

# Resource Operations Licence

## Water Act 2000



### **Name of licence**

Lower Mary River Water Supply Scheme Resource Operations Licence

### **Holder**

Sunwater Limited

### **Water plan**

The licence relates to the Water Plan (Mary Basin) 2006.

### **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 following watercourses for the distribution of supplemented water—

- (a) Mary River from the Mary Barrage at AMTD 59.3 km to AMTD 85.0 km;
- (b) Minni Minni Creek from AMTD 0.0 km to the Owanyilla Diversion Channel outlet; and
- (c) Tinana Creek from AMTD 1.6 km to AMTD 15.8 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 and other rules**

The licence holder must comply with the requirements as detailed in attachment 2.

#### **3. Metering**

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<sup>1</sup>.
- 4.4. The licence holder must ensure that the transfer of data and reporting are consistent with the Water Monitoring Data Reporting Standards<sup>1</sup>.

## 5. Other conditions

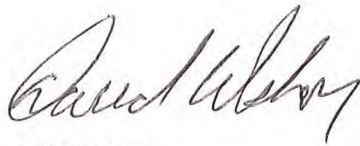
- 5.1. There must be an inter-scheme trading and bulk water transfer agreement between the resource operations licence holder for the Lower Mary River Water Supply Scheme and the resource operations licence holder for the Teddington Weir Water Supply Scheme as set out in attachment 4.
- 5.2. The operating 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 requirements for operational or emergency reporting prescribed in attachment 3.

## Commencement of licence

The licence took effect on 5 September 2011.

**Granted on 5 September 2011**

**Amended under section 1259 of the *Water Act 2000* on 6 April 2021**



**David Wiskar**

**Executive Director, Water Policy**

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<sup>1</sup> The Water Monitoring Data Collection Standards and Water Monitoring Data Reporting Standards can be accessed online at [www.business.qld.gov.au](http://www.business.qld.gov.au).

# Attachment 1 Infrastructure details for Lower Mary River Water Supply Scheme

*Table 1 – Mary Barrage—Mary River AMTD 59.3 km*

| <b>Description of water infrastructure</b> |   |
|--|---|
| Description                                | Tidal barrage   |
| Full supply level                          | EL 2.9 m AHD  |
| <b>Storage capacity</b>                    |   |
| Full supply volume                         | 12 000 ML   |
| Minimum operating volume                   | 5050 ML   |
| Storage curves/tables                      | A3-101469, A3-101470  |
| <b>Spillway arrangement</b>                |   |
| Description of works                       | No separate spillway, surplus water flows over the full width of the crest  |
| Levels                                     | EL 2.9 m AHD  |
| Spillway width                             | 125 m   |
| Discharge characteristics                  | Not available at the time of publication  |
| <b>River inlet/outlet works</b>            |   |
| Description of works                       | Water can be released through a 750 mm diameter outlet pipe, or via the fish ladder through a 380 mm diameter slide gate        |
| Inlet                                      | Water can be released through a 750 mm diameter outlet pipe, or via the fish ladder through a 380 mm diameter slide gate.       |
| Cease to flow levels                       | Effective minimum operating level is EL 0.15 m AHD  |
| Discharge characteristics                  | Not available at the time of publication  |
| <b>Fish transfer system</b>                |   |
| Description of works                       | Vertical slot (central slot with baffle) on right abutment. Fish ladder cannot operate if barrage level less than EL 1.7 m AHD. |

**Table 2 – Tinana Barrage—Tinana Creek AMTD 1.6 km**

| <b>Description of water infrastructure</b> |   |
|--|---|
| Description                                | Tidal barrage   |
| Full supply level                          | EL 2.5 m AHD  |
| <b>Storage capacity</b>                    |   |
| Full supply volume                         | 4750 ML   |
| Minimum operating volume                   | 2015 ML   |
| Storage curves/tables                      | S44683D   |
| <b>Spillway arrangement</b>                |   |
| Description of works                       | No separate spillway, surplus water flows over the full width of the crest  |
| Levels                                     | EL 2.5 m AHD  |
| Spillway width                             | 72 m  |
| Discharge characteristics                  | 2000 m <sup>3</sup> /s at water level EL 3.6 m AHD and low tide (drawing no. 51998)   |
| <b>River inlet/outlet works</b>            |   |
| Description of works                       | Water can be released via the fish ladder through a 1700 x 600 mm diameter slide gate   |
| Inlet                                      | Water can be released via the fish ladder through a 1700 x 600 mm diameter slide gate   |
| Cease to flow levels                       | EL 1.9 m AHD for fishway releases   |
| Discharge characteristics                  | Drawing no: 253560-A  |
| <b>Fish transfer system</b>                |   |
| Description of works                       | Weir with alternative notches and small orifice on right abutment. Fish ladder cannot operate if barrage level less than EL 1.9 m AHD |

# 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 reduction or increase in the rate of release of water from storages in the Lower Mary River Water Supply Scheme occurs incrementally.

# 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 and stream flow data in accordance with attachment 3, table 1.
- (2) Infrastructure inflows may be determined based upon an infrastructure inflow derivation technique supplied by the licence holder and approved by the chief executive.
- (3) Tailwater flows may be estimated using the release curve developed for the discharge works that has been supplied by the licence holder and approved by the chief executive.

*Table 1 – Locations where continuous time series water data recording required*

| Location                 | Storage water level and volume data | Daily flow data |
|--------------------------|-------------------------------------|-----------------|
| Mary Barrage inflow      |                                     | ✓               |
| Mary Barrage headwater   | ✓                                   |                 |
| Mary Barrage tailwater   |                                     | ✓               |
| Tinana Barrage inflow    |                                     | ✓               |
| Tinana Barrage headwater | ✓                                   |                 |
| Tinana Barrage tailwater |                                     | ✓               |

#### 2 Releases from storages

- (1) This section applies to infrastructure to which this licence applies.
- (2) The licence holder must measure and record for each storage outlet—
  - (a) the daily volume released and component volumes for each release;
  - (b) the release rate, and for each change in release rate—
    - (i) the date and time of the change; and
    - (ii) the new release rate;
  - (c) the device used for each release;
  - (d) the reason for each release.

### **3 Water diversions**

The licence holder must record daily volumes of water diverted—

- (a) from the Mary Barrage to Owanyilla Diversion Channel;
- (b) from the Mary Barrage to Teddington Weir;
- (c) from the Mary Barrage to Minni Minni Creek; and
- (d) from the Mary Barrage to Copenhagen Bend Pipeline.

### **4 Announced allocations**

The licence holder must record details of announced allocation determinations, including—

- (a) the announced allocations for medium priority water allocations;
- (b) the date announced allocations are determined; and
- (c) the value of each parameter applied when calculating the announced allocation.

### **5 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) 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; and
- (d) the effective date of the seasonal water assignment.

### **6 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; and
- (c) the basis for determining the total volume of water entitled to be taken any time.

## **Division 2 Impact of storage operation on natural ecosystems**

### **7 Water quality**

The licence holder must monitor and record water quality data in relation to infrastructure to which this licence applies.

### **8 Bank condition**

- (1) The licence holder must inspect banks for evidence of collapse and/or erosion within the ponded area and downstream of the infrastructure to which this licence applies following instances of—
  - (a) rapid water level changes; or
  - (b) large flows through infrastructure; or

- (c) other occasions when collapse and/or erosion of banks may be likely.
- (2) The distance downstream is the distance of influence of storage operations.
- (3) Any instances of bank slumping or erosion observed must be investigated to determine if the instability was associated with the nature or operation of the infrastructure.

## 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 infrastructure to which this licence applies 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 reports;
- (b) annual reports; and
- (c) operational or emergency reports.

## Division 1 Quarterly reporting

### 11 Quarterly reporting

- (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 report must contain the following data—
  - (a) stream flow and storage water level as required under section 1;
  - (b) releases from storages as required under section 2;
  - (c) water diversions as required under section 3;
  - (d) water quality as required under section 7;
  - (e) a summary of bank condition monitoring and incidences of slumping carried out in accordance with section 8;
  - (f) for each quarter, the total volume of water—
    - (i) taken for each zone; and
    - (ii) entitled to be taken for each zone.

## Division 2 Annual reporting

### 12 Annual reporting by the licence holder

- (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 water quality 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 of this licence.

### 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 the initial announced allocation and for each change made to an announced allocation;
- (b) for the water year, 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;
- (c) details of seasonal water assignments, namely—
  - (i) the total number of seasonal water assignment arrangements; and
  - (ii) the total volume of water seasonally assigned;
- (d) all details of changes to infrastructure or the operation of infrastructure that may impact on compliance with the rules in this licence; and
- (e) details of any new monitoring devices used, such as equipment to measure stream flow.

### 14 **Impact of storage operation on natural ecosystems**

The licence holder must include in the annual report—

- (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 or erosion identified in ponded areas or downstream of infrastructure;
  - (ii) results of investigations of fish stranding downstream of infrastructure; and
  - (iii) changes to the operation of infrastructure to reduce instances of bank slumping, erosion 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 3 Operational or emergency reporting

### 15 Operational or emergency reporting<sup>2</sup>

- (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 rules given in this licence;
    - (ii) instances of fish stranding or bank slumping within the ponded areas or downstream of the water infrastructure to which this licence relates or watercourses associated with the operation of this water supply scheme; and
  - (b) upon making a decision relating to—
    - (i) an initial announced allocation and/or its revision; and
    - (ii) any restrictions on the taking of medium priority water; and
    - (iii) details of any arrangements for addressing circumstances where they are unable to supply water allocations;
  - (c) on discovery 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 the chief executive with a report which includes details of—
  - (a) the incident or emergency;
  - (b) the conditions under which the incident or emergency occurred; and
  - (c) responses or activities carried out as a result of the incident or emergency; and
  - (d) in relation to an emergency only report any requirements under this licence that the licence holder is either permanently or temporarily unable to comply with due to the emergency.
- (3) The licence holder must provide the chief executive with a summary of any other non-compliances by the licence holder with the rules given in this licence.
- (4) The licence holder must provide the chief executive with relevant supporting information used in making a decision relating to—
  - (i) an initial announced allocation and/or its revision; and
  - (ii) any restrictions on the taking of medium priority water.

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<sup>2</sup> 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.

# Attachment 4 Rules for inter-scheme trading and bulk transfer agreement

## 1 Inter-scheme trading and bulk water transfer agreement

- (1) There must be an inter-scheme trading and bulk water transfer agreement between the licence holder for the Lower Mary River Water Supply Scheme and the resource operations licence holder for the Teddington Weir Water Supply Scheme.
- (2) The agreement must address—
  - (a) licence holder monitoring and reporting requirements;
  - (b) meter reading and water charges;
  - (c) a change of location of a water allocation between zone LMRS1 in the Lower Mary River Water Supply Scheme and zone TESTW in the Teddington Weir Water Supply Scheme;
  - (d) seasonal assignment of water between zone LMRS1 in the Lower Mary River Water Supply Scheme and zone TESTW in the Teddington Weir Water Supply Scheme; and
  - (e) transfer of water from the Lower Mary River Water Supply Scheme to the Teddington Weir Water Supply Scheme.
- (3) Subsection (2) does not limit matters that may be dealt with by the inter-scheme trading and bulk water transfer agreement.

## Attachment 5 Glossary

| Term                     | Definition   |
|--------------------------|--|
| AHD                      | The Australian height datum which references a level or height to a standard base level.   |
| AMTD                     | Adopted Middle Thread Distance. The distance in kilometres, measured along the middle of a watercourse, from the mouth or junction.  |
| Announced allocation     | For a water allocation managed under this licence, this means a number, expressed as a percentage, 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 who transfers an interest or right in water to an assignee (e.g. a seasonal assignment).  |
| Barrage                  | A barrier constructed across a watercourse to prevent the inflow of tidal water.   |
| Component volumes        | The volume of water associated with a particular release. For example, a component volume may be released via a fish way or valve.   |
| EL                       | Elevation level.   |
| Emergency                | Includes an occurrence that, by the nature of its severity, extent or timing might be regarded as an emergency (for example contamination of water supply, structural damage to infrastructure or a danger to human health).   |
| Fish stranding           | Refers to fish that are stranded or left out of water on the bed or banks of a watercourse, on infrastructure such as spillways and causeways, or isolated in small and or shallow pools, from which they cannot return to deeper water. This also applies to other aquatic species. |
| 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.   |
| Licence holder           | The holder of the resource operations licence for the Lower Mary Water Supply Scheme.  |
| Location                 | For water allocation, means the zone from which water under the water allocation can be taken.   |
| Megalitres (ML)          | One million litres.  |
| Minimum operating level  | The level or elevation 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 storage, dam, or weir below which water cannot be released or taken from the infrastructure under normal operating conditions.   |
| Ponded area              | Area of inundation at full supply level of storage.  |
| Quarter or quarterly     | Three-monthly intervals commencing at the start of the water year.   |
| Tailwater                | The flow of water immediately downstream of a dam or weir. Tailwater includes all water passing the water storage, for example controlled releases and uncontrolled overflows.   |

| Term | Definition  |
|------|---|
| Zone | A geographic location defined by a reach of a watercourse. Zones define the location of a water allocation and operational arrangements under this licence and associated operations manual. Zones are defined in the Water Plan (Mary Basin) 2006. |

