

Resource Operations Licence

Water Act 2000



Name of licence

Nogoa Mackenzie Water Supply Scheme Resource Operations Licence

Holder

Sunwater Limited

Water plan

The licence relates to the Water Plan (Fitzroy Basin) 2011.

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
Nogoa River	from the upstream limit of Fairbairn Dam (AMTD 737.5 km) to the Comet River junction (AMTD 611.5 km)
Mackenzie River	from the Comet River junction (AMTD 611.5 km) to the Springton Creek junction (AMTD 339.3 km)
Retreat Creek	from the confluence of Drain RR6 (approximately AMTD 9.5 km) to the Blair Athol Railway line crossing of Retreat Creek (approximately AMTD 3.0 km) by supplemented water releases from Emerald irrigation area

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 all water allocations and seasonal water assignments to which the licence holder distributes water.

4. Notification requirements

- 4.1. The licence holder must comply with the requirements as detailed in Attachment 3.

5. Monitoring and reporting requirements

- 5.1. The licence holder must carry out and report on the monitoring requirements as set out in Attachment 4.
- 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 Standards¹.
- 5.4. The licence holder must ensure that the transfer of data and reporting are consistent with the Water Monitoring Data Reporting Standards¹.

6. Other conditions

- 6.1. 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 4.
- 6.2. 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 5, if the holder proposes to operate in a way that does not meet the requirements of this licence.
- 6.3. Where there is conflict between the requirements of this licence and a program, the program prevails for the time it is in place
- 6.4. 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.
- 6.5. 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 18 May 2006.

Granted on 18 May 2006.

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

Jarrold 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 Nogoia Mackenzie Water Supply Scheme

Table 1 – Fairbairn Dam—Nogoia River AMTD 685.6 km

Description of water infrastructure	
Main embankment	Earth fill dam.
Full supply level	EL 204.23 m AHD.
Fixed crest level	EL 204.23 m AHD.
Saddle dam(s)	Six saddle dams. Saddle dam 3 has a concrete chute spillway.
Fabridams	Nil.
Gates	Nil.
Storage volume and surface area	
Full supply volume	1 301 000 ML.
Dead storage volume	12 300 ML.
Surface area/elevation and storage volume/elevation relationship	Natural Resources Drawing No. A3-203831 & A3-203832 (19/09/96).
Spillway arrangement	
Description of works	Curved approach channel to a mass concrete ogee crest. Concrete lined chute with energy dissipaters.
Spillway level	EL 204.23 m AHD.
Spillway width	167.64 metres.
Discharge characteristics	Irrigation and Water Supply Commission spillway discharge curve No. L42944 1054-D1189 (Aug 1974).
River inlet/outlet works	
Description of works	An intake tower, equipped with two 1200 mm by 1800 mm regulating gates, diverting under gravity via a 6.1 metre diameter tunnel to headworks controlled by one vertical lift gate for releases to the Nogoia River. Methods may be employed to enable a maximum discharge capacity of up to 400 ML/day when the level of water stored in Fairbairn Dam is between EL 190.71 m AHD and EL 185.85 m AHD.
Multi-level inlet	Works do not accommodate selective withdrawal.
Cease to flow level	EL 190.71 m AHD (river outlet).
Discharge characteristics	Right bank outlet (River & Weemah Channel) L42946 1054-D1191 (Aug 1974) The existing maximum discharge capacity of the river outlet is approximately 600 ML/day. There is an additional siphon outlet which has a capacity of approximately 1600 ML/day.
Fish transfer system	
Description of works	Nil.
Local supply area and upstream storage	
Local supply area	Fairbairn Dam pond and downstream to, but excluding, Bedford Weir pond.
Upstream storage	Not applicable.

Table 2 – Selma Weir–Nogoa River AMTD 668.7 km

Description of water infrastructure	
Main embankment	Mass concrete weir.
Full supply level	EL 170.39 m AHD.
Fixed crest level	EL 170.39 m AHD.
Saddle dam(s)	Nil.
Fabridams	Nil.
Gates	Nil.
Storage volume and surface area	
Full supply volume	1180 ML.
Dead storage volume	25 ML.
Surface area/elevation and storage volume/elevation relationship	Drawing No. F35379 (27/6/73).
Spillway arrangement	
Description of works	Mass concrete ogee crest.
Spillway level	EL 170.39 m AHD.
Spillway width	From left to right along structure: EL 170.39 m AHD (der)—Length 23.77 metres. EL 171.92 m AHD (der)— Length 54.86 metres. EL 171.31 m AHD (der)—Length 34.75 metres. EL 171.00 m AHD (der)—Length 34.75 metres.
Discharge characteristics	Irrigation and Water Supply Commission Drawing No. F-12400 (5/3/54).
River inlet/outlet works	
Description of works	Outlet works: 300 mm RC pipe with a gate valve at the concrete outlet box.
Multi-level inlet	Single-level offtake only.
Cease to flow level	Outlet works: Invert EL 165.52 m AHD.
Discharge characteristics	Maximum discharge capacity of approximately 35 ML/day.
Fish transfer system	
Description of works	Nil.
Local supply area and upstream storage	
Local Supply Area	Fairbairn Dam pond and downstream to, but excluding, Bedford Weir pond.
Upstream storage	Fairbairn Dam.

Table 3 – Bedford Weir–Mackenzie River AMTD 548.8 km

Description of water infrastructure	
Main embankment	Mass concrete weir with fabridam.
Full supply level	EL 124.0 m AHD.
Fixed crest level	EL 122.80 m AHD.
Saddle dam(s)	Nil.
Fabridams	1.2 m fabridam.
Gates	Nil.
Storage volume and surface area	
Full supply volume	22 900 ML.
Dead storage volume	3290 ML.
Surface area/elevation and storage volume/elevation relationship	Department of Primary Industries (Water Resources) Storage Curve No. A3-110858A (22/3/96).
Spillway arrangement	
Description of works	Reinforced concrete crest (with deflated dam).
Spillway level	EL 122.80 m AHD.
Spillway width	185.90 metres.
Discharge characteristics	Ref: SWP ES, Bedford Weir Stage 2 Weir Operation, July 97.
River inlet/outlet works	
Description of works	Original outlet works: Concrete outlet recess. 750 mm diameter RC pipe controlled by a gate valve in the downstream end. New outlet works: 1200 mm by 1200 mm square unlined conduit cut from the original mass concrete monolith, controlled by 1200 mm by 1200 mm roller gate.
Multi-level inlet	New inlet works have selective withdrawal capabilities.
Cease to flow level	Original outlet works: EL 112.88 m AHD. New outlet works: EL 116.08 m AHD.
Discharge characteristics	Maximum design discharge capacity of original outlet 160 ML/day. Maximum design discharge capacity of new outlet 890 ML/day. Ref: SWP ES, Bedford Weir Stage 2 Weir Operation, July 97.
Fish transfer system	
Description of works	Nil.
Local supply area and upstream storage	
Local Supply Area	Bedford Weir pond and downstream to, but excluding, Bingegang Weir pond.
Upstream storage	Fairbairn Dam.

Table 4 – Bingegang Weir–Mackenzie River AMTD 489.2 km

Description of water infrastructure	
Main embankment	Mass concrete weir.
Full supply level	EL 102.90 m AHD.
Fixed crest level	EL 102.90 m AHD.
Saddle dam(s)	Nil.
Fabridams	Nil.
Gates	Nil.
Storage volume and surface area	
Full supply volume	8060 ML.
Dead storage volume	1400 ML.
Surface area/elevation and storage volume/elevation relationship	Natural Resources Storage Curve No. A3–110940 (22/5/96).
Spillway arrangement	
Description of works	Reinforced concrete crest.
Spillway level	EL 102.90 m AHD.
Spillway width	107.30 metres.
Discharge characteristics	Ref: SWP ES, Bingegang Weir Stage 2 Weir Operation, June 97.
River inlet/outlet works	
Description of works	Original outlet works: 600 mm diameter pipe controlled by a 450 mm diameter gate valve with a 150 mm diameter scour around gate valve. New outlet works: 1200 mm by 1200 mm square unlined conduit cut from the original mass concrete monolith, controlled by 1200 mm by 1200 mm roller gate.
Multi-level inlet	Single-level offtake only.
Cease to flow level	Original outlet works: EL 94.81 m AHD. Invert level of scour: EL 94.97 m AHD. New outlet works: EL 98.74 m AHD.
Discharge characteristics	Maximum design discharge capacity of original outlet 92 ML/day. Maximum design discharge capacity of new outlet 690 ML/day. Ref: SWP ES, Bingegang Weir Stage 2 Weir Operation, June 97.
Fish transfer system	
Description of works	Nil.
Local supply area and upstream storage	
Local Supply Area	Bingegang Weir pond and downstream to, but excluding, Tartus Weir pond.
Upstream storage	Bedford Weir.

Table 5 – Tartrus Weir–Mackenzie River AMTD 429.5 km

Description of water infrastructure	
Main embankment	Mass concrete weir.
Full supply level	EL 81.75 m AHD.
Fixed crest level	EL 81.75 m AHD.
Saddle dam(s)	Nil.
Fabridams	Nil.
Gates	Nil.
Storage volume and surface area	
Full supply volume	12 000 ML.
Dead storage volume	2530 ML.
Surface area/elevation and storage volume/elevation relationship	Queensland Water Resources Commission Storage Curve No. A3-72973 (27/1/87).
Spillway arrangement	
Description of works	Central reinforced concrete ogee crest.
Spillway level	EL 81.75 m AHD.
Spillway width	170.0 metres.
Discharge characteristics	Drawing No. 158999 E-A4-1989 (18/12/89) as submitted to the department on 30/3/01.
River inlet/outlet works	
Description of works	Outlet works: 1200 mm diameter RC pipe controlled by a circular opening penstock.
Multi-level inlet	Single-level offtake.
Cease to flow level	Outlet works: EL 76.85 m AHD. Nib: EL 76.9 m AHD (cease to flow level).
Discharge characteristics	Queensland Water Resources Commission outlet rating curve No. CQ-A2-4903.
Fish transfer system	
Description of works	Nil.
Local supply level/area	
Local Supply Area	Tartrus Weir pond and downstream to Springton Creek junction.
Upstream storage	Bingegang Weir.

Attachment 2 Environmental management rules

1 Definitions for Attachment 2

estimated daily inflow, for a storage, means the inflow into a storage measured at the closest upstream gauging station or local headwater gauging station.

2 Quality of water released

Where a storage is fitted with multi-level inlet works, the licence holder must draw water from the inlet level that optimises the quality of water released.

3 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 a storage into a watercourse occurs incrementally.

4 Seasonal base flow management strategy

- (1) Each day, the licence holder must release from the storage stated in Attachment 2, Table 1, column 1, an amount of water that is the lesser of—
 - (a) the estimated daily inflow to the storage; and
 - (b) the volume stated in Attachment 2, Table 1, column 2.
- (2) Subsection (1) does not apply for a storage—
 - (a) when the estimated daily inflow to the storage is less than the minimum inflow stated in Attachment 2, Table 1, column 3; or
 - (b) when the water level in the storage is below the minimum level stated in Attachment 2, Table 1, column 4; or
 - (c) when the first post winter flow management strategy stated in Attachment 2, Table 1, column 5 is in effect; or
 - (d) for Tartrus Weir—during the period from 1 January to 31 August.
- (3) Despite subsections (1) and (2), the licence holder may, for the purpose of implementing this strategy—
 - (a) release plus or minus 20 per cent of the volume required under the strategy over a 48-hour period;
 - (b) delay the commencement and cessation of a release by up to 48 hours; and
 - (c) in determining the estimated daily inflows to the storage, not include any water which was released from an upstream storage to maintain the nominal operating level of the storage or to supply water users.

Table 1 – Seasonal base flow requirements and parameters

Column 1	Column 2	Column 3	Column 4	Column 5
Storage	Volume	Minimum estimated daily inflow to the storage	Storage level	First post-winter flow management strategy
Bedford Weir	220 ML/d	100 ML/d	EL 118.86 m AHD	Lower Mackenzie first post-winter flow management strategy
Bingegang Weir	220 ML/d	100 ML/d	EL 100.34 m AHD	Lower Mackenzie first post-winter flow management strategy
Tartus Weir	240 ML/d	150 ML/d	EL 81.36 m AHD	—

5 Release volumes

Release volumes from storages required under this Attachment are to be—

- (a) in addition to releases required for—
 - (i) supplying water to a water allocation holder; or
 - (ii) maintaining nominal operating levels in downstream storages; and
- (b) made with consideration of the maximum outlet capacity of the storage works.

6 Upper Mackenzie first post-winter flow management strategy

- (1) This section applies if the licence holder has been notified by the chief executive of a first post-winter flow occurring in the Mackenzie River immediately downstream of the Comet River junction.
- (2) The licence holder must implement the Upper Mackenzie first post-winter flow management strategy within one day after notification.
- (3) For 19 days from when the implementation of the strategy begins, the licence holder must release from Fairbairn Dam each day—
 - (a) if the estimated daily inflow to Fairbairn Dam is greater than or equal to 20 ML/day—the lesser of—
 - (i) the estimated daily inflow to Fairbairn Dam; and
 - (ii) the maximum discharge capacity of Fairbairn Dam outlet works; or
 - (b) otherwise—zero.
- (4) Subsection (3) does not apply when—
 - (a) Fairbairn Dam is below EL 195.1 m AHD; or
 - (b) Fairbairn Dam spills.

7 Lower Mackenzie first post-winter flow management strategy

- (1) This section applies if the licence holder has been notified by the chief executive of a first post-winter flow occurring in the Mackenzie River immediately downstream of Bingegang Weir.
- (2) The licence holder must implement the Lower Mackenzie first post-winter flow management strategy within one day after notification.

- (3) For 21 days from when the implementation of the strategy begins, the licence holder must release from Bedford Weir each day—
 - (a) if the estimated daily inflow to Bedford Weir is greater than or equal to 50 ML/day—the lesser of—
 - (i) the estimated daily inflow to Bedford Weir; and
 - (ii) the maximum discharge capacity of Bedford Weir outlet works;
or
 - (b) otherwise—zero.
- (4) Subsection (3) does not apply when—
 - (a) Bedford Weir is below EL 118.86 m AHD; or
 - (b) Bedford Weir spills.

Attachment 3 Notification requirements

1 Notification to distribution operations licence holder

- (1) The licence holder must notify the distribution operations licence holder of the Emerald Channel Scheme within 2 business days after—
 - (a) setting an initial announced allocation or resetting an announced allocation during the water year;
 - (b) the licence holder receives an application for a seasonal water assignment that requires the consent of the licence holder and distribution operations licence holder;
- (2) The licence holder must notify the distribution operations licence holder within 1 business days after—
 - (a) becoming aware of any operational incident or emergency that may impact the distribution operations licence holder.

Attachment 4 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 water level and volume data, and stream flow data in accordance with Attachment 4, 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.

Table 1 – Locations where continuous water data recording required

Water level and volume data	Daily flow data
—	Fairbairn Dam inflow*
Fairbairn Dam headwater (AMTD 685.6 km)	—
—	Fairbairn Dam tailwater*
—	Bedford Weir inflow*
Bedford Weir headwater (AMTD 548.8 km)	—
—	Bedford Weir tailwater
—	Bingegang Weir inflow*
Bingegang Weir headwater (AMTD 489.2 km)	—
—	Bingegang Weir tailwater*
—	Tartrus Weir inflow*
Tartrus Weir headwater (AMTD 429.5 km)	—
—	Tartrus Weir tailwater*

* Methodology approved by the chief executive.

2 Releases from storages

- (1) The licence holder must measure and record for each release of water from storages listed 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.
- (2) In addition to the requirements under subsection (1), for storage outlets with selective withdrawal capabilities, the licence holder must record—
 - (a) the inlet level used for each release of water; and
 - (b) the reason for deciding to release from that particular inlet level.

3 Use of waterholes

For each day that supplemented water is taken from a waterhole, the licence holder must measure and record the level of the water in the waterhole—

- (a) for the waterhole listed in Attachment 4, Table 2—when the waterhole is drawn down more than 1 metre below its cease to flow level; and
- (b) for another waterhole—when the waterhole is drawn down more than 0.5 metres below its cease to flow level.

Table 2 – Location of waterholes on Mackenzie River

Adopted middle thread distance (AMTD)
467.2 km to 436.6 km
429.5 km (Tartrus Weir) to 419.2 km
412.3 km
408.5 km
378.8 km
373.2 km (10 Mile Waterhole)
371.3 km (10 Mile Waterhole)
357.9 km

4 Water diversions

- (1) The licence holder must measure and record the daily total volumes of water delivered to—
 - (a) Selma channel system;
 - (b) Weemah channel system;
 - (c) Blackwater pipeline; and
 - (d) Retreat Creek from the confluence of Drain RR6 (approximate AMTD 9.5 km) to the Blair Athol railway line crossing of Retreat Creek (approximate AMTD 3.0 km).

5 Announced allocations

The licence holder must record details—

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

6 Restrictions

- (1) The licence holder must record details of any restriction on volumes for each priority group that may be supplied, including—
 - (a) the start and end date; and
 - (b) the volume of water to be supplied.
- (2) Subsection (1) does not apply if the restriction is a result of announced allocation.

7 Carryover

The licence holder must record details of the total volume of water carried over to the water year from the previous water year.

8 Water taken by water users

The licence holder must, on an annual basis, measure and record the total volume of water taken by each water user for each zone.

9 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;
 - (ii) to which it was assigned;
- (d) the effective date of the seasonal water assignment; and
- (e) the sale price.

Division 2 Impact of infrastructure operation on natural ecosystems

10 Water quality

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

11 Bank condition

- (1) The licence holder must inspect banks for evidence of collapse and/or erosion identified within ponded areas of each storage listed in Attachment 1 and downstream reaches, 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 the relevant infrastructure means the distance of influence of infrastructure operations.

12 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.

Division 3 Data transfer

13 Transfer of data

The licence holder must, when requested by the distribution operations licence holder, transfer all data measured, collected and recorded to the distribution operations licence holder—

- (a) that is reasonably required for the distribution operations licence holder to comply with the rules and requirements of Attachment 4, part 2 of the distribution operations licence; and
- (b) within 15 business days of a request being made, or another timeframe if agreed to by the licence holder and distribution operations licence holder.

Part 2 Reporting requirements

14 Reporting requirements

The licence holder must provide—

- (a) annual reports for the previous water year; and
- (b) operational or emergency reports.

Division 1 Annual reporting

15 Annual report

- (1) The licence holder must submit an annual report to the chief executive after the end of the water year.
- (2) The annual report must include—
 - (a) water quantity monitoring results required under Attachment 4, section 16;
 - (b) details of the impact of storage operation on natural ecosystems as required under Attachment 4, section 17;
 - (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 4, Part 1, Division 1(9).

16 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 any restrictions, other than an announced allocation, have been implemented including—
 - (i) an evaluation of the effectiveness of the limitation or restriction procedures and outcomes; and
 - (ii) the date and value for each restriction;
- (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) a summary of carryover determinations, including—
 - (i) the total carryover to the water year from the previous water year; and
 - (ii) the total carryover from the water year to the next water year;
- (e) the total annual volume of water taken by all water users, specified by zone, including—
 - (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 total volume entitled to be taken;
- (f) details of waterhole monitoring, which has been undertaken under Attachment 4, section 3;
- (g) details of environmental releases, specified by storage, including—
 - (i) an overview of first post-winter and seasonal base flow management strategy implementation; and
 - (ii) the date, storage level, storage inflow and storage outflow for each day during implementation of the first post-winter or seasonal base flow strategy;
- (h) all details of changes to the storage and delivery infrastructure or the operation of the storage and infrastructure that may impact on compliance with this licence;
- (i) details of any new monitoring devices used, such as equipment to measure stream flow; and
- (j) the details and status of any interim programs implemented under condition 6.2.

17 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) thermal and chemical stratification in the storage;
 - (ii) contribution of the storage and its management to the quality of water released;
 - (iii) cyanobacterial population changes in response to stratification in the storage; and
 - (iv) any proposed changes to the monitoring program as a result of evaluation of the data.

Division 2 Operational or emergency reporting

18 Operational or emergency reporting²

- (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;

² 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.

- (ii) instances of fish stranding, cyanobacterial growth or bank slumping within ponded areas or downstream of the water infrastructure to which this licence relates; and
 - (iii) a decision being made to introduce a reduced full supply level under section 399B of the *Water Supply (Safety and Reliability) Act 2008*; and
 - (b) of an emergency where, as a result of the emergency, the licence holder cannot comply with the conditions of this licence.
- (2) The licence holder must provide to the chief executive upon request, and within the timeframe requested, a report which includes details of—
- (i) the incident or emergency;
 - (ii) the conditions under which the incident or emergency occurred;
 - (iii) any responses or activities carried out as a result of the incident or emergency; and
 - (iv) 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) 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; and
 - (ii) 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).

Attachment 5 Interim programs

1 Submission of interim program

The licence holder may, at any time, submit an interim program to the chief executive for approval, including a timetable for returning to full compliance with the licence and interim arrangements.

2 Implementing and publishing interim program

Following approval of the program by the chief executive, the licence holder—

- (a) must implement and operate in accordance with the interim program;
- (b) make public details of the interim program on its internet site; and
- (c) notify the distribution operations licence holder of the interim program.

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.
Barrage	A barrier constructed across a watercourse to prevent the inflow of tidal water.
Carryover	The volume of water permitted to be carried over from the unused portion of the entitlement at the end of the previous water year.
Cease to flow level	For a waterhole, the level at which water stops flowing from a waterhole over its downstream control.
Channel system	A system of channels, canals, pumps and pipelines and other works used for the distribution of water to water users in a water supply scheme.
Dead storage	For a dam or weir, the specified minimum volume of water within the ponded area of the storage that cannot be released or used from the storage under normal operating conditions.
Distribution operations licence holder	Distribution operations licence holder for the Emerald Channel Scheme.
EL	Elevation level.
First post-winter flow	Is a flow that— <ul style="list-style-type: none"> (1) starts between 15 September and 10 April in the year; and (2) if the flow starts in September, the water temperature is at least 24 degrees Celsius; and (3) in the Mackenzie River immediately downstream of the Comet River junction— <ul style="list-style-type: none"> a) is the first stream flow rise of at least 2000 ML/d that occurs at Riley's Crossing GS130113A; b) after evaluation of stream flow and catchment rainfall would suggest an extended period of a flow greater than 156 ML/d (Baseflow); c) has at least 15 days of flow greater than subsection (3)(b). (4) in the Mackenzie River immediately downstream of Bingegang Weir— <ul style="list-style-type: none"> a) is the first stream flow rise of at least 2600 ML/d that occurs at Bingegang Weir Tailwater GS130110B; and b) after evaluation of stream flow and catchment rainfall would suggest an extended period of a flow greater than 163 ML/d (Baseflow); and has at least 15 days of flow greater than subsection (4)(d).
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 level	The specified maximum volume of water within the ponded area of a dam, weir or barrage, which corresponds to the full supply level.
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, weir or barrage and discharged via an outlet into the watercourse downstream of the storage.
Licence holder	The holder of the resource operations licence for the Nogoia Mackenzie Water Supply Scheme
Location	For a water allocation, means— <ul style="list-style-type: none"> a) the zone from which water under the water allocation can be taken; or b) an AMTD within a zone, from which water under the water allocation can be taken. <p>For a water licence, means the section of the watercourse, lake, spring or aquifer abutting or contained by the land described on the water licence at which water may be taken.</p> <p>For a water licence to take overland flow water, means land described on the water licence at which water may be taken.</p>

Term	Definition
Megalitre (ML)	One million litres.
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.
Priority group	A grouping of water allocations for taking supplemented water from a water supply scheme with the same Water Allocation Security Objective (WASO).
Release	Water from a dam or weir that passes downstream from the dam or weir through the dam or weir outlet works.
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.
Water user	The holder of a valid water entitlement.