1.7%
2003/04		29.7GL	38.7GL	3.3%
2004/05		23.5GL	32.5GL	2.8%
2005/06	39.3GL	1.7GL	50.0GL	4.3%
2006/07 ²⁸	36.7GL		45.7GL	3.9%
2007/08 ²⁹	32.1GL		41.1GL	3.5%
2008/09 ³⁰	38.1GL		47.1GL	4.04%
2009/10 ³¹	37.7GL		46.7 GL	4.01% (planned)

²⁷ Snowy River Mean Annual Natural Flow =1164GL from old Jindabyne gauge 22501A data recorded over 55 years 1902-1957 i.e. pre-dam. Source: *Derivation of staged environmental flow release volumes to the Snowy River downstream of Jindabyne Dam*, Snowy River Flow Response Monitoring Project: DIPNR Feb 2005,p3.

²⁸ Advice for water years 2002 – mid 2007 from NSW Minister for Natural Resources Ian McDonald to Craig Ingram MP, received 30 July 2006.

²⁹ Advice for water year 2007-08 from NSW Minister for Climate Change, Environment and Water, Phil Koperburgh to Craig Ingram MP, received 22 July 2007.

³⁰ Advice for water year 2008-09 from NSW Department of Water and Energy to Snowy River Alliance, 10 Sept 2008.

³¹ *Environmental Releases from Jindabyne Dam: Recommendations for 2009/10* Snowy Scientific Committee Report no 2. June 2009, Table 3, p.16.

Attachment 2

NSW EDO letter to NSW Office of Water 6th August 2009

Re: Snowy River environmental flows key reform issues.

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06 August 2009

Tim Holden
Executive Director, Water Legal
NSW Office of Water
Level 17, 227 Elizabeth Street
Sydney NSW 2000

By post and email: tim.holden@dwe.nsw.gov.au

Dear Tim

Environmental Objectives and target levels of Snowy River environmental flows

1. We refer to your telephone conversation with Kirsty Ruddock on 27 June 2009.
2. You have requested a copy of our recent advice to the Snowy River Alliance in relation to environmental flows for the Snowy River. As discussed, whilst we are not able to provide you with a copy of the advice, for the purposes of working constructively with your agency we have been instructed to provide you with an outline of the key reform issues arising from our preliminary work in relation to this matter.
3. For the purposes of this letter, please note that capitalised terms not defined in this letter have the same meaning as set out in the Snowy Water Inquiry Outcomes Implementation Deed dated 3 June 2002 between the States of New South Wales and Victoria and the Commonwealth (SWIOD).

Key recommendations

4. Fundamentally, there are three key reform issues:
 - (a) **Mandatory Requirements:** The target levels of Snowy River Increased Flows should be made mandatory *minimum* requirements by either one or more of the following means:
 - (i) making appropriate amendments to the *Snowy Hydro Corporatisation Act 1997 (NSW) (the Act)*;

- (ii) making appropriate provision in an agreement which falls within the meaning of the term "agreement" under section 23(3) of the Act¹; or
- (iii) making appropriate provision in the SWIOLD and the Snowy Water Licence (Licence).
- (b) **Independent monitoring:** Compliance with the mandatory minimum requirements to release target levels of Snowy River Increased Flows should be monitored by a body that is independent of the Department of Water and Energy and Snowy Hydro Ltd (Company).
- (c) **Open standing for any person to enforce the mandatory requirements:** The Act should provide open standing for any person to enforce the mandatory minimum requirements to release target levels of Snowy River Increased Flows.

Problems with the current regime

5. Put simply, under the current regime, the Act and related agreements do not appear to give effect to the relevant environmental objectives and target flows set out in those agreements. The relevant agreements are:
 - (d) the Agreement on the Outcomes of the Snowy Water Inquiry dated 5 December 2000 between the States of New South Wales and Victoria (**AOSWI**);
 - (e) the Heads of Agreement dated 6 December 2000 between the States of New South Wales and Victoria and the Commonwealth (**Heads of Agreement**);
 - (f) the SWIOLD; and
 - (g) the Licence.

The public is misled

6. As a result of the above, conditions for the Snowy River have not improved despite representations made by the relevant Governments of the time which suggested otherwise. For example, the Victorian Premier's Department media release on 6 October 2000 titled, "Victoria and NSW Announce Historic Agreement to Restore Snowy River Flows", stated:²

The Victorian and New South Wales Governments today announced an historic 10 year, \$300 million agreement to breathe life back into the Snowy River, and have agreed to a long-term target of 28% of original flows.

The Victorian Premier, Mr Steve Bracks, and NSW Premier, Mr Bob Carr today announced at Jindabyne that the NSW and Victorian governments have reached an historic agreement on increased flows to the Snowy River which will preserve this national icon for future generations.

¹ Note: Section 23(3) of the Act provides that the "Snowy water licence is to give effect to any agreement between the States of New South Wales and Victoria following the report of the water inquiry under Part 4 and, in particular, the licence is to give effect to the provisions of the agreement relating to the initial release."

² See also New South Wales, *Parliamentary Debates*, Legislative Council, 6 December 2000, Hansard p 11678, Ministerial Statement of the Hon. J. J. Della Bosca.



"This commitment will deliver real, sustainable environmental outcomes for the Snowy River."...

7. That environmentalists and the community were misled into believing that conditions for the Snowy River would be improved can be seen from their responses to the 6 October 2000 deal. For example, the media release on 6 October 2000 by the Australian Conservation Foundation headed "Rebirth of the Snowy River" stated:

Australian Conservation Foundation President Peter Garrett has welcomed the new agreement to save the Snowy, he says "today's deal is historic. It will restore the Snowy River. We have never seen such a commitment before. It's a symbolic step forward for all Australian rivers."

The agreement between the Victorian Premier Steve Bracks and New South Wales Premier Bob Carr will lift Snowy River natural flows by 28% within 15 years. Currently, Snowy flows are down to 1% of the natural levels at Jindabyne – where the river flow is the lowest. The deal also guarantees \$300 million dollars to an independent body to oversee the "purchase" of water efficiency savings in the Murray and Murrumbidgee River valleys. [emphasis added]

Environmental Objectives

8. As you are aware, the Environmental Objectives appear in the Heads of Agreement, the SWIOID and the Licence. They are as follows:³

5.1 Environmental Objectives of the Governments

The objectives of the Snowy River Increased Flows is to improve the habitat for a diverse range of plant and animal species through a combination of:

- (1) improving the temperature regime of river water;*
- (2) achieving channel maintenance and flushing flows within rivers;*
- (3) restoring connectivity within rivers for migratory species and for dispersion;*
- (4) improving triggers for fish spawning; and*
- (5) improving the aesthetics of currently degraded riverine environments.*

Target levels of Snowy River Increased Flows

9. The target levels of Snowy River Increased Flows were initially set out in the Heads of Agreement and then reproduced in the SWIOID at clause 7 of the SWIOID. The target levels set out in the SWIOID are as follows:
- (a) Stage 1 (First year): "Target flow up to maximum of 38 GL per Water Year".
 - (b) Stage 2 (2 to 7 years): "Target average annual flow of 142 GL per Water Year" (when added to the Base Passing Flow is the annual equivalent to 15% of average natural flow (SWIOID, clause 7.3)).

³ Schedule 3, Part 2, clause 5.1 of the Licence. See also Annexure One, Part 2, clause 1.1 of the SWIOID and page 1 of the Heads of Agreement.



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- (c) Stage 3 (8 to 10 years): "Target average annual flow of 212GL per Water Year" (when added to the Base Passing Flow is the annual equivalent to 21% of average natural flow (SWIOLD, clause 7.3)).
 - (d) Stage 4 (Beyond 10 years): Target average annual flows of between 212 to 294 GL per Water Year (when added to the Base Passing Flow is the annual equivalent to 21% of average natural flow (SWIOLD, clause 7.3)).
10. Despite representations made to the community which may suggest otherwise, none of the relevant agreements appear to give effect to the Environmental Objectives or the target levels of Snowy River Increased Flows.

The AOSWI

11. The AOSWI is the agreement foreshadowed in sections 2(2), 21(3), 23(3) and 21(4) of the Act:
- (a) Section 2(2) of the Act provides that certain sections of the Act (to achieve Corporatisation) cannot commence until the States of NSW and Victoria enter into an agreement after the Snowy Water Inquiry and the agreement is not disapproved by either House of Parliament within 10 sitting days of that agreement being tabled.
 - (b) Section 21(3) of the Act requires the relevant Minister use their best endeavours to determine the response of the State of NSW to the final report of the Snowy Water Inquiry and to reach an agreement with the State of Victoria on the outcomes of the inquiry.
 - (c) Section 21(4) of the Act states that the agreement is to provide for:
 - (i) the initial release of water to the Snowy River for environmental reasons on the issue of the Licence; and
 - (ii) the increased amount of such releases of water following the first review of the Licence that will not give the Company a right to compensation.
12. The provisions relating to the AOSWI were purportedly inserted into the Act in order to ensure parliamentary scrutiny of the arrangements following the outcomes of the Snowy Water Inquiry.⁴ However, it is clear that the provisions in the Act relating to the AOSWI were likely to be ineffective from the outset as they were highly limited in scope and lacking in substance so far as increases in environmental flows were concerned. Predictably, and as detailed below, the AOSWI is a wholly toothless instrument for the purposes of securing appropriate environmental releases for the Snowy River.
13. The AOSWI merely gives effect to the very minimum requirements set out in s 21(4) of the Act. It is a 3 page document with 2 operative clauses. Those clauses provide as follows.
- (a) **Initial Release (AOSWI, clause 2):** The initial release of water to the Snowy River for environmental reasons will comprise an increase over the existing flows in the

⁴ New South Wales, *Parliamentary Debates*, Legislative Council, 13 November 1997, Snowy Hydro Corporatisation Bill, In Committee, pages 1721-24.

Snowy River of up to 38 gigalitres per annum (which means any amount from zero to 38 gigalitres).

- (b) **Increased Releases (AOSWI, clause 3):** Following the first review of the Licence, the Company will not be entitled to compensation for increased releases to the Snowy River if the releases are below 212 GL, where releases up to 142 GL are to have a security equivalent of South Australia's current River Murray entitlement. Further, releases between 142 and 212 GL are to have a security equivalent to that of water recovered in diversions from the River Murray and in the Murrumbidgee and Goulburn-Murray river systems. "Security" is defined as the level of reliability of annual water flows at a given location, based on hydrological modeling employed by NSW and Victorian water authorities to assist in the management of their water resources and the allocation of water to holders of water entitlements and water rights.
14. Therefore, it appears the Licence will comply with or "give effect to":
- (a) clause 2 of the AOSWI if it provides for an initial release of *up to 38 gigalitres*; and
- (b) clause 3 of the AOSWI if, following the first review of the Licence, it sets a lower limit for increased releases below which the Company will not be entitled to compensation.
15. As an aside, we note that the AOSWI appears to have been tabled in the Legislative Council on 6 December 2000.⁵ But, it does not appear to have been submitted as part of the parliamentary papers on that day.⁶ Further, the AOSWI (a binding but ineffective document) was not incorporated in Hansard when it was first tabled on 6 December 2000, whereas in the same speech in which the AOSWI was tabled, the full terms of the Heads of Agreement (a non-binding document which may appear to suggest the target flows will be made) was so incorporated.⁷ Further, when the AOSWI was finally tabled before Parliament, it was tabled on 19 December 2000, just before the Christmas holidays and on one of the last Parliamentary sitting days in that year.⁸

Heads of Agreement

16. The Heads of Agreement sets out the Environmental Objectives and also the target flows of environmental releases for the Snowy River.
17. The target flows of environmental releases for the Snowy River contained in the Heads of Agreement are as follows (**Target Flows**):
- (c) First Stage: An unspecified level comprising the initial release.
- (d) Second Stage (2 to 7 years): 15% of Annual Natural Flow (ANF).
- (e) Third Stage (8 to 10 years): 21% of ANF

⁵ New South Wales, *Parliamentary Debates*, Legislative Council, 6 December 2000, Snowy Water Agreement, page 11665, the Hon. J. J. Della Bosca.

⁶ see Parliament of NSW website, *Parliamentary Papers*, 6 December 2000.

⁷ New South Wales, *Parliamentary Debates*, Legislative Council, 6 December 2000, Snowy Water Agreement, page 11665, the Hon. J. J. Della Bosca.

⁸ New South Wales, *Parliamentary Debates*, Legislative Council, 19 December 2000, Snowy Water Agreement.



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(f) Fourth Stage (Beyond 10 years): 28% of ANF

18. However, it appears that the Heads of Agreement can not be relied on to give effect to the Environmental Objectives or the Target Flows because it is, among other things, not likely to be a binding document.

SWIOID & Licence

19. The SWIOID is the principal document which governs the current Snowy Scheme. The Environmental Objectives and the target levels of Snowy River Increased Flows are included in the SWIOID.⁹ At first glance it would seem that the SWIOID gives effect to the Environmental Objectives and the target levels of Snowy River Increased Flows, however, this does not appear to be the case.

Environmental Objectives

20. The Environmental Objectives appearing in the SWIOID and the Licence appear to be tokenistic. They simply set out broad and lofty environmental aspirations and do not appear to be followed up by any provisions which give substantive effect to them.

Target levels of Snowy River Increased Flows

21. Similarly, the insertion of the target levels of Snowy River Increased Flows set out in clause 7 of the SWIOID appear to be tokenistic. Clause 7 states as follows:

7.1 Target Levels of Increased Flows

The parties acknowledge that the arrangements and actions contemplated under this Deed are intended to achieve the following target flows and allocations progressively in tandem with increases in the volume of Water Savings. [emphasis added]

22. Clause 7 of the SWIOID then sets out the target levels of Snowy River Increased Flows in a schedule (as detailed in paragraph 9 above). However, again the target levels of Snowy River Increased Flows do not appear to be followed up by any provisions which give substantive effect to them.
23. Rather, the SWIOID sets out in complicated detail the process for determining Snowy River Increased Flows. It appears that the ultimate effect of these unnecessarily complicated provisions, however, is that the level of Snowy River Increased Flows is essentially at the complete discretion of the State of NSW through the Ministerial Corporation.
24. This interpretation of the SWIOID appears to be consistent with that expressed by the Company. The process which must be undertaken to determine the volume of environmental flows as set out in the SWIOID is summarised in the Company's *Submission to the 5 Year Review of the Snowy Water Licence (Snowy Hydro Submission)* as follows:¹⁰

⁹ The Environmental Objectives appear at Annexure One, Part 2, clause 1.1 of the SWIOID and

¹⁰ Snowy Hydro Submission, paragraph 6.5.

Each Water Year:

- (1) **Transfer of verified water savings to Environmental Entitlements:** the States of New South Wales and Victoria must transfer verified water savings and any water entitlements purchased by Water for Rivers achieved in that Water Year into the State's relevant Environmental Entitlement;
- (2) **Apportionment of Environmental Entitlements:** the State of New South Wales must then apportion the water within each Environmental Entitlement between the Snowy River Apportioned Entitlement and the River Murray Apportioned Entitlement on a 2:1 basis; and
- (3) **Determining the Annual Allocation:** the State of New South Wales must then determine the annual allocation attaching to each of the Snowy River Apportioned Entitlement and the River Murray Apportioned Entitlement according to the "seasonal availability" of water contained in each Entitlement. "Seasonal availability" means a combination of the final seasonal allocation announcement of the relevant State during the previous Water Year and the allocated volume received during the previous Water Year by South Australia as a proportion of its entitlement during that Water Year under the MDB Agreement.

25. The Snowy Hydro Submission relevantly continues:

6.6 Why the Required Snowy River Increased Flow Volume May Be Less Than the Volume of the Nominal Environmental Entitlements

Verified water savings and the Environmental Entitlements are in the form of entitlements, not allocations. In other words, those volumes are purely nominal. They may comprise, for example, nominal amounts of NSW high security water, NSW general security water, NSW sales water, Victorian water rights or Victorian sales water.

The actual volume of Snowy River Increased Flow releases to be made by Snowy Hydro is based not on these nominal amounts but on the annual allocations attaching to those nominal entitlements. In simple terms, if during one Water Year the allocations made in respect of the entitlements comprising the Environmental Entitlements were low (for example, due to drought), the allocation volume will be less than the entitlement volume. This is the case, for example, during the current Water Year. It is the (lower) allocation volume calculated by the Ministerial Corporation that is to be targeted for release by Snowy Hydro.

26. In other words, the water savings made from the Water for Rivers scheme and the Environmental Entitlements are nominal (or meaningless) and the level of annual allocations or actual volume of Snowy River Increased Flow appears to be essentially at the complete discretion of the State of NSW through the Ministerial Corporation.
27. Arguably, if the relevant Governments were serious about providing environmental releases to the Snowy River, it would not have been difficult to devise a system which guarantees an equitable distribution of water between the Snowy River and the Murray and the Murrumbidgee river systems. For example, establishing a system which guarantees a certain proportion of total available water to the different river systems through proper water resource management planning.



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28. However, it is clear that the Snowy River was, at the outset, placed last in the queue under the Corporatisation Legislation and the Snowy Scheme.

Please call Kirsty Ruddock or the writer on (02) 9262 6989 if you would like to discuss this matter further.

Yours sincerely
Environmental Defender's Office (NSW) Ltd



BJ BeomJin Kim
Solicitor



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Appendix 1

Comment on the Final Report³² of the 5-Year review

The Final Report of the Five-Year Review of the Snowy Water Licence has failed to propose any variations to the Snowy Water Licence that would redress the continued failure by the three governments to deliver the scheduled Snowy River Increased Flows and associated Environmental Objectives. The critical environmental needs of the Snowy River, specifically major increased environmental flows, and permitting releases via Mowamba Weir, have been ignored. Instead the Office of Water has justified its 'business as usual' approach on the grounds that its failure to deliver any improvement to the health of the river is solely due to the drought, when in fact the environmental impact of the drought and effects of climate change has been exacerbated by the NSW Government's continued obstruction and inaction.

Despite the importance of this first Five-Year Review of the Snowy Water Licence to the survival and restoration of the Snowy River, the Office of Water in its *Final Report* has not only failed to respond with proposed amendments that would address the critical environmental state of the Snowy River but the Report itself contains numerous omissions, inaccuracies and misinformation.

These are discussed below under the relevant *Final Report* headings in bold italics, with additional subheadings in blue for cross-referencing to issues discussed in our submission.

Snowy Scientific Committee and the licence review

NSW Government's failure to comply with the Act

The NSW Government's considerable delay in establishing the Snowy Scientific Committee has deeply compromised the validity of this first Five-Year Review. Contrary to the Snowy Hydro Corporatisation Act (1997) (the Act), the Snowy Scientific Committee was not established by the NSW Government (specifically the Minister for Energy) as soon as the Act came into effect (June 2002) but rather five and half years later, on 31 January 2008, the closing date for public submissions to the Five-Year Review. As a consequence the NSW Government did not comply with due process of the Review according to the Act, which required that the Snowy Scientific Committee produce annual public state of the environment reports on the Snowy River and all the rivers and streams of the catchment affected by Snowy Hydro Scheme and that these reports be exhibited during the review period to inform public submissions to the Review. This scientific information was unavailable to the public as required by the Act because the Scientific Committee had not been established.

The delay in establishing the Scientific Committee has had direct repercussions on the outcomes of this Review. According to the Act the Snowy Scientific Committee was to undertake a key role in advising the Water Administration Ministerial Corporation (WAMC) on environmental releases to the Snowy River. For six years the WAMC (the Minister, in effect) made major decisions on the Snowy environmental flows, including the drafting of the Annual Water Operations Plans and the re-commissioning of Mowamba Aqueduct, without the advice of the Scientific

³²Final report, *Five-year review of the Snowy Hydro Water Licence, Licence review – May 2002 to May 2007*, NSW Office of Water, November 2009.

Committee. Now the Office of Water has justified delaying making a decision on permitting releases via Mowamba Weir until 2012 on the grounds that more scientific information is required. However, the Scientific Committee's first report, *Adequacy of environmental releases to the Snowy River*, completed in October 2008, identified the vital environmental benefit the small but variable natural flows of the Mowamba River could provide to the total Snowy River Increased Flows. The *Final Report* of the Licence Review was released in November 2009. The Office of Water has had 12 months to request any additional scientific information regarding Mowamba. The Scientific Committee's Adequacy of flows report had made it abundantly clear that immediate action was required to save the Snowy.

According to the Act it is the duty of the WAMC to complete the first review within six months of the fifth anniversary of issuing of the Licence. The review was initiated six months late and the review report finally released two years overdue on 11 November 2009. The *Final Report* was released unilaterally by NSW without the agreement or knowledge of the two other co-shareholders, the Victorian and the Commonwealth Governments. These actions appear to be indicative of the NSW Government's attitude to the joint government agreements intended to restore the Snowy River.

Failure to respond to Snowy Scientific Committee on dire state of the Snowy

The Department of Water and Energy's *Response to the Snowy Scientific Committee report on 'Adequacy of environmental releases to the Snowy River,'* Feb. 2009, was completely ineffectual³³, in addressing the continued degradation of the Snowy as identified in the Scientific Committee's first report. The Office of Water's *Final Report of the Five-year review of the Snowy Water Licence* is similarly ineffectual.

Compensation

The *Final Report* glosses over the issue of compensation payable to Snowy Hydro Ltd. What the *Final Report* fails to make manifestly clear is that according to the Act the ONLY time that compensation is NOT triggered by a change to the Licence, that Snowy Hydro Ltd does not agree to and which may cause Snowy Hydro economic loss, is following the first Five-Year Review.³⁴ The NSW Government's decision to delay addressing the issue of permitting environmental releases via Mowamba Weir until 2012 effectively guarantees the taxpayer will be forced to fund a payout to Snowy Hydro Ltd. Not only will the environmental damage to the Snowy River be prolonged, the taxpayer will be paying for it.

We are of the strongest opinion that the Snowy Water Licence must be amended now to permit environmental releases to be made via Mowamba Weir as well as Jindabyne Dam, and Mowamba Aqueduct then permanently decommissioned.

³³ See: *Snowy River Alliance comment on the Department of Water and Energy's Response (February 2009) to the Snowy Scientific Committee report: 'Adequacy of environmental releases to the Snowy River'*, October 2008, at www.snowyriveralliance.com.au

³⁴ NSW Environmental Defenders Office legal advice to Snowy River Alliance 23 February 2009

Background Information

Snowy Water Licence

Snowy Water Licence weighted against provision of water for the environment

The *Final Report* p3, states that the Snowy Water Licence “strikes a balance between the competing demands for hydro-electricity generation and the environment.”

On the contrary, the evidence suggests that the environment comes a very poor third.

The Snowy Water Licence is the key legal instrument for the delivery of environmental releases to the Snowy River yet the return of environmental flows to the Snowy River, the Snowy Montane Rivers and the Murray River would appear to have been an abject failure due to serious deficiencies in the Licence and the non-binding nature of the associated Snowy legislation³⁵.

In regard to Snowy River Increased Flows, Snowy Hydro Ltd is only obliged to release up to a maximum of 38GL for the first three years after corporatisation³⁶ and then after the third anniversary whatever amount is dictated by the NSW Water Administration Ministerial Corporation³⁷, which may be negligible. Consequently the operation of the provisions of the Licence relating to Snowy River Increased Flows has resulted in an outcome for the Snowy River, which is inconsistent with the Environmental Objectives³⁸.

The *Final Report* states that “the Snowy Montane Rivers Increased Flows and River Murray Increased Flows are not within the scope of this review,” however the *Final Report* has proposed amendments to the Licence which do affect these rivers. (These amendments will be discussed later in our submission.) Therefore we will make brief comment at this stage on the effectiveness of the Licence in relation to the Snowy Montane Rivers and River Murray Increased Flows.

Snowy Montane Rivers Increased Flows

The schedule of Snowy Montane Rivers detailed in the Snowy Water Licence³⁹ includes the montane sections of the Snowy River at Perisher/Rams Flat and the junction of the Gungarlin River. In February 2009 Snowy River Alliance requested information on the volume of montane releases from the NSW Minister for Water Phil Costa.⁴⁰ The Minister declined to provide specific details of volumes released to the Snowy Montane Rivers⁴¹.

In November 2009 the last of the spring snowmelt was flowing into the Snowy River above Guthega Dam.

³⁵ NSW Environmental Defenders Office legal advice to Snowy River Alliance 15th June 2009.

³⁶ Snowy Water Licence, Schedule 3, Part Three, clause 9.1

³⁷ Snowy Water Licence, Schedule 3, Part Four, clause 12.1

³⁸ Detailed in Snowy Water Licence, Schedule 3, Part 2, clause 5.1; and in Snowy Water Inquiry Outcomes Implementation Deed (SWIOD) 2002, Annexure One, part 2, clause 1.1; and Heads of Agreement 2000, page 1.

³⁹ Snowy Water Licence, Schedule 3, Part Five, Table 1.

⁴⁰ Memo presented to NSW Minister for Water by Snowy River Alliance at Queanbeyan 10 February 2009.

⁴¹ Response to Memo received by SRA from Minister for Water 4 March 2009.



Snowy River above Guthega Dam, November 2009



Snowy River below Guthega Dam, November 2009

However, the montane section of the Snowy River below Guthega Dam was completely dry. This is environmental damage of catastrophic proportions. The Snowy Water Licence has clearly NOT struck the right balance between hydro-electricity generation and the environment.

River Murray Increased Flows are withheld

Similarly with the Murray River, which receives an annual environmental allocation from the total water savings acquired by Water for Rivers at a ratio of 2:1 Snowy River Increased Flows to River Murray Increased Flows up to 70 GL for the Murray. Whilst the River Murray Increased Flows (RMIF) account has accumulated 96.8GL, only 38GL has ever been released to the Murray in a one –off release in 2005/06.⁴² This release was in return for Victorian Government agreement to a deal by the WAMC and Snowy Hydro Ltd, which delivered hundreds of gigalitres of advance releases to NSW irrigators despite Snowy storages being below Target Storage levels. The fact is that under the terms of its Snowy Water Licence, Snowy Hydro Ltd stores the River Murray Increased Flows as Above Target Water⁴³ over which it has absolute discretion. Therefore it is under no obligation to release the RMIF annual allocation on an annual basis. This renders the taxpayer-funded savings acquired by Water for Rivers for the River Murray environmentally worthless and the matter should be referred to the Commonwealth Auditor-General.

It would be a simple matter to amend the Snowy Water Licence to ensure that the annual allocation of RMIF is actually released annually. Until this is the case it is obvious that both electricity generation and irrigation retain a much greater priority than the environment.

Snowy Hydro Ltd 's Above Target Water

The Snowy Water Licence defines Above Target Water⁴⁴ as “water in each Development that is not required to provide 1,062 GL from the Snowy-Murray Development and 1,026 from the Snowy-Tumut Development in subsequent Water years.” In effect, this has meant that once Snowy Hydro Ltd declares any water in Snowy Scheme storages to be in excess of the minimum Required Annual Releases for irrigation purposes for that year, it remains as Above Target Water to be used by Snowy Hydro whenever it wishes, irrespective of the current total level of storages. Since corporatisation in 2002, Snowy Hydro Ltd (with WAMC approval) has released many hundreds of gigalitres of forward borrowings of both Above Target Water (additional to the minimum Required Annual Releases) and Below Target Water, for an undisclosed fee to irrigators despite storages being Below Target Storage levels. This practice is contrary to the drought proofing strategy the Scheme was designed to operate by⁴⁵ and has jeopardized storages to such an extent that in late 2007 the then NSW Department of Water and Energy threatened to cancel the already minimal Snowy River environmental flows⁴⁶.

Whilst the Snowy Water Licence continues to give Snowy Hydro Ltd complete control over Above Target Water and WAMC approves the practice of forward

⁴² *Snowy Hydro locks up Murray flows*, by Peter Hunt, The Weekly Times 30th September 2009.

⁴³ Snowy Water Licence, Schedule 3, Part One, clause 4.1 (5)

⁴⁴ Snowy Water Licence, Definitions and Interpretation 1.1 (1)

⁴⁵ *Snowy Scheme Storage Operations*, John Kelly, July 2007.

⁴⁶ *Rain drain – secret Snowy water grab*, Carmel Egan & Jason Dowling, The Sunday Age, 4th November 2007.

borrowings to selected recipient whilst storages are Below Target levels, it is obvious the Licence does not facilitate judicious management of the Snowy Scheme's very considerable water storages and that it is biased against environmental interests.

Mowamba Borrowings Account

The *Final Report* p3 footnote 2, states: "that if the Mowamba Borrow is not repaid, the Snowy Scheme will run out of water earlier in a dry inflow sequence than it otherwise would have in terms of being able to maintain western rivers releases;" i.e. for irrigators. The fact is that the Scheme is more likely to run out of water if the forward borrowings to irrigators are not repaid, than if the Mowamba Borrow is not repaid. Since 2002 almost 900 GL of forward borrowings to irrigators have been permitted⁴⁷ and 429 GL is still outstanding⁴⁸, to be repaid when allocations increase. On the other hand, the Mowamba Borrowings Account debt is currently at 56.3 GL⁴⁹ and each year every drop of Snowy River annual allocation above 38GL is used repay the Mowamba Borrow. Why hasn't the Office of Water implemented a similar flexible arrangement for the repayment of the Mowamba Borrowings Account as it has for irrigators? The current arrangements are heavily biased in favour of water for selected irrigators.

The *Final Report* p3 states that: "any Snowy River allocation above 38GL is to be split 1:1 between the Snowy River and the Mowamba Borrow until the Mowamba Borrow is repaid."

This interpretation is consistent with the groups reading⁵⁰ of the relevant clauses in the Snowy Water Inquiry Outcomes Implementation Deed (SWIOD) and with statements made on ABC Radio Southeast NSW (Bega) on December 9th 2008 by the then Deputy-Director General of the Department of Water and Energy (DWE) Mr. David Harris (now the NSW Commissioner for Water). Mr. Harris stated that: "...after you put the original 38 gegalitres into the Snowy River any further water available for the Snowy should be divided half and half between the Mowamba Borrowings Account and what goes down the river."⁵¹ Similar information was also provided by DWE in its *Information for public submissions* to the *Review of the Snowy hydro water licence*⁵², and to Snowy River Alliance from DWE on 14 November 2008.⁵³

However, that information has been completely contradicted in practice by the fact that ALL Snowy environmental allocation above 38GL (and sometimes even below 38GL) has been repaid by the Office of Water (and previously DWE) to the

⁴⁷ *Snowy Scheme Storage Operations*, John Kelly, July 2007.

⁴⁸ Department of Environment, Water, Heritage and the Arts, Natural Resources Branch FOI information provided to Sunraysia Irrigators Council, 22nd October 2008, Attachment A.

⁴⁹ Snowy Initiative – NSW Office of Water at <http://www.water.nsw.gov.au/Water-Management/Water-recovery/Snowy-initiative/Snowy-initiative/default.aspx>

⁵⁰ Snowy River Alliance comment on the "Department of Water and Energy's Response (February 2009) to the Snowy Scientific Committee report: *Adequacy of environmental releases to the Snowy River*, October 2008," at www.snowyriveralliance.com.au

⁵¹ <http://blogs.abc.net.au/nsw/2008/12/snowy-river-flo.html>

⁵² *Review of the Snowy hydro water licence, information for public submissions*, Appendix A, DWE, December 2007, utilities_snowy_lic_snowy_water_review.pdf at <http://www.water.nsw.gov.au/Water-licencing/Corporate-licences/Snowy-hydro/default.aspx>

⁵³ DWE email 14 Nov. 2008, response to SRA queries regarding details contained in *Water Entitlement Register - Advice to Snowy Alliance Sep 08*. from DWE 10 September 2008.

Mowamba Borrowings Account⁵⁴. It would appear from the NSW Office of Water Snowy Initiative website that the Office of Water has re-interpreted the SWIOID to the effect that the first 38GL is to be made available for Snowy environmental flows and the second 38GL is to repay the Mowamba Borrowings Account⁵⁵. In other words the Snowy River Increased Flows will remain at approximately 38GL (equivalent to 4% mean annual natural flow including base passing flow from Jindabyne dam) until the Snowy annual allocation reaches 76GL. As a consequence, it is highly likely that there will be little improvement in the volume of Snowy River Increased Flows for the next few years.

- Why has the Office of Water shown such inconsistency in its statements regarding the payback of the Mowamba Borrowings Account?

Snowy Water Inquiry Outcomes Implementation Deed

Non-binding nature of the Snowy agreements

The *Final Report* p.4, states that: “The Snowy Water Inquiry Implementation Deed (SWIOID) is the legally binding intergovernmental agreement between NSW, Victoria and the Commonwealth that provides the framework for implementing outcomes arising from the Snowy Water Inquiry.” Similar statements were made by the Victorian Government to Snowy River Alliance in February 2002⁵⁶.

However, whilst the SWIOID may provide a framework, it would appear from legal advice received by Snowy River Alliance, that clever crafting of the Snowy legislation, has ensured that the governments are under no binding obligation whatsoever to deliver the scheduled Snowy River Increased Flows or improved environmental objectives

Until the target scheduled Snowy River Increased Flows are established as mandatory minimum releases in the Snowy Water Licence, the intended environmental outcomes for Snowy River will not be achieved.

The *Final Report* p.4, states: “The recommended flow option identified in the Snowy Water Inquiry was refined during the preparation of SWIOID and it became the basis of the Snowy River Increased Flows as outlined in the Snowy Water Licence.”

In fact, the Snowy River Increased Flows are not detailed at all in the Licence other than reference to the requirement that Snowy Hydro make releases of up to 38GL for

⁵⁴ Details of Mowamba repayment contained in: Advice for water years 2002-mid 2007, from NSW Minister for Natural Resources Ian McDonald to Craig Ingram MP East Gippsland, received 30 July 2006; Advice for water year 07/08 from NSW Minister for Climate Change, Environment and Water, Phil Koperburgh to Craig Ingram MP, received 22 July 2007; Advice for water year 08/09 from NSW Department of Water and Energy to Snowy River Alliance, received 10 September 2008; and Snowy water savings summary table and notes on the NSW Office of Water -Snowy Initiative website at <http://water.nsw.gov.au/Water-Management/Water-recovery/Snowy-initiative/Snowy-initiative/default.aspx>

⁵⁵ *Annual allocation of Snowy River Environmental Flow and payback of the Mowamba Borrowings Account*, Snowy Initiative, NSW Office of Water at <http://water.nsw.gov.au/Water-Management/Water-recovery/Snowy-initiative/Snowy-initiative/default.aspx>

⁵⁶ Kate Streets, Victorian Department of Premier and Cabinet to Craig Ingram MP East Gippsland, 22 February 2002. Response to a list of questions from Snowy River Alliance, December 2001.

the first three years after corporatisation and then following that an amount as allocated by the Ministerial Corporation.

Three governments have only funded Snowy River Increased Flows up to 21%

The *Final Report* fails to mention that intergovernmental agreements only made a funded commitment to 21% ANF by 2012 and that the final 7% Snowy River Increased Flows up to 28% ANF has never been funded⁵⁷. Neither has the compensation to Snowy Hydro Ltd for net foregone revenue resulting from the final 7% Snowy Increased flows been negotiated.⁵⁸

Note: the equivalent of 28% MANF was MINIMUM environmental flow required below Jindabyne Dam to restore the Snowy River as identified by the Expert Panel in 1996⁵⁹.

SRIF calculations include 2%MANF of unregulated flows over Mowamba Weir

The *Final Report* p.4, 5, provides an outline of the increased flows schedule but fails to mention that the total volume of increased flows to the Snowy River includes the staged target Snowy River Increased Flows PLUS the base passing flow⁶⁰. The base passing flow is defined in SWIOD⁶¹ as 9GL regulated flow released from Jindabyne Dam plus the unregulated flow past the weirs on Mowamba River and Cobbon Creek that occurred prior to corporatisation. The scheduled Snowy River Increased Flows of 142 GL by 2009, 212GL by 2012 and 294 GL post-2012 are only equivalent to their respective stated percentages of 15%, 21% and 28% mean annual natural flow⁶²(MANF) if the total base passing flow is included. If only the 9GL regulated base passing flow released from Jindabyne Dam is added to the staged increased flow volumes there is a shortfall of 2% in all the stated equivalent percentages.

The original SWIOD calculations included an unregulated flow over Mowamba and Cobbon Creek weirs of approximately 24GL or 2% MANF. This is confirmed in the Table provided in Fact Sheet 2 of the Snowy River Flow Response Monitoring Project⁶³, which gives both the legislated staged increased flows as total volumes and as percentage of MANF. This also explains why statements made at the time of the Heads of Agreement in 2000 and following the decommissioning of Mowamba Aqueduct in 2002 referred to 6% of original flows being returned to the Snowy River⁶⁴ with the decommissioning of the Aqueduct: an additional 2%, as average

⁵⁷ Heads of Agreement 2000 clause 1.2, 1.3; SWIOD 2002 Annexure One, clause 5.2 (2)

⁵⁸ Heads of Agreement, 2000 clause 1.6; and Snowy Water Inquiry Outcomes Implementation Deed (SWIOD) 2002, Annexure One, clause 5.2(1)

⁵⁹ *Expert Panel Environmental Flow Assessment of the Snowy River below Jindabyne Dam*, Snowy-Genoa Catchment Management Authority, 1996.

⁶⁰ SWIOD 2002, Part two, clause 7.3.

⁶¹ SWIOD 2002, p2, Definitions and Interpretations.

⁶² Snowy River MANF = 1164GL, calculated from 55 years of recorded data from 23 May 1902 to 23 May 1957 at old Jindabyne gauge 222501A. Source: *Derivation of staged environmental flow releases volumes to the Snowy River downstream of Jindabyne Dam*, Snowy River Flow Response Monitoring Project, DIPNR, February 2005,p.3.

⁶³ *Fact Sheet 2, Snowy River recovery*, November 2004, Snowy River Flow Response Monitoring Project, NSW Department of Infrastructure, Planning and Natural Resources (DIPNR).

⁶⁴ Senator Nick Minchin, ABC Radio National PM program 6 December 2000, Transcript at <http://www.abc.net.au/pm/stories/s220771.htm>; 7.30 Report 2003 at <http://www.abc.net.au/7.30/content/2003/s953983.htm>; *The river runs through it*, by Claire Miller, The Age June 11, 2002, at <http://www.theage.com.au/articles/2002/06/10/10229828180007.html>; *Fears for*

annual spills over Mowamba Weir in addition to the 38GL that had been diverted, was factored in to calculations of the Mowamba flows. (Even in September 2006, following the re-commissioning of the Aqueduct, the then Minister for Natural Resources Ian McDonald was still quoting a figure of 6% annual natural flow being delivered to the Snowy River that year⁶⁵.)

However, the Snowy Flow Response Monitoring Project later revised this figure of 24GL, as the average spill over Mowamba Weir, down to 18GL⁶⁶, based on information contained in a 1998 Snowy Mountains Hydro-Electric Authority document⁶⁷.

Snowy River Alliance has requested assistance in obtaining a copy of this source document from: Snowy River Flow Response Monitoring Project; Mike Kelly MP for Eden-Monaro; Phil Costa, NSW Minister for Water, the NSW Office of Water and Snowy Hydro Ltd without success.

However even 18GL in spills seems an overestimate when compared to the figure given for average Mowamba flows in a 1995 study⁶⁸, in which the average flow is given as 43.8GL. If Snowy Hydro diverts on average 38GL/yr that would mean the average spill volume was only 5.5GL!

(In the first two full Water Years after Mowamba Aqueduct was decommissioned on 28th August 2002, the total annual Mowamba flow was actually less than 30 GL⁶⁹.)

In light of all the above, it is curious that the NSW Minister for Water Phil Costa has recently stated⁷⁰ that average unregulated flow over Mowamba and Cobbon Creek Weirs prior to decommissioning of Mowamba aqueduct in August 2002 was only 1GL/yr and the average diverted flow was around 36GL/yr.

There is currently no publicly available data on the volumes diverted by Snowy Hydro Ltd since Mowamba Aqueduct was re-commissioned on 31 January 2006. The NSW Department of Water and Energy did have access to the Mowamba flow information from Snowy Hydro Ltd prior to decommissioning of the Aqueduct in August 2002.

revival of Snowy scheme, by Claire Miller, The Age, August 18, 2003, at <http://www.theage.com.au/articles/2003/08/17/1061059722977.html>;

⁶⁵ Snowy hydro not breaching licence: Govt, ABC Radio News 2 September 2006, on-line at <http://www.abc.net.au/news/newsitems/200609/s1734874.htm>

⁶⁶ *Derivation of staged environmental flow release volumes to the Snowy River downstream of Jindabyne Dam*, Snowy River Flow Response Monitoring Project, DIPNR., Feb 2005.

⁶⁷ SMHEA (1998) *Snowy Mountains Hydro Electric Authority: Spills and riparian release, average scheme inflows and diversion 1905-1987 statistics and information design reports for structure and operational records based on G/D.G.E.N./31/1 and I.S./G-GEN/76/1*.

⁶⁸ *Snowy River Downstream of Jindabyne Dam - Environmental Flow Scoping Study*, NSW Department of Land and Water Conservation; Victorian Department of Conservation and Natural Resources; Snowy Mountains Hydro-electric Authority; DLWC, Sydney 1995.

⁶⁹ Advice for Water Years 2002-mid 2007 from Ian McDonald NSW Minister for Natural Resources to Craig Ingram MP, received 22 July 2006.

⁷⁰ Minister for Water Phil Costa responses to Questions on Notice put by Dr John Kaye at Budget Estimates 2009-2010 General Purpose Standing Committee No.5, Water, Regional Development, Friday 18 September 2009

It should be noted that the capacity at discharge of Mowamba Aqueduct has increased from 4.8 cubic metres/s⁷¹ before corporatisation, to 6.0 cubic metres/s⁷² after corporatisation. Mowamba Aqueduct now has a capacity to discharge 520 mgl/d, a huge amount of water that would severely reduce the chance of any spills occurring over Mowamba Weir even though according to the SWIOID (as detailed above) the Snowy River Increased Flows must include the unregulated flow over Mowamba and Cobbon Creek Weirs that occurred prior to corporatisation i.e. approximately 24GL or 2%ANF.

Mowamba River flows are critical to the total volume of Snowy River Increased Flows. Accurate information on historical average Mowamba flows including average annual diverted flows and average annual spills should be made publicly available. An independent audit of Mowamba flows since corporatisation in reference to the historical flow data should be undertaken to assess Snowy Hydro Ltd's compliance with the requirements of the SWIOID.

Geographic sleight of hand in SWIOID re: Mowamba River

Finally, it is evident the SWIOID calculations are based on a geographic sleight of hand: the Snowy River MANF was calculated from 55 years of data from the gauge at old Jindabyne⁷³ i.e. prior to the construction of Jindabyne dam in 1967 and thus prior to the diversion of the Mowamba River via Mowamba Aqueduct into Jindabyne Dam. The junction of the Mowamba and Snowy Rivers is kilometres downstream of the present Jindabyne Dam wall. It follows therefore that the Mowamba River flows should not have been included at all, in any calculations of Snowy River Increased Flows as a percentage of the historical Snowy River MANF recorded at old Jindabyne. As Snowy River Increased Flows are now measured below the junction of the Snowy and Mowamba, an accurate calculation of the Snowy flows as a percentage of Snowy MANF at that site, would have to be calculated from the historical Snowy River MANF measured at Jindabyne PLUS the historical Mowamba River MANF measured above its junction with the Snowy, (there being no historical data from a gauging station below the junction).

Analysis of issues raised in public submissions

1. Environmental flow objectives and decommissioning of Mowamba Aqueduct.

Failure to deliver improved environmental outcomes to Snowy River

The environmental objectives of returning Increased Flows to the Snowy River are detailed in the Heads Of Agreement⁷⁴, the SWIOID⁷⁵ and the Snowy Water Licence⁷⁶.

SWIOID states: *The objectives of the parties in requiring New South Wales through the Snowy Water Licence to procure that the Licensee makes Snowy River Increased Flows is to improve the habitat of a diverse range of plant and animal species through a combination of:*

⁷¹ *Engineering Features of the Snowy Mountains Scheme*, Snowy Hydro Electric Authority 1982, p114

⁷² Snowy Water Licence, 2002, p42.

⁷³ *Derivation of staged environmental flow releases volumes to the Snowy River downstream of Jindabyne Dam*, Snowy River Flow Response Monitoring Project, DIPNR, February 2005, p.3.

⁷⁴ Heads of Agreement, 6 Oct 2000, p.1.

⁷⁵ SWIOID 2002, Annexure One, Part One, clause 1

⁷⁶ Snowy Water Licence, Schedule 3, Part Two, clause 5.

- (1) *improving the temperature regime of river water;*
- (2) *achieving channel maintenance and flushing flows within rivers;*
- (3) *restoring connectivity within rivers for migratory species and for dispersion;*
- (4) *improving triggers for fish spawning;*
- (5) *improving the aesthetics of currently degraded riverine environments.*

The *Final Report* p.6, states: “that the releases of flows to achieve these objectives is dependant on water savings and the meeting of many of the environmental objectives, on balance, depends on releases of high volumes of water (flushing flows). Due to the record low inflows in recent years the volumes of water savings able to be allocated towards Snowy Increased Flows has been inadequate to meet these environmental objectives.”

The Snowy Scientific Committee’s first report ⁷⁷ is much more to the point and is a damning indictment of the lack of progress since corporatisation: “flows down the Snowy River from the dam have not been adequate for habitat and channel maintenance, have not provided normal stream conditions for stream fauna, and have not delivered any discernible lateral connectivity; they have maintained a reduced longitudinal connectivity and have provide conditions for the maintenance of some exotic fish species... the current monitoring program is not adequate....institutional arrangements for delivering water appear fixed and inadequate...releases to flush deep pools are urgently needed.”

Low volumes of Snowy River Increased Flows not simply due to drought

The low volumes allocated to Snowy River Increased Flows since corporatisation are not simply due to the drought. (For details of actual releases refer to Attachment 1). There are a number of contributing factors including: the low reliability of some water savings acquired by Water for Rivers i.e. a significant proportion of water savings are general security entitlements which received a low allocation and return little real water to the river⁷⁸; the time delay of up to two years between when Water for Rivers audited savings are listed on the NSW Environmental Entitlement Register and when they are released to the Snowy⁷⁹; water savings earmarked for the Snowy have been re-allocated for urban consumption for some years⁸⁰ or simply not delivered at all⁸¹,

⁷⁷ *Adequacy of environmental releases to the Snowy River*, Snowy Scientific Committee, October 2008.

⁷⁸ Of the 135 GL of entitlements recovered in NSW by Water for Rivers as at 10 July 2009, none were high security entitlements, although 60GL, or less than half, were of similar reliability to high security entitlements. Information contained in responses from Minister for Water Phil Costa to Questions on Notice put by Dr John Kaye at Budget Estimates 2009-2010 General Purpose Standing Committee No.5, Water, Regional Development, Friday 18 September 2009.

⁷⁹ Eg. Total entitlements recovered by Water for Rivers as of winter 2008 was 165GL (stated in presentation by Neville Smith, Water for Rivers, at Snowy River Day Dalgety 31 Aug. 2008); and by 10 July 2009 was 197GL according to the NSW Minister for Water in his responses to Dr Kaye’s Questions on Notice, Budget Estimates 18th Sept, 2009; however the Snowy/Murray allocation for 2009/10 water year was based on a total entitlement of only 157GL according to the Snowy water saving summary table provided by Office of Water on the Snowy Initiative website.

⁸⁰ Central Goulburn Channel Automation project savings 17GL/yr diverted to Melbourne for two years. Final report: Foodbowl Modernisation Project Steering Committee, Nov 2007.

⁸¹ NSW Barren Box Swamp project 20GL entitlement allocated zero for past two years even though similar Murrumbidgee water had 95% allocation. *The Weekly Times*, September 30, 2009. That the Barren Box Swamp conveyance water was equivalent to high security water is confirmed by information provided by the NSW Minister for Water in his responses to Dr Kaye’s Questions on

and repayment of all Snowy annual allocation above 38GL to the Mowamba Borrowings Account. Then by 2012, all general security entitlements for the Snowy must be converted to high security entitlements up to a total volume of 142 GL⁸², in the process this conversion will reduce the volume of the Snowy River apportioned entitlement. The final outcome for the Snowy post-2012, depending on the ratio of general security entitlements to high security entitlements acquired by Water for Rivers, may be only 142 GL of high security entitlements in total, i.e. only 15% MANF including the base passing flow. Water for Rivers requires major increased funding if it is to acquire sufficient high security entitlements to deliver 21% Snowy River Increased Flows as real water not paper water by 2012.

As a consequence of continued low flows since corporatisation none of the legislated environmental objectives have been met. The intended environmental recovery of the Snowy River will not occur until the legislated Snowy River Increased Flows are actually delivered. As noted above, the three government signatories to the legislation are under no binding obligation whatsoever, to deliver the legislated target increased flows. If the NSW Government were committed to restoring the Snowy River, the first Five-Year Review of the Snowy Water Licence would have been the perfect opportunity to remedy this state of affairs by amending the Licence to establish the target scheduled Snowy River Increased Flows detailed in the SWIOID, as mandatory minimum requirements in the Licence. However this has simply not been the case.

Key reform issues re: Snowy River environmental flows ignored.

During the Licence Review period the Office of Water requested (27th June 2009) a copy of the legal advice the NSW Environmental Defender's Office (EDO) had provided to Snowy River Alliance (dated 15th June 2009) regarding environmental flows to the Snowy River. In response the NSW EDO provided the Office of Water⁸³ with an outline of the key reform issues arising from the EDO's preliminary consideration of the legislation. (See: Attachment 2).

The EDO's key recommendations were:

- a) **Mandatory Requirements:** *The target levels of Snowy River Increased Flows should be made mandatory minimum requirements. One means to implement this would be to make appropriate provision in the SWIOID and the Snowy Water Licence.*
- b) **Independent Monitoring:** *Compliance with the mandatory minimum requirements to release target levels of Snowy River Increased Flows should be monitored by a body that is independent of the Department of Water and Energy (now the Office of Water) and Snowy Hydro Ltd (Company).*
- c) **Open standing for any person to enforce the mandatory requirements:** *The Act should provide open standing for any person to enforce the mandatory minimum requirements to release target levels of Snowy River Increased Flows.*

The EDO received no response from the Office of Water regarding their recommendations despite repeated requests in the weeks leading up to the release of

Notice, Budget Estimates 2009-10 General Purpose Standing Committee No.5, Water and regional Development, Friday 18th September, 2009.

⁸² SWIOID 2002 Part Two, clause 17.4.

⁸³ Environmental Defender's Office advice to Tim Holden, Executive Director, Water Legal, NSW Office of Water, by email and post, 6th August 2009.

the *Final Report*, and has received none to date. It is very clear that the EDO's advice has been completely ignored in the *Final Report* of the Licence Review. The Licence variations that have been proposed by the Office of Water do nothing to secure improved environmental outcomes for the Snowy.

In fact, the effect of the Office of Water delaying until 2012 its decision on permitting releases via Mowamba Weir will unnecessarily prolong the degradation of the Snowy and making it highly likely compensation will have to be paid to Snowy Hydro Ltd.

Flushing Flows

The *Final Report* p.6, prioritises the requirement to store and release flushing flows as one justification for not permitting environmental releases via Mowamba Weir. It should be noted however that according to the Snowy Water Licence a flushing flow is a daily release that exceeds 5GL⁸⁴ and can only to be released in those years that the Snowy River Increased Flows annual allocation exceeds 100 GL⁸⁵. Once the Snowy Annual Allocation reaches this volume the ideal release regime would be a combination of releases from both Mowamba Weir and Jindabyne Dam. Under current climatic conditions it may be some time before the Snowy annual environmental allocation is anywhere near 100GL, much less the 2009 target of 142GL. In the meantime the priority surely should be to identify the best way to improve the environmental condition of the Snowy River with the low volumes of water available. Flexible delivery of environmental flows is one way to achieve this.

Environmental benefits of Mowamba flows ignored

The *Final Report* p.6, states: "The scientific evidence available so far has been inconclusive as to the clear benefit of the levels of environmental flows and the releases from Mowamba."

However, the Snowy Scientific Committee has already identified⁸⁶ that: *In-flows from the Mowamba River are recognized as potentially significant in restoring the uppermost reaches of the regulated Snowy River, through contributing colonizing micro-fauna and propagules, water of suitable quality and temperature, and adding flow variability.*

In fact, the environmental objective of restoring connectivity for migratory species and for dispersion can only be achieved by releasing environmental flows from Mowamba Weir⁸⁷.

Responsibility for any lack of information on Mowamba rests solely with the NSW Government due to its five and a half year delay in establishing the Snowy Scientific Committee and then the Office of Water's failure to request further studies on Mowamba during the two years it took to undertake the Licence Review. It is the groups' opinion therefore that the Review of the Licence should not be finalized until the Scientific Committee has had sufficient time to prepare any further advice required by the NSW Government on the environmental benefits of permitting releases via Mowamba Weir.

⁸⁴ Snowy Water Licence, Schedule 3, Part 4, clause 15.3

⁸⁵ Snowy Water Licence, Schedule 3, Part 4, clause 15.1.

⁸⁶ *Adequacy of environmental releases to the Snowy River*, Snowy Scientific Committee, October 2008, p26.

⁸⁷ Ibid. p. 22.

The Mowamba River flows are equivalent to approximately 4% MANF⁸⁸ out of the total 2009 target Snowy River Increased Flows of 15% MANF. The small but environmentally significant releases via Mowamba Weir combined with the larger volume of releases (including flushing flows) via Jindabyne Dam therefore would provide the best environmental outcome for the Snowy River.

Jindabyne Dam mini-hydro - not 'Green Power Generator'

The *Final Report* p6 states: "Public funds have been invested to capture the energy from releases as 'green energy'." The NSW Office of Water (previously DWE) has argued⁸⁹ that decommissioning Mowamba would reduce the capacity to generate electricity through the mini-hydro at the base of Jindabyne Dam.

In effect the NSW Office of Water is willing to compromise the environmental benefits to the Snowy River of releases via Mowamba Weir in order to permit Snowy Hydro Ltd to generate a negligible amount of power from a 1.1 MW mini-hydro. The diversion of 99% of the average Mowamba River flows into Jindabyne Dam to run the mini-hydro at the base of Jindabyne Dam wall excludes any possibility that the power generated is in reality 'Green Power'. The National Green Power Accreditation Program rules require that a 'green' electricity generator is a generator that results in a net environmental benefit. Whilst the Office of Water and Snowy Hydro Ltd continue to argue that the operation of the Jindabyne Dam mini-hydro is dependent on the diversion of the Mowamba River the mini-hydro Green Accreditation should be cancelled.

Mowamba flows would not impact on irrigators

The *Final Report*, p.6, also raises the issue of the impact that releases via Mowamba Weir may have on water delivery for irrigation and environmental purposes in the Murray and Murrumbidgee. The average annual Mowamba River flows in the 1990's prior to politicisation of Mowamba was only 43.8GL⁹⁰; the Required Annual Release to the Murray and Murrumbidgee for irrigation purposes is 2088GL! The Snowy River Increased Flows have to be offset first by water savings. It makes no difference therefore to the amount of water available to the western rivers for irrigators or the environment whether the Snowy Increased Flows are delivered via Jindabyne Dam or by a combination of Jindabyne Dam and Mowamba Weir. If the Office of Water is concerned that unregulated flows over Mowamba will result in annual releases greater than the annual Snowy environmental allocation then it should refer to the SWIOID which states very explicitly that the total base passing flow INCLUDES the unregulated flow that occurred over Mowamba and Cobbon Creek weirs prior to corporatisation. In effect the argument about the risk of Mowamba spills is irrelevant: as discussed above, the Snowy River scheduled increased flows calculated as a percentage of Snowy MANF automatically includes 18-24GL of Mowamba spills.

⁸⁸ *Snowy River Downstream of Jindabyne Dam - Environmental Flow Scoping Study*, NSW Department Land and Water Conservation; Victorian Department of Conservation and Natural Resources, 1995.

⁸⁹ See: DWE *Response to Snowy Scientific Committee's report: Adequacy of environmental releases to the Snowy River*, October 2008, February 2009; and David Harris ABC Radio Southeast NSW (Bega) 9th December 2008.

⁹⁰ *Snowy River Downstream of Jindabyne Dam - Environmental Flow Scoping Study*, NSW Department of Land and Water Conservation; Victorian Department of Conservation and Natural Resources; Snowy Mountains Hydro-electric Authority; DLWC, Sydney 1995.

On the other hand, the environmental impact of Snowy Hydro Ltd withholding approximately 60 GL owed River Murray Increased Flows and failing to deliver the River Murray annual allocation on an annual basis is considerable, yet the Office of Water has not proposed any variation to the Snowy Water Licence that would remedy this state of affairs.

In 2002 the three government shareholders of Snowy Hydro Ltd made a legislated commitment to restore the degraded environmental health of the Snowy River. The Victorian Government in its submission to the Five-Year Review recommended an amendment to the Snowy Water Licence to permit releases via Mowamba Weir as well as Jindabyne Dam. The Commonwealth Government's submission also recommended investigation of "different delivery mechanisms" to meet the environmental objectives of the Snowy Water Licence.

The Mowamba River would provide a natural surrogate headwater for the currently beheaded Snowy River. The Snowy Water Licence must be amended now to permit environmental releases to be made via Mowamba Weir as well as Jindabyne Dam. Any further delay in amending the Licence to permit releases via Mowamba Weir, as well as Jindabyne Dam, jeopardises the health of the Snowy River and makes a mockery of the intergovernmental agreements to restore the Snowy.

2. Flow Variability

Snowy River Increased Flows flat-lined

The Final Report p.7, states that: "The licence currently has provisions for achieving flow variability on a yearly, monthly and daily basis. Daily flow variations were not deemed necessary with the low volumes of water available."

Whilst the Licence may have provisions for monthly and yearly flow variability Snowy Hydro Ltd has not complied with those provisions and the WAMC has provided only limited directions⁹¹.

Periods of near constant flow occurred during most of the period between January 2001 and September 2002, in the time leading up to the decommissioning of Mowamba Aqueduct; then following the re-commissioning of the Aqueduct in January 2006, from March 2006 to September 2006; most of March 2007 to September 2007; March and April 2008.⁹²

"Daily flow variations were not deemed necessary..." by the WAMC, which was operating contrary to the Act in making decisions on environmental releases without the advice of the Snowy Scientific Committee. The Snowy Scientific Committee has since stated⁹³ that: *even under low flow conditions, two types of variability need to be built into the pattern of flow releases: short-term variability over days and weeks, and seasonal variability over months.*

⁹¹ *Adequacy of environmental releases to the Snowy River*, Snowy Scientific Committee, Oct. 2008, p.9.

⁹² IBID.

⁹³ *Adequacy of environmental releases to the Snowy River*, Snowy Scientific Committee, Oct. 2008, p.10.

The Scientific Committee has also identified⁹⁴ that: *None of the years since 2002, or indeed since 1997, show the strong spring snow melt signal necessary for river health that was intended to be delivered through the Default Monthly Releases Volumes, (as outlined in the Snowy Water Licence*⁹⁵).

What is very evident is that Snowy River flow variability was greatly reduced with the re-commissioning of Mowamba Aqueduct. *Thus in comparison to natural levels of flow variability or the variability present when Mowamba Aqueduct was decommissioned, the flow variability is currently quite unnatural and has been greatly dampened*⁹⁶.

The Mowamba flows are vital to provide the necessary flow variability to the Snowy River. This is a key reason the Licence must be amended to permit environmental releases via Mowamba weir as well as Jindabyne Dam. Yet the *Final Report* has completely ignored the scientific information provided by the Snowy Scientific Committee.

2. Fish ladder

Cost of fish ladder deducted from Snowy Montane Rivers Increased Flows

The *Final Report*, p.7, states that: “The licence condition does not stipulate that construction of a fish ladder is required. The licence instead stipulates if under law, the construction of a fish ladder is required, how the cost of the fish ladder will be paid for.” According to the *Final Report*, this condition was imposed by the NSW Treasury, due to uncertainties about the cost.

What the *Final Report* fails to mention is that according to the Snowy Water Licence⁹⁷, the cost of any fish ladders at Jindabyne Dam must be deducted from the Snowy Montane Rivers Increased Flows as a volume of the flows in terms of its GWh equivalent to the cost of constructing, operating and maintaining those fish ladders! The NSW Department of Primary Industries (Fisheries) exempted Snowy Hydro Ltd from the legal requirement under the *Fisheries Management Act 1994* to construct a fish ladder when Jindabyne Dam was upgraded because “Fisheries considered there are no significant accumulations of native migratory fish at the dam wall and there is no proven technology to transport fish over such a high structure.”

The continued low flows released to the Snowy River have reduced the habitat for native fish in the deep pools below the Dam wall and downstream to Dalgety to such an extent that it is unsurprising that few migratory fish were found below the Dam wall. The Snowy Scientific Committee has stated that: *If Snowy River Increased Flows do not increase, to at least 21%MANF, the deep pools in the two highest reaches, Jindabyne Gorge and Dalgety Uplands, will be under threat of permanent or near-permanent change, and the fauna living there will experience repeated adverse conditions*⁹⁸.

⁹⁴ *Adequacy of environmental releases to the Snowy River*, Snowy Scientific Committee, October 2008, p.24.

⁹⁵ Snowy Water Licence, 2002, Schedule 3, Part Four, cl.13.3.

⁹⁶ *Adequacy of environmental releases to the Snowy River*, Snowy Scientific Committee, October 2008, p.9.

⁹⁷ Snowy Water Licence, 2002, Schedule 3, Part Two, cl. 6.4.

⁹⁸ *Adequacy of environmental releases to the Snowy River*, Snowy Scientific Committee, Oct 2008, p.12,13.

4. Mowamba Borrowings.

Mowamba Borrowings Account repayment prevents rehabilitation of Snowy River

The repayment of the Mowamba Borrowings Account, as discussed above, has effectively capped Snowy River Increased Flows at 38GL or 4% MANF (including the regulated base passing flow from Jindabyne Dam), compared to the legislated target for June 2009 of 15% MANF. As a consequence the Snowy River has continued to experience severe environmental degradation.

The latest report from the Snowy Scientific Committee has confirmed that the current repayment process has been a serious impediment to the delivery of increased flows to the Snowy River and thus to rehabilitation of the river⁹⁹.

Yet the *Final Report* has neglected to address the issue despite it being raised by Gippsland Environment Group in its submission to the Five-Year Review, and subsequently during the Review period by Snowy River Alliance and the Total Environment Centre in various meetings with the Minister for Water Phil Costa and the current NSW Commissioner for Water, David Harris.

The *Final Report* p.7, states that the “Mowamba Borrow is water that has been ‘borrowed’ from water users and the environment in the Western rivers and has to be repaid. Cancelling the outstanding amount of the Mowamba Borrow without offsetting that amount through verified water savings and reduction in Required Annual Releases would reduce the amount of water available for extraction for water users on the western rivers.”

As discussed above, since corporatisation in 2002 the WAMC has permitted many hundreds of gigalitres of forward borrowings from Snowy Scheme storages to selected irrigators despite storages being below Target Storage levels. This practice has jeopardized the Snowy Scheme’s long-term storage security and Snowy Hydro Ltd’s ability to deliver the Required Annual Releases. Six years later, as of October 2008, 429 GL of forward borrowings had still not been repaid¹⁰⁰. In comparison, the Mowamba Borrowings Account debt is currently 56.3GL¹⁰¹!

What specific arrangements have been negotiated between recipient irrigators and WAMC and Snowy Hydro Ltd regarding repayment of these considerable ‘forward borrows’?

Why hasn’t some flexibility been granted to the comparatively minimal Mowamba Borrowings Account when the scientific evidence clearly shows that the continued low flows released to the Snowy River is simply perpetuating the severe environmental stress it has undergone for decades?

⁹⁹ *The Mowamba Borrow and its effect on rehabilitating the Snowy River*. Snowy Scientific Committee December 2009.

¹⁰⁰ Attachment A, *Information provided to Sunraysia Irrigators Council*, 22 October 2008, from the Australian Government Department of the Environment, Water, Heritage and the Arts, in response to FOI request to Office of Minister for Climate Change and Water, Senator Penny Wong.

¹⁰¹ *Annual allocation of Snowy River Environmental Flow and payback of Mowamba Borrowings Account*, Snowy Initiative, NSW Office of Water at <http://water.nsw.gov.au/Water-Management/Water-recovery/Snowy-initiative/Snowy-initiative/default.aspx>

The Snowy Scientific Committee's recent paper on the Mowamba Borrowings Account¹⁰² has identified three options for minimizing the negative environmental impact the repayment of the Borrowings Account has had on restoration of the river below Jindabyne Dam.

The Scientific Committee has recommended that: *the NSW Office of Water consult with stakeholders in and parties to the SWIOWD to effect one of the following before 28th January 2010:*

- *adjustment to the terms of repayment, with repayments only when irrigation allocations exceed a threshold (possibly 50% GS or equivalent)*
- *re-defining the threshold to at least 50 GL and preferably to 63 GL*
- *suspension of repayments, by agreement, for a fixed period, initially one year; and follow up by targeting either allocation adjustment or threshold re-definition.*

It is the groups' position that the Mowamba flows should never have been included in the calculations of Snowy River Increased Flows in the first place, and that as the Snowy River Increased Flows are so far behind schedule and the intended improved environmental objectives that were promised almost ten years ago¹⁰³ have simply not been delivered, the Mowamba Borrowings Account should in fact be cancelled.

Three governments must negotiate cancellation of Mowamba Borrowings Account

When Snowy River Alliance raised the matter with at the Snowy Community Advisory Group meeting held in Cooma on 22nd July 2009, the current NSW Commissioner for Water David Harris stated that the 'forward borrowings' to irrigators were a commercial agreement between Snowy Hydro Ltd and the irrigators. The NSW Minister for Water Phil Costa commented that if the Mowamba Borrowings Account were to be paid out then it was a matter for the joint shareholders.

If the three governments were serious about saving the Snowy they would negotiate the cancellation of the Borrowings Account immediately, at the very least repayment should be suspended until Snowy River Increased Flows reach 15%MANF.

Mowamba Borrowings Account: inconsistencies in accounting.

The *Final Report*, p.7, asserts that auditing of the Mowamba Borrowings Account has been met through an independent third party assessment and certification process. However there are a number of inconsistencies in the accounting information provided to the public regarding the Mowamba Borrowings Account.

The Office of Water must therefore explain:

- Why two different figures have been provided by the Office of Water (formerly DWE) and Snowy Hydro Ltd for the total accumulated debt of the Mowamba Borrowings Account by 2005/06?
The Mowamba Borrowings Account debt by 2005/06 is identified as 65.6GL in information provided in July 2006 by then NSW Minister for Natural

¹⁰² *The Mowamba Borrow and its effect on rehabilitating the Snowy River*. Snowy Scientific Committee December 2009. p. 8.

¹⁰³ Heads of Agreement 6 Oct 2000.

Resources Ian McDonald¹⁰⁴ and also in the Information for public submissions to the Five-Year Review provided by DWE in December 2007¹⁰⁵. However, the total debt in 2005/06 was identified as only 64.9GL, (with 8.6GL since repaid, and 56.3GL outstanding), by Snowy Hydro Ltd in its submission to the Five-Year Review and these figures are quoted in the recent Snowy Scientific Committee's Mowamba Options paper¹⁰⁶; and in the *Final Report*¹⁰⁷ under the Office of Water's assessment of SHL's compliance with its licence conditions. In the public information the Office of Water provides on its Snowy Initiative website however, it fails to provide a figure for the total accumulated Mowamba debt in the summary table though it does identify that 8.6GL has been repaid and 56.3 GL is still outstanding¹⁰⁸. The difference between 65.6GL and 56.3 GL is 9.3GL not 8.6GL. There is a shortfall of 0.7GL.

Snowy River Alliance has continued to keep a record of advice received from the NSW Office of Water (formerly DWE) regarding repayment of the Borrowings Account and it became apparent in September 2008, from Snowy River flows information received by Snowy River Alliance from DWE¹⁰⁹ that more had been repaid to the Borrowings Account than had been identified in information received up to that time.

When Snowy River Alliance queried the calculations, an officer of DWE confirmed¹¹⁰ that a repayment had in fact been made to the Borrowings Account in 2007/08 Water Year. If this were the case, it would have been a breach of the SWIOID¹¹¹, which requires that repayment should not reduce the Snowy River Increased Flows annual allocation below 38GL in any water Year after the third anniversary of corporatisation. The Snowy annual allocation in 2007/08 was only 32.1GL.

This repayment in 2007/08 is NOT identified by the NSW Office of Water in the Snowy water savings summary table on the Snowy Initiative website. Is this because it would reveal that WAMC had breached the SWIOID?

- Why was only 1.7GL identified as Mowamba releases for the 2005/06 Water Year, when Mowamba Aqueduct was not re-commissioned until the end of January 2006 i.e. 9 months into the 2005/06 Water Year?

¹⁰⁴ Details of Mowamba repayment contained in: Advice for water years 2002-mid 2007, from NSW Minister for Natural Resources Ian McDonald to Craig Ingram MP East Gippsland, received 30 July 2006;

¹⁰⁵ *Review of the Snowy hydro water licence, information for public submissions*, Appendix B, DWE, December 2007, utilities_snowy_lic_snowy_water_review.pdf at <http://www.water.nsw.gov.au/Water-licencing/Corporate-licences/Snowy-hydro/default.aspx>

¹⁰⁶ *The Mowamba Borrow and its effect on rehabilitating the Snowy River*, Snowy Scientific Committee, December 2009, p1.

¹⁰⁷ *Final report – Five-year review of the Snowy hydro water licence*, Office of Water, Nov. 2009, Attachment B: Assessment of SHL's compliance with its licence conditions, p39.

¹⁰⁸ *Snowy water savings summary table and Annual allocation of Snowy River Environmental Flow and payback of Mowamba Borrowings Account*, Snowy Initiative, NSW Office of Water at <http://water.nsw.gov.au/Water-Management/Water-recovery/Snowy-initiative/Snowy-initiative/default.aspx>

¹⁰⁹ Advice for Water Year 2008/09 to Snowy River Alliance from DWE 10th September 2008 Water Entitlement Register, Snowy River environmental Flows from Jindabyne Dam for 2008.

¹¹⁰ DWE to Snowy River Alliance, email 11th October 2008.

¹¹¹ SWIOID, 2002, Part Two, clause 19.6 (3).

According to the DWE Information for public submissions to the Review, the annual allocation for the Snowy that year was 38GL, and actual environmental releases totaled 40GL¹¹². In reality therefore much more water than 1.7GL was released via Mowamba Weir in the 2005/06 Water Year prior to the re-commissioning of the Aqueduct on 30th January 2006. However by identifying the releases in 2005/06 as in the main from Jindabyne Dam, DWE identified that an ‘over’ release of 2GL had been made and so deducted it off the 2006/07 Snowy allocation, (following repayment of 4GL to the Borrowings Account), reducing the target Snowy environmental releases in 2006/07 to only 36GL. However, as discussed above, the SWIOID figures include a significant volume of spills over Mowamba Weir as a component of the Snowy River Increased Flows base passing flow. By identifying the Snowy environmental flows in 2005/06 as in the main from Jindabyne Dam rather than Mowamba Weir the Mowamba spills of approximately 2GL that did occur that year were not identified by the DWE as Mowamba spills and thus to be included in the total environmental releases according to the SWIOID, but rather were identified as Jindabyne ‘over’ releases and consequently deducted from the following year’s Snowy allocation.

- Why has the Office of Water (and formerly DWE) provided completely contradictory information to the public regarding the repayment of the Mowamba Borrowings Account from the Snowy River annual allocation above the threshold of 38GL?

As discussed above, the information for public submissions to the Review provided by DWE in December 2007, as well as the current NSW Commissioner for Water in December 2008, and now the Office of Water’s *Final Report* to Snowy Licence Review, have all stated that any water from the annual Snowy allocation above 38GL is split 1:1 Snowy River Increased Flows and Mowamba Borrowings Account.

However the Office of Water states the complete opposite on its Snowy Initiative website: Snowy water savings summary table and detailed under the heading Annual allocation of Snowy River Environmental Flow and payback of Mowamba Borrowings Account. In practice ALL water above 38GL Snowy annual allocation has been repaid to the Mowamba Borrowings Account.

5. Protecting current and future environmental flows.

Override provisions jeopardise future Snowy River environmental flows

The override provisions in the Snowy Water Licence¹¹³ give authority to the WAMC (in effect the NSW Minister for Water) to vary the volume of water released from Jindabyne Dam despite any other provisions in the Licence. This provision has the potential to seriously undermine the intergovernmental agreements on restoring the Snowy River.

The *Final Report*, p.8, states: “The override provisions are in the Licence to allow for adaptive management if and when required. For example, during extremely low flow

¹¹² Review of snowy hydro water licence, information for public submissions, Appendix B, DWE Dec 2007.

¹¹³ Snowy Water Licence, 2002, Schedule Three, Part Four, clause 12.4.

conditions there may be a requirement for water to be balanced between the environment and other water users such as towns, industry and irrigators. These provisions enable the Office to better balance the water rights of water users in western rivers and at the same time not compromise the capacity of SHL to store water for flushing flows in Jindabyne Dam”

The western rivers, i.e. irrigators west of the Divide, have had the benefit of at least 96% of the Snowy River annual flows for more than forty years. As discussed above, the fact is that SHL with approval of WAMC has continued to release forward borrowings to selected irrigators from Snowy storages when the storages were Below Target levels and it is this practice that has compromised the drought proofing capacity of the Snowy Scheme storages as well as threatened delivery of environmental flows to the Snowy River.

States cannot re-allocate environmental flows for consumptive use

Secondly, according to the SWIOD¹¹⁴ the states must not re-allocate environmental entitlements for consumptive use. For the WAMC to use the override provision to re-allocate the Snowy River Increased Flow annual releases for town use or irrigation would be a breach of the intergovernmental Deed.

Environmental flows must be protected by minimum mandatory release requirements

The NSW Office of Water (previously DWE) has failed to deliver the legislated environmental flows to the Snowy River. In order to protect current and future Snowy River environmental flows the legislated target Snowy River Increased Flows must be established as mandatory minimum requirements in the Snowy Water Licence, as recommended by the NSW EDO. Snowy River Increased Flows must also be managed and monitored by an authority independent of the NSW Office of Water and Snowy Hydro Ltd, such as the Commonwealth Environmental Water Holder; and open standing provisions included in the Act to allow any person to enforce the mandatory minimum release requirements.

The NSW Office of Water must also provide an explanation of its failure to respond to the legal advice provided by the NSW EDO at the Office of Water’s request.

6. Temperature variability.

New outlet at Jindabyne not completed within three years as required by Licence

The *Final Report*, p.8, states: “A variable-level off-take has been constructed in Jindabyne Dam and it is **now** possible to operate the works to release water from above the thermocline.” (Our emphasis.)

As discussed in Gippsland Environment Group’s submission to the Licence review Snowy Hydro Ltd did not construct a new outlet at Jindabyne Dam that was capable of releasing water from above the thermocline, and of sufficient capacity to release at

¹¹⁴ SWIOD, 2002, Part two, clause 15.5.

least 5GL per day, within three years of corporatisation, as was required by the Snowy Water Licence¹¹⁵.

Since Mowamba Aqueduct was re-commissioned 31st January 2006, environmental releases were made to the Snowy River “via siphons over the dam wall and later from constructed outlet works,” according to DWE¹¹⁶. However the ‘constructed outlet works’ did not refer to the outlet works as required by the Snowy Water Licence but referred to two smaller outlet which were apparently constructed as alternate structures¹¹⁷ to the major outlet works which were not completed for another 18 months. These alternate structures were to enable environmental releases to be made from Jindabyne Dam after Mowamba Aqueduct was abruptly re-commissioned but before new major outlets were trialed. Since then environmental releases have also been made via the mini-hydro generator installed at the base of Jindabyne Dam wall.

- Did Snowy Hydro Ltd actually comply with the terms of its Licence during the whole period since Mowamba Aqueduct was re-commissioned regarding releases being made from above the thermocline?

The *Final Report* proposes that: “The licensee will report annually to demonstrate that releases have been made from above the thermocline.”

Does this proposed requirement from the Office of Water demonstrate in fact that SHL had not complied with this condition of the Licence previously?

Secondly, the Snowy Water Licence¹¹⁸ determined that the Licensee must only make Snowy River Increased Flows releases from Jindabyne Dam AFTER the later of the third anniversary of corporatisation and the date of commissioning the outlet referred to in Clause 6. In other words Snowy River Increased Flows should have continued to be released from Mowamba River and Cobbon Creek up to the commissioning of the major outlet works, as this occurred much later than the third anniversary of corporatisation.

- It would appear that by re-commissioning Mowamba Aqueduct prior to commissioning the outlet works required under Clause 6 of its Licence, that Snowy Hydro Ltd failed to comply with the requirements of the Licence.

Mandatory requirement to release near surface water must be reviewed by Scientific Committee

Finally, when the Snowy Water Licence was originally drafted, it would have been anticipated that Snowy River environmental flows would be increased considerably over the next few years, considering the legislated target for June 2009 was 15% MANF below Jindabyne Dam. Instead, the continued low flows since corporatisation have increased *the range in water temperatures, both diurnally and seasonally, with*

¹¹⁵ Snowy Water Licence 2002, Schedule 3, Part two, clause 6.1, 6.2.

¹¹⁶ *Information for public submissions, Review of the Snowy hydro water licence, Appendix B*, DWE, Dec.2007.

¹¹⁷ Reply from NSW Treasury to Questions on Notice submitted by Sylvia Hale MLC during the NSW Upper House Inquiry into the continued public ownership of Snowy Hydro Ltd. Question 21.

¹¹⁸ Snowy Water Licence 2002, Part Two, clause 7.2(2).

the current flows being colder in winter and warmer in summer than those of pre-dam flows due to lack of thermal buffering¹¹⁹.

The continued low flows have also resulted in the persistence of thermal stratification in the deep pools between Dalgety and Jindabyne Dam in summer, with both a deficiency and absence of oxygen being recorded at different times¹²⁰. *In regulated rivers there is an intricate relationship between flow (i.e. release volumes) and downstream water temperatures¹²¹.* The Snowy Scientific Committee in their report for environmental releases to the Snowy River in 2009-10 recommended¹²² that: *water from Jindabyne Dam should be released so as to minimize the combined negative effects of river regulation and diversion on downstream water quality including temperature.*

The montane river ecology of the Snowy River prior to the construction of Jindabyne Dam was not adapted to high summer water temperatures. Summer temperatures in Lake Jindabyne to a depth of 5 metres, can be higher than 20 degrees Celsius¹²³, which is unsuitable for trout and montane native fish.

It is vital therefore that warm water from above the thermocline is not released in summer into an already warm stratified Snowy River below Jindabyne Dam

The groups' position is that a mandatory blanket requirement for Snowy Hydro Ltd to release environmental water from above the thermocline from Jindabyne Dam may not be in the Snowy Rivers best environmental interests. *The record of actual temperatures on the Snowy River from Jindabyne Gorge to Dalgety, the temperatures that need to be released to mitigate the effects of the Dam, and the temperature of water that can be released into the Snowy River from above the thermocline, all show strong seasonal patterns¹²⁴.*

The Office of Water must refer this matter to the Snowy Scientific Committee for further advice. The Snowy Scientific Committee should determine the appropriate temperature of water releases, dependent on the Dam temperatures and Snowy River temperatures and river health requirements.

7. Adequacy of volumes of environmental flows.

No action proposed on inadequate volumes of releases

In its information for public submissions to the Licence Review¹²⁵ DWE specifically excluded the adequacy of the volumes of the environmental flow releases from the

¹¹⁹ *Adequacy of environmental flows to the Snowy River*, Snowy Scientific Committee, October 2008, p.9.

¹²⁰ *Adequacy of environmental flows to the Snowy River*, Snowy Scientific Committee, October 2008, p.12.

¹²¹ *Environmental releases from Jindabyne Dam: recommendations for 2009-2010*, Snowy Scientific Committee, June 2009, p.14.

¹²² IBID, Recommendation 3.

¹²³ *Environmental releases from Jindabyne Dam: recommendations for 2009-2010*, Snowy scientific Committee, June 2009, Appendix 3.

¹²⁴ Bevitt, R., and Jones, H. (2008) *Water quality in the Snowy river before and after the first environmental flow regime*, Snowy River recovery: Snowy Flow response Monitoring, DWE, quoted in Snowy Scientific Committee, June 2009, p. 15.

¹²⁵ *Information for public submissions, Review of the Snowy hydro water licence*, DWE, Dec. 2007, p.3.

scope of the Review. However neither the Snowy Hydro Corporatisation Act¹²⁶ nor the Snowy Water Licence¹²⁷ makes any such restriction on the scope of the Review. In fact, excluding the adequacy of the volumes of environmental releases from the Review specifically addressing the provisions of the Licence relating to Snowy River Increased Flows made a mockery of the Review.

Since the Review was initiated in December 2007, the Snowy Scientific Committee released its first report in October 2008, specifically addressing the adequacy of Snowy flows¹²⁸. As discussed above this report was a damning indictment of the lack of progress so far on returning increased flows to the Snowy. The report noted¹²⁹ that: *Stream flow is the ‘master variable’ that limits the distribution and abundance of riverine species and regulates the ecological integrity of flowing water systems.* Yet despite the scientific evidence that the flow regime regarding volume, seasonality and variability was inadequate to deliver the intended ecological objectives, the Office of Water’s *Final Report*, p. 9, states that: “it is premature to reassess the effectiveness of the volume of environmental releases...”

Management strategies for Montane Rivers should have been prepared by 2004

The only action the *Final Report* proposes in relation to environmental releases is regarding the montane rivers. It recommends the SSC develop an appropriate release strategy and monitoring regime for montane rivers.

However according to the SWIOID¹³⁰, riverine management strategies for all the Snowy Montane Rivers should have been prepared prior to the second anniversary of corporatisation i.e. more than five years ago!

8. Monitoring and reporting

Lack of water quality monitoring in Jindabyne Dam

The *Final Report* ignored the Scientific Committee’s advice¹³¹ *that the current monitoring program is not adequate to detect changes in water quality down the Snowy River resulting from; it does not include water quality of Jindabyne Dam or releases from Jindabyne Dam.*

Instead the *Final Report*, p.9, only refers to a further flow gauging station but concludes that no significant benefit would be gained from establishing a gauging station below the junction of the Snowy and Mowamba rivers.

It fails to make any recommendation regarding improving water quality monitoring as recommended by the Scientific Committee.

SHL Annual Compliance Report

The *Final Report* recommends that the Licence be amended to require that SHL produce an annual compliance report regarding environmental flow release requirements, as well as including daily releases, past flow records and the required targets for flow releases on its website.

¹²⁶ NSW Snowy Hydro Corporatisation 1997, no 99, (in effect June 2002), clause 25.

¹²⁷ Snowy Water Licence 2002, clause 10.1(1).

¹²⁸ *Adequacy of environmental releases to the Snowy River*, Snowy Scientific Committee, Oct 2008.

¹²⁹ *Adequacy of environmental releases to the Snowy River*, Snowy Scientific Committee, Oct 2008, p1.

¹³⁰ SWIOID, 2002, Annexure Two, Part One, clause 2.3.

¹³¹ *Adequacy of environmental releases to the Snowy River*, SSC, Oct 2008, Executive Summary & p.17.

The Snowy Water Licence¹³² already requires a compliance report with respect to annual, monthly and daily releases from Jindabyne Dam. The SHL website also currently only shows daily flows for a month.

Will the proposed Annual Compliance Report include details of all daily, monthly and annual flows released from Mowamba Weir and all the Snowy Montane Rivers, as well as details of the River Murray Increased Flows account and annual releases?

- Considering that the River Murray Increased Flows annual allocation results from Water for Rivers water savings and is deducted from the Murray Development Required Annual Releases, why is it not accounted as a separate item in Snowy Hydro's Murray Below Target account?

Snowy Hydro Ltd maintains in its glossy Water Operations Report for 2007/08¹³³ and 2008/09¹³⁴ that it has complied with the Licence requirements.

The Office of Water's *Final Report* has stated it considers that there are inadequacies in Snowy Hydro Ltd's reporting on licence compliance and Annual Water Operating Plans.

- In that case have previous Snowy Hydro Ltd *Water Operations Reports* in fact failed to comply with requirements of the proposed 'Annual Compliance Report'?

SHL lack of compliance with Snowy River set releases

In its assessment of Snowy Hydro Ltd's performance in meeting licence conditions the Office of Water states¹³⁵ that: "during December 2005, January 2006 and February 2006, the volumes released were below set targets. These shortfalls occurred because Mowamba River is an unregulated river and these three months were extremely dry. SHL endeavoured to achieve the required annual target flows during this time. The Office of Water was advised by SHL and 'non-compliance' was not registered as it was outside the direct control of SHL."

However Mowamba Aqueduct was re-commissioned on 31st January 2006 so how could Snowy Hydro Ltd's lack of compliance with set release volumes for February 2006 have anything at all to do with the level of Mowamba River flows?

- The Office of Water must explain why Snowy Hydro Ltd failed to comply with set release volumes to the Snowy River during February 2006.

Inconsistencies in environmental release information

In its assessment of Snowy Hydro Ltd's compliance with its licence conditions¹³⁶ the Office of Water identifies the volumes of water released via Mowamba Weir over the three years as follows: 2002/03 – 10.5GL, 2003/04 – 29.6 GL, 2004/05 –23.1GL, and a further 1.7GL in 2005/06.

¹³² Snowy Water Licence, 2002, Schedule 3, Part Four, clause 12.2.

¹³³ *Water Operations Report 2007-2008 Water Year*, Snowy Hydro Ltd. Jan 2009, p4.

¹³⁴ *Water Operations Report 2008-2009 Water Year* at www.snowyhydro.com.au

¹³⁵ *Final report – Five-year review of the Snowy Hydro Water Licence*, Office of Water, Nov 2009, p 11.

¹³⁶ *Final report – Five-year review of the Snowy Hydro Water Licence*, Office of Water, Nov 2009, Attachment B, p39, clause No 9.1.

However, this information is contradicted by information provided by the Office of Water (previously DWE) in December 2007 in its Information for public submissions to the Five –Year Review¹³⁷; and by the NSW Minister for Natural Resources Ian McDonald¹³⁸ in 2006, which details the volumes released via Mowamba Weir as follows: 2002/03 – 10.7GL, 2003/04 – 29.7GL, 2004/05 – 23.5GL, and in 2005/06 a further 1.7GL.

- The Office of Water must explain why different figures have been given for the volumes of Mowamba releases in 2002/03, 2003/04 and 2004/05.

Inadequate environmental flows information provided on Snowy Initiative website.

Since October 2009 the NSW Office of Water has provided some details of the Snowy Annual Water Operating Plan on its Snowy Initiative website. Whilst the NSW Minister for Water must be commended for honouring the commitment he gave to the Snowy Community Advisory Committee in Cooma on 22 July 2009 to make the Snowy River environmental flows information publicly available, nevertheless there are some major deficiencies in the information provided. The total Mowamba Borrowings Account debt as of 2005/06 is not indicated; no details are given of a repayment to the Borrowings Account that would appear to have been made in 2007/08; there are no details on the River Murray Increased Flows current account and annual releases; and no details of the Snowy Montane Rivers Increased Flows current account and annual releases.

Office of Water lack of transparency

The lack of transparency and accountability that has dogged the Snowy River environmental flows is not only due to inadequacies in Snowy Hydro's reporting. The Office of Water (and previously DWE) has continued to obstruct the release of accurate information on the Snowy River to the community.

For example, on 22nd July 2009 Snowy River Alliance presented questions in writing to the NSW Minister for Water in Cooma regarding Snowy River environmental flows information and the Snowy Licence Review and requested information on historical flow data in relation to Mowamba River but still have not received an answer.

On 25th August 2009 Snowy River Alliance requested information regarding the 2009/10 Snowy River environmental flows allocation and other Snowy matters but never received an answer. On the 23rd October 2009, Snowy River Alliance requested clarification from the Office of Water regarding information that was posted on the Snowy Initiative website. These queries related to procedures and accounting of the Snowy environmental flows and the Mowamba Borrowings Account. SRA has still not received a reply.

9. Pollution incident

Snowy environmental water used to remedy pollution caused by SHL and contractor

¹³⁷ *Information for public submissions, Review of Snowy hydro water licence*, DWE Dec 2007, Appendix B: Summary of Snowy Hydro environmental entitlements and releases.

¹³⁸ *Advice for water years 2002/03 – 2006/07* from NSW Minister for Natural Resources Ian McDonald to Craig Ingram, received 30 July 2006.

The *Final Report*, p. 10, states that: “An issue was raised in relation to an alleged pollution incident during the construction of the outlet works on Jindabyne Dam. Suggestions have been made that SHL should have used above target water rather than environmental water, to achieve flushing of the sediments...”

In September 2008, Snowy Hydro Ltd and contractor Fulton Hogan were both fined \$100,000 and ordered to pay \$86,000 in costs after they pleaded guilty in the NSW Land and Environment Court to causing silt pollution in the Snowy River in August 2006 during works to remove a coffer dam at Jindabyne Dam¹³⁹.

It is outrageous that the additional water required to flush the sediments was identified as an ‘over’ release’ in the 2006/07 Water Year, and deducted from the following year’s Snowy allocation¹⁴⁰.

The *Final Report* goes on to state that: “SHL releases water as outlined by the licence or as notified by the Office. In this instance, SHL released water as per the Office’s directions. Utilising ‘Above target water’ disadvantages other users, including the environment, on the western rivers. The Office, therefore directed SHL to use the environmental water allocated to Snowy River at the time.”

- The Office of Water must explain why using ‘Above Target water’ to remedy the silt spill caused by Snowy Hydro Ltd in the first place, would have disadvantaged other water users. Or was it the case that it was seen as disadvantaging SHL financially, in which case the company could claim compensation?

The fact is that the Office of Water has no power of direction over Snowy Hydro Ltd regarding ‘Above target water’ in Snowy Hydro’s storages. This is a major deficiency in the Licence and must be redressed.

10. Other issues

Dry Inflow Sequence Volume (DISV) calculation

What impact will proposed changes to DISV calculations have on Snowy River flows?

The DISV equation detailed in the Snowy Water Licence¹⁴¹ is of almost unfathomable complexity. The calculations in the equation refer to half the balance of the Mowamba Borrowings Account. In light of contradictory statements made by the Office of Water in relation to the repayment process of the Mowamba Borrowings Account (as detailed above), Snowy River Alliance requested clarification¹⁴² from the NSW Minister for Water, in July 2009, regarding the impact of the DISV on repayment of the Borrowings Account. Snowy River Alliance has still not received an answer.

¹³⁹ *Firms fined over Snowy River pollution*, ABC News Monday 29th September 2008, on-line at <http://www.abc.net.au/news/stories/2008/09/29/2376540.htm>

¹⁴⁰ *Information for public submissions, Review of the Snowy hydro water licence*, DWE Dec 2007, Appendix B Notes.

¹⁴¹ Snowy Water Licence, 2002, Schedule 4, Clause 8.

¹⁴² SRA Memo to NSW Minister for Water, presented at Snowy Community Advisory Committee meeting, Cooma, 22nd July 2009.

The *Final Report*, p.10, states: “The calculation of the Dry Inflow Sequence Volumes (DISV) as currently defined in the licence does not allow for a reduction in the DISV volume during the course of the year. This approach has proven to be sub-optimal for both SHL and parties benefiting from releases to the western rivers... a number of improvements were made to aspects of the DISV calculations.”

The question is however, whether the proposed changes will in fact be ‘sub-optimal’ for the Snowy River.

The Victorian Minister for Water Tim Holding has stated¹⁴³ that the triggering of the DISV in 2006/07 had resulted in repayment of the Mowamba Borrowings Account with any Snowy annual allocation above 38GL until the Borrow is repaid or the dry inflow conditions are no longer in place. The NSW Office of Water has not been quite so straightforward and has provided contradictory explanations of the repayment process but has not referred to the triggering of the DISV in any of its information regarding the Mowamba Borrowings Account provided to the public throughout the Licence Review process or on its Snowy Initiative website. However the NSW Minister for Water has stated¹⁴⁴ that: “The triggering of the DISV has not directly affected the repayment of the Mowamba Borrowings Account.” The Minister goes on to explain that the low volumes of allocations on water savings due to the drought has led to reduced volumes of payback to the Borrowings Account to ensure that 38GL was released to the Snowy River. Nothing whatsoever, about the drought conditions triggering altered repayment requirements.

- The Office of Water must publicly clarify its interpretation of the SWIOID regarding the repayment of the Mowamba Borrowings Account once the DISV is triggered.
- Has the Office of Water provided advice to the Victorian Government to the effect that according to Office of Water’s interpretation of the SWIOID the triggering of the DISV alters the repayment procedure of the Mowamba Borrowings Account in comparison to the repayment procedure under non-drought conditions?
- The Office of Water must explain whether the proposed changes to the DISV calculations will result in the DISV being triggered sooner in dry conditions than previously.

Conclusion

In conclusion: the first Five-Year Review of the provisions of the Snowy Water Licence relating to the first environmental releases to the Snowy River, has been seriously compromised by the Office of Water’s lack of compliance with due process of the Review, an inadequate Final Report, and marred by a lack of commitment to an open, transparent and co-operative process with both co-shareholders and the community.

¹⁴³ Victorian Minister for Water Tim Holding to Philip Davis MP Member for Eastern Victoria, 12 Feb, 2009.

¹⁴⁴ NSW Minister for Water, Phil Costa, responses to Questions on Notice from Dr Kaye at Budget Estimates 2009-10 General Purpose Standing Committee No 5. Water, Regional Development, Friday 18th September 2009.

The Office of Water has failed to respond to the scientific evidence regarding the continued deterioration of the Snowy River; has failed to deliver increased flows as legislated to the Snowy River, the Snowy Montane Rivers and the Murray River, yet has ignored legal advice recommending changes to the Snowy Water Licence that would secure those flows; has delayed addressing the issue of Mowamba until 2012; has recommended only minor changes to the Snowy Water Licence most of which do not relate to Snowy River Increased Flows as required by the terms of reference for the first Five-Year Review and some of which may in fact cause further deterioration of the Snowy and other rivers concerned.

It is of utmost urgency therefore that an innovative, flexible and co-operative approach is immediately undertaken by the three government shareholders of Snowy Hydro Ltd to deliver real improved environmental outcomes to the Snowy.

Louise Crisp

On behalf of Snowy River Alliance
And Gippsland Environment Group
29-1-10

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