

# **Upper Condamine Water Supply Scheme Operations Manual**

**February 2019**

**Water Plan (Condamine and Balonne) 2019**

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# Chapter 1 Preliminary

## 1 Short title

- (1) This operations manual may be cited as the Upper Condamine Water Supply Scheme Resource Operations Licence Operations Manual.
- (2) Reference in this document to 'this manual' means the Upper Condamine Water Supply Scheme Operations Manual for the Resource Operations Licence.

## 2 Interpretation of words used in this manual

- (1) The dictionary in attachment 1 defines particular words used in this manual.
- (2) References to licence holder in this manual are taken to mean the resource operations licence holder.

## 3 Water supply scheme

The extent of the Upper Condamine Water Supply Scheme within the Condamine and Balonne plan area is shown on the map in attachment 2.

## Chapter 2 Operating rules

### 4 Operating levels of storages

- (1) The minimum operating levels for storages associated with the Upper Condamine Water Supply Scheme are detailed in table 1.
- (2) The licence holder must not release or supply water from a storage if the water level in that storage is at or below its minimum operating level.

**Table 1 Operating levels of storages**

Storage	Minimum operating level (m AHD)
Leslie Dam	EL 448.44
Talgai Weir	EL 408.09
Yarramalong Weir	EL 378.72
Lemon Tree Weir	EL 365.94
Cecil Plains Weir	EL 347.67
Melrose Weir	EL 369.20
Wando Weir	EL 364.00
Nangwee Weir	EL 355.70

### 5 Use of waterholes

A waterhole may be drawn down to 0.5 metres below its natural cease-to-flow level to allow water to be taken under a water allocation if the water released by the licence holder will replace the water drawn down in the waterhole and is released prior to the time of waterhole draw down.

### 6 Supply of water

When the storage level in Leslie Dam is less than or equal to 460.35 m AHD, releases or diversions must not be made to supply—

- (a) medium priority water allocations; or
- (b) high class B priority water allocations.

### 7 Supply of water to zone UCS-03

The licence holder may only divert water from Yarramalong Pump Station (AMTD 966.3 km) to zone UCS-03 up to the volume required to—

- (a) supply water to medium and risk class A priority water allocation holders located on the Condamine River North Branch; and
- (b) overcome normal watercourse transmission losses incurred in supplying water allocations mentioned in subsection (a).

# Chapter 3 Water sharing rules

## 8 Definition for chapter 3

In this chapter—

**stream flow period**, for a zone, means a period of time that starts and ends at such time that the licence holder notifies under section 12.

## Part 1 Announced allocations

### 9 Announced allocations

- (1) The licence holder must—
  - (a) determine an announced allocation for water allocations belonging to the high class A, high class B, medium and risk class B priority groups to take effect on the first day of each water year;
  - (b) following the commencement of a water year—
    - (i) if the announced allocation percentage is less than 100 percent—recalculate the announced allocation to take effect no later than five business days following the first day of every month; and
    - (ii) reset the announced allocation—if a recalculation indicates that the announced allocation would—
      - (A) increase by five or more percentage points; or
      - (B) increase to 100 percent.
  - (c) within five business days of setting or resetting the announced allocation, publish details of the announced allocation, including the parameters used in its determination; and
  - (d) not reduce the announced allocation during the water year.
- (2) The announced allocation—
  - (a) must be rounded to the nearest percent; and
  - (b) must not be greater than 100 percent.

### 10 Calculating announced allocations

- (1) The announced allocation for high class A and high class B priority water allocations must be—
  - (a) when the announced allocation for medium priority water allocations ( $AA_{MP}$ ) is greater than zero percent—100 percent; and
  - (b) when the announced allocation for medium priority water allocations ( $AA_{MP}$ ) is zero percent—
    - (i) determined using the following formula for high class A priority allocations—

$$AA_{HPA} = 100 \times \frac{(UV_{LD} - TOA_{HPA} + DIV_{HPA})}{HPA}$$

- (ii) determined using the following formula for high class B priority allocations—

$$AA_{HPB} = 100 \times \frac{(UV_{CPW} + DIV_{HPB})}{HPB}$$

- (2) The announced allocation for medium priority water allocations must be determined using the following formula—

$$AA_{MP} = 100 \times \frac{(UV_{LD} - HPA - HPB + DIV - RE - TOA_{MP})}{MPA}$$

- (3) The announced allocation for risk class B water allocations must be—
- (a) when the announced allocation for medium priority water allocations is 100 percent and the storage level in Leslie Dam is greater than EL 470.63 m AHD—determined using the following formula—

$$AA_{RB} = 100 \times \left( \frac{5 \times VOL}{FSV} - 4 \right)$$

- (b) otherwise—zero percent.
- (4) The parameters used in the formulae in this section are defined in table 2.

**Table 2 Announced allocation parameters**

Parameter	Description
<b>AA<sub>HPA</sub></b>	The announced allocation for water allocations belonging to the high class A priority group (%).
<b>AA<sub>HPB</sub></b>	The announced allocation for water allocations belonging to the high class B priority group (%).
<b>AA<sub>MP</sub></b>	The announced allocation for water allocations belonging to the medium priority group (%).
<b>AA<sub>RB</sub></b>	The announced allocation for water allocations belonging to the risk class B priority group (%).
<b>HPA</b>	The sum of the nominal volumes for all water allocations belonging to the high class A priority group (ML).
<b>HPB</b>	The sum of the nominal volumes for all water allocations belonging to the high class B priority group (ML).
<b>MPA</b>	The sum of the nominal volumes for all water allocations belonging to the medium priority group (ML).
<b>UV<sub>LD</sub></b>	<p>Usable volume in Leslie Dam—the volume of water available for determining the announced allocation percentages for water allocations, which must be calculated using the following equation—</p> $UV_{LD} = (CV_{LD} - MOV_{LD} - SL_{LD})$ <p>If <math>UV_{LD} &lt; 0</math> then <math>UV_{LD} = 0</math></p> <p>Where—</p> <p>CV<sub>LD</sub> means the current volume of Leslie Dam.</p> <p>MOV<sub>LD</sub> means the minimum operating volume of Leslie Dam as stated in the infrastructure details of the resource operations licence.</p> <p>SL<sub>LD</sub> means the storage loss volume for Leslie Dam. This is the projected storage losses from Leslie Dam for the remainder of the water year. The storage loss volume is calculated by using the storage loss depth for Leslie Dam in table 3 for the current month and the current surface area (ha) of the storage.</p>

Parameter	Description
<b>UV<sub>CPW</sub></b>	<p>Usable volume in Cecil Plains Weir—the volume of water available for determining announced allocation percentages for water allocations, which must be calculated using the following equation—</p> $UV_{CPW} = (CV_{CPW} - MOV_{CPW} - SL_{CPW})$ <p>If <math>UV_{CPW} &lt; 0</math> then <math>UV_{CPW} = 0</math></p> <p>Where—</p> <p><math>CV_{CPW}</math> means the current volume of Cecil Plains Weir.</p> <p><math>MOV_{CPW}</math> means the minimum operating volume of Cecil Plains Weir of 49 ML which equates to the EL 347.67 m AHD).</p> <p><math>SL_{CPW}</math> means the estimated storage loss volume for Cecil Plains Weir. The estimated storage loss volume is the difference between the storage volume at the current water level of the weir and the estimated storage volume in the weir at the end of the water year assuming no diversions. The estimated storage volume at the end of the water year is based on the estimated storage level at the end of the water year using the approved storage curve for Cecil Plains Weir. The estimated storage level at the end of the water year is determined by subtracting the storage loss depth in table 3 from the current storage level of the weir.</p>
<b>RE</b>	<p>Reserve volume—the storage reserve volume set aside for the high class A priority allocations for future months beyond the current announced allocation. This reserve is equal to the volume (not counting the water stored below the river outlet) necessary to ensure a 12 month period of supply beyond the end of the current water year.</p> <p>RE is determined in accordance with a methodology approved by the chief executive.</p>
<b>TOA<sub>HPA</sub></b>	<p>Transmission and operational allowance—an allowance for the transmission and operational losses required to deliver high priority water allocations downstream of Leslie Dam.</p> <p>TOA<sub>HPA</sub> is determined in accordance with a methodology approved by the chief executive.</p>
<b>TOA<sub>MP</sub></b>	<p>Transmission and operational allowance—an allowance for the transmission and operational losses required to deliver medium priority water allocations downstream of Leslie Dam.</p> <p>TOA<sub>MP</sub> is determined in accordance with a methodology approved by the chief executive.</p>
<b>DIV<sub>HPA</sub></b>	<p>High class A priority diverted volume—the volume (ML) of water taken under high class A priority water allocations in a water year in the water supply scheme up to the time of the recalculation of the announced allocation.</p>
<b>DIV<sub>HPB</sub></b>	<p>High class B priority diverted volume—the volume (ML) of water taken under high class B priority water allocations in a water year in the water supply scheme up to the time of the recalculation of the announced allocation.</p>
<b>DIV</b>	<p>Diverted volume—the total volume of water taken (ML) under all water allocations in a water year in the water supply scheme up to the time of the recalculation of the announced allocation, excluding any water taken from stream flow periods notified under section 12.</p>
<b>VOL</b>	<p>Volume (ML) stored in Leslie Dam at the start of the water year.</p>
<b>FSV</b>	<p>Full supply volume of Leslie Dam (106 200 ML).</p>

**Table 3 Storage loss**

Month in which announced allocation is calculated	Storage loss until end of water year (mm)
July	1657
August	1581
September	1482
October	1352
November	1188

Month in which announced allocation is calculated	Storage loss until end of water year (mm)
December	1004
January	806
February	602
March	436
April	279
May	155
June	70

## 11 Revised methodologies for announced allocation parameters

Within 40 business days of a change in the total volume of water allocations belonging to the high class A priority group, the licence holder must submit to the chief executive for approval revised methodologies to determine the reserve volume (RE) and the transmission and operational allowance (TOA<sub>HPA</sub>) for high class A priority water allocations.

## Part 2 Stream flow periods

### 12 Notification of a stream flow period

The licence holder must notify the water allocation holders to which a stream flow period applies of—

- (a) the start and end of the stream flow period;
- (b) the zones or parts of zones to which the period relates;
- (c) the entitlements that the period relates to; and
- (d) the conditions under which the water may be taken.

### 13 Stream flow period for medium priority water allocations

- (1) The licence holder must start a stream flow period for medium priority water allocations whenever the requirement for the zone or part of a zone mentioned in the table 4 is met at the stream flow location.
- (2) For this section, the requirement for a stream flow period for a zone or part of a zone is a flow rate—
  - (a) likely to be greater than 86 ML/day; and
  - (b) less than 432 ML/day.
- (3) Despite subsection (2)(a), the licence holder may start a stream flow period for medium priority water allocations located in zone UCS-02 if—
  - (a) the announced allocation for medium priority water allocations is less than or equal to 20 percent; and
  - (b) the storage level in Talgai Weir is equal to or greater than 50 percent of its full supply volume; and
  - (c) the total daily rate of take from the zone is no greater than 10 ML/day; and
  - (d) the total volume of water taken for the water year in the zone during stream flow periods is less than or equal to 300 ML.
- (4) Subsection (2)(a) does not apply for a period of three months following the cessation of a flow over Cecil Plains Weir if the flow over Cecil Plains Weir has reached Loudoun gauging station on the Condamine River (GS 422333A) AMTD 834.0 km.



- (5) The licence holder must end a stream flow period for a zone or part of a zone whenever the requirement for the zone or part of a zone is no longer being met.

**Table 4 Stream flow requirement locations**

Zone or part of zone	Stream flow location
UCS-02	Talgai Weir on the Condamine River (GS 422355A) AMTD 1029.2 km
UCS-03	Yarramalong gauging station on the Condamine River (GS 422353A) AMTD 967.0 km
UCS-04—Talgai Weir to Yarramalong Weir	
UCS-04—Yarramalong Weir to Lemon Tree Weir	Lemon Tree Weir
UCS-04—Lemon Tree Weir to Cecil Plains Weir	Cecil Plains Weir

**14 Water sharing rules for risk class A priority water allocations**

- (1) The licence holder may supply water for risk class A priority water allocations in accordance with section 15 and from natural stream flows in the Condamine River North Branch.
- (2) The licence holder must consider the following matters when determining the water sharing rules applied for each stream flow period—
- (a) the volume of water available for distribution;
  - (b) the location of water available for distribution; and
  - (c) the previous distribution of available volumes.

**15 Stream flow period for risk class A priority water allocations**

For risk class A priority water allocations located in zone UCS-03, the licence holder—

- (a) may start a stream flow period when—
  - (i) flow in the Condamine River at Yarramalong gauging station (GS 422353A) AMTD 967.0 km is greater than 864 ML/day; and
  - (ii) the daily diversion from the Condamine River into the Condamine River North Branch is in accordance with table 5.
- (b) must end a stream flow period when requirements mentioned in subsection (a) are no longer met.

**Table 5 Allowable pumping rate to Condamine River North Branch for Risk Class A priority water**

Passing flow in the Condamine River at Yarramalong Weir exceeds (ML/day)	Maximum rate of take to North Branch (ML/day)
864	86.4
1296	172.8
1728	259.2
2160	345.6

## Part 3 Taking water under a water allocation

### 16 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 of the water allocation.
- (2) Where an announced allocation applies to water taken for a priority group, then the volume of water that may be taken under a water allocation in a water year, other than during stream flow periods notified under section 12 (where applicable), must not exceed the nominal volume of the water allocation multiplied by the announced allocation for the relevant priority group and divided by 100.
- (3) During a stream flow period for the zone or part of a zone to which a water allocation applies, water may be taken under the water allocation in addition to that which may be taken under subsection (2) but not exceeding the volume that may be taken under subsection (1)
- (4) Subsection (3) applies to medium priority water allocations.

# Chapter 4 Seasonal water assignment rules

## 17 Seasonal water assignment rules

- (1) The licence holder may approve a seasonal water assignment of a volume of water if—
  - (a) the volume made available under the assignment is less than or equal to the unused volume that may be taken under the authority of the water allocation being assigned; and
  - (b) the location for the take of water under the assignment is the same as or upstream of the water allocation being assigned.
- (2) Despite subsection (1)(b), the licence holder may approve a seasonal assignment of a volume of water where the assignment is to a downstream location or between zones UCS-03 and UCS-04, if the volume made available is reduced—
  - (a) for a high class A priority water allocation—by a volume determined in accordance with the methodology approved by the chief executive for determining the transmission and operational allowance required to deliver high class A priority water allocations; and
  - (b) for a medium priority or risk class B priority water allocation—to provide for transmission losses by the percentage specified in table 6 corresponding to the location of the water allocation being assigned and the location of take under the assignment.

**Table 6 Transmission loss factors for seasonal assignment of medium and risk class B priority water allocations**

From zone	To zone			
	UCS-01	UCS-02	UCS-03	UCS-04
UCS-01	Nil	10%	30%	30%
UCS-02	Nil	Nil	20%	20%
UCS-03	Nil	Nil	Nil	Nil
UCS-04	Nil	Nil	Nil	Nil

## Attachment 1 Dictionary

Term	Definition
AHD	The Australian height datum, which references a level or height to a standard base level.
Assignee	The person or entity to whom an interest or right to water is being temporarily transferred by another entity (e.g. seasonally assigned).
Assignor	The person or entity that temporarily transfers an interest or right in water to an assignee (e.g. seasonal assignment).
Cease to flow level	For a waterhole, the level at which water stops flowing from a waterhole over its downstream control.
EL	Elevation level.
Full supply volume	This is the volume in storage that corresponds to the full supply level.
Megalitre (ML)	One million litres.
Minimum operating level	This is the level below which water cannot be used to supply customers, either because there is insufficient hydraulic gradient or because of poor water quality and for environmental reasons.
Minimum operating volume	This is the storage volume corresponding to the minimum operating level.
Passing flow	Means the flow in a watercourse defined by either litres per second, cubic metres per second, or megalitres per day, past a specified location.
Publish	Means published in a newspaper circulating generally throughout the area or published on the resource operations licence holder's internet site for the applicable water supply scheme.
Stream flow	Includes flow of water resulting from tributary inflows, and does not include release of supplemented water.
Water year	The water year is the 12 month period beginning 1 July and ending 30 June.

# Attachment 2 Upper Condamine Water Supply Scheme map

