



Murray Irrigation

Snowy Water Licence Review

Submission to the Department of Primary
Industries.

OCTOBER 2017

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Recommendations

The recommendations in this report are that:

- [1. Department of Crown Lands and Water \(CLAW\) investigates the potential to develop a mechanism to borrow from the RMIF account.](#)
- [2. CLAW establish clear and transparent RAR delivery requirements to improve early season certainty for water users.](#)
- [3. The Snowy Water Licence be amended to require that a summary of the AWOP and quarterly forecasts be publicly available to increase transparency.](#)
- [4. The Compliance report include a report on the River Murray Annual Allocation, River Murray Increased Flows and associated releases.](#)
- [5. CLAW investigate whether the Snowy Water Licence needs to be amended to provide a fixed template with key decision dates for “borrow” agreements, and](#)
- [6. for Snowy Hydro to give a high priority to joint development of products with Irrigation Corporations that enhance productive agriculture.](#)

Background

Background

Water from the Snowy Mountain Scheme plays a crucial role in the regulated water resources of the Murray River system and therefore, for water licence holders and water users such as Murray Irrigation.

Murray Irrigation welcomes the opportunity to provide the following comments to this review. In preparing this submission, we focus on issues relevant to the NSW Murray Valley and subsequently to the Murray Irrigation business, the food and fibre producers we service and the communities in which we operate.

Snowy Hydro manages the Snowy Scheme as a long-term storage and diversion system with two key objectives:

- a) comply with Snowy Hydro Limited's water release obligations under the Snowy Water Licence while minimising operational risk; and
- b) maximise returns from its electricity generation business within the constraints of the Snowy Water Licence obligations.

Generally speaking, the Snowy Water Licence does enable Snowy Hydro to meet these objectives, however, improvements could be made to increase the transparency of operations and improve outcomes for water users.

Snowy Hydro does not own water. The Snowy Water Licence gives Snowy Hydro the right to collect water from streams, rivers and lakes within the proscribed catchment, to divert, store and release that water and to generate electricity.

Snowy Hydro meets its first objective through the delivery of Required Annual Releases (RAR), which are defined in the Snowy Water Licence. Due to the key role the RAR plays in the Murray water resource, the timing of those releases can significantly influence allocations for NSW Murray water users.

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In order to meet the second objective, Snowy Hydro manages the RARs to maximise returns through power generation. To this end, the timing of releases is uncertain to all but the Snowy Hydro Management. Due to the complex calculations to determine the actual RAR each month, the Department of Crown Lands and Water (CLAW) does not assume RAR releases when making Available Water Determinations (AWDs). The licence should be amended to require release targets linked to downstream storage volumes to be met earlier in the season to improve productive outcomes.

Snowy Hydro is also obliged, under the Licence, to make Increased Flows to the Snowy River and the River Murray. While the licence is clear about how Snowy River releases are to be made, the River Murray Increased Flows are stored on a “call out” basis and can accrue over time until required. There is precedence in NSW to establish a mechanism for CLAW to “borrow” environmental water to supplement general security allocations in dry years. The Snowy Water Licence Review provides the opportunity to consider implementing such a facility to improve productive outcomes without compromising the environmental objectives of this held water.

About Murray Irrigation Limited

Murray Irrigation Limited is an unlisted not-for-profit public company that provides irrigation water and associated services to almost 2,400 landholdings through approximately 3,000km of gravity-fed earthen supply channels over an area of 748,000ha in the NSW southern Riverina. Murray Irrigation’s source of water is the regulated River Murray above Barmah Choke and the company’s water supply is almost exclusively NSW Murray General Security Water. The company acts as custodian of a critical national asset: the 62 year old Mulwala Canal and its biggest customer is the environment.

The company’s shareholders are farmers, with food and livestock being the focus of regional production for both domestic and international markets.

Murray Irrigation is a member of both the National and the New South Wales Irrigators’ Council.

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Murray Irrigation welcomes the opportunity to provide the following comments on the Snowy Water Licence Review.

Introduction

The Snowy Scheme is a long-term storage and diversion system with two key objectives that can be summarised as:

1. The diversion of water inland for irrigation to drought proof the Riverina, and
2. Power generation.

Crucially for irrigators, no costs associated with the Snowy Scheme are passed onto water users as the Scheme is entirely self-funded through power generation.

Snowy Hydro operates its accounts as Below Target Water (BTW) and Above Target Water in the Snowy-Murray and Snowy-Tumut developments. The BTW is the amount needed to operate the system effectively and meet the Required Annual Release (RAR) obligations for both the Murray and the Murrumbidgee.

ATW is volume that has accrued in excess of BTW at any given time and can be used at the discretion of Snowy Hydro. It is important to note, however, that once water accrues in ATW accounts, it cannot be transferred to BTW accounts, even when BTW falls below monthly targets. If Snowy Hydro release ATW, it is regulated into the water resources of the relevant valley.

Under the obligations of the Snowy Water Inquiry Outcomes Implementation Deed (SWIOID), a Water Consultation Liaison Committee (WCLC) has been established and comprises a nominee from each of the shareholder jurisdictions (NSW, Victoria and Commonwealth), the Murray-Darling Basin Authority, Snowy Hydro and the Ministerial Corporation (CLAW).

This review of the Snowy Water Licence is a mandatory review and must address the following terms of reference:

1. 'Increased flow requirements' – also known as environmental releases – including Snowy River increased flows and Snowy Montane Rivers increased flows.
2. 'Water release requirements' – predominantly western river releases – including accounting and data provision rules.
3. Administrative obligations – including obligations relating to compliance reporting, the Licensee's rights in relation to water, the development of Annual Water Operating Plans and other administrative requirements.

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The main licence clauses relevant to the Review as it relates to Murray Irrigation are:

- Clause 4: Obligations relating to compliance reporting;
- Clause 7: The Licensee's rights in relation to water, and their obligations in relation to releasing water collected and stored
 - Schedule 3: Increased flow requirements (environmental accounts and releases)
 - Schedule 4: Water release requirements;
- Clause 8: The preparation of Annual Water Operating Plans (AWOPs).

1.1 Increased flow requirements

Increased flows relate to volumes required to effect environmental flows to the Snowy River Allocation and the River Murray annual allocation in accordance with the provisions in the SWIOID.

Each environmental account is credited with an annual allocation which is the seasonal allocation of water to the relevant annual allocation accounts in line with the entitlements held by those accounts.

The Annual Allocation account is credited with a volume transferred from the Snowy-Murray and Snowy-Tumut development Below Target Water (BTW) volumes into the Annual Allocation account held in Above Target Water (ATW).

The Required Annual Release in both the Murrumbidgee and Murray systems is reduced by the volume transferred to the ATW for the Annual Allocation accounts.

The Snowy River Increased Flows release provisions are prescribed in detail in the Snowy Water Licence in a similar way to the treatment of Planned Environmental Water in NSW Water Sharing Plans.

On the other hand, the River Murray Increased Flows (RMIF) provisions are far less prescriptive. The volume in this account accrues in ATW storage until called upon by the Ministerial Corporation. If the RMIF account is in credit and total ATW storage exceeds 800GL, a volume up to the account holdings may be called at any time with required notice. The RMIF account is credited with the equivalent of 70GL long-term average each water year.

Murray Irrigation understands that the RMIF has rarely been called out since it was established. The RMIF has been proposed as a supply measure under the Basin Plan's SDL adjustment mechanism.

The RMIF account is unique as far as environmental accounts go. Unlike Planned Environmental Water, the rules regarding its release are flexible due to the "call out"

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provisions, making its management more akin to the held environmental water that forms the Commonwealth Environmental Water Portfolio. Unlike the CEWO holdings, however, the RMIF account is a rules-based environmental account and can accrue over time.

This unique characteristic means that there is scope to investigate developing rules to enable the “borrowing” of volume held in the account to supplement General Security entitlements in times of low water availability to be repaid when conditions improve through reduction in RAR obligations to “pay back” the equivalent volume. There is precedent in NSW water management regulations.

Water Sharing Plan for the New South Wales Murray and Lower Darling Regulated Rivers Water Sources 2016

Clause 27

(3) Water must be taken from the Barmah-Millewa Allowance and made available to the access licences in the Murray Water Source whenever the sum of available water determinations for regulated river (general security) access licences in the Murray Water Source during the water year is less than the total volume required to achieve a target water availability:

(a) equal to 0.3 ML multiplied by the total number of unit shares specified in share components of all regulated river (general security) access licences in the Murray Water Source, or

(b) equal to 0.5 ML multiplied by the total number of unit shares specified in share components of all regulated river (general security) access licences in the Murray Water Source if there are exceptional circumstances.

...

(5) The volume of water taken from the Barmah-Millewa Allowance under subclause (3) must be the lesser of:

(a) the volume necessary to permit further available water determinations to access licence accounts in the Murray Water Source such that the target water availability determined in subclause (3) is achieved, or

(b) the volume in the Barmah-Millewa Allowance.

(6) If water has been withdrawn from the Barmah-Millewa Allowance in the current water year or any previous water year, water must be credited to the Barmah-Millewa Allowance whenever the sum of available water determinations for regulated river (general security) access licences during the water year reach the target water availability specified in subclause (3), up to the volume of water taken from it under subclause (3) in that water year or any previous water year.

Recommendation

Murray Irrigation recommends CLAW investigate the potential to develop a mechanism to borrow from the RMIF account – like the provisions for the Barmah-Millewa Environmental Water Allocation Account in the NSW Murray and Lower Darling Water Sharing Plan.

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1.2 Water release requirements

- The Snowy Hydro water year runs from 1 May to 30 April.
- The irrigation water year runs from 1 July to 30 June.

Schedule 4 of the Snowy Water Licence explains the inflows into the Development and the formulas for calculating the relaxation volume and/or the dry inflow sequence volume (DISV) during each water year. Both are calculated monthly and can vary the RAR dependent on conditions.

The RAR for the Snowy Murray Development is notionally 1,062GL per year.

In each year the actual RAR volume varies from the notional volume due to the complex formula and monthly adjustments for relaxation volumes or DISV. For example, the volume of water savings for environmental releases is deducted from the notional RAR. The formula for the calculation is contained in the Water Licence and takes into account all relevant sections of schedules three and four.

Snowy Hydro also has capacity to release up to 200GL more than the RAR as a pre-release of the following water year's RAR or to reduce the RAR with agreement of the CLAW to provide flexibility in the management of the system.

The Snowy Water Licence gives Snowy Hydro absolute control as to the timing and final volume (within flex and pre-release limits) of RAR released during the water year. Snowy Hydro must prepare an Annual Water Operating Plan each year which is to detail "maximum probable" water releases and details on a quarterly basis of the "likely" range of forecast water releases.

The RAR represents a significant part of the water resource assessment for the NSW Murray which is based on minimum inflows plus the RAR. The RAR can contribute up to 18 percent of the NSW Murray's water requirements for the year.

Due to the nature of the RAR and the flexibility arrangements, the CLAW do not assume the RAR will be delivered when calculating AWDs, rather the RAR volumes are only incorporated once the release has been made.

A further factor to be considered is the fact that CLAW, in practice, does not increase AWDs after mid-April in an irrigation water year. If there are further inflows above calculations after mid-April, the volume is held-over for allocation in the next water year.

For water users, the timing of allocation can be just as important as the total volume of the allocation. For example, a broad acre irrigator needs to decide by October whether to plant a summer crop, however, the way AWDs are calculated in NSW means that in the NSW Murray the average allocation at the start of October is 30 percent compared to over 50 percent in January, by which time cropping decisions have been made.

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Recommendation

CLAW establish clear and transparent RAR requirements to improve early season certainty for water users.

CLAW should establish a release regime linked to downstream storage volumes to require Snowy Hydro to make minimum RARs within the first six months of the Snowy water year (May-October). This should be clearly outlined in the Annual Water Operating Plan and quarterly forecasts.

A change in the timing of water availability can have significant beneficial outcomes for productive water users, while not changing overall volumes of water available.

1.3 Administrative obligations

1.3.1 Annual Water Operating Plan

Snowy Hydro is required to draft Annual Water Operating Plans (AWOPs) for each water year. The Corporation must first submit a draft to the WCLC, no later than 27 February each year. The final draft AWOP, incorporating feedback from WCLC is to be provided to CLAW no later than 3 April each year for approval or amendment.

The AWOP must detail the maximum probable annual water release from each development and the likely range of forecast water releases on a quarterly basis having regard to RAR, inflows and power system operations. Snowy Hydro may amend the AWOP by giving notice to the WCLC and seeking the approval of CLAW.

Aside from the quarterly forecasts (which are estimates only) there is no requirement in the water licence that compels Snowy Hydro to meet any specific pattern of releases in any given water year.

The AWOP is not publicly available.

Recommendation

The Snowy Water Licence be amended to require that a summary of the AWOP and quarterly forecasts be publicly available to increase transparency and provide water users with more information regarding water availability and forecast release timing.

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1.3.2 Compliance Reporting

The licence requires Snowy Hydro to produce “as soon as practicable after the end of each water year” a compliance report that outlines the Corporation’s compliance with the Snowy River Increased Flow release requirements and compliance against the RAR. These compliance reports are available on the Snowy Hydro website.

Recommendation

The Compliance report include a report on the River Murray Annual Allocation, River Murray Increased Flows and associated releases.

1.4 Other relevant matters

1.4.1 Capacity to advance

In the early 2000s NSW irrigation corporations, water authorities and industry groups worked with Snowy Hydro to develop a mechanism to “borrow” volume effectively providing irrigators to access to future Snowy flows to be repaid in future years when water availability conditions improved. This “borrow” mechanism has the capacity to provide irrigators with a degree of certainty of water delivery to farm planning during dry seasons that would not otherwise be available.

In 2016 Murray Irrigation entered into a revised “borrow” arrangement establishing an option and exercise format for access to up to 200GL of Snowy-Murray Above Target Water. Any exercised volume was repaid incrementally once NSW Murray General Security allocations exceeded 40 percent.

The “borrow” arrangement was enabled under the NSW Water Management Act, Chapter 3, Section 85(3) which allows for the Minister to make arrangements for a volume of water to be credited to an access licence as a result of the early release of water by Snowy Hydro Limited. The proposal was also taken to the WCLC and the volume was included in the AWOP for the 2016/17 Snowy water year.

1.4.2 Capacity to carryover

Murray Irrigation has also approached Snowy Hydro Limited in entering into arrangements with on behalf interested irrigators to park carryover water. This water entitlement would be held “temporarily” in the Snowy system at the end of the water year. It then able to be retrieved in the new water year so as to minimise loss of productive water in the year that it is required.

This product would allow carryover to be better utilised by farmers and not lost into the next year’s allocation.

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1.4.3 Benefits

These “borrow” and “carryover” agreements provide benefits to both Snowy Hydro and productive water users in the western irrigation districts. Snowy Hydro realises a financial return on the borrow agreement through both the option and exercise fees while productive water users can lock in a secure volume of water for the following water year to underpin their planning.

Murray Irrigation would also encourage a change to the Licence to encourage Snowy Hydro to:

(a) clearly articulate in the Licence that one of the two key objectives underpinning the Snowy Hydro Scheme was the diversion of water inland for irrigation to drought proof the Riverina; and

(b) give a high priority to joint development of products with Irrigation Corporations like the borrow and carryover agreements that better serve the Scheme’s objective of diverting water inland for irrigation to enhance productive agriculture.

Recommendation

CLAW investigate whether the Snowy Water Licence needs to be amended to:

(a) provide a fixed template with key decision dates for “borrow” agreements negating the need to negotiate the rules each time there is an interest in rolling out a “borrow” product; and

(b) for Snowy Hydro to give a high priority to joint development of products such as carryover with Irrigation Corporations that enhance productive agriculture.

1.4.4 Snowy 2.0

Murray Irrigation acknowledges that the Snowy 2.0 project does not form part of the current licence review; however, there associated factors that should be mentioned in the context of this review and the recommendations we have made.

Snowy Hydro is currently conducting a feasibility study into expanded pumped hydro storage capability within the Scheme (Snowy 2.0). Snowy Hydro states this project is not expected to have any impact on the Snowy Water Licence arrangements or on irrigators and downstream water users.

The key issue will be how expanded pumped hydro capacity will impact on the release patterns of Snowy Hydro and whether that will have an effect on the timing of RARs and therefore NSW AWDs.

CLAW must ensure there is no negative impact on water availability if Snowy 2.0 makes it more attractive for Snowy Hydro to hold and recycle volume through the pumped hydro. This

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risk can be mitigated by adopting the above recommendation to implement target RAR release requirements.

Conclusion

Snowy Hydro is of the view that the licence is operating as intended. Murray Irrigation largely agrees; however, it is our view that the licence can be amended to improve outcomes for productive water users without undermining the integrity of the Snowy Hydro Scheme and its ability to meet the two key objectives of water availability for irrigation and power generation.

The RAR requirements ensure that Snowy Hydro can neither hold water back nor release water indiscriminately to prioritise power generation. However, the discretion with which Snowy Hydro can determine the timing of the RAR is viewed by some as giving the Corporation too much control.

The key issue for Murray Irrigation is the timing of the accounting of the RAR for the purposes of allocations.

Further, the proposal to enable CLAW to “borrow” from the RMIF at times of low allocations or use other products such as carryover would provide more certainty to general security licence holders in the NSW Murray.

Michael Renehan
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