Operations Manual

Stanley River Water Supply Scheme

Document number: MAN-00379

Version Date: November 2020

SOURCE STORE SUPPLY

Contents

1 Preliminary

1.1 Short title

1. This operations manual may be cited as Stanley River Water Supply Scheme Operations Manual.
2. Reference in this document to 'this manual' means the Stanley River Water Supply Scheme Operations Manual.

1.2 Interpretation of words used in this manual

The dictionary in attachment 1 defines particular words used in this manual.

1.3 Water supply scheme

The extent of the Stanley River Water Supply Scheme is defined in the Water Plan (Moreton) 2007.

2 Operating rules

2.1 Operating levels for infrastructure

1. The minimum operating levels for the infrastructure in the Stanley River Water Supply Scheme are specified in Table 1 (the Infrastructure).
2. The licence holder may release water from the Infrastructure if the water level in the Infrastructure is above its minimum operating level and the release falls within (a) or (b) below.
   a. The release is necessary to:
      i. ensure daily flows mentioned in attachment 2, section 3 of the resource operations licence for the Stanley River Water Supply Scheme; or
      ii. address water quality or other environmental needs; or
      iii. supply downstream demand; or
      iv. comply with a temporary full supply level declared under section 390 of the *Water Supply (Safety and Reliability) Act 2008.*
   b. The release is an operational release made to:
      i. aim to balance the volume of water storage across both Somerset and Wivenhoe dams while minimising the volume that is lost to the system; and/or
      ii. generate electricity.

Table 1 - Operating levels of storage infrastructure

Infrastructure	Minimum operating level (m AHD)
Somerset Dam	EL 71.5

3 Water sharing rules

3.1 Calculating and setting announced allocations

The licence holder must:

1. calculate the announced allocation for each priority group using the water sharing rules for the scheme to take effect on the first day of the water year;
2. after the commencement of a water year:
   a. recalculate the announced allocation at the beginning of each calendar month;
   b. reset the announced allocation no later than 5 Business Days after the first day of the month only if the recalculation indicates that the announced allocation would:
      i. increase by 5 or more percentage points; or
      ii. increase to 100 percent.
3. publish details of the announced allocation, including parameters for determining the announced allocation, on the licence holder's website within 5 Business Days of setting an announced allocation;
4. not reduce the announced allocation during a water year;
5. round the announced allocation to the nearest whole percentage point;
6. not set an announced allocation that is less than zero or greater than 100 percent.

3.2 Announced allocation for high priority water allocations

1. The licence holder must determine the announced allocation for 'High Priority A' allocations using the formula and methodology as follows:
   a. 100 per cent when the combined percentage of useable volume in storage of Wivenhoe and Somerset dams is greater than or equal to 25 per cent; or
   b. when the combined percentage of useable volume in storage of Wivenhoe and Somerset dams is less than 25 per cent, the announced allocation percentage for 'High Priority A' water allocations must be calculated using the following formula:

$$AA_{HP} = \left\{\frac{UV - (AA_{MP} \times MPA) + DIV_{HPA} + DIV_{MP}}{HPAA}\right\} \times 100$$

2. The parameters used in the announced allocation formula for 'High Priority A' allocations are defined in Tables 2 and 3.
3. For section 3.2(1), the combined percentage of useable volume in storage of Wivenhoe and Somerset dams must be calculated using the following formula:

$$CPUVS = \left\{\frac{UV_{WIVENHOE} + UV_{SOMERSET}}{CUFSV}\right\} \times 100$$

4. The parameters used in the formula for combined percentage of useable volume in storage (CPUVS) are defined in Tables 2 and 3.

Table 2 – Announced allocation parameters

Term	Details
UV (ML)	UV (storage) = CV – MOV – SL Usable volume in a storage is the volume in a storage that is available for supplying demand after projected losses and inaccessible volume is accounted for. CV = current volume in a storage. SL = storage loss. The net projected storage loss from for the remainder of the water year. Includes evaporation and seepage, minus direct rainfall onto the storage. Calculated by multiplying the storage loss value for the current month (Table 3) by the surface area of the storage. MOV = minimum operating volume. The volume of water in a storage that cannot be accessed to meet demand under normal operating conditions.
$CPUVS$ (%)	Combined percentage of useable volume in storage of Wivenhoe and Somerset dams.
$CUFSV$ (ML)	Combined useable full supply volume—determined by summing the useable full supply volumes of Wivenhoe Dam and Somerset Dam. The useable full supply volume of each storage is determined by subtracting the minimum operating volume from the full supply volume of the storage. CUFSV = sum (UFSV storage) UFSV storage = (FSV – MOV) where: UFSV = useable full supply volume of the storage. FSV = full supply volume of the storage. MOV = minimum operating volume of each storage.
$HPAA$ (ML)	High Priority A allocation group —the total nominal volume of 'High Priority A' water allocations in the Central Brisbane River Water Supply Scheme.
MPA (ML)	Medium priority allocation group —the total nominal volume of 'Medium Priority' water allocations in the Central Brisbane River Water Supply Scheme.
DIV_{HP} (ML)	Diversion high priority is the volume (in megalitres) of water taken under high priority water allocations since the start of the current water year up to the time of assessment of the announced allocation. At the start of the water year $DIV_{HP} = 0$
DIV_{MP} (ML)	Diversion medium priority is the volume (in megalitres) of water taken under high priority water allocations since the start of the current water year up to the time of assessment of the announced allocation. At the start of the water year $DIV_{MP} = 0$

Table 3 - Total storage loss depths for the remainder of the water year (mm)

Month in which announced allocation was calculated	Loss depth (mm)	
	Somerset Dam	Wivenhoe Dam
July	1,747	1,679
August	1,653	1,595
September	1,539	1,489
October	1,399	1,351
November	1,229	1,187
December	1,042	1,008
January	839	808
February	642	617
March	475	448
April	317	291
May	189	168
June	87	78

3.3 Taking water under a water allocation

1. The total volume of water taken under a water allocation in a water year must not exceed the nominal volume for the water allocation.
2. The total volume of water that may be taken under a water allocation in a water year must not exceed the nominal volume of the water allocation multiplied by the announced allocation percentage.

4 Seasonal water assignment rules

4.1 Seasonal water assignments

1. The licence holder mayapprove a seasonal assignment of a volume of water only if the total water use in a water year for each zone does not exceed the maximum allowable water use volumes in Table 4 for each zone (all priority groups combined).
2. Water supplied under a seasonal water assignment may be used for any purpose.
3. In this section:

   total water use, for a zone, means the total volume of water taken under all water allocations managed under the licence within the zone.

Table 4 – Maximum allowable water use volumes

Zone	Maximum allowable water use volume (ML)
Somerset Zone	5,000

Attachment 1 - Dictionary

Term	Definition
AHD	Australian Height Datum, which references a level or height to a standard base level.
Announced allocation	For a water allocation managed under a resource operations licence, means a number, expressed as a percentage, which is used to determine the maximum volume of water that may be taken in a water year under the authority of a water allocation.
Business Day	Means a day that is not: (a) a Saturday or Sunday; or (b) a public holiday or special holiday in Brisbane, Queensland.
EL	Elevation level.
Full supply volume	The specified maximum volume of water within the ponded area of a dam, weir or barrage, which corresponds to the full supply level.
Infrastructure	A dam, weir or other water storage and any associated works for taking or interfering with water in a watercourse, lake or spring.
Inlet	Infrastructure comprised of an entrance channel, intake structure, and gate or valve which allow for water to be taken from the ponded area of a dam, weir or barrage and discharged via an outlet into the watercourse downstream of the storage.
Megalitre (ML)	One million litres.
Minimum operating level	For a dam or weir, is the volume of water within the ponded area of a dam, weir or barrage below which water cannot be released or taken from the infrastructure under normal operating conditions.
Minimum operating volume	The specified minimum volume of water within the ponded area of a dam weir or barrage below which water cannot be released or taken from the infrastructure under normal operating conditions.
Outlet	Means an arrangement on a dam or weir that allows stored water to be released downstream.
Ponded area	Area of inundation at full supply level of a dam, weir or barrage.
Release	Water from a dam or weir that passes downstream from the dam or weir either through the dam or weir outlet works or over the dam spillway.
Release rate	Rate of release of water from a storage facility, for example, a dam or weir.
Water use	Refers to actual take of water.
Water year	For the Stanley River Water Supply Scheme, the water year is 1 July to 30 June.