

Supporting information – Snowy Water Licence Review 2017

Snowy Mountains Hydro-electric Scheme

The Snowy Mountains Hydro-electric Scheme is one of the most complex integrated water and hydro-electric power schemes in the world. The Scheme collects and stores the water that would normally flow east to the coast and diverts it through trans-mountain tunnels and power stations. The water is then released into the Murray and Murrumbidgee rivers for irrigation.

The Scheme is operated and maintained by Snowy Hydro Limited (SHL). SHL is jointly owned by the New South Wales, Victoria and Australian governments. Further information on the functions and objectives of SHL, and the Snowy Mountains Hydro-electric Scheme in general, is available at <http://www.snowyhydro.com.au>.

Snowy Water Inquiry

The Snowy Water Inquiry was commissioned in 1998 with the task of investigating the “environmental issues arising from the pattern of water flows in rivers and streams... caused by the operation of the Snowy Mountains Hydro-electric Scheme and report on options for dealing with the issues and the environmental, economic, agricultural and other impacts of those options”. The Inquiry, in its Final Report, identified a series of flow options which were believed to best meet the objectives of the Inquiry.

The Snowy Water Inquiry Outcomes Implementation Deed (SWIOID) is the legally binding intergovernmental agreement between NSW, Victoria and the Commonwealth that provides a framework for the implementation of the outcomes arising from the Snowy Water Inquiry. A copy of the SWIOID is available at:

http://www.water.nsw.gov.au/__data/assets/pdf_file/0008/547136/utilities_snowy_lic_snowy_implementation_deed.pdf

SHL’s environmental flow obligations, which resulted from the Snowy Water Inquiry and the SWIOID, are outlined in the Snowy Water Licence (the Licence), which is managed by DPI Water acting as the Water Administration Ministerial Corporation. DPI Water cannot vary the terms of the Licence to cause the Licence to not give effect to the Snowy Water Inquiry Outcomes Implementation Deed.

Snowy Water Licence

The Snowy Water Licence was issued to SHL under the *Snowy Hydro Corporatisation Act 1997* (The Act) in 2002 for a period of 75 years. The Snowy Water Licence is the primary legal document defining how SHL is to account for and release water.

Section 25 of the Act provides for mandatory, regular reviews of the Act. The first review of the Licence was undertaken between 2007 and 2009, after which amendments were made to the License. Additional amendments were made in 2011 as a result of a public consultation process.

The next review of the licence is now due, and submissions from the public are sought. This review focusses on SHL’s obligations under the licence, including obligations relating to environmental water releases, releases to the western rivers, and administrative obligations.

Summary of Increased Flow requirements (environmental releases)

Existing Obligations

Schedule 3 of the Licence places certain obligations on SHL regarding environmental flows. These are summarised following:

- **Snowy River Increased Flows:** From the third anniversary of the Corporatisation Date (28 June 2002), SHL is required to target releases from Jindabyne Dam, the timing and volume of which is

notified to SHL by the Ministerial Corporation. These releases are in addition to the Base Passing Flows and must be taken from the near surface horizon of the reservoir.

- **Mowamba Borrowings Account:** Until the third anniversary of the Corporatisation Date, SHL must operate the Mowamba Weir and Cobbon Creek Aqueduct so as to allow a volume up to 38 gigalitres (GL) each Water Year to pass the Mowamba River and Cobbon Creek aqueducts into the Snowy River. This amount was borrowed from future years' Required Annual Releases and was fully repaid by 2010/11. References to the Mowamba Borrowings Account in Schedule 3 of the Licence are therefore now redundant and could be removed.
- **Snowy Montane Rivers Increased Flows:** SHL must operate nominated aqueducts and Tantangara Dam so as to allow additional water to flow past those structures, the volume of which is notified to SHL by the Ministerial Corporation. In the case of Tantangara Dam, these releases are in addition to the Base Passing Flow.

Summary of Western River releases requirements

Obligations under the licence

Schedule 4 of the Licence places certain obligations on SHL regarding making release to the rivers that flow west from the Snowy Mountains, specifically:

- The catchment of the River Murray upstream of Hume Dam (from the Snowy-Murray Development), and
- The catchments of the Tumut river (from the Snowy-Tumut Development).

Schedule 4 contains a series of rules intending to maximise benefits for both electricity generation and downstream water interests under a variety of different circumstances, while protecting stored water in the Snowy Scheme. It defines how releases are accounted on an annual basis, with particular reference to very wet or very dry climatic conditions, transfers between valleys, or accounting between years or within a single year. The Licence describes these using specific key terms, as follows:

- **Required Annual Release (RAR):** The minimum volume SHL is required to release in one year (May to April) to either Blowering Dam (Snowy-Tumut Development) or Hume Dam (Snowy-Murray Development).
- **Dry Inflow Sequence Volume (DISV):** A measure of the shortfall in inflows against the 'design drought' of 1936 to 1946. An increase in DISV reduces the RAR and protects the remaining water in Snowy storages against failure during even more severe droughts (such as the Millennium drought).
- **Snowy-Murray Development:** The area of the Scheme (mostly to the south) where inflows are accounted for eventual release through the Murray 1 power station to the Murray River via Hume Dam.
- **Snowy-Tumut Development:** the area of the Scheme (mostly to the north) where inflows are accounted for eventual release through the Tumut 3 power station to the Murrumbidgee River via Blowering Dam.
- **Below Target Water (BTW):** Water in each Development of the Snowy Scheme which is intended specifically to meet RAR. Inflows received when the storage is below the monthly target storage are accounted as BTW.
- **Above Target Water (ATW):** Water in each Development of the Snowy Scheme which is either available for a particular purpose (e.g. RMIF), or can be released at SHL's discretion. Inflows received when the storage is above the monthly target storage are accounted as ATW. ATW can also accumulate through other means, including Relaxation.
- **Relaxation:** Intended to allow RAR to be reduced if all downstream water needs are met. The unreleased water in the Snowy Scheme, up to the calculated Relaxation volume, is rebadged as ATW.
- **RAR Pre-Release / Flex:** Introduced as a Licence amendment in 2011, this provision allows SHL to release additional BTW above RAR, without having to release ATW. The Flex volume is like an early release of the next year's RAR.

- **River Murray Increased Flows (RMIF):** Environmental water allowance established under the Snowy Water Initiative to improve river health in the upper Murray system. It is credited each year, along with Snowy River water savings, in proportion to allocations of recovered or purchased water entitlements in the western rivers, up to a maximum of 70 GL per annum.
- **Call out releases:** Under certain conditions, additional volumes of ATW above the RAR can be “called” upon by NSW DPI Water by a certain date each year, which SHL is obliged to release before the completion of that water year. These include additional releases following Relaxation in the previous year, access to drought accounts in each development, and the release of RMIF.
- **Within Year Release Requirements (WYRR):** Additional release of ATW to compensate for unusable water that spilled from Hume or Blowering dams when RAR was released early in that water year (prior to 30 November).
- **Wet Sequence Protection:** Introduced as a Licence amendment in 2011, additional release of ATW to compensate for unusable water that spilled from Hume or Blowering dams, up to the volume of the RAR Pre-Release.
- **Drought Accounts:** Introduced as a Licence amendment in 2011, reserves of ATW can be called out if inflows reach critically low levels. Accounts in each Development are credited with water when a recovery occurs following a period when a DISV is triggered.

Key administrative requirements

Obligations under the licence

There are a range of administrative matters articulated in the Licence. These include:

- **Clause 4:** Obligations relating to compliance reporting;
- **Clause 6:** The requirement to build and/or modify certain works; specifically the outlet at Tantangara Dam and Montane Riverwork;
- **Clause 7:** The Licensee’s rights in relation to water, and their obligations in relation to releasing water collected and stored;
- **Clause 8:** The preparation of Annual Water Operating Plans (AWOPs); and
- **Clause 9:** Fees and charges.

Note: The works referred to in Clause 6 of the Licence are now complete. References to these works in the Licence are therefore now redundant and could be removed.

“Snowy 2.0”

On 16 March 2017 the Prime Minister announced plans for a feasibility study into increasing the electricity generation produced by the Snowy Scheme through expanded the pumped hydro storage capability within the Scheme. The feasibility study is expected to be completed by December 2017.

Snowy 2.0 is not expected to have any impact on the Snowy Water Licence arrangements, nor on irrigators and downstream water users. Given this, issues relating to the proposed expansion of the Snowy Scheme are not relevant for the purposes of the Snowy Water Licence Review.

Further information on Snowy 2.0 is available at <http://www.snowyhydro.com.au/our-scheme/snowy20/> .