

# Resource Operations Licence

## Water Act 2000

### Name of licence

Border Rivers Water Supply Scheme Resource Operations Licence

### Name of holder

State of Queensland represented by the Department of Natural Resources, Mines and Energy

### Water plan

The licence relates to the Water Plan (Border Rivers and Moonie) 2019.

### 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: Watercourses to be used for distribution of supplemented water**

| Watercourse     | Description  |
|-----------------|--|
| Pike Creek      | From the upstream extent of the ponded area downstream to Glenlyon Dam at AMTD 6.4 km  |
| Pike Creek      | From Glenlyon Dam downstream to the confluence with Pike Creek (AMTD 6.4 km – 0.0 km)  |
| Dumaresq River  | From the confluence with Pike Creek downstream to the confluence the Macintyre River (AMTD 186.3 km – 0.0 km)  |
| Macintyre River | From the confluence with the Dumaresq River downstream to the confluence with the Weir River at Mascot (Macintyre River: AMTD 305.1 km to 35.2 km).  |
| Barwon River    | From the confluence with the Weir River at Mascot downstream to the Queensland-New South Wales border where the 29 parallel crosses the Barwon River (Barwon River: AMTD 35.2 km to 0.0 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 water sharing rules; and
  - 1.2.2 seasonal water assignment rules.

#### 2. Environmental management rule

2.1. The licence holder must aim to minimal adverse impact on water quality, bed and bank stability and fish through the maintenance and operation of the infrastructure in attachment 1.

2.2. The licence holder must monitor the impacts on aquatic ecosystems in accordance with attachment 2, part 1, division 2 of this licence.

### 3. Operating and supply arrangements

3.1. The licence holder must operate the infrastructure detailed in attachment 1, tables 1, 2 and 9, in accordance with:

3.1.1 water sharing arrangements agreed to by the State and New South Wales;

3.1.2 operating procedures established by the Dumaresq-Barwon Border Rivers Commission.

3.2. The licence holder must provide for essential supplies allowance for the Callandoon Water Supply Board and the Yambocully Water Board.

3.3. In this section—

**essential supplies allowance** means an annual supply to each water board for the purposes of improved stock and domestic supply in the creeks that the boards use for reticulation. The essential supplies allowance is—

(a) 201 megalitres for the Callandoon Water Supply Board; and

(b) 200 megalitres for the Yambocully Water Board.

### 4. Metering

4.1. The licence holder must meter the volume of water taken under all water allocations and seasonal water assignments managed under this licence unless an alternative method of measuring the volume of water taken is approved in writing by the chief executive.

### 5. Monitoring and reporting requirements

5.1. The licence holder must carry out and report on the monitoring requirements as set out in attachment 2.

5.2. The licence holder must provide any monitoring data required under condition 5.1 to the chief executive within a stated time upon request.

5.3. 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<sup>1</sup>.

5.4. The licence holder must ensure that the transfer of data and reporting are consistent with the Water Monitoring Data Reporting Standards<sup>2</sup>.

### 6. Inter-scheme trading agreement

6.1. There must be an inter-scheme trading agreement between the resource operations licence holder for the Border Rivers Water Supply Scheme and the resource operations licence holder for the Macintyre Brook Water Supply Scheme to facilitate the transfer or seasonal assignment of a water allocation between the Border Rivers Water Supply Scheme and the Macintyre Brook Water Supply Scheme.

6.2. The inter-scheme trading agreement must address—

6.2.1 resource operations licence holder monitoring and reporting requirements as per condition 5; and

---

<sup>1</sup> The Water Monitoring Data Collection Standards can be inspected at any of the department's offices or accessed online at: <[www.dnrm.qld.gov.au](http://www.dnrm.qld.gov.au)>

<sup>2</sup> The Water Monitoring Data Reporting Standards can be inspected at any of the department's offices or accessed online at: <[www.dnrm.qld.gov.au](http://www.dnrm.qld.gov.au)>

6.2.2 meter reading and water charges as per condition 4.

6.3. Subsection 6.2 does not limit matters that may be dealt with by the inter-scheme trading agreement.

## **7. Interstate trading agreement for supplemented water**

7.1. For an interstate trade of supplemented water to occur, there must be an interstate trading agreement<sup>3</sup> between the resource operations licence holder for the Border Rivers Water Supply Scheme and the scheme operator (or equivalent) in New South Wales to facilitate the transfer or seasonal assignment of a water allocation between the Border Rivers Water Supply Scheme and the scheme (or equivalent) in New South Wales.

7.2. The interstate trading agreement dealing with supplemented water must address the administrative arrangements for metering and collection of water use information for water accounting purposes (see attachment 2).

7.3. Subsection 7.2 does not limit matters that may be dealt with by the interstate trading agreement.

## **8. Other conditions**

8.1. Where there is inconsistency between the provisions in this licence and the provisions of any water sharing agreement between the State and New South Wales, then to the extent of the inconsistency, the water sharing agreement prevails.

8.2. 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 prescribed in attachment 2.

### **Commencement of licence**

The licence took effect on 17 March 2008.

Granted on 14 March 2008,

Amended on 31 July 2009 and 22 February 2019

**David Wiskar**

**Executive Director, Water Policy**

---

<sup>3</sup> Interstate trading is currently administered in accordance with Appendix E1 of the New South Wales and Queensland Intergovernmental Agreement 2008

# Attachment 1 Infrastructure details for Border Rivers Water Supply Scheme

**Table 1 Glenlyon Dam — Pike Creek**

| <b>Description of infrastructure</b> |  |
|--------------------------------------|--|
| Description                          | Earth and rock fill dam  |
| Full supply level                    | EL 412 m SD  |
| Minimum operating level              | EL 375.52 m SD   |
| Saddle dam(s)                        | Not applicable   |
| <b>Storage capacity</b>              |  |
| Full supply volume                   | 254 000 ML   |
| Minimum operating volume             | 1740 ML  |
| Storage curves                       | Drawing No.S37278  |
| <b>Spillway arrangement</b>          |  |
| Description of works                 | Concrete ogee crest spillway   |
| Spillway level                       | EL 412.00 m SD   |
| Spillway width                       | 69.0 metres  |
| Discharge characteristics            | Drawing no: IB1398 and 118284  |
| <b>River inlet/outlet works</b>      |  |
| Discharge characteristics            | The estimated maximum discharge capacity of the river outlet is 3300 ML/day. Estimated maximum additional discharge capacity through the bypass outlet is 240 ML/day |

**Table 2 Boggabilla Weir — Macintyre River**

| <b>Description of water infrastructure</b> |   |
|--|---|
| Description                                | Reinforced concrete and earth fill                      |
| Full supply level                          | EL 216.00 m AHD   |
| Minimum operating level                    | EL 210.50 m AHD   |
| Bed level                                  | EL 206.00 m AHD   |
| Saddle dam(s)                              | Block dam, earth fill                                   |
| <b>Storage volume and surface area</b>     |   |
| Full supply volume                         | 5850 ML   |
| Dead storage level                         | EL 210.50 m AHD   |
| Storage curves                             | Drawing no: A3-101516 and A3-102870                     |
| <b>Spillway arrangement</b>                |   |
| Description of works                       | Five fixed wheel vertical lift steel gates, 13.6 m wide |
| Spillway level                             | EL 210.50 m AHD   |
| Spillway width                             | 74.0 m  |
| <b>River inlet/outlet works</b>            |   |
| Discharge characteristics                  | Approximately 24 600 ML/day with 5 gates at 1 m high    |
| <b>Fishway</b>                             |   |
| Description                                | Vertical slot   |
| Fishway invert                             | 208.16m AHD (entrance) and EL 212.19 m AHD (exit)       |

**Table 3 Bonshaw Weir — Dumaresq River**

| <b>Description of infrastructure</b> |  |
|--------------------------------------|--|
| Description                          | Steel sheet piling   |
| Full supply level                    | EL 293.92 m AHD  |
| Bed level                            | EL 291.00 m AHD  |
| <b>Storage capacity</b>              |  |
| Full supply volume                   | 617 ML   |
| Dead storage level                   | EL 292.36 m AHD  |
| Storage Curves                       | Drawing No.S37891  |
| <b>Spillway arrangement</b>          |  |
| Description of works                 | Steel sheet crest  |
| Spillway level                       | EL 293.92 m AHD  |
| Spillway width                       | 115.0 m  |
| <b>River inlet/outlet works</b>      |  |
| Discharge characteristics            | The estimated maximum discharge capacity of the left bank outlet is 85 ML/day and right bank outlet is 53 ML/day |

**Table 4 Cunningham Weir — Dumaresq River**

| <b>Description of infrastructure</b> |  |
|--------------------------------------|--|
| Description                          | Timber piled   |
| Full supply level                    | EL 253.90 m SD   |
| Bed level                            | EL 249.20 m SD   |
| <b>Storage capacity</b>              |  |
| Full supply volume                   | 543 ML (Based on original construction drawings. Height of weir has been reduced by approximately 0.9 m due to deterioration and therefore a corresponding reduction must be assumed.) |
| Dead storage level                   | EL 249.20 m SD   |
| Storage curves                       | Drawing No.S42641  |
| <b>Spillway arrangement</b>          |  |
| Description of works                 | Timber crest   |
| Spillway level                       | EL 253.90 m SD   |
| Spillway width                       | 79.00 m  |
| <b>River inlet/outlet works</b>      |  |
| Discharge characteristics            | The estimated maximum discharge capacity of the two right bank outlets is 26 ML/day and 72 ML/day  |

**Table 5 Glenarbon Weir – Dumaresq River**

| <b>Description of infrastructure</b> |  |
|--------------------------------------|--|
| Description                          | Steel sheet piling   |
| Full supply level                    | EL 246.89 m SD   |
| Bed level                            | EL 244.20 m SD   |
| <b>Storage capacity</b>              |  |
| Full supply volume                   | 353 ML   |
| Dead storage level                   | EL 245.36 m SD   |
| Storage curves                       | Drawing no: F42637   |
| <b>Spillway arrangement</b>          |  |
| Description of works                 | Steel sheet crest  |
| Spillway level                       | EL 246.89 m SD   |
| Spillway width                       | 51.21 m  |
| <b>River inlet/outlet works</b>      |  |
| Discharge characteristics            | The estimated maximum discharge capacity of the right bank outlet is 77 ML/day and for the two left bank outlets 54 ML/day and 35 ML/day |
| <b>Fishway</b>                       |  |
| Description                          | Pool and weir  |
| Fishway invert                       | EL 246.89m SD (exit) and EL 246.51 m SD (entrance)   |

**Table 6 Goondiwindi Weir – Macintyre River**

| <b>Description of infrastructure</b> |                                  |
|--------------------------------------|----------------------------------|
| Description                          | Timber crib                      |
| Full supply level                    | EL 209.05 m AHD                  |
| Bed level                            | EL 205.90 m AHD                  |
| <b>Storage capacity</b>              |                                  |
| Full supply volume                   | 1800 ML                          |
| Dead storage level                   | Not applicable                   |
| Storage curves                       | Drawing no: A3-39484 and 47/2039 |
| <b>Spillway arrangement</b>          |                                  |
| Description of works                 | Timber crest                     |
| Spillway level                       | EL 209.05 m AHD                  |
| Spillway width                       | 57.0 m                           |
| <b>River inlet/outlet works</b>      |                                  |
|                                      | Nil                              |
| <b>Fishway</b>                       |                                  |
| Description                          | Rock ramp                        |
| Fishway invert                       | EL 209.05 m AHD                  |

**Table 7 Boomi Weir – Macintyre River**

| <b>Description of infrastructure</b> |   |
|--------------------------------------|---|
| Description                          | Steel sheet piling  |
| Full supply level                    | EL 184.29 m AHD   |
| Bed level                            | EL 180.20 m AHD   |
| <b>Storage capacity</b>              |   |
| Full supply volume                   | 150 ML  |
| Dead storage level                   | EL 181.24 m AHD (cease to flow)                                     |
| Storage curves                       | Drawing no: A3-74955  |
| <b>Spillway arrangement</b>          |   |
| Description of works                 | Steel sheet crest   |
| Spillway level                       | EL 184.29 m AHD   |
| Spillway width                       | 35.0 m  |
| <b>River inlet/outlet works</b>      |   |
| Discharge characteristics            | The estimated maximum discharge capacity of the outlet is 71 ML/day |

**Table 8 Mungindi Weir – Barwon River**

| <b>Description of infrastructure</b> |                    |
|--------------------------------------|--------------------|
| Description                          | Steel sheet piling |
| Full supply level                    | EL 156.20 m AHD    |
| Bed level                            | EL 152.60 m AHD    |
| <b>Storage capacity</b>              |                    |
| Full supply volume                   | 730 ML             |
| Dead storage level                   | Not applicable     |
| Storage curves                       | Not applicable     |
| <b>Spillway arrangement</b>          |                    |
| Description of works                 | Steel sheet crest  |
| Spillway level                       | EL 156.20 m AHD    |
| Spillway width                       | 35.0 m             |
| <b>River inlet/outlet works</b>      |                    |
|                                      | Nil                |

**Table 9 Newinga Regulator**

| <b>Description of infrastructure</b> |  |
|--------------------------------------|--|
| Description                          | Reinforced concrete with aluminium drop boards |
| Bed level                            | EL 175.40 m AHD                                |
| <b>Regulator arrangement</b>         |  |
| Number of drop board bays            | 5  |
| Width of drop board bays             | 2 m  |
| Height of drop board bays            | 2.6 m  |

# Attachment 2 Licence holder monitoring and reporting

## Part 1 Monitoring requirements

### Division 1 Water quantity

#### 1 Stream flow and storage water level

- (1) The licence holder must record water level and flow data in accordance with attachment 2, table 1.
- (2) Notwithstanding subsection (1), where continuous time series data is not available, daily water level data may be recorded.
- (3) Storage inflow may be determined based upon a storage inflow derivation technique supplied by the licence holder and approved by the chief executive.
- (4) Tailwater flows may be estimated using the release curve developed for the discharge works by the licence holder and approved by the chief executive.

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

| Location                  | Water level data | Daily flow data |
|---------------------------|------------------|-----------------|
| Glenlyon Dam headwater    | ✓                |                 |
| Glenlyon Dam tailwater    |                  | ✓               |
| Boggabilla Weir headwater | ✓                |                 |
| Boggabilla Weir tailwater |                  | ✓               |

#### 2 Releases from storages

- (1) This section applies to the following storages—
  - (a) Glenlyon Dam; and
  - (b) Boggabilla Weir.
- (2) The licence holder must measure and record for each storage outlet—
  - (a) the daily volume released;
  - (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 the component volumes for each release.

#### 3 Distributions to bulk storage accounts

The licence holder must record details of the distribution of water—

- (a) to each bulk storage account; and
- (b) the date that each distribution occurred.

#### 4 Distributions to individual storage accounts

The licence holder must record details of the distribution of water—

- (a) to each individual storage account; and
- (b) the date that each distribution occurred.



## 5 Water taken by water users

The licence holder must measure and record for each water allocation and for each zone—

- (a) the total volume of water taken;
- (b) the total volume of water entitled to be taken; and
- (c) the basis for determining the total volume of water entitled to be taken.

## 6 Seasonal water assignments

The licence holder must record details of each seasonal water assignment, including the following—

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

# Division 2 Impact of storage operation on aquatic ecosystems

## 7 Water quality

In accordance with condition 5.3, the licence holder must monitor and record water quality in relation to relevant infrastructure listed in attachment 1.

## 8 Bank condition

- (1) The licence holder must inspect banks for evidence of collapse and/or erosion identified 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 storages; 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.

## 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 in attachment 1, table 1, to determine if any instance of fish stranding is associated with the operation of that infrastructure.

# Part 2 Reporting requirements

## 10 Reporting requirements

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

- (a) Quarterly report;
- (b) Annual report;
- (c) Operational report;
- (d) Emergency report; and
- (e) Other reporting.

## **Division 1 Quarterly reporting**

### **11 Quarterly report**

The licence holder must submit a quarterly report to the chief executive where quarters commence from 1 July—

- (a) water level data—all records referred to under section 1;
- (b) water quality—all records referred to under section 7; and
- (c) summary of bank condition monitoring and incidences of slumping carried out in accordance with section 8.

## **Division 2 Annual reporting**

### **12 Annual report**

- (1) The licence holder must submit an annual report to the chief executive each water year.
- (2) The annual report must include—
  - (a) water quantity as described in section 13;
  - (b) details of the impact of storage operation on natural ecosystems as required under section 14; and
  - (c) a discussion on any issues that arose as a result of the implementation and application of the rules and requirements in this licence.

### **13 Water quantity monitoring—annual report**

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

- (a) the total annual volume of water taken by each supplemented water user, specified by zone, including—
  - (i) the total volume of water taken under water entitlements;
  - (ii) the total volume of water entitled to be taken under water entitlements; and
  - (iii) the basis for determining the total volume entitled to be taken;
- (b) the total number and volume of seasonal water assignments into and out of each zone;
- (c) all details of changes to storages and delivery infrastructure, or the operation of storage and delivery infrastructure that may impact on compliance with this licence;
- (d) details of any new monitoring devices used such as equipment to measure stream flow.

### **14 Impact of water storage operation on natural ecosystems—annual report**

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

- (a) a summary of bank condition and fish stranding monitoring and assessment, including—

- (i) results of investigations of bank slumping or erosion identified in ponded areas and/or downstream of storages;
  - (ii) results of any investigations of fish stranding downstream of storages;
  - (iii) changes to operation of storages to reduce instances of bank slumping, erosion or fish stranding;
- (b) provide a summary of operational release decisions made including an evaluation of the effectiveness of those decisions in preventing or mitigating any adverse impacts on the aquatic ecosystems;
- (c) a discussion and assessment of the following water quality issues—
- (i) thermal and chemical stratification in each storage;
  - (ii) the impact of the storage and its management on the quality of water released;
  - (iii) cumulative effect of successive storages on water quality; and
  - (iv) cyanobacteria population changes in response to stratification in each storage;
- (d) any proposed changes to the monitoring program as a result of evaluation of the data.

### Division 3 Operational reporting

#### 15 Operational report

- (1) The licence holder must notify the chief executive within one business day—
- (a) upon becoming aware of any of the following operational incidents—
    - (i) non-compliance by the licence holder with this licence or with the operating and supply arrangements in the approved operations manual for this licence; and
    - (ii) instances of fish stranding and kills, blue-green algae growth or bank slumping within ponded areas or downstream of storages associated with the operation of the Border Rivers Water Supply Scheme;
  - (b) with details of any arrangements for addressing circumstances where the licence holder is unable to supply water allocations.
- (1) The licence holder must provide the chief executive, upon request and within the timeframe requested, a report which includes details of—
- (a) a report on the occurrence of any of the operational incidents discussed under subsection (1)(a) which must include details of—
    - (i) the incident;
    - (ii) the conditions under which the incident occurred; and
    - (iii) any responses or activities carried out as a result of the incident;
  - (b) relevant supporting information used in making a decision relating to any restrictions on the supply of high priority water allocations.

### Division 4 Emergency reporting

#### 16 Emergency report<sup>4</sup>

For any emergency where, as a result of the emergency, the licence holder cannot comply with the conditions of this licence, the licence holder must—

- (a) notify the chief executive upon discovery of the emergency; and
- (b) provide a report to the chief executive within five business days of notification, including—

---

<sup>4</sup> This does not preclude requirements for dam safety under the *Water Act 2000* and any other applicable legislation.

- (i) details of the emergency;
- (ii) the conditions under which the emergency occurred;
- (iii) any responses or activities carried out as a result of the emergency; and
- (iv) any rules and requirements under this licence that the licence holder is either permanently or temporarily unable to comply with due to the emergency.

## **Division 5      Other reporting**

### **17      Reporting to the Dumaresq–Barwon Border Rivers Commission**

The licence holder must provide data on water use and other information as required by the Dumaresq–Barwon Border Rivers Commission to undertake regular resource assessments.

## Attachment 3 Dictionary

| Term                         | Definition  |
|------------------------------|---|
| AMTD                         | Adopted middle thread distance: the distance in kilometres, measured along the middle of a watercourse, from a specific point in the watercourse to the watercourse's mouth, the watercourse's junction with the main watercourse or the border between the State and New South Wales.                      |
| 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 who transfers an interest or right in water to an assignee (e.g. a seasonal assignment).   |
| cease to flow level          | For a waterhole, the level at which water stops flowing from a waterhole over its downstream control.   |
| component volumes            | The volume of water associated with a particular release.   |
| dead storage level           | The volume of water within the ponded area of a storage that cannot be released or taken from the storage under normal operating conditions.  |
| 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 metres per second (cumecs, m <sup>3</sup> /s) or in megalitres per day (ML/day).   |
| EL                           | Elevation   |
| essential supplies allowance | An annual supply to each water board for the purposes of improved stock and domestic supply in the creeks that the boards use for reticulation. The essential supplies allowance is—<br>(a) 201 megalitres for the Callandoon Water Supply Board; and<br>(b) 200 megalitres for the Yambocully Water Board. |
| headwater level              | The level (or elevation) of the water immediately upstream of a dam, weir, or other hydraulic structure.  |
| inlet                        | Infrastructure comprised of an entrance channel, intake structure, and gate or valve which allows for water to be taken from the storage and discharged into the watercourse downstream of the storage.   |
| interstate trade             | A trade of a water allocation made between States in accordance with this plan.   |
| m AHD                        | The Australian height datum, which references a level or height to a standard base level in metres.   |
| minimum operating level      | For a dam or weir, is the volume of water within the ponded area of the storage that cannot be released or used from the storage under normal operating conditions.   |
| ponded area                  | Area of inundation at full supply level of a storage.   |
| priority distribution        | A distribution of water to each medium priority water allocation holder, following the start of each water year, to provide for up to a maximum balance of 60 megalitres in each individual storage account irrespective of the size of the individual storage account.                                     |
| quarter or quarterly         | Three-monthly intervals commencing at the start of the water year.  |
| resource assessment          | An assessment undertaken by the Dumaresq–Barwon Border Rivers Commission to determine availability of uncommitted water resources to be shared between states. Refer to water sharing agreement under the <i>New South Wales–Queensland Border Rivers Act 1946</i> .  |
| SD                           | State datum   |
| tailwater level              | The level (or elevation) of the water immediately downstream of a dam, weir or other hydraulic structure.   |
| water year                   | The period from 1 July to 30 June.  |