

Cressbrook Creek Water Supply Scheme Operations Manual

Water Plan (Moreton) 2007

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Chapter 1 Preliminary

1 **Short title**

- (1) This operations manual may be cited as the Cressbrook Creek Water Supply Scheme Operations Manual.
- (2) Reference in this document to ‘this manual’ means the Cressbrook Creek Water Supply Scheme Operations Manual.

2 **Interpretation of words used in this manual**

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

3 **Water supply scheme**

The extent of the Cressbrook Creek Water Supply Scheme is defined in schedule 4 of the Water Plan (Moreton) 2007.

Chapter 2 Operating rules

4 Operating levels for infrastructure

- (1) The minimum operating levels for the infrastructure in the Cressbrook Creek Water Supply Scheme are specified in table 1.
- (2) The licence holder may release water from any infrastructure as necessary to—
 - (a) meet the requirements mentioned in sections 6 and 7 of this manual; or
 - (b) supply downstream demand.

Table 1 – Operating levels of infrastructure

Infrastructure	Minimum operating level (m AHD)
Perseverance Dam	RL 423.0
Cressbrook Dam	EL 246.0

5 Establishment and operation of introduced water account

- (1) The licence holder must—
 - (a) establish an introduced water account; and
 - (b) calculate the volume of introduced water held in the introduced water account—
 - (i) on each business day; and
 - (ii) using the following formula—

$$IW_{NewBal} = IW_{PrevBal} + IWI - IWE - IWL$$

- (2) The parameters used in the formula under subsection (1) are defined in table 2;
- (3) All introduced water discharged into Cressbrook Dam must be credited to the introduced water account, established in subsection (1);
- (4) All water taken from Cressbrook Dam must be debited from the introduced water account established in subsection (1) until the volume in the introduced water account is zero megalitres, after which further take of water will occur under section 9;
- (5) The minimum volume of water that may be held in the introduced water account is zero megalitres;
- (6) The volume of water in the introduced water account may be greater than 5000 megalitres at any time except when Cressbrook Dam is at full supply level;
- (7) When Cressbrook Dam is at full supply level the maximum volume of water that may be held in the introduced water account is 5000 megalitres.
- (8) Water managed under the introduced water account must be subject to the accounting process in subsection (1).

Table 2 – Introduced water parameters

Term	Details
IW_{NewBal}	The new introduced water account balance following the current calculation process.
$IW_{PrevBal}$	The introduced water account balance following the previous calculation process.

Term	Details
IWI	The amount of introduced water input since the previous calculation.
IWE	The amount of introduced water extracted since the previous calculation.
IWL	<p>The amount of loss attributed to the volume of introduced water in storage:</p> $IWL = IW_{PrevBal} / CVC_{PrevVol} \times SLC_{Prev}$ <p>Where—</p> <p>$CVC_{PrevVol}$ = Cressbrook Dam volume as recorded at the time of the previous calculation.</p> <p>SLC_{Prev} = storage loss for Cressbrook Dam attributed since the previous calculation. The storage loss volume must be calculated as part of the inflow derivation technique approved by the chief executive under attachment 3, section 1(2) of the resource operations licence for the Cressbrook Creek Water Supply Scheme.</p>

6 Releases from Cressbrook Dam

- (1) When the Wivenhoe Pipeline is not in use, the licence holder must make releases from Cressbrook Dam when—
 - (a) the following criteria are satisfied—
 - (i) the combined percentage of volume in storage in Cressbrook and Perseverance dams is greater than 35 per cent;
 - (ii) Cressbrook Dam is not spilling;
 - (iii) the water level in Cressbrook Creek Weir¹ on Cressbrook Creek is less than EL 98.75m AHD;
 - (iv) the water level in Lower Cressbrook Creek Weir² on Cressbrook Creek is less than EL 77.47m AHD; and
 - (v) the flow in Cressbrook Creek at Rosentretters gauging station is less than 5 ML per day; or
 - (b) the chief executive notifies that a release is required.
- (2) When a release is triggered to occur under subsection (1)(a), the release must—
 - (a) commence within 3 business days;
 - (b) be at a rate sufficient to maintain the water level in Cressbrook Creek Weir at greater than E.L 98.25 m AHD;
 - (c) be at a rate sufficient to maintain the water level in Lower Cressbrook Creek Weir at greater than EL 77.22 m AHD; and
 - (d) cease if both the Cressbrook Creek Weir and the Lower Cressbrook Weir are at full supply level.
- (3) When a release is triggered to occur under subsection (1)(b), the release must—
 - (a) commence within 3 business days of notification being made by the chief executive;
 - (b) be made at a rate which will not result in a flow of greater than 3 ML per day in Cressbrook Creek at AMTD 26.0 km; and
 - (c) cease when notified by the chief executive that a release under subsection (1)(b) is no longer required.

¹ The full supply level for Cressbrook Creek Weir is R.L. 99.25 m AHD

² The full supply level for Lower Cressbrook Creek Weir is R.L. 77.97 m AHD.

- (4) When a release is triggered under subsection (1), the licence holder must within the water year release the annual release volume corresponding to the combined percentage of volume in storage specified in table 3.
- (5) The licence holder must change the annual release volume determined in subsection (4) only if the combined percentage of volume in storage changes to a different percentage range within the water year.
- (6) When subsection (5) applies, the volume of water to be released must be determined in consideration of the volume of water already released during the water year.
- (7) The licence holder must cease making a release when the annual release volume determined under subsections (4), (5) or (6) has been released.
- (8) The licence holder must, within 5 business days of setting or changing a release volume under subsections (4), (5) or (6), make public the details of the release volume on the licence holder's internet site.
- (9) The combined percentage of volume in storage for Cressbrook and Perseverance dams must be calculated using the following formula—

$$CPVS = \left\{ \frac{CV_{Cressbrook} + CV_{Perseverance} - IW_{NewBal}}{CFSV} \right\} \times 100$$

- (10) The parameters used in the formula for combined percentage of volume in storage are defined in table 4.

Table 3 – Annual release volumes

Combined percentage of volume of water in storage for Cressbrook and Perseverance dams (%)	Combined volume of water in storage in Cressbrook and Perseverance dams (ML)	Annual release volume (ML/a)
0 to 34.9	0 – 39 193	0
35 to 49.9	39 194 – 55 990	2 500
50 to 79.9	55 991 – 89 585	3 000
80 to 100	>89 586	3 500

Table 4 – Combined percentage of volume in storage parameters

Term	Details
CPVS	Combined percentage of volume in storage in Cressbrook and Perseverance dams minus the $IW_{NewBalance}$.
CV	CV is the current volume of the storage.
CFSV (ML)	Combined full supply volume—determined by summing the full supply volumes of Cressbrook Dam and Perseverance Dam. $CFSV = FSV_{Cressbrook} + FSV_{Perseverance}$ Where: CFSV = combined full supply volume of the storage. FSV = full supply volume of the storage.
$IW_{NewBalance}$	The new introduced water account balance.

7

Releases from Perseverance Dam

- (1) The licence holder must release a minimum flow volume of 4.92 ML/day from Perseverance Dam when—
 - (a) the combined percentage of volume in storage in Cressbrook and Perseverance dams is greater than or equal to 35 per cent; and
 - (b) the water level in Perseverance Dam is equal to or greater than RL 431.6 m AHD; and
 - (c) an inflow into Perseverance Dam of equal to or greater than 5 ML/day is occurring; or
 - (d) the chief executive notifies that a release is required.
- (2) Releases made under subsection (1) must commence within one business day of a release being triggered.
- (3) Releases made under subsection (1)(c) must cease when notified by the chief executive that the release is no longer required.

Chapter 3 Water sharing rules

8 **Announced allocation for high priority water allocations**

The announced allocation for 'High Priority A' water allocations in the Cressbrook Creek Water Supply Scheme is 100 per cent.

9 **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.

Chapter 4 Seasonal water assignment rules

10 Seasonal water assignments

- (1) The licence holder may approve a seasonal assignment of a volume of water.
- (2) Water supplied under a seasonal water assignment may be used for any purpose.

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.
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.
Introduced water	Introduced water is water that is imported into a water supply scheme and is not a part of natural yield. This includes the inter-catchment transfer water pumped to Cressbrook Dam via Wivenhoe Pipeline.
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.
RL	Relative level.
Water use	Refers to actual take of water.