

Resource Operations Licence

Water Act 2000



Name of licence

Upper Burnett Water Supply Scheme Resource Operations Licence

Holder

Sunwater Limited

Water plan

The licence relates to the Water Plan (Burnett Basin) 2014.

Water infrastructure

The water infrastructure to which the licence relates is detailed in Attachment 1.

Authority to interfere with the flow of water

The licence holder is authorised to interfere with the flow of water to the extent necessary to operate the water infrastructure to which the licence relates.

Authority to use watercourses to distribute water

The licence holder is authorised to use the watercourses listed in Table 1 for the distribution of supplemented water, including sections of tributaries where supplemented water is accessible.

Table 1 – Use of watercourses for distribution

Watercourse	Description
Burnett River	The part of the Burnett River extending from within the ponded area of Paradise Dam (AMTD 162.8 km) upstream to the ponded limits of John Goleby Weir (AMTD 333.9 km).
Nogo River	The part of the Nogo River extending from the confluence of the Nogo River and the Burnett River (AMTD 0 km) upstream to the ponded limits of Wuruma Dam (AMTD 44.5 km).
Auburn River	The part of Auburn River extending from the confluence of the Auburn River and the Burnett River (AMTD 0 km) upstream to the ponded limits of Jones Weir (AMTD 6 km).

Conditions

1. Requirement for operations manual

- 1.1. The licence holder must operate in accordance with an approved operations manual.
- 1.2. The approved operations manual must include—
 - 1.2.1. operating rules for water infrastructure;
 - 1.2.2. water sharing rules; and
 - 1.2.3. seasonal water assignment rules.

2. Environmental management rules

- 2.1. The licence holder must comply with the requirements as detailed in Attachment 2.

3. Metering

- 3.1. The licence holder must meter the taking of water under those water allocations and seasonal water assignments managed under this licence.

4. Monitoring and reporting requirements

- 4.1. The licence holder must carry out and report on the monitoring requirements as set out in Attachment 3.
- 4.2. The licence holder must provide any monitoring data required under condition 4.1 to the chief executive within a stated time upon request.

- 4.3. The licence holder must ensure that the monitoring, including the measurement, collection, analysis and storage of data, is consistent with the Water Monitoring Data Collection Standards¹.
- 4.4. The licence holder must ensure that the transfer of data and reporting are consistent with the Water Monitoring Data Reporting Standards¹.

5. Other conditions

- 5.1. The operating and supply arrangements, and the monitoring required under this licence, do not apply in situations where implementing the rules or meeting the requirements would be unsafe to a person or persons. In these circumstances, the licence holder must comply with the reporting requirements for operational or emergency prescribed in Attachment 3.
- 5.2. The licence holder is required to collect and make publicly available through an industry accepted digital channel, updated at least monthly, details of each seasonal water assignment managed under this licence, including the sale price, the volume of water assigned and the location of where the water was assigned to and from.
- 5.3. The licence holder must provide the chief executive information about seasonal water assignments as directed by the chief executive within the stated time upon request¹.

This Resource Operations Licence is subject to the conditions attached.

Commencement of licence

The licence took effect on 1 June 2007.

Granted 1 June 2007.

Amended under section 186 of the *Water Act 2000* on 10 January 2022.

Jarrod Cowley-Grimmond
Executive Director, Divisional Support

¹. The Water Monitoring Data Collection Standards and the Water Monitoring Data Reporting Standards can be accessed online at www.business.qld.gov.au

Attachment 1 Infrastructure details for Upper Burnett Water Supply Scheme

Table 1 – Wuruma Dam (including Saddle Dam)—Nogo River AMTD 23 km

Description of water infrastructure	
Main embankment	Mass concrete dam
Full supply level	EL 228.29 m AHD
Saddle dam(s)	Saddle Dam
Fabridams	Nil
Gates	Nil
Storage volume and surface area	
Full supply volume	165 400 ML
Dead storage volume	2430 ML
Storage curves/tables	Drawing no: A3-06900 and 106901
Spillway arrangement	
Description of works	Reinforced concrete crest and chute
Spillway level	EL 228.29 m AHD
Spillway width	91.4 m
Discharge characteristics	Drawing no: HYDSYS Rating Curve #70 for GS 136113A
River inlet/outlet works	
Description of works	River Outlet: High level outlet works – The outlets to pass regulated supplies down the stream consist of two 900 mm steel pipes through the dam. Each outlet is fitted with a 900 mm diameter guard (butterfly) valve and a 750 mm diameter regulating (cone dispersion) valve operated from the valve house. Low level outlet works – Low level outlet works consist of a single 450 mm diameter pipe. Two 450 mm gate valves provide control. A 125 mm vent pipe comes from this pipe immediately downstream from the second valve and discharges on the downstream face of the dam.
Multilevel inlet	High level inlets – Rectangular reinforced concrete inlet tower with trash racks that cover inlets on the upstream side of the tower. Slotted inlets are on adjacent sides of the tower. The inlet works consist of two mild steel 900 mm diameter bellmouths. A bulkhead lowered through a guide assembly provides shut-off capability. Low level inlet – The inlet works consist of a single 450 mm mild steel bellmouth with trash rack.
Cease to flow level	High level outlet: invert EL 204.14 m AHD. Low level outlet: invert EL 192.78 m AHD. High level inlet: invert EL 204.52 m AHD. Low level inlet: invert EL 192.78 m AHD.
Discharge characteristics	The estimated maximum discharge capacity of the outlet is 1250 ML/day.
Fish transfer system	
Description of works	Nil

Table 2– John Goleby Weir—Burnett River AMTD 324.8 km

Description of water infrastructure	
Main embankment	Weir (steel sheet piling cascade)
Full supply level	EL 167.8 m AHD
Saddle dam(s)	Nil
Fabridams	Nil
Gates	Nil
Storage volume and surface area	
Full supply volume	1690 ML
Dead storage volume	160 ML
Storage curves/tables	Drawing no: A3-72950F
Spillway arrangement	
Description of works	Steel sheet piling cascade
Spillway level	EL 167.8 m AHD
Spillway width	100 m
Discharge characteristics	Drawing no: A3-85350
River inlet/outlet works	
Description of works	Outlet works consist of a single 1750 mm diameter steel pipe, which reduces to a single 610 mm diameter steel pipe through an orifice plate. Control is provided at the outlet by a 600 mm diameter sluice valve.
Multi-level inlet	Single level inlet structure. A 750 mm diameter flap valve provides control. There is an inlet screen and provision for a bulkhead gate.
Cease to flow level	Outlet works: invert EL 163 m AHD
Discharge characteristics	Estimated maximum discharge capacity of outlet 225 ML/day.
Fish transfer system	
Description of works	Nil

Table 3 – Jones Weir—Burnett River AMTD 240.1 km

Description of water infrastructure	
Main embankment	Weir
Full supply level	EL 110.03 m AHD
Saddle dam(s)	Nil
Fabridams	Nil
Gates	Nil
Storage volume and surface area	
Full supply volume	3720 ML
Dead storage volume	10 ML
Storage curves/tables	Drawing no: A3-64663A
Spillway arrangement	
Description of works	Ogee crest along width of weir
Spillway level	EL 110.03 m AHD
Spillway width	157.3 m
Discharge characteristics	Drawing no: HYDSYS rating curve #30 for GS 136004A
River inlet/outlet works	
Description of works	Outlet works consist of a single 900 mm square conduit through the concrete wall. This outlet is now the only outlet that is operated and replaces the original outlet works, which are on the left side of the weir. The outlet works on the right side of the weir have been completely silted up and are not operational.
Multi-level inlet	Single level inlet works consist of a concrete inlet chamber provided with trash screens and dropboard shut off facility. A vertical lift gate that is mechanically actuated and operated manually from the crest of the weir provides control.
Cease to flow level	EL 104.53 m AHD
Discharge characteristics	River Outlet – Estimated maximum discharge capacity of outlet is 330 ML/day.
Fish transfer system	
Description of works	Nil

Table 4 – Claude Wharton Weir—Burnett River AMTD 202.4 km

Description of water infrastructure	
Main embankment	Weir
Full supply level	EL 94.4 m AHD
Saddle dam(s)	Nil
Fabridams	Inflatable rubber bags
Gates	Nil
Storage volume and surface area	
Full supply volume	12 800 ML
Dead storage volume	120 ML
Storage curves/tables	Drawing no: A3-213616
Spillway arrangement	
Description of works	Mass concrete and inflatable bag
Spillway level	EL 94.4 m AHD
Spillway width	166.5 m
Discharge characteristics	Drawing no: A3 - 83889
River inlet/outlet works	
Description of works	<p>Outlet Works: High level outlet works consist of two 1524 mm x 1524 mm outlets. Two vertical lift gates that are hydraulically actuated, electrically operated and manually controlled within a control building provide control. Interchangeable bulkhead gates provide shut off facility, for maintenance purposes. Low level outlet works consist of a single 1800 mm diameter concrete pipe, which connects to a 2100 mm x 2100 mm conduit. Control is provided by a vertical lift gate, which is hydraulically actuated, electrically operated and manually controlled within a control building.</p>
Multi-level inlet	<p>The high and low level inlets are separate entities. High level inlet works – Inlet works consist of four 2650 mm x 1500 mm inlets. The inlets are provided with removable trash screens and shut off can be achieved by the placement of bulkhead gates. Low level inlet works – The inlet structure has two 2650 mm x 3665 mm inlets with removable trash screens and shut off capability provided by bulkhead gates.</p>
Cease to flow level	High level inlets/outlets: EL 90 m AHD. Low level/outlet: EL 86.5 m AHD.
Discharge characteristics	Estimated maximum discharge capacity of outlet is 3380 ML/day.
Fish transfer system	
Description of works	Fish lock

Table 5 – Kirar Weir—Burnett River AMTD 300.4 km

Description of water infrastructure	
Main embankment	Weir
Full supply level	EL 153 m AHD
Saddle dam(s)	Nil
Fabridams	Nil
Gates	Nil
Storage volume and surface area	
Full supply volume	9540 ML
Dead storage volume	21 ML
Storage curves/tables	Drawing no: 219232
Spillway arrangement	
Description of works	A 117 m central section between embankments
Spillway level	EL 153 m AHD
Spillway width	117 m
Discharge characteristics	Refer to Appendix A – Staged development case submission 17 December 2004
River inlet/outlet works	
Description of works	The outlet consists of a 10.8 m long, 1.5 m high and 1.2 m high rectangular outlet culvert. The outlet is a hydraulically controlled vertical lift gate with trash screen and baffle dissipater.
Multi-level inlet	Variable level intake tower
Cease to flow level	EL 142.5 m AHD.
Discharge characteristics	Estimated maximum discharge capacity of outlet is 1420 ML/day 80% gate open – Normal operating operation is 1470 ML/day 100% gate open.
Fish transfer system	
Description of works	Fish lock

Attachment 2 Environmental management rules

1 Quality of water released

When making a release from water infrastructure that incorporates multilevel inlets, the licence holder must draw water from the inlet that optimises the quality of water released.

2 Environmental releases

- (1) For each day from 1 September to 31 March, the licence holder must release from Claude Wharton Weir the lesser of the natural daily inflow to Claude Wharton Weir and 150ML.
- (2) However, subsection (1) does not apply if—
 - (a) the natural daily inflow to Claude Wharton Weir is less than 50ML; or
 - (b) the current storage level for Claude Wharton Weir is less than EL 91.12 m AHD.
- (3) In this section—

natural daily inflow, in relation to Claude Wharton Weir, means the daily inflow of water to the storage other than from a release of water upstream from the storage.

3 Change in rate of release

- (1) The licence holder must prepare and maintain operating procedures for Wuruma Dam, Kirar Weir, Jones Weir, Claude Wharton Weir and John Goleby Weir.
- (2) The operating procedures must ensure that any increase or decrease in the rate of release of water from the storages occurs incrementally to minimise the occurrence of adverse environmental impacts.

Attachment 3 Licence holder monitoring and reporting

Part 1 Monitoring requirements

Division 1 Water quantity

1 Stream flow and storage water level data

- (1) The licence holder must record storage water level and volume, daily inflow and flow data in accordance with Attachment 3, Table 1.
- (2) Tailwater flows may be obtained from gauging station data, or where there is no gauging station, tailwater flows may be calculated using the release curve developed for the discharge works and for the headwater discharge.

Table 1 – Locations where continuous time series height and volume data and daily flow data are required

Location	Gauging Station Site Identification	AMTD km	Water level and volume data	Daily inflow data	Daily flow data
Wuruma Dam headwater	GS 136113A	22.8	✓		
Wuruma Dam tailwater	GS 136109B	22.3			✓
Kirar Weir headwater	GS 136121A	300.4	✓		
Kirar Weir tailwater	NA	NA			✓
John Goleby Weir headwater	GS 136120A	324.7	✓		
Claude Wharton Weir headwater	GS 136003D	202.4	✓	✓	

2 Releases from storages

- (1) The licence holder must record for each release of water from storages mentioned in Attachment 1—
 - (a) the daily volume released; and
 - (b) the release rate, and for any change in release rate—
 - (i) the date and time of the change; and
 - (ii) the new release rate; and
 - (c) the reason for each release and the component volumes² for each release; and
 - (d) for storages with a multilevel outlet, the water level from which the release was made.
- (2) The licence holder must record the operations of the Claude Wharton Weir fabridam as follows—

² Component volumes comprise of the following;

- passing flows under the environmental management rules in attachment 2;
- volume released for water supply in the storage's local supply area;
- an estimate of the volume released to meet transmission and operating losses in the storage's local supply area;
- volume released to maintain the water level in the next downstream storage;
- volume released through fishways;
- total volume released from the storage

- (a) date and time the Claude Wharton Weir storage level reaches the specified trigger levels that initiate inflation and deflation of the fabridam; and
- (b) provision of confirmation, including date and time, that the fabridam completed its full inflation or deflation cycle.

3 Announced allocations

The licence holder must record details—

- (a) of announced allocation determinations for—
 - (i) medium priority allocations; and
 - (ii) high priority allocations;
- (b) the date announced allocations are determined; and
- (c) the value of each parameter applied for calculating the announced allocation.

4 Transfer of water between water years

The licence holder must record details of the total volume of water—

- (a) carried over to the current water year from the previous water year; and
- (b) brought forward to the current water year from the next water year.

5 Water taken by water users

The licence holder must record the total volume of water taken by each water user for each zone as follows—

- (a) the total volume of water taken each quarter;
- (b) the total volume of water entitled to be taken at any time;
- (c) the basis for determining the total volume of water entitled to be taken at any time; and
- (d) the basis for determining the total volume of water entitled to be taken, including adjustments for volumes moved into or out of the water year and seasonal water assignments.

6 Seasonal water assignment of a water allocation

The licence holder that approves a seasonal water assignment must record details of seasonal water assignment arrangements, including—

- (a) the name of the assignee and the assignor;
- (b) the volume of the assignment;
- (c) the location—
 - (i) from which it was assigned; and
 - (ii) to which it was assigned;
- (d) the effective date of the assignment; and
- (e) the sale price.

Division 2 Impact of infrastructure operation on natural ecosystems

7 Water quality

The licence holder must monitor and record water quality data in relation to relevant storages listed in Attachment 1.

- 8 Bank condition**
- (1) The licence holder must inspect banks for evidence of collapse and/or erosion within the ponded areas and downstream of each storage listed in Attachment 1, following instances of—
- (a) rapid water level changes; or
 - (b) large flows through storage, or
 - (c) other occasions when collapse and/or erosion of banks may be likely.
- (2) For subsection (1), downstream of each storage means the distance of influence of infrastructure operations.

- 9 Fish stranding**
- The licence holder must record and assess reported instances of fish stranding in watercourses and ponded areas associated with the operation of the infrastructure listed in Attachment 1 to determine if any instance is associated with the operation of that infrastructure.

Part 2 Reporting requirements

- 10 Reporting requirements**
- The licence holder must provide—
- (a) quarterly reports;
 - (b) annual reports for the previous water year; and
 - (c) operational or emergency reports.

Division 1 Quarterly reporting

- 11 Quarterly report**
- (1) The licence holder must submit a quarterly report to the chief executive after the end of each quarter of every water year.
- (2) The quarterly report must include—
- (a) verified stream flow, storage inflow and water level as required under section 1;
 - (b) releases from storages as required under section 2;
 - (c) water quality as required under section 7; and
 - (d) a summary of bank condition monitoring and instances of slumping carried out as required under section 8.

Division 2 Annual reporting

- 12 Annual report**
- (1) The licence holder must submit an annual report to the chief executive after the end of each water year.
- (2) The annual report must include—
- (a) water quantity monitoring results required under section 13;

- (b) details of the impact of storage operation on natural ecosystems as required under section 14;
- (c) a discussion on any issues that arose as a result of the implementation and application of the rules and requirements of this licence; and
- (d) a summary of sale price disclosure information and other seasonal water assignment information as per Attachment 3, Part 1, Division 1(6).

13 Water quantity monitoring

The licence holder must include in the annual report—

- (a) a summary of announced allocation determinations, including—
 - (i) an evaluation of the announced allocation procedures and outcomes; and
 - (ii) the date and value for each announced allocation;
- (b) instances where medium priority water allocation could not be supplied and a notice is given to the water allocation holder—the commencement and cessation date(s) for which the rules were in effect;
- (c) details of seasonal water assignments, including—
 - (i) the total number of seasonal water assignments; and
 - (ii) the total volume of water seasonally assigned;
- (d) for the water year, a summary of water taken by all water users, specified by zone, as follows—
 - (i) the total volume of supplemented water taken;
 - (ii) the total volume of supplemented water entitled to be taken; and
 - (iii) the basis for determining the volume of water entitled to be taken;
- (e) for the water year, the total annual volume of water taken by each water user, specified by zone, as follows—
 - (i) the total volume of water taken for each zone;
 - (ii) the total volume entitled to be taken for each zone; and
 - (iii) the basis for determining the total volume of water entitled to be taken;
- (f) all details of changes to storages and delivery infrastructure or the operation of storages and delivery infrastructure that may impact on compliance with rules and requirements of this licence;
- (g) details of any new monitoring devices used, such as equipment to measure stream flow.

14 Impact of infrastructure operation on natural ecosystems

The licence holder must include in their annual report—

- (a) a summary of the environmental considerations made by the licence holder in making operational and release decisions;
- (b) a summary of the environmental outcomes of the decision, including any adverse environmental impacts;
- (c) a summary of bank condition and fish stranding monitoring and assessment, including—

- (i) results of investigations of bank slumping and/or erosion identified in the ponded areas and/or downstream of the storages;
 - (ii) results of any investigations of fish stranding downstream of the storages; and
 - (iii) changes to the operation of the storage to reduce instances of bank slumping and/or erosion or fish stranding; and
- (d) a discussion and assessment of the following water quality issues—
- (i) water quality in each storage;
 - (ii) thermal and chemical stratification in the storage;
 - (iii) the impact of the storage and its management on the quality of water released;
 - (iv) cumulative effect of successive storages on water quality;
 - (v) cyano-bacterial population changes in response to stratification in the storage; and
 - (vi) any proposed changes to the monitoring program as a result of evaluation of the data.

Division 3 Operational or emergency reporting

15 Operational or emergency reporting³

- (1) The licence holder must notify the chief executive—
- (a) within one business day of becoming aware of any of the following operational incidents—
 - (i) non-compliance by the licence holder with the conditions of this licence;
 - (ii) instances when a waterhole is drawn down 0.5 m below cease to flow level;
 - (iii) instances of fish stranding, cyanobacterial growth or bank slumping in ponded areas or downstream of the water infrastructure to which this licence relates; and
 - (iv) a decision being made to introduce a reduced full supply level under section 399B of the *Water Supply (Safety and Reliability) Act 2008*;
 - (b) of an emergency where, as a result of the emergency, the licence holder cannot comply with the conditions of the licence.
- (2) The licence holder must provide to the chief executive upon request, and within the timeframe requested, a report which includes details of—
- (a) the incident or emergency;
 - (b) the conditions under which the incident or emergency occurred;
 - (c) any responses or activities carried out as a result of the incident or emergency; and
 - (d) in relation to an emergency only, any requirements under this licence that the licence holder is either permanently or temporarily unable to comply with due to the emergency.

³ This does not preclude requirements for dam safety under the *Water Supply (Safety and Reliability) Act 2008*, *Water Act 2000* and any other applicable legislation

- (3) The licence holder must—
 - (a) notify the chief executive within one business day—
 - (i) upon setting an initial announced allocation or resetting an announced allocation during the water year;
 - (ii) any restrictions on the taking of medium priority water; and
 - (iii) with details of any arrangements for addressing circumstances where they are unable to supply water allocations;
 - (b) provide the chief executive with relevant supporting information used in making any decision under subsection (a)(i) and (ii).
- (4) The licence holder must provide the chief executive within 10 business days of cessation of take a report of supplemented water being taken through an unsupplemented water user's water meter. The licence holder must report the meter readings at the start and finish of the taking of water and the approved quantities of supplemented water taken.

Glossary

Term	Definition
AHD	The Australian Height Datum, which references a level or height to a standard base level.
AMTD	Adopted middle thread distance is the distance in kilometres, measured along the middle of the watercourse, that a specific point in the watercourse is from the watercourse's mouth; or—if the watercourse is not a main watercourse—the watercourse's confluence with its main watercourse.
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.
Assignee	The person or entity to whom an interest or right to water is being transferred – for example, seasonally assigned.
Assignor	The person or entity who transfers an interest or right in water to an assignee – for example, a seasonal assignment.
Cease to flow level	For a waterhole, the level at which water stops flowing from a waterhole over its downstream control.
Confluence	The point where two or more watercourses meet.
Cyanobacteria	Also known as blue green algae. Naturally occurring microscopic, primitive photosynthetic bacteria.
Dead storage	For a storage, means the dead storage volume stated in the infrastructure details for the storage in Attachment 1.
Discharge	Discharge is the rate at which a volume of water passes a point in a stream or pipeline per unit of time. This could be measured in litres per second (L/s), cubic meters per second (m ³ /s) or in megalitres per day (ML/day).
EL	Elevation level.
Fish stranding	When fish are stranded or left out of the water on the bed or banks of a watercourse, on infrastructure such as spillways and causeways or left isolated in small and/or shallow pools, from which they cannot return to deeper water. This also applies to other aquatic species such as platypus and turtles.
Full supply volume	For a storage, means the full supply volume of the storage stated in the infrastructure details for the storage in Attachment 1.
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 or weir and discharged via an outlet into the watercourse downstream of the storage.
Licence holder	The holder of the resource operations licence for the Upper Burnett Water Supply Scheme.
Location	For a water allocation, means the zone from which water under the water allocation can be taken.
Megalitre (ML)	One million litres.
Multi-level inlet	An inlet arrangement on a dam or weir that allows stored water to be released downstream from selected levels below the stored water surface.
Outlet	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 storage.
Release	Water from a dam or weir that passes downstream from the dam or weir through the dam or weir outlet works.
Storage curve	For a storage, means the drawing, showing the volume of water in the storage for a range of water levels, stated in the resource operations plan for the storage.
Stream flow	The total daily flow in megalitres measured at a given point along a watercourse. This includes both natural stream flow and water released from an upstream storage, which contributes to flow at that point.
Supplemented water	Water supplied under a resource operations licence or other authority to operate water infrastructure.
Tailwater	The flow of water immediately downstream of a dam or weir. Tailwater includes all water passing the infrastructure – for example, controlled releases and uncontrolled overflows.
Unsupplemented water	Water that is not supplemented water.
Waterhole	A part of a watercourse that contains water after the watercourse ceases to flow, other than a part of a watercourse that is within the storage area of a dam on the watercourse.
Water user	The holder of a valid water entitlement.
Zone	A geographic location defined by a reach of a watercourse. Zones are for defining the location of a water allocation and operational arrangements under an operations manual. Zones are defined in the Water Plan (Burnett Basin) 2014.