Resource Operations Licence

Water Act 2000

Queensland Government

Name of licence

Logan River Water Supply Scheme Resource Operations Licence

Holder

Queensland Bulk Water Supply Authority

Water Plan

The licence relates to the Water Plan (Logan Basin) 2007.

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.

Table 1 – Use of watercourses for distribution

Watercourse	Description
Burnett Creek	From and including the ponded area of Maroon Dam downstream to the confluence of the creek with the Logan River (approximately AMTD 27 km to AMTD 0 km), including sections of tributaries of Burnett creek, which contain water from the ponded area of infrastructure in this water supply scheme, water from natural waterholes located in the reaches of the Burnett Creek.
Teviot Brook	From and including the ponded area of Wyaralong Dam downstream to the confluence with the Logan River (approximately AMTD 40.8 km to AMTD 0 km), including sections of tributaries of Teviot Brook, which contain water from the ponded area of infrastructure in this water supply scheme, water from natural waterholes located in the reaches of the Teviot Brook.
Logan River	From the confluence with Burnett Creek downstream to the end of the supplemented section at Maclean Bridge (approximately AMTD 165.4 km to AMTD 65 km), including sections of tributaries of Logan River, which contain water from the ponded area of infrastructure in this water supply scheme, water from natural waterholes located in the reaches of the Logan River.

Conditions

1. Requirements 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 Standards[1].

4.4. The licence holder must ensure that the transfer of data and reporting are consistent with the Water Monitoring Data Reporting Standards[1].

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 operational or emergency reporting requirements prescribes in Attachment 3.

5.2. The licence holder may at any time submit an interim program or an amendment to an existing program to the chief executive for approval in accordance with Attachment 4 if the holder proposes to operate in a way that does not meet the requirements of this licence.

5.3. Where there is conflict between the requirements of this licence and an interim program, the program prevails for the time it is in place.

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This Resource Operations Licence is subject to the conditions attached.

Commencement of licence

The licence took effect on 7 December 2009 (date made).

Granted on 7 December 2009 (date made)
Amended under section 1259 of the *Water Act 2000* on 16 February 2023.

Hamish Butler
Executive Director
South Region
Water Resource Management
Departemnt of Regioanl Development, Manufacturing and Water

[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 Logan River Water Supply Scheme

Table 1 – Maroon Dam, Burnett Creek – AMTD 23.5

Description of water infrastructure	
Description	Dam, earth and rockfill construction
Full supply level	EL 207.14 m AHD
Total storage capacity level	EL 217.52 m AHD
Minimum operating level	EL 185.81 m AHD
Storage capacity	
Full supply level	44 319 ML8*
Total storage capacity	86 350 ML
Minimum operating volume	2 190 ML
Storage curves	A3-203833, A3-203834
Spillway arrangement	
Description of works	Rectangular, ungated and unlined channel cut through rock. The spillway crest is a 300 mm high reinforced concrete control structure.
Spillway level	217.52 m AHD
Spillway width	137 m at EL 217.57m AHD 179 m at EL 219.1 m AHD
Spillway length	330 m
Discharge characteristics	Capacity 4800 m^3/s. Drawing no: A3-211564
River inlet/outlet works	
Description of works	Two 1067 mm cone valves and one 300 mm cone valve (low flow outlet). The inlet tower for the outlet works has four portals, each 3.05 m wide by 4.57 m high. These share a common sill elevation of EL 185.81 m AHD.
Inlet	The submerged inlet tower is a reinforced concrete structure. The rooftop of the tower is at 190.96 m AHD, 16.20 m below FSL. The invert level of the inlet conduit is at 174.65 m AHD.
Cease to flow levels	Inlet level EL 185.81 m AHD

*Volume above EL 207.14 m AHD is used for flood mitigation

Table 2 – Bromelton Weir, Logan River – AMTD 113.2 km

Description of water infrastructure	
Description	Weir. Sheet pile with concrete rockfill and rock mattresses.
Full supply level	EL 40.7 m AHD
Minimum operating level	EL 37.62 m AHD
Storage capacity	
Full supply level	390 ML
Minimum operating volume	50 ML
Storage curves	A3-105947, A3-105946
Spillway arrangement	
Description of works	Nil
Spillway level	Nil
Spillway width	Nil
Discharge characteristics	Nil
River inlet/outlet works	
Description of works	Outlet works consists of a 600 mm diameter pipe.
Inlet	Invert level of 600 mm outlet pipe at intake is EL 37.6 m AHD.
Discharge characteristics	Sluice gate maximum discharge rate of up to 115 ML/day.

Table 3 – Bromelton Off-stream Storage, Logan River – AMTD 100 km

Description of water infrastructure	
Description	Single ring tank storage with earth embankment
Full supply level	EL 44.5 m AHD
Minimum operating level	EL 36.5 m AHD
Storage capacity	
Full supply level	8 210 ML
Minimum operating volume	1131 ML
River inlet/outlet works	
Description of works	Two by 100 mm centrifugal pumps and five by 500 mm electro-submersible pumps.
Inlet	Multiple pump sets at AMTD 100.90 km with a combined maximum harvesting capacity of 450 ML/day.
Discharge characteristics	Gravity feed to river with maximum discharge rate of up to 115 ML/day.

Table 4 – Cedar Grove Weir, Logan River – AMTD 81.2 km

Description of water infrastructure	
Description	Sheet pile weir with concrete rockfill and rock mattresses
Full supply level	EL 20.5 m AHD
Minimum operating level	EL 16.51 m AHD
Storage capacity	
Full supply level	1 144 ML
Minimum operating volume	100 ML
Storage curves	A3-209911
Spillway arrangement	
Description of works	Weir
Spillway level	Crest EL 20.5 m AHD
Spillway width	47.2 m (full width of weir)
River inlet/outlet works	
Description of works	Outlet works consist of a 1035 mm diameter pipe with 600 mm butterfly valve.
Inlet	Invert level of 1035 mm outlet pipe at intake is EL 16.5 m AHD
Discharge characteristics	Approximate maximum discharge rate of 200 ML/day.

Table 5 – South Maclean Weir, Logan River – AMTD 72.2 km

Description of water infrastructure	
Description	Earth/rockfill weir
Full supply level	EL 11.0 m AHD
Minimum operating level	EL 9.11 m AHD
Storage capacity	
Full supply level	154 ML
Minimum operating volume	10 ML
Storage curves	Nil
Spillway arrangement	
Description of works	Nil
Spillway level	Nil
Spillway width	Nil
Discharge characteristics	Nil
River inlet/outlet works	
Description of works	Outlet works consist of a 400 mm outlet pipe with knife gate style valve.
Discharge characteristics	Approximate maximum discharge capacity of 46.57 ML/day.

Table 6 – Wyaralong Dam, Teviot Brook – AMTD 14.8 km

Description of water infrastructure	
Description	Mass roller compacted gravity dam with central ogee spillway at AMTD 14.8 km
Full supply level	EL 63.6 m AHD
Minimum operating level	EL 40.0 m AHD
Storage capacity	
Full supply level	102 883 ML
Minimum operating volume	264 ML
Storage curves	A3-227740
Spillway arrangement	
Description of works	Primary and secondary ogee spillway on dam crest
Spillway level	Main spillway: central overflow at EL 63.6 m AHD Secondary spillway: left abutment at EL 66.3 m AHD
Spillway width	Main spillway: 135 m Secondary spillway: 150 m
Discharge characteristics	Capacity 6 900 m^3/s
River inlet/outlet works	
Description of works	1600 mm diameter pipe with one 1200 mm dewatering outlet valve and one 600 mm fishway release outlet valve.
Inlet	The inlet tower is concrete structure with a trash rack. The tower is 34.3 m high and the top level is at 70.7 m AHD.
Cease to flow levels	Maximum discharge capacity of 1044.6 ML/day

Attachment 2 Environmental management rules

1 Change in rate of release from infrastructure

The licence holder must minimise the occurrence of adverse environmental impacts by ensuring that any change in the rate of release of water from Maroon Dam and Wyaralong Dam occurs incrementally.

2 Releases from infrastructure

(1) The resource operations licence holder must make daily releases –

(a) from Maroon Dam –

(i) equal to the volume of inflow, when inflow to Maroon Dam is less than or equal to 4 ML/day or

(ii) 4 ML/day when inflow to Maroon Dam is greater than 4 ML/day.

(b) from Bromelton Weir –

(i) equal to the volume of inflow, when inflow to Bromelton Weir is less than or equal to 5 ML/day or

(ii) 5 ML/day when inflow to Bromelton Weir is greater than 5 ML/day.

(c) from Cedar Grove Weir –

(i) equal to the volume of inflow, when inflow to Cedar Grove Weir is less than or equal to 5 ML/day or

(ii) 5 ML/day when inflow to Cedar Grove Weir is greater than 5 ML/day.

(d) From Wyaralong Dam –

(i) 0 ML/day when inflow to Wyaralong Dam is less than 2 ML/day or

(ii) 2 ML/day when inflow to Wyaralong Dam is equal to or greater than 2 ML/day, but less than 5ML/day or

(iii) 5 ML/day when inflow to the Wyaralong Dam is equal to or greater than 5ML/day, but less than 50 ML/day or

(iv) 50 ML/day when inflow to the Wyaralong Dam is equal to or greater than 50 ML/day.

(2) The volume of water released in accordance with subsection (1) may be included as water released to supply downstream demand.

(3) When making releases, from Bromelton Weir, Cedar Grove Weir, South Maclean Weir or Wyaralong Dam, the resource operations licence holder must preferentially use –

(i) the fish passage device

(ii) the outlet valve.

Attachment 3 Licence holder monitoring and reporting

Part 1 Monitoring requirements

Division 1 Water quantity

1 Streamflow and infrastructure water level data

(1) The licence holder must record water level and volume and streamflow data in accordance with Table 1.

Table 1 – Locations where continuous water data recording required

Location	Continuous time series storage water level data (m AHD)	Continuous time series flow data (ML/day)
Maroon Dam inflow		✓
Maroon Dam headwater	✓	
Maroon Dam tailwater		✓
Bromelton Weir headwater	✓	
Bromelton Weir tailwater		✓
Bromelton Off-stream Storage	✓	
Cedar Grove Weir headwater	✓	
Cedar Grove Weir tailwater		✓
South Maclean Weir headwater	✓	
South Maclean Weir tailwater		✓
Wyaralong Dam inflow		✓
Wyaralong Dam headwater	✓	
Wyaralong Dam tailwater		✓

2 Releases from infrastructure

(1) This section applies to the following infrastructure –

(a) Maroon Dam

(b) Bromelton Weir

(c) Bromelton Off-stream Storage

(d) Cedar Grove Weir

(e) South Maclean Weir and

(f) Wyaralong Dam.

(2) The licence holder must measure and record for each release of water from infrastructure listed in subsection (1) –

(a) the daily volume released and the component volumes for each release

(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

(c) the reason for each release and

(d) the device used for released.

3 Water diversions

(1) The licence holder must measure and record the daily total volumes of water delivered to —

(a) Bromelton Off-stream Storage from the pumping station located on the Logan River and

(b) Logan River from the Bromelton Off-stream Storage.

4 Announced allocations

The licence holder must record details of announced allocation determinations including –

(a) the announced allocations for medium and high priority water allocations

(b) the date announced allocated are determined and

(c) the value of each parameter applied for calculating the announced allocation.

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 in each quarter of the water year

(b) the total volume of water entitled to be taken at any time and

(c) the basis for determining the total volume of water entitlement to be taken at any time.

6 Stream flow period

The licence holder must record details of stream flow period announcement including –

(a) the start and end of any stream flow period and

(b) the zone to which the stream flow period announcement applies.

7 Seasonal water assignment of a water allocation

The licence holder, upon consent to a seasonal water assignment, must record details of seasonal water assignment arrangements, including—

(a) name of the assignee and assignor

(b) volume of the assignment;

(c) the location—

(i) from which it was assigned and

(ii) to which it was assigned

(d) effective date of the seasonal water assignment.

Division 2 Impact of infrastructure operation on natural ecosystems

8 Water quality

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

9 Bank condition

(1) The licence holder must inspect banks for evidence of collapse and/or erosion within the ponded areas and downstream of the relevant infrastructure listed in Attachment 1, following instances of—

(a) rapid water level changes

(b) large flows through infrastructure or

(c) other occasions when collapse and/or erosion of banks may be likely.

(2) For subsection (1), downstream of the relevant infrastructure means the distance of influence of infrastructure operations.

10 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 relevant infrastructure to determine if any instance of fish stranding is associated with the operation of that infrastructure.

Part 2 Reporting requirements

11 Reporting requirements

The licence holder must provide the following reports in accordance with this part—

(a) annual reports for the previous water year; and

(b) operational or emergency reports.

Division 1 Annual reporting

12 Annual reporting

(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 as required under section 13

(b) details of the impact of infrastructure operation on natural ecosystems as required under section 14 and

(c) a discussion on any issues that arose as a result of operating in accordance with this licence.

13 Water quantity monitoring

The licence holder must include in the annual report made under section 12—

(a) stream flow and infrastructure water levels – all records referred to in section 1;

(b) water diverted – records referred to in section 3

(c) a summary of announced allocation determinations, including—

(i) an evaluation of the announced allocation procedures and outcomes and

(ii) the date and value for the initial announced allocation and for each change made to an announced allocation

(d) a summary of stream flow periods including the zone(s), commencement date end date for each stream flow period

(e) releases from infrastructure – records referred to in section 2

(f) the total annual volume of water taken by each water user, specified by zone, namely—

(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 entitled to be taken

(g) details of seasonal water assignments, namely—

(i) the total number of seasonal water assignments and

(ii) the total volume of water seasonally assigned

(h) all details of changes to infrastructure or the operation of the infrastructure that may impact on compliance with the rules in this licence and

(i) details of any new monitoring devices used, such as equipment to measure streamflow.

14 Impact of infrastructure operation on natural ecosystems

The licence holder must include in the annual report made under section 12—

(a) a summary of 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 ponded areas and/or downstream of infrastructure undertaken in accordance with section 9

(ii) results of investigations of fish stranding downstream of infrastructure and

(iii) changes to the operation of infrastructure to reduce instances of bank slumping and/or erosion and/or fish stranding

(d) a discussion and assessment of the following water quality issues—

(i) thermal and chemical stratification in each water storage associated with infrastructure

(ii) contribution of the water storage and its management to the quality of water released

(iii) cumulative effect of successive water storages associated with infrastructure on water quality

(iv) cyanobacteria population changes in response to stratification in each water storage and

(v) any changes to the monitoring program as a result of evaluation of the data.

Division 2 Operational and emergency reporting

15 Operational or emergency reporting[2]

(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) a non-compliance by the licence holder with the conditions of this licence

(ii) instances of bank slumping or fish stranding within the impounded areas or downstream of the water infrastructure to which this licence relates and

(b) of an emergency where, as a result of the emergency, the licence holder cannot comply with the conditions of this licence and

(2) The licence holder must provide the chief executive upon request, and within the timeframe requested, a report which includes details of—

(a) the incident or emergency

(c) conditions under which the incident or emergency occurred

(d) any responses or activities carried out as a result of the incident or emergency and

(e) 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.

[2] This does not preclude requirements for dam safety under the *Water Act 2000* and any other applicable legislation.

Attachment 4 Interim programs

1 Submission of interim program

(1) This section applies where the licence holder is unable to meet the requirements of the licence.

(2) The licence holder may at any time submit an interim program or an amendment to an existing program to the chief executive for approval if the holder proposes to operate in a way that is different to the requirements of this plan.

(3) Any submitted interim program or amendment to an existing program by the licence holder must include a timetable and interim methods to be used.

2 Requirement for additional information

The chief executive, in considering any submitted interim program, may request additional information.

3 Approving an interim program

(1) The chief executive, in considering any submitted interim program, may –

(a) approve the interim program with or without conditions or

(b) amend and approve the amended program; or

(c) require the licence holder to submit a revised program.

(2) In deciding any submitted program, the chief executive must consider the public interest.

(3) Within 10 days of making a decision on a submitted program, the chief executive must notify the licence holder of the decision.

4 Implementing and publishing interim program

Following the approval of the program by the chief executive, the licence holder must –

(a) Operate in accordance with the approved program and

(b) Make public details of the approved program on its internet site.

5 Relationship between interim program and licence

Where there is conflict between the provisions of this licence and the provisions of an approved interim program, the approved interim program prevails for the time that the interim program is in place.

Glossary

Term	Definition
AHD	Australian Height Datum, which references a level or height to a standard base level.
AMTD	Adopted middle thread distance
Announced allocation	For a water allocation managed under a water 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 (e.g. seasonally assigned).
Assignor	The person or entity that transfers an interest or right in water to an assignee (e.g. a seasonal assignment).
EL	Elevation
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.
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.
Headwater level	The level (or elevation) of the water immediately upstream of a dam, weir, or other hydraulic structure.
Infrastructure	A dam, weir or other water storage and any associated works for taking or interfering with water in a watercourse, lake or spring.
Interim program	The program by which the licence holder will operate the water supply scheme during the period of the emergency or operational incident in which licence holder cannot comply with the requirements of the resource operations licence
Inlet	Infrastructure comprised of an entrance channel, intake structure, and gate or valve, which allow for water to be taken from the storage and discharged into the watercourse downstream of the storage.
Location	For a water allocation, means the zone and/or place from which water under the water allocation can be taken. For a water licence, means the section of the watercourse, lake or spring abutting or contained by the land described on the water licence at which water may be taken.
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.
Streamflow	Includes flow of water resulting from tributary inflows and does not include releases of supplemented water.
Tailwater	The flow of water immediately downstream of a dam, weir or barrage. Tailwater includes all water passing the infrastructure, for example, controlled releases and uncontrolled overflows.