Attachment 4.3H Barker Barambah Water Supply Scheme: Water allocation change rules

1 Permitted changes

Application for the following changes to a water allocation will be approved. On approval, a change certificate will be issued by the chief executive, which may be lodged with the registrar of water allocations.

1.1 Location

A water allocation holder may apply to change the location of the water allocation from one of the following zones to any other of those zones:

- between HB and HZ, HC, HD, HE, JA;
- between HC and HB, HZ, HD, HE, JA;
- between HD and HB, HZ, HC, HE, JA;
- between HE and HB, HZ, HC, HD, JA;
- between HZ and HB, HC, HD, HE, JA; or
- between JA and HB, HZ, HC, HD, HE.

The proposed change is not a permitted change if the proposed change would result in a distribution of medium or high priority water allocations not provided for in Tables 1 and 2.

Table 1: Permitted distributions of high priority water allocations in the Barker Barambah Water Supply Scheme by zone

Zones	HB	HZ	HC	HD	HE	JA
Minimum nominal volume of high priority water allocation (ML)	0	0	450	1 786	0	0
Maximum nominal volume of high priority water allocation (ML)	0	0	450	1 786	0	0

Table 2: Permitted distributions of medium priority water allocations in the Barker Barambah Water Supply Scheme by zone

Zones	HB	HZ	HC	HD	HE	JA
Minimum nominal volume of medium priority water allocation (ML)	9 633	4 953	6 147	777	4 343	24
Maximum nominal volume of medium priority water allocation (ML)	11 002	6 659	8 662	2 577	7 040	2 721
Minimum nominal volume of medium priority water allocation (ML) for combined zones	9 633	4 953	6 147	777	5 314	
Maximum nominal volume of medium priority water allocation (ML) for combined zones	16 661		8 662	2 577	7 314	
	11 002	15 321				

1.2 Seasonal assignment

A water allocation holder may apply for a seasonal change to the location of the water allocation from one of the following zones to any other of those zones:

- between HB and HZ, HC, HD, HE, JA;
- between HC and HB, HZ, HD, HE, JA;
- between HD and HB, HZ, HC, HE, JA;
- between HE and HB, HZ, HC, HD, JA;
- between HZ and HB, HC, HD, HE, JA; or
- between JA and HB, HZ, HC, HD, HE.

The proposed seasonal change is not a permitted change if the proposed change would result in a use of medium or high priority water allocations not provided for in Tables 3 and 4.

Table 3: Permitted use of high priority water allocations in the Barker Barambah Water Supply Scheme by zone

Zones	HB	HZ	HC	HD	HE	JA
Minimum nominal volume of high priority water allocation (ML)	0	0	450	1 786	0	0
Maximum nominal volume of high priority water allocation (ML)	0	0	450	1 324	0	0

Table 4: Permitted use of medium priority water allocations in the Barker Barambah Water Supply Scheme by zone

<table>
<tr><th>Zones</th><th>HB</th><th>HZ</th><th>HC</th><th>HD</th><th>HE</th><th>JA</th></tr>
<tr><td>Minimum nominal volume of medium priority water allocation (ML)</td><td>9 632</td><td>4 953</td><td>6 147</td><td>777</td><td>4 343</td><td>24</td></tr>
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<tr><td>11 002</td><td colspan="2">15 321</td></tr>
</table>

1.3 Purpose

A water allocation holder may apply to change the purpose from ‘any’ to ‘agriculture’ or from ‘agriculture’ to ‘any’.

1.4 Subdivision and amalgamation

A water allocation holder may apply to subdivide a water allocation into two or more water allocations, or to amalgamate two or more water allocations into a single water allocation.

2 Prohibited changes

The following changes are prohibited changes.

2.1 Location

A change to a location that is not mentioned in Tables 1, 2, 3 or 4.

2.2 Priority group

A change to a priority group that is not ‘medium’ or ‘high’.

2.3 Purpose

A change to a purpose that is not ‘agriculture’ or ‘any’.

2.4 Nominal volume

A change to the nominal volume other than a change that is a consequence of a change to another attribute of a water allocation.

2.5 Other

A change to a water allocation that requires an amendment to this ROP, other than an amendment provided for in Chapter 8.

3 Application for change under s.130 of the Water Act

If a water allocation holder wishes to apply for a change to a water allocation that is not permitted under Section 1 above, and not prohibited under Section 2 above, then application may be made under s.130 of the Water Act for the change.

The chief executive will deal with any and all applications made under s.130 of the Water Act, in accordance with the Act. That process is as follows. Notice of the application is published in local newspapers. The notice includes information about where the application can be inspected and invites submissions from the public on the application. The chief executive determines if the application should be approved having regard to the potential impact on other interests including entitlement holders and natural ecosystems. If the chief executive approves the application, then the chief executive issues a change certificate that may be lodged with the registrar of water allocations. If the chief executive refuses the application, then the applicant can appeal to the Land Court.

4 Registration of change

If an application to change a water allocation is approved, the chief executive will issue a change certificate. The water allocation holder may lodge the change certificate with the registrar of water allocations who will change the water allocation on the water allocation register. However, the registrar will not register the change until a supply contract has been entered into between the water allocation holder and the ROL holder (e.g. SunWater) for supply of the changed water allocation.

Attachment 4.4A Boyne River and Tarong Water Supply Scheme: Reserved for future amendments

Attachment 4.4B Boyne River and Tarong Water Supply Scheme: Reserved for future amendments

Attachment 4.4C

Boyne River and Tarong Water Supply Scheme: Reserved for future amendments

Attachment 4.4D Boyne River and Tarong Water Supply Scheme: Infrastructure details

Table 1: Boondooma Dam – Boyne River – AMTD 86.7

Description of Water Infrastructure	
Main embankment	Concrete faced rock-fill dam
Full supply level	EL 280.4 m AHD
Saddle dam(s)	Nil
Fabridam	Nil
Gates	Nil
Storage Volume and Surface Area	
Full supply volume	204 200 ML
Dead storage volume	8 360 ML
Storage curves/tables	Drawing no: A3-211850A
Spillway Arrangement	
Description of works	The spillway consists of a concrete crest and largely unlined chute excavated through rock on the northern abutment of Sandy Creek. Softer rocks in the chute are capped with concrete.
Spillway level	EL 280.4 m AHD
Spillway width	115 m
Discharge characteristics	Drawing no: A3-63064
River Inlet/Outlet Works	
Description of works	A single 2159 mm diameter pipe with a bellmouth from the diversion tunnel plug with a bifurcation into two 1 600 mm outside diameter (OD) offtakes which reduce to 1 200 mm OD and finally to 750 mm OD connected to 750 mm diameter cone dispersion valves providing control, discharging into a dissipater chamber. Shut off is provided by 1 200 mm diameter guard valves.
Multilevel inlet	Inlet works consist of a reinforced concrete inlet tower that is connected to a 4 000 mm inside diameter (ID) reinforced concrete shaft that has an inlet diameter of 2 200 mm at the base of the tower. The shaft is connected to a 4 000 mm ID reinforced concrete diversion tunnel.
Cease to flow level	EL 252 m AHD
Discharge characteristics	The estimated maximum discharge capacity of the outlet is 1 330 ML/day.
Fish Transfer System	
Description of works	Nil

Attachment 4.4E Boyne River and Tarong Water Supply Scheme: Rules for operation of infrastructure

1 Rules for operation of storages and waterholes

1.1 Reserved for future amendments

1.2 Minimum operating levels for storages

The minimum operating level for a storage is the level associated with the dead storage volume for that storage, as specified in Table 1.

Table 1: Minimum operating levels for storages

Storage	Minimum Operating Level (m AHD)
Boondooma Dam	252

An objective of setting the minimum operating level is to provide refuge habitat.

Water must not be released or supplied from a given storage when the water level in that storage is at or below its minimum operating level, unless otherwise authorised by the chief executive.

The ROL holder may apply to the chief executive for authorisation to operate a given storage below its minimum operating level. The chief executive may authorise, with or without conditions, the ROL holder to operate that storage below its minimum operating level.

1.3 Minimum levels in waterholes not within the ponded area of a storage

This section applies to waterholes within the extent of the Boyne River and Tarong Water Supply Scheme that are not located within the ponded area of a storage where drawdown of the waterhole may be desired for supply of water allocations.

The water level in any waterhole should where possible be maintained at or near the cease to flow level for that waterhole. Where the outlet discharge capacity of the storage upstream of the waterhole is insufficient to maintain the water level in the waterhole at or near its cease to flow level, the waterhole may be drawn down to 0.5 m below its cease to flow level. These conditions do not apply if the taking of water is in accordance with s.27(2) of the Burnett Basin WRP.

1.4 Critical water supply arrangements

Critical water supply arrangements make provision for the supply of water during periods of critical water shortage (e.g. periods when high priority water cannot be supplied). When the commencement triggers in the critical water supply arrangements are activated, the critical water supply arrangements apply, and relevant sections in the ROP cease to apply for the critical water supply arrangement period. When the cessation triggers in the critical water supply arrangements are activated, the ROP fully applies.

1.4.1 Approved critical water supply arrangements

(1) A critical water supply situation starts and ends when the ROL holder notifies under Section (9) of these critical water supply arrangements.

(2) The triggers for commencement of each stage of a critical water supply situation are as follows:
   (a) Stage 1 commences when the storage level in Boondooma Dam is estimated to be less than or equal to EL 268.7 m AHD (approximately 70 000 ML).
   (b) Stage 2 commences when the announced allocation for high priority water allocations, calculated in accordance with Attachment 4.4F, s.1.2, is less than 100 per cent.
   (c) Stage 3 commences when the storage level in Boondooma Dam is estimated to be less than or equal to EL 247.2 m AHD (approximately 3 360 ML) or announced allocation for high priority, as calculated in accordance with Section (7), is 0 per cent.

(3) The triggers for the cessation of each stage of a critical water supply situation are as follows:
   (a) Stage 1 ceases when the announced allocation for medium priority water allocations, calculated in accordance with Attachment 4.4F, s.1.2, is greater than zero per cent, and the storage level in Boondooma Dam is greater than EL 268.7 m AHD (approximately 70 000 ML).
   (b) Stage 2 ceases when the announced allocation for high priority water allocations, calculated in accordance with Attachment 4.4F, s.1.2, is equal to 100 per cent.
   (c) Stage 3 ceases when the storage level in Boondooma Dam is estimated to be greater than or equal to EL 249.2 m AHD (approximately 5 000 ML).

(4) The arrangements that will be applied to Stage 1 are as follows:
   (a) Announced allocation percentages for high priority and medium priority water allocations will be calculated in accordance with Attachment 4.4F, s.1.2.
   (b) High priority water allocations will be supplied.
   (c) Medium priority access will be suspended except for water that can be accessed through bed sands and/or waterholes in accordance with Attachment 4.4F, s.1.1.

(5) The arrangements that will be applied to Stage 2 are as follows:
   (a) Announced allocations for high priority water allocation holders will be made in accordance with Section (7).
   (b) High priority water allocations will be supplied.
   (c) Medium priority access will be suspended except for water that can be accessed through bed sands and/or waterholes in accordance with Attachment 4.4F, s.1.1.
   (d) Boondooma Dam can be drawn down below the minimum operating level of EL 252 m AHD (approximately 8 360 ML).

(6) The arrangements that will be applied to Stage 3 are as follows:
   (a) High priority access will be suspended. The taking of water from the remaining water stored in Boondooma Dam, to meet essential water supply requirements, will be considered under the provisions of the *Water Act 2000*.
   (b) Medium priority access will be suspended except for water that can be accessed through bed sands and/or waterholes in accordance with Attachment 4.4F, s.1.1.
   (c) Boondooma Dam can be drawn down below the minimum operating level of EL 252 m AHD (approximately 8 360 ML).

(7) The announced allocation for high priority water allocations in the Boyne River and Tarong Water Supply Scheme is to be calculated for Stage 2 as follows:

$$AA_h = \frac{(UV^{CW2} + HPD)}{HPA} \times 100$$

Where UV^{CW2} is the usable volume during Stage 2 of a critical water supply situation as defined below:

UV^{CW2} is the usable storage volume of Boondooma Dam

$UV^{CW2} = (CV – COV – SL)$

$UV^{CW2} = 0$ if $(CV – COV – SL)$ is less than zero

Where:

CV is the current volume in Boondooma Dam

COV is the critical operating volume of Boondooma Dam (with the addition of a vacuum pump) = 3 360 ML

SL is the projected storage loss (calculated using data in Table 1, Attachment 4.4F) from Boondooma Dam for the remainder of the water year. Storage losses include lake evaporation and seepage. The storage loss depths to be used are given in Table 1. The depth for the month in question is used with the relevant storage curve and current storage volume to determine the resulting storage loss.

(8) Taking water under a water allocation:
  (a) The total volume of water taken under a water allocation in a water year must not be more than the nominal volume for the water allocation.
  (b) The volume of water taken under a water allocation in a water year, other than from bed sands or waterholes, must not exceed the nominal volume of the water allocation multiplied by the announced allocation and divided by 100.

(9) Notification arrangements:
  (a) The ROL holder must notify the water allocation holders of the commencement and cessation of Stage 1 of a critical water supply situation.
  (b) The ROL holder must notify the high priority water allocation holders of the commencement and cessation of Stages 2 and 3 of a critical water supply situation.
  (c) The ROL holder must notify the department within one business day of becoming aware of the commencement and cessation of each stage of a critical water supply situation.
  (d) The ROL holder must provide an operational report to the department on commencement of each stage of a critical water supply situation.

(10) Monitoring requirements when the commencement triggers are active are as follows:
  (a) The ROL holder for the scheme must account for water taken in total.
  (b) The ROL holder must monitor in accordance with Attachment 4.4G.
  (c) If the ROL holder becomes aware of impacts on aquatic biota when the water level in Boondooma Dam is below the minimum operating level, the ROL holder will notify the chief executive accordingly.

(11) A medium priority water allocation holder may only take water from a waterhole if the water level in the waterhole is above the level that is 0.5 m below the level at which the waterhole naturally overflows.

(12) These critical water supply arrangements commence on the first business day after the amendment to the ROP takes effect.

2 Rules for releases of water from storages

2.1 General rules

When determining releases to make from a storage, the ROL holder must have regard to the following:

- the volume of water to meet the demand;
- the likely contribution of inflows from tributaries that could assist the supply of demand;
- the likely transmission and operational losses;
- the time required for water to travel to the water allocation holder;
- the volume of water required to be released to maintain nominal operating levels in downstream storages and to maintain levels in waterholes;
- the requirements specified in the environmental management rules;

- the physicochemical attributes of the water being released and the possible impact on downstream aquatic ecosystems;
- the change rate in the reduction of releases that may cause downstream bank slumping or fish stranding; and
- the maximum release rate to minimise in-storage bank slumping.

The ROL holder may incorporate provisions in supply contracts for circumstances when release capacity of a storage is insufficient to meet demand.

2.2 Release rules

Water may be released from a storage up to the maximum discharge capacity of the outlet works to meet downstream demand or passing environmental flows as required.

2.3 Rate of release

The ROL holder must minimise the occurrence of adverse environmental impacts (e.g. fish stranding and bank slumping) by ensuring that any change in the rate of release of water from storages occurs incrementally.

2.4 Reserved for future amendments

2.5 Environmental management rules

2.5.1 Low flow objectives

Low flow releases should be within the constraints of existing infrastructure and are required to minimise deviations from values specified in Schedule 5, Part 1 of the WRP for the Boyne River at Derra gauging station.

The performance indicators for low flow EFOs are:

- the percentage of the number of days in the simulation period when flow is less than 2 ML;
- 50 per cent daily exceedence stated for each month;
- 90 per cent daily exceedence stated for each month;
- low flow exceedence duration (10 cm above cease to flow);
- low flow exceedence duration (30 cm above cease to flow); and
- the number of no flow periods for one, three, six and nine months.

2.5.2 Medium to high flow objectives

Medium to high flow EFOs must comply with the values specified in Schedule 5, Part 2 of the WRP at the Boyne River at Derra gauging station.

The performance indicators for the medium to high flow EFOs are:

- the annual proportional flow deviation;
- the mean annual flow;
- the 1.5 year ARI daily flow volume;
- the 5 year ARI daily flow volume;

- the 20 year ARI daily flow volume; and
- the flow regime class.

The rules set out in this attachment comply with the EFOs for these performance indicators specified in the WRP.

2.5.3 Minimum levels for aquatic refuge and recreational purposes

The minimum storage volume in storages for aquatic and recreational purposes is the dead storage level listed in Section 1.2.

2.6 Reserved for future amendments

2.7 Other operational arrangements for environmental, social or cultural purposes

The ROL holder must adopt operational arrangements that comply with legislative requirements and may adopt additional arrangements on a voluntary basis.

3. Quality of water downstream of storages

Where infrastructure incorporates multilevel inlets, the ROL holder must draw water from the inlets that maximise the quality of the water released.

3.1 Use of watercourses for distribution of water

The ROL holder may use the following watercourses for the purposes of distribution of water:

- the Boyne River from the ponded reaches of Boondooma Dam to the confluence with the Burnett River (AMTD 110.5 to AMTD 0);
- the part of the Stuart River directly benefited by the pondage of Boondooma Dam (AMTD 0 to AMTD 19.8).

The ROL holder must not divert water to any watercourse other than those given above for distribution of water without the prior approval of the chief executive.

Attachment 4.4F Boyne River and Tarong Water Supply Scheme: Water sharing rules

Water sharing rules must be used to determine:

- announced allocation percentages throughout the year;
- restrictions on the movement of water between water years; and
- seasonal water assignment of water allocations.

There are two types of water allocations proposed to be supplied to water users in the Boyne River and Tarong Water Supply Scheme, namely medium and high priority water allocations. The WRP specifies the performance indicators (WASOs) for the medium and high priority groups.

The water sharing rules specify the way the water resources of the Boyne River and Tarong Water Supply Scheme will be shared between each of the water allocation priority groups.

1 Announced allocation

The announced allocation percentage is the percentage of the water allocation's nominal volume that is announced from time to time by the ROL holder. This percentage sets a limit to the amount of supplemented water which a water allocation holder can divert during the water year as a proportion of the water allocation holder's nominal volume.

The ROL holder is required to calculate announced allocation percentages for each priority group through the use of formulas and associated parameters. Details for each parameter used (including those in brackets in the list of points below) are specified in Section 3.

The amount of water that can be apportioned to each of the priority groups at any given time is determined by taking into account factors such as:

- the time of year an assessment is made;
- the amount of water used by each priority group in the current water year up to the date of the assessment (HPD and MPD);
- the amount of water in the storages;
- allowance for evaporative and seepage losses from the storages;
- allowance for the requirements of high and medium priority water allocations in the current or in future water years; and
- allowance for transmission and operational losses along the river (TE).

The values given for the factors applied in the announced allocation formula should not be taken out of the context of their purpose as part of the overall package used to determine the announced allocation.

1.1 General rules

Announced allocation procedures must be used to determine the announced allocation percentages for medium and high priority water allocations.

The announced allocation percentage is the percentage of the water allocation volume that may be taken during the water year. The water year for the Boyne River and Tarong Water Supply Scheme is from 1 July to 30 June in the following year.

Separate assessment of announced allocation percentages must be made for each water allocation priority group.

The initial announced allocation percentage for a water year must be announced within 10 business days after the start of that water year.

Announced allocation percentages must not be greater than 100 per cent.

Announced allocation percentages must be reviewed during the year within 15 working days of when a major inflow occurs. If the announced allocation percentage would increase by more than five percentage points or be increased to 100 per cent, then the announced allocation percentage must be revised.

The announced allocation percentage must not be reduced during a water year. If the formula gives a value below what was previously announced in the same water year, then the previously announced allocation percentage is to be maintained.

If the announced allocation percentage is less than 100 per cent, the announced allocation percentage should be reviewed at intervals not greater than three months.

The ROL holder may revise an announced allocation as an interim value at any time provided the value is not greater than that which would be calculated using the formulas in Section 1.2.

The ROL holder must announce an interim announced allocation immediately prior to the commencement of a water year. The basis/criteria for the determination of the interim announced allocation for the start of the water year must take into account water user requirements, and be made available to water users.

The ROL holder should advise water users of forecast announced allocations, including the details of the parameters used in determining the forecast values. The criteria for forecasting the announced allocations, including the timing, frequency and level of accuracy must take into account water user requirements, and be made available to water users.

Releases are to be made from Boondooma Dam to meet demands from water allocation holders downstream of Boondooma Dam until Boondooma Dam storage is less than or equal to an EL 268.67 m AHD. No releases are to be made from Boondooma Dam to meet downstream demands below this storage level.

When the ROL holder cannot supply any supplemented water, water allocation holders may take water from waterholes only if the water level in the waterhole is above the level that is 0.5 m below the level at which the waterhole naturally overflows or the chief executive is satisfied the taking of water will not adversely affect the cultural and environmental values of the waterhole. These conditions do not apply if the taking of water is in accordance with s.27(2) of the Burnett Basin WRP.

The *Water Regulation 2002*, made under s.1006(2) of the Water Act, declares water in the aquifer underlying the Boyne River and Tarong Water Supply Scheme, to be water in the respective watercourses. When the ROL holder cannot supply any supplemented water, water allocation holders may take water from the bed sands of the respective watercourses. The volume of water taken in the relevant water year must not exceed the water allocation holder's nominal volume.

Excavation work carried out to enhance the efficiency of access to water in the bed sands will require appropriate authorisation under the provision of the Water Act or the *Integrated Planning Act 1997*.

1.2 Calculation of announced allocation percentages

Medium priority water allocations

The following general formula will be used in the computation of the announced allocation.

The announced allocation level for medium priority allocations will be 100 per cent if

$$CV \geq \mathbf{Vcut} + \mathbf{MPA} + \mathbf{HPA} + \mathbf{SL} + \mathbf{TOL} - \mathbf{MPD} - \mathbf{HPD}$$

Otherwise, the announced allocation level for medium priority allocations has to be calculated using the following formula:

$$\mathbf{AA_m} = \left\{ \frac{(\mathbf{UV_{cut}} - \mathbf{HPA_{cut}} + \mathbf{MPD} - \mathbf{TOL})}{\mathbf{MPA}} \right\} \times \mathbf{100}$$

if Boondooma Dam is above EL 268.67 m AHD

and

$\mathbf{AA_m}$ = 0 if Boondooma Dam is equal to or below EL 268.67 m AHD

The parameters used in this relationship are defined in Section 3.

The announced allocation percentage for medium priority water allocations will be determined using the following rules:

- The announced allocation percentage for medium priority water allocations is 100 per cent unless it is likely that Boondooma Dam storage elevation will fall below EL 268.67 m AHD during the water year.

- In the above situation, the announced allocation will be less than 100 per cent. The announced allocation percentage will be based on available storage above EL 268.67 m AHD being shared between medium and high priority allocations, provided that the announced allocation for high priority allocation is not less than 100 per cent.

- If the storage elevation is less that 268.67 m AHD, then the announced allocation for medium priority water allocations will be zero.

- If the storage elevation falls below 268.67 m AHD during a water year, then any remaining unused announced allocation will not be available for use.

- The announced allocation percentage determined according to the above rules should be applied equally to all medium priority water allocations. Each medium priority water allocation is receiving an announced allocation volume equal to the percentage multiplied by the water allocation volume.

The ROL holder will maintain and report appropriate records of all announced allocation decisions, including details of calculations and assumptions.

High priority water allocations

Announced allocation percentage for high priority water allocations will be 100 per cent unless the announced allocation percentage for medium priority water allocations is zero, in which case the announced allocation percentage for high priority allocations must be determined from the following relationship.

$$\mathbf{AA_h} = \left\{ \frac{\mathbf{(UV + HPD)}}{\mathbf{HPA}} \right\} \times \mathbf{100}$$

The parameters used in this relationship are defined in Section 3.

The announced allocation percentage determined according to the above rules should be applied equally to all high priority water allocations. Each high priority water allocation is receiving an announced allocation volume equal to the percentage multiplied by the water allocation volume.

2 Restrictions on the taking of water

2.1 Seasonal assignment rules for a water allocation

The ROL holder may give consent to a seasonal water assignment only in relation to a water allocation located in any of the zones listed in Section 1.2 of Attachment 4.4H when the water continues to be supplied from the same zone or between zones within this water supply scheme. From 1 July 2008 the resultant distribution of water supplied in a water year between zones must lie within the ranges shown in Attachment 4.4H, Section 2.1 in Tables 3 and 4.

A water allocation may for the purposes of this section be managed as if it is a water allocation with the purpose of ‘any’.

3 Parameters used in calculating announced allocation percentages

AA_m = announced allocation percentage medium priority

That is, the percentage of the nominal volume for a medium priority water allocation that may be taken for the current water year.

AA_h = announced allocation percentage high priority

That is, the percentage of the nominal volume for a high priority water allocation that may be taken for the current water year.

MPA = medium priority water allocations

That is, the volume of medium priority water allocations.

MPD = medium priority diversions

That is, the volume of water taken by medium priority water allocation holders in the current water year up to the time of the resource assessment.

HPA = high priority water allocations

That is, the volume of high priority water allocations.

HPD = high priority diversions

That is, the volume of water taken by high priority water allocation holders in the current water year up to the time of the resource assessment.

UV = useable volume

That is, the useable volume of Boondooma Dam at the time of the announced allocation computation and is determined as per the following equation:

UV = CV – DSV – SL

UV = 0 if (CV – DSV – SL) is less than zero

Where:

CV is the current volume in Boondooma Dam

DSV is the dead storage of Boondooma Dam

SL = storage losses from the current month to the end of water year

That is, the projected storage losses from the Boondooma Dam for the remainder of the water year. Storage losses include lake evaporation and seepage. The storage loss depths for the remainder of the water year to be used for Boondooma Dam are given in Table 1 (Column 2). The storage loss volume is calculated by using the value next to the current month multiplied by the current surface area of the storage.

Table 1: Storage loss depth

Month in which Announced Allocation is Calculated	Boondooma Dam	
	Storage Loss till end of Water Year (mm)	Storage Loss on each month (mm)
Column 1	Column 2	Column 3
July	1 845	86
August	1 759	112
September	1 647	144
October	1503	186
November	1 317	204
December	1 113	220
January	893	217
February	676	179
March	497	179
April	318	135
May	183	102
June	81	81

UV_{cut} = useable volume above EL 268.67 m AHD being shared between medium and high priority allocations

That is, the useable volume of Boondooma Dam above EL 268.67 m AHD being shared between medium and high priority allocations at the time of the announced allocation computation is determined as per the following equation:

$UV_{cut} = CV – Vcut – SLcut$

V_{cut} = Cut-off volume of Boondooma Dam for medium priority supplies

That is, the volume of Boondooma Dam at cut-off level of 268.67 m AHD below which no releases are to be made from Boondooma Dam to meet downstream medium priority demand.

SL_{cut} = projected storage loss to the sooner of the month when Boondooma Dam is expected to fall below the cut-off volume (V_{cut}) and the end of the current water year.

That is, the projected storage loss from the time of the announced allocation computation to the sooner of the month when Boondooma Dam is expected to fall below EL 268.67m AHD and the end of the current water year. The projected storage loss is to be calculated as the sum of the monthly storage loss volumes which are based on the storage loss depths given in Table 1 (Column 3). Each monthly storage loss volume (ML) is calculated by multiplying the monthly storage loss depth (mm) by the projected surface area of the storage (km^2) for the beginning of that month.

HPA_{cut} = high priority demands from the current month to the month when Boondooma Dam is expected to fall below V_{cut} volume.

That is, HPA_{cut} is high priority demands from the current month, the month of resource assessment, to the month when Boondooma Dam is expected to fall below 268.67 m AHD.

TOL = transmission and operation losses

That is, TOL is an allowance for the river transmission and operational losses expected to occur in running the system to the end of the current water year. TOL varies with the announced allocation for medium priority water allocations.

The transmission and operational loss allowance to be used is given in Table 2. TOL is to be linearly interpolated for intermediate values of medium priority announced allocation in the Boyne River and Tarong Water Supply Scheme.

Table 2: Transmission and operational losses

Month in which Announced Allocation is Calculated	Transmission and Operational Losses			
	At AAm = 0%	At AAm = 25%	At AAm = 75%	At AAm = 100%
July	0	1 109	3 327	4 436
August	0	1 031	3 094	4 126
September	0	954	2 861	3 815
October	0	876	2 629	3 505
November	0	765	2 296	3 061
December	0	665	1 996	2 662
January	0	555	1 664	2 218
February	0	433	1 298	1 730
March	0	333	998	1 331
April	0	222	665	887
May	0	144	433	577
June	0	67	200	266

Attachment 4.4G Boyne River and Tarong Water Supply Scheme: Monitoring program

1 Water quantity

1.1 Stream flow (storage inflow and tailwater flow) and storage water level

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

(2) The ROL holder must record continuous time series height and flow data for tailwater flows as indicated in Table 1.

Table 1: Locations where data is required

Location	Gauging Station Site Identification	AMTD km	Water level and volume data	Daily flow data
Boondooma Dam headwater	GS 136316A	86.7	✓	
Boondooma Dam tailwater[10]	GS 136317A	86.4		✓

1.2 Releases from storages

(1) The ROL holder must record on a daily basis for each storage outlet:
- (a) the volume released;
- (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 ROL holder must record for each storage outlet the reason for each release and the component volumes[11] for each release;
- (d) the water level in the storage from which the release was made.

[10] This gauging station only measures release water. Total tailwater discharge will need to be calculated from headwater discharge data and any releases.

[11] Component volumes comprise of the following;
- passing flows under the low flow management strategy, where applicable;
- passing flows under the medium to high flow management strategy, where applicable;
- volume released for water supply in the storage's local supply area;
- an estimate of the volume released to meet transmission and operating losses in the storage's local supply area;
- volume released to maintain the water level in the next downstream storage;
- volume released through fishways;
- total volume released from the storage; and
- for storages with a multilevel outlet, the water level from which the release was made.

1.3 Announced allocations

The ROL holder must record details of announced allocation determinations referred to in Section 1 of Attachment 4.4F, including:

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

1.4 Reserved for future amendments

1.5 Water taken by water users

The ROL holder must record the volume of water taken by each water user per zone as follows:

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

1.6 Seasonal water assignments

The ROL holder must record the details of seasonal water assignment arrangements including:

(a) the name, volume and location of water seasonally assigned by individuals; and
(b) the name, volume and location of individuals that received a seasonal assignment.

2 Impact of storage operation on aquatic ecosystems

The ROL holder must undertake the following to establish any impacts on aquatic ecosystems potentially related to the operation of storages.

2.1 Water quality

The ROL holder must monitor water quality in relation to relevant infrastructure in accordance with the Department's Water Monitoring Data Collection Standard.

2.2 Bank condition

(1) The ROL holder must inspect banks for evidence of collapse and/or erosion within the ponded area and downstream of Boondooma Dam following instances of rapid water level changes or large flows through Boondooma Dam, or other occasions when collapse and/or erosion of banks may be likely.

(2) The distance downstream is the distance of influence of storage operations.

2.3 Fish stranding

The ROL holder must record and assess reported instances of fish stranding in watercourses and ponded areas associated with the operation of infrastructure of the ROL holder as listed in Attachment 4.4D to determine if any instance is associated with the operation of that infrastructure.

3 Reporting

Reporting requirements

There are four levels of reporting for ROL holders:
(1) Quarterly reports;
(2) Annual reports for the previous water year;
(3) Operational reports; and
(4) Emergency reports.

Unless otherwise specified in the ROP, reporting must be consistent with the Department's Water Monitoring Data Reporting Standard.

3.1 Quarterly reporting

The ROL holder must submit a quarterly report to the chief executive after the end of each quarter, of every water year. The report should contain the following data or information:

(a) verified stream flow and storage water level – all records referred to in Section 1.1;
(b) releases from storages – the daily volumes released referred to in Section 1.2;
(c) water quality – all records referred to in Section 2.1; and
(d) a summary of bank condition monitoring and incidences of slumping carried out in accordance with Section 2.2.

3.2 Annual report

The ROL holder must submit an annual report to the chief executive after the end of each water year.

Water quantity reporting

(1) The annual report must include a summary of:
  (a) 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 critical water supply sharing rules have been implemented, including:
    (i) an evaluation of the effectiveness of the rules and outcomes; and
    (ii) the commencement date(s) and time period(s) for which the rules were in effect;
  (c) the total annual volume of water taken by all water users, 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;
(d) seasonal water assignments, specified by scheme, namely:
(i) the total number of seasonal water assignment arrangements; and
(ii) the total volume of water seasonally assigned.

(2) The annual report must include:
(a) all details of changes to the storage and delivery infrastructure, or the operation of storages and delivery infrastructure that may impact on compliance with rules in this plan; and
(b) details of any new monitoring devices used such as equipment to measure stream flow.

(3) The annual report must include a discussion on any other issues that arose as a result of the implementation and application of the rules and requirements in this plan.

(4) The annual report must include water taken by each water user as follows:
(a) the total volume of water taken for each zone;
(b) the total volume entitled to be taken for each zone; and
(c) the basis for determining the total volume of water entitled to be taken.

Impact of storage operation on water quality

(1) The annual report must include:
(a) a summary of environmental considerations made by the ROL holder in making operational and release decisions; and
(b) a summary of the environmental outcomes of the decision including any adverse environmental impacts.

(2) The annual report must include a summary of bank condition and fish stranding monitoring and assessment including:
(a) results of investigations of bank slumping or erosion identified in ponded areas and/or downstream of storages;
(b) results of any investigations of fish stranding downstream of storages; and
(c) changes to operation of storages to reduce instances of bank slumping, erosion or fish stranding.

(3) The annual report must include a discussion and assessment of the following water quality issues:
(a) water quality in each storage;
(b) thermal and chemical stratification in each storage;
(c) contribution of the storage and its management to the quality of water released;
(d) cumulative effect of successive storages on water quality;
(e) Cyanobacterial population changes in response to stratification in each storage; and
(f) any changes to the monitoring program as a result of evaluation of the data.

3.3 Operational report

(1) The ROL holder must notify the chief executive within one business day:
- (a) upon becoming aware of any of the following operational incidents:
  - (i) a non-compliance by the ROL holder with the rules;
  - (ii) given in this plan likely to affect the outcomes of the plan;
  - (iii) instances when a waterhole is drawn down 0.5m below cease to flow level; and
  - (iv) instances of fish stranding, blue-green algae growth or bank slumping within the ponded areas or downstream of storages associated with the operation of the Boyne River and Tarong Water Supply Scheme;
- (b) upon making a decision relating to:
  - (i) an initial announced allocation and/or its revision;
  - (ii) any restrictions on the taking of medium priority water;
- (c) upon activation of critical water supply arrangements;
- (d) details of any arrangements for addressing circumstances where they are unable to supply water allocations.

(2) The ROL holder must provide the chief executive with:
- (a) a report on the occurrence of any of the operational incidents discussed in Subsection (1)(a). The report must include details of the incident, conditions under which the incident occurred and any responses or activities carried out as a result of the incident;
- (b) a summary of any other non-compliances by the ROL holder with the rules given in this plan
- (c) 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;
- (d) details of any seasonal water assignments approved by the ROL holder.

(3) The ROL holder must provide within ten business days the chief executive with a report of supplemented water being taken through a departmental water meter. The ROL holder must report the meter readings at the start and finish of the taking of water and the approved quantities of supplemented water taken.

3.4 Emergency report[12]

In an emergency where the licence holder cannot comply with the conditions of the ROP as a result of the emergency, the ROL holder must:

- (a) notify the chief executive; and
- (b) provide a report to the chief executive including:
  - (i) details of the emergency;
  - (ii) conditions under which the emergency occurred;
  - (iii) any responses or activities carried out as a result of the emergency; and
  - (iv) any rules specified in this plan that the licence holder is either permanently or temporarily unable to comply with due to the emergency.

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

Attachment 4.4H Boyne River and Tarong Water Supply Scheme: Water allocation change rules

1 Seasonal assignment

A water allocation holder may apply for a seasonal assignment/change to the location of the water allocation where:

The seasonal assignment is of a volume of water associated with a water allocation that has a purpose of 'agriculture' or 'any' and where:

- the proposed change would not result in a total nominal volume for a zone that:
  - exceeds the maximum nominal volume for the zone for a priority group as specified in Table 1 or 2; or
  - is less than the minimum nominal volume for the zone for a priority group as specified in Table 1 or 2; and
  - the seasonal assignment is from zone LA to zone KA or from zone KA to zone LA.

Table 1: Permitted use of high priority water allocations in the Boyne River and Tarong Water Supply Scheme by zone

Zones	LA	KA
Minimum nominal volume of high priority water allocation (ML)	0	32 390
Maximum nominal volume of high priority water allocation (ML)	0	37 714

Table 2: Permitted use of medium priority water allocations in the Boyne River and Tarong Water Supply Scheme by zone

Zones	LA	KA
Minimum nominal volume of medium priority water allocation (ML)	0	0
Maximum nominal volume of medium priority water allocation (ML)	13 309.3	13 309.3

2 Permitted changes

Applications for the following changes to a water allocation must be approved in accordance with section 129(4) of the Water Act.

2.1 Location

A water allocation holder may apply to change the location of a water allocation with a purpose of 'agriculture' or 'any', where the proposed change is:

- from zone LA to zone KA or from zone KA to zone LA; and
- would not result in a total nominal volume for a zone that:
  - exceeds the maximum nominal volume for the zone for a priority group as specified in Table 3 or 4; or
  - is less than the minimum nominal volume for the zone for a priority group as specified in Table 3 or 4.

Table 3: Permitted distributions of high priority water allocations in the Boyne River and Tarong Water Supply Scheme by zone

Zones	LA	KA
Minimum nominal volume of high priority water allocation (ML)	0	32 390
Maximum nominal volume of high priority water allocation (ML)	0	37 714

Table 4: Permitted distributions of medium priority water allocations in the Boyne River and Tarong Water Supply Scheme by zone

Zones	LA	KA
Minimum nominal volume of medium priority water allocation (ML)	0	0
Maximum nominal volume of medium priority water allocation (ML)	13 309.3	13 309.3

2.2 Purpose

A water allocation holder may apply to change the purpose of a water allocation from:

- 'any' to 'agriculture' or
- 'agriculture' to 'any'.

2.3 Subdivision and amalgamation

A water allocation holder may apply to:

- subdivide a water allocation into two or more water allocations; or
- amalgamate two or more water allocations into a single water allocation.

2.4 Priority group

A water allocation holder may apply to change the priority group on a water allocation from ‘medium’ to ‘high’ where:

- the conversion is of the entire volume of medium priority water specified on the water allocation; and
- there has been no take of water under the water allocation to be converted, for the relevant water year in which the application to change has been made; and
- the location to be specified on the water allocation converted to high priority is zone KA; and
- a conversion ration of 2.5:1 is used to convert the volume of water from medium to high priority (i.e. 2.5 ML of medium priority water is required to establish 1 ML of high priority water); and
- the conversion occurs when the announced allocation for medium priority water is no less than 100 per cent.

3 Prohibited changes

The following changes are prohibited changes.

3.1 Location

A change to a location that is not permitted.

3.2 Priority group

A change to a priority group that is not a change from ‘medium’ to ‘high’.

3.3 Purpose

A change to any purpose that is not a change to ‘agriculture’ or ‘any’.

3.4 Nominal volume

A change to the nominal volume of a water allocation other than a change that is required as a result of a change to another attribute of a water allocation.

3.5 Other

A change to a water allocation that requires an amendment to this ROP, other than an amendment provided for in Chapter 8.

4 Application for change under s.130 of the Water Act

If a water allocation holder wishes to apply for a change to a water allocation that is not permitted under Section 1 above and is not prohibited under Section 2 above, then an application may be made under s130 of the Water Act for the change.

Under section 131, the chief executive may ask for additional information to be supplied that would assist in determining whether the change should be approved or not. For example, if an application was made to change the purpose of a water allocation from 'distribution loss' to 'any', this might involve the provision of information from the applicant to substantiate to the satisfaction of the chief executive an efficiency gain within the distribution system.

The chief executive will deal with any and all applications made under s130 of the Water Act, in accordance with the Act. That process is summarised as follows:

- Notice of the application is published in local newspapers. The notice includes information about where the application can be inspected and invites submissions from the public on the application.
- The chief executive determines if the application should be approved having regard to the potential impact on other interests including entitlement holders and natural ecosystems.

The chief executive may approve the application with or without conditions. If an application is approved, then the chief executive will issue a change certificate that may be lodged with the registrar of water allocations. The chief executive will provide an information notice on his decision to the applicant and any parties that made a submission on the notice of application. Parties are able to appeal decisions made under internal review.

Attachment 5.1A Lower Burnett and Kolan Rivers Water Management Area: Reserved for future amendments

Attachment 5.1B Lower Burnett and Kolan Rivers Water Management Area: Reserved for future amendments

Attachment 5.1C Lower Burnett and Kolan Rivers Water Management Area: Operating rules for water allocations taken by water harvesting

1 Overview

These operating rules apply to water allocations taken by water harvesting with flow conditions in the Lower Burnett and Kolan Rivers Water Management Area:

- the Burnett River from the confluence of St Agnes Creek (AMTD 97.9) downstream to Ben Anderson Barrage (AMTD 25.9), including locations directly benefited by flow or pondage from these river reaches; and
- the Kolan River from the impoundment area of Fred Haigh Dam (AMTD 116) downstream to the Kolan River Barrage (AMTD 14.7), including locations directly benefited by flow or pondage from these river reaches.

These locations are defined in Table 1 of Attachment 2.2 and displayed on the accompanying map sheets.

2 Water year

The water year is from 1 July to 30 June the following year.

3 Location from which water may be taken

The location from which water may be taken is described as a zone on each water allocation. Zone locations are described in Attachment 2.2.

4 Purpose for which water may be taken

The purpose for which water may be taken is stated on each water allocation. All unsupplemented water allocations may be used for 'any' purpose.

5 Maximum annual volume of water that may be taken

The maximum volume of water that may be taken in a water year will be calculated using the formula:

AAL_i * Volumetric Limit

The AAL_i is defined in Section 5.1.

5.1 Annual announced limit

The annual announced limit (AAL_i) is the percentage that is announced by the chief executive for each subcatchment on a water year basis. The AAL_i must not be greater than 100 per cent. This percentage sets the annual limit to the amount of unsupplemented water, which an individual water allocation holder can divert during water year 'i' as a proportion of the volumetric limit.

5.2 Calculation of the annual announced limit

The annual announced limit for unsupplemented water allocations for each subcatchment must be determined by the following formulae:

$$TAAL_i = 50 + AAL_{i-1} – (TU_{i-1}/SVL * 100) + RAAL_{i-1}$$

$$RAAL_{i-1} = \text{greater} \{ TAAL_{i-1} – 100, 0 \}$$

$$AAL_i = \text{lesser} \{ 100, TAAL_i \}$$

Where:

i = current water year

I – 1 = previous water year

The parameters used in the above relationships are defined in Section 5.3.

5.3 Parameters used in calculating announced allocation

AAL = annual announced limit

That is, the percentage of the water allocation volumetric limit that may be taken for the water year.

TAAL = trial annual announced limit

That is, the trial annual announced limit is a percentage of the water allocation volumetric limit and determines the annual announced limit for a water year and the residual announced allocation limit for the next year.

TU = total use

That is, the total diverted unsupplemented water allocations (ML) in the subcatchment for the water year.

SVL = sum volumetric limit

That is, the sum of the volumetric limits (ML) for the subcatchment.

RAAL = residual annual announced limit

That is, the residual is the amount by which the trial annual announced limit was greater than 100 per cent in the previous year. This may be available in the following water year.

5.4 Rules for determining the annual announced limit

The rules for determining the annual announced limit are:

- the annual announced limit cannot be greater than 100 per cent;

- RAAL is limited between 0 per cent and 50 per cent;
- AAL percentages must be determined and announced within ten business days after the start of the water year; and
- the AAL is calculated using the formula listed in Section 5.2.

6 Maximum rate for taking water

The maximum rate of take stated on a water allocation is the maximum instantaneous rate (in L/s) at which water may be taken.

7 Flow conditions under which water may be taken

The passing flow conditions associated with the water allocation group stated on a water allocation are the stream flow conditions nominally required while water is being taken under the water allocation.

The chief executive will determine when the passing flow conditions exist and when water may be taken under arrangements given in Section 8 and Section 9. A period of time during which water may be taken is referred to as an announced period for water harvesting.

8 Announced periods for taking water

The chief executive will notify water allocation holders of the start and end of an announced period during which water may be taken.

9 Determining announced periods for taking water

The chief executive will determine the start and the end of a period during which the stream flow is estimated to exceed the flow threshold conditions for each water allocation group.

10 Assessment of quantity of unsupplemented water taken

The following rules apply for the assessment of the quantity of unsupplemented water taken under a water allocation:

- a water allocation holder must advise the chief executive prior to taking unsupplemented water;
- for water taken during an announced period, a water allocation holder must provide meter readings to the chief executive at the start and finish of the announced period and at the end of the water year if required by the chief executive;
- unsupplemented water may be taken only during announced periods;
- the chief executive will advise the ROL holder for the Bundaberg Water Supply Scheme of the meter readings and the approved quantities of unsupplemented water taken within ten business days of the conclusion of all announced periods for the Lower Burnett and Kolan Rivers Water Management Area; and

- any water taken that is not in accordance with these rules for unsupplemented water and taken from within the limits of the Bundaberg Water Supply Scheme will be treated as supplemented water.

11 Seasonal water assignment rules

A water allocation holder or the holder of a seasonal water assignment notice may apply under s.142 of the Water Act for a seasonal water assignment for the water year in which the application is made. Seasonal water assignment of a water allocation in the Lower Burnett and Kolan Rivers Water Management Area is permitted subject to the following rules.

The chief executive will approve all applications to seasonally assign water provided that the application conforms to the following rules.

Seasonal water assignments may be made to all or part of the unused portion of water that may be taken under a water allocation or seasonal water assignment notice.

A water allocation holder may apply for a seasonal assignment of water within any zone or between:

- zone AA, AB or AC and zone AA, AB or AC; or
- zone CA and zone CB.

The permitted use of unsupplemented water allocations in a water year is provided for in Table 1.

Table 1: Seasonal water assignment use limits

Zones	AA	AB	AC	CA	CB
Minimum nominal volume (ML)	223	0	466	1 082	382
Maximum nominal volume (ML)	335	170	788	1 828	646

The flow condition for a seasonal water assignment of water will be the same as the flow condition of the water allocation or seasonal water assignment notice that is being seasonally assigned. The maximum rate of take under a seasonal water assignment notice will be determined during the processing of the application so that the WASOs and EFOs of the WRP are met. Seasonal water assignment of a water allocation or seasonal water assignment notice must not lead to the water allocation being managed under a ROL.

The holder of the seasonal water assignment notice must also be a holder of a development permit for works that may take the seasonally assigned water.

12 Procedures

Details of procedures associated with the implementation of these operating rules will be developed and made available by the chief executive.

Attachment 5.1D Lower Burnett and Kolan Rivers Water Management Area: Water allocation change rules

1 Permitted changes

Application for the following changes to a water allocation will be approved. On approval, a change certificate will be issued by the chief executive, which may be lodged with the registrar of water allocations.

1.1 Location

A change to the location of a water allocation:

- within any zone; or:
  - between zone AA, AB or AC and zone AA, AB or AC; or
  - between zone CA and zone CB.

The proposed change is not a permitted change if the proposed change would result in a distribution of water allocations not provided for in Table 1.

Table 1: Change limits: maximum and minimum nominal volumes by zone

Zones	AA	AB	AC	CA	CB
Minimum nominal volume (ML)	223	0	466	1 082	382
Maximum nominal volume (ML)	335	170	788	1 828	646

1.2 Purpose

A change to the purpose of the water allocation from ‘agriculture’ to ‘any’ or from ‘any’ to ‘agriculture’.

1.3 Amalgamation or subdivision

A change to subdivide a water allocation into two or more water allocations, or to amalgamate two or more water allocations into one water allocation.

If a water allocation is subdivided, the maximum rate for taking water of each new water allocation will be proportional to the volume of the new water allocation.

Water allocations with the same location and flow condition specifications can be amalgamated into a new water allocation. The volume of the new water allocation will be set at the combined volume of the original water allocations and the new rate will be determined during the application process so that the WASOs and EFOs of the WRP are met.

2 Prohibited changes

The following changes are prohibited changes.

2.1 Location

A change of location from:

- zone AA, AB or AC to a location which is not zone AA, AB or AC; or
- zone CA or CB to a location which is not zone CA or CB.

2.2 Purpose

A change to a purpose that is not ‘agriculture’ or ‘any’.

2.3 Water allocation group

A change that would alter the water allocation group that applies to a water allocation.

2.4 Rate

A change to the maximum rate of a water allocation that is not a consequence of a change to another attribute of a water allocation.

2.5 Supply of water

A change to a water allocation must not be a change that would lead to the water allocation being managed under a ROL.

2.6 Other

A change to a water allocation that requires an amendment to this ROP, other than an amendment provided for in Chapter 8.

3 Application for change under s.130 of the Water Act

If a water allocation holder wishes to apply for a change to a water allocation that is not permitted under Section 1 above, and not prohibited under Section 2 above, then application may be made under s.130 of the Water Act for the change.

The chief executive will deal with any and all applications made under s.130 of the Water Act, in accordance with the Act. That process is as follows. Notice of the application is published in local newspapers. The notice includes information about where the application can be inspected and invites submissions from the public on the application. The chief executive determines if the application should be approved having regard to the potential impact on a range of interests including other allocation holders and natural ecosystems. If the chief executive approves the application, then the chief executive issues a change certificate that may be lodged with the registrar of water allocations. If the chief executive refuses the application, then the applicant can appeal to the Land Court.

3.1 Registration of change

If an application to change a water allocation is approved, the chief executive will issue a change certificate. The water allocation holder may lodge the change certificate with the registrar of water allocations who will change the water allocation on the water allocation register.

Attachment
5.2A

Upper Burnett and Nogo Rivers Water Management Area: Reserved for future amendments

Attachment
5.2B

Upper Burnett and Nogo Rivers Water Management Area: Reserved for future amendments

Attachment 5.2C Upper Burnett and Nogo Rivers Water Management Area: Operating rules for water allocations taken by water harvesting

1 Overview

These operating rules apply to water allocations taken by water harvesting with flow conditions in the Upper Burnett and Nogo Rivers Water Management Area:

- the Burnett River from the impoundment area of John Goleby Weir at full supply level (AMTD 333.9) downstream to the confluence of St Agnes Creek (AMTD 97.9), including locations directly benefited by flow or pondage from these river reaches; and
- the Nogo River from the impoundment area of Wuruma Dam at full supply level (AMTD 44.5) to the confluence of the Burnett River (AMTD 311.8), including locations directly benefited by flow or pondage from these river reaches.

These locations are defined in Table 1 of Attachment 2.2 and displayed on the accompanying map sheets.

2 Water year

The water year is from 1 July to 30 June the following year.

3 Location from which water may be taken

The location from which water may be taken is described as a zone on each water allocation. Zone locations are described in Attachment 2.2.

4 Purpose for which water may be taken

The purpose for which water may be taken is stated on each water allocation. All unsupplemented water allocations may be used for 'any' purpose.

In order to comply with WRP objectives, the AAL for zones OD and PA must be 100 per cent.

5 Maximum annual volume of water that may be taken

The maximum volume of water that may be taken in a water year will be calculated using the formula:

AAL_i * Volumetric Limit

The AAL_i is defined in Section 5.1.

5.1 Annual announced limit

The annual announced limit (AAL_i) is the percentage that is announced by the chief executive for each subcatchment on a water year basis. The AAL_i must not be greater than 100 per cent. This percentage sets the annual limit to the amount of unsupplemented water, which an individual water allocation holder can divert during water year 'i' as a proportion of the volumetric limit.

5.2 Calculation of the annual announced limit

The annual announced limit for unsupplemented water allocations for each subcatchment must be determined by the following formulae.

$$TAAL_i = 50 + AAL_{i-1} – (TU_{i-1}/SVL*100) + RAAL_{i-1}$$

$$RAAL_{i-1} = \text{greater} \{ TAAL_{i-1} – 100, 0 \}$$

$$AAL_i = \text{lesser} \{ 100, TAAL_i \}$$

Where:

i = current water year

I – 1 = previous water year

The parameters used in the above relationships are defined in Section 5.3.

5.3 Parameters used in calculating announced allocation

AAL = annual announced limit

That is, the percentage of the water allocation volumetric limit that may be taken for the water year.

TAAL = trial annual announced limit

That is, the trial annual announced limit is a percentage of the water allocation volumetric limit and determines the annual announced limit for a water year and the residual announced allocation limit for the next year.

TU = total use

That is, the total diverted unsupplemented water allocations (ML) in the subcatchment for the water year.

SVL = sum volumetric limit

That is, the sum of the volumetric limits (ML) for the subcatchment.

RAAL = residual annual announced limit

That is, the residual is the amount by which the trial annual announced limit was greater than 100 per cent in the previous year. This may be available in the following water year.

5.4 Rules for determining the annual announced limit

The rules for determining the annual announced limit are:

- the annual announced limit cannot be greater than 100 per cent;
- RAAL is limited between 0 per cent and 50 per cent;
- AAL percentages must be determined and announced within ten business days after the start of the water year; and
- the AAL is calculated using the formula listed in Section 5.2 except for zones OD and PA where AAL will be 100 per cent.

6 Maximum rate for taking water

The maximum rate of take stated on a water allocation is the maximum instantaneous rate (in L/s) at which water may be taken.

7 Flow conditions under which water may be taken

The passing flow conditions associated with the water allocation group stated on a water allocation are the stream flow conditions nominally required while water is being taken under the water allocation.

The chief executive will determine when the passing flow conditions exist and when water may be taken under arrangements given in Section 8 and Section 9. A period of time during which water may be taken is referred to as an announced period for water harvesting.

8 Announced periods for taking water

The chief executive will notify water allocation holders of the start and the end of an announced period during which water may be taken.

9 Determining announced periods for taking water

The chief executive will determine the start and the end of a period during which the stream flow is estimated to exceed the flow threshold conditions for each water allocation group.

10 Assessment of quantity of unsupplemented water taken

The following rules apply for the assessment of the quantity of unsupplemented water taken under a water allocation:

- a water allocation holder must advise the chief executive prior to taking unsupplemented water;
- for water taken during an announced period, a water allocation holder must provide meter readings to the chief executive at the start and finish of the

announced period and at the end of the water year if required by the chief executive;
- unsupplemented water may be taken only during announced periods;
- the chief executive will advise the ROL holder for the Upper Burnett Water Supply Scheme of the meter readings and the approved quantities of unsupplemented water taken within ten business days of the conclusion of all announced periods for the Upper Burnett and Nogo Rivers Water Management Area; and
- any water taken that is not in accordance with these rules for unsupplemented water and taken from within the limits of the Upper Burnett Water Supply Scheme will be treated as supplemented water.

11 Seasonal water assignment rules

A water allocation holder or the holder of a seasonal water assignment notice may apply under s.142 of the *Water Act 2000* for a seasonal water assignment for the water year in which the application is made. Seasonal water assignment of a water allocation in the Upper Burnett and Nogo Rivers Water Management Area is permitted subject to the following rules.

The chief executive will approve all applications to seasonally assign water provided that the application conforms to the following rules:
- seasonal water assignments may be made to all or part of the unused portion of water that may be taken under a water allocation or seasonal water assignment notice; and
- a water allocation holder may apply for a seasonal assignment of water within any zone or between:
  - zone GA and GB;
  - zone NA, NB or NC and zone NA, NB or NC; or
  - zone OA, OB, OC, OD or MA and zone OA, OB, OC, OD or MA.

The permitted use of unsupplemented water allocations in a water year is provided for in Table 1.

Table 1: Seasonal water assignment use limits

Location (Zone)	GA	GB	MA	NA	NB	NC	OA	OB	OC
Minimum Nominal Volume (ML)	483	407	119	422	840	776	912	584	21
Maximum Nominal Volume (ML)	806	679	199	703	1400	1293	1519	973	35

The flow condition for a seasonal assignment water allocation will be the same as the flow condition of the water allocation or seasonal water assignment notice that is being seasonally assigned. The maximum rate of take under a seasonal water assignment permit will be determined during the processing of the application so that the WASOs and EFOs of the WRP are met. Seasonal water assignment of a water allocation or seasonal water assignment notice must not lead to the water allocation being managed under a ROL.

The holder of the seasonal water assignment notice must also be a holder of a development permit for works that may take the seasonally assigned water.

12 Procedures

Details of procedures associated with the implementation of these operating rules will be developed and made available by the chief executive.

Attachment 5.2D Upper Burnett and Nogo Rivers Water Management Area: Water allocation change rules

1 Permitted changes

Application for the following changes to a water allocation will be approved. On approval, a change certificate will be issued by the chief executive, which may be lodged with the registrar of water allocations.

1.1 Location

A change to the location of a water allocation:

- within any zone; or between:
  - zone GA and GB;
  - zone NA, NB or NC and NA, NB or NC; or
  - zone OA, OB, OC or MA and OA, OB, OC or MA.

A change of location will be allowed from zone MA in Subcatchment 'M' to zones OA, OB, OC in Subcatchment 'O'.

The proposed change is not a permitted change if the proposed change would result in a distribution of water allocations not provided for in Table 1.

Table 1: Change limits: maximum and minimum nominal volumes by zone

Location (Zone)	GA	GB	MA	NA	NB	NC	OA	OB	OC
Minimum Nominal Volume (ML)	483	407	119	422	840	776	912	584	21
Maximum Nominal Volume (ML)	806	679	199	703	1 400	1 293	1 519	973	35

1.2 Purpose

A change to the purpose of the water allocation from 'agriculture' to 'any' or from 'any' to 'agriculture'.

1.3 Amalgamation or subdivision

A change to subdivide a water allocation into two or more water allocations, or to amalgamate two or more water allocations into one water allocation.

If a water allocation is subdivided, the maximum rate for taking water of each new water allocation will be proportional to the volume of the new water allocation.

Water allocations with the same location and flow condition specifications can be amalgamated into a new water allocation. The volume of the new water allocation will be set at the combined volume of the original water allocations and the new rate will be determined during the application process so that the WASOs and EFOs of the WRP are met.

2 Prohibited changes

The following changes are prohibited changes.

2.1 Location

A change of location from:

- zone GA or GB to a location which is not zone GA or GB;
- zone NA, NB or NC to a location which is not zone NA, NB or NC; and
- zone OA, OB, OC or MA to a location which is not zone OA, OB, OC or MA.

2.2 Purpose

A change to a purpose that is not ‘agriculture’ or ‘any’.

2.3 Water allocation group

A change that would alter the water allocation group that applies to a water allocation.

2.4 Rate

A change to the maximum rate of a water allocation that is not a consequence of a change to another attribute of a water allocation.

2.5 Other

A change to a water allocation that requires an amendment to this ROP, other than an amendment provided for in Chapter 8.

3 Application for change under s.130 of the Water Act

If a water allocation holder wishes to apply for a change to a water allocation that is not permitted under Section 1 above, and not prohibited under Section 2 above, then application may be made under s.130 of the Water Act for the change.

The chief executive will deal with any and all applications made under s.130 of the Water Act, in accordance with the Act. That process is as follows. Notice of the application is published in local newspapers. The notice includes information about where the application can be inspected and invites submissions from the public on the application. The chief executive determines if the application should be approved having regard to the potential impact on a range of interests including other entitlement holders and natural ecosystems. If the chief executive approves the application, then the chief executive issues a change certificate that may be lodged with the registrar of water allocations. If the chief executive refuses the application, then the applicant can appeal to the Land Court.

3.1 Registration of change

If an application to change a water allocation is approved, the chief executive will issue a change certificate. The water allocation holder may lodge the change certificate with the registrar of water allocations who will change the water allocation on the water allocation register.

Attachment
5.3A Barker Barambah Creeks Water Management Area: Reserved for future amendments

Attachment 5.3B Barker Barambah Creeks Water Management Area: Reserved for future amendments

Attachment 5.3C Barker Barambah Creeks Water Management Area: Operating rules for water allocations taken by water harvesting

1 Overview

These operating rules apply to water allocations taken by water harvesting with flow conditions in the Barker Barambah Creeks Water Management Area:

- Barker Creek from AMTD 38.2 downstream to the confluence with Barambah Creek, including locations directly benefited by flow or pondage from these stream reaches; and
- Barambah Creek from AMTD 189.5 downstream to AMTD 85 including locations directly benefited by flow or pondage from these stream reaches.

These locations are defined in Table 1 of Attachment 2.2, and displayed on the accompanying map sheets.

2 Water year

The water year is from 1 July to 30 June the following year.

3 Location from which water may be taken

The location from which water may be taken is described as a zone on each water allocation. Zone locations are described in Attachment 2.2.

4 Purpose for which water may be taken

The purpose for which water may be taken is stated on each water allocation. All unsupplemented water allocations may be used for 'any' purpose.

5 Maximum annual volume of water that may be taken

The maximum volume of water that may be taken in a water year is the volumetric limit stated on each water allocation.

6 Maximum rate for taking water

The maximum rate of take stated on a water allocation is the maximum instantaneous rate (in L/s) at which water may be taken.

7 Flow conditions under which water may be taken

The passing flow conditions associated with the water allocation group stated on a water allocation are the stream flow conditions nominally required while water is being taken under the water allocation.

The chief executive will determine when the passing flow conditions exist and when water may be taken under arrangements given in Section 8 and Section 9. A period of time during which water may be taken is referred to as an announced period for water harvesting.

8 Announced periods for taking water

The chief executive will notify water allocation holders of the start and end of an announced period during which water may be taken.

9 Determining announced periods for taking water

The chief executive will determine the start and the end of a period during which the stream flow is estimated to exceed the flow threshold conditions for each water allocation group and when unsupplemented water is available in each zone.

10 Assessment of quantity of unsupplemented water taken

The following rules apply for the assessment of the quantity of unsupplemented water taken under a water allocation:

- a water allocation holder must advise the chief executive prior to taking unsupplemented water;
- for water taken during an announced period, a water allocation holder must provide meter readings to the chief executive at the start and finish of the announced period and at the end of the water year if required by the chief executive;
- unsupplemented water may be taken only during announced periods;
- the chief executive will advise the ROL holder for the Barker Barambah Water Supply Scheme of the meter readings and the approved quantities of unsupplemented water taken within ten business days of the conclusion of all announced periods for the Barker Barambah Creeks Water Management Area; and
- any water taken that is not in accordance with these rules for unsupplemented water and taken from within the limits of the Barker Barambah Water Supply Scheme will be treated as supplemented water.

11 Seasonal water assignment rules

A water allocation holder or the holder of a seasonal water assignment notice may apply under s.142 of the *Water Act 2000* for a seasonal water assignment for the water year in which the application is made. Seasonal water assignment of a water allocation in the Barker Barambah Creeks Water Management Area is permitted subject to the following rules.

The chief executive will approve all applications to seasonally assign water provided that the application conforms to the following rules.

Seasonal water assignments may be made to all or part of the unused portion of water that may be taken under a water allocation or seasonal water assignment notice.

A water allocation holder may apply for a seasonal assignment of water within any zone or from:

- HJ to HK;
- HK to HJ or to HL; or
- HL to HK.

Prohibited changes specified in Attachment 5.3D apply to seasonal water assignments.

The permitted use of unsupplemented water allocations in a water year is provided for in Table 1.

Table 1: Seasonal water assignment use limits

Zones	HJ	HK	HL	JC	JD
Minimum nominal volume (ML)	2 849	2 876	752	34	780
Maximum nominal volume (ML)	4 749	4 794	1 254	56	1 300

The flow condition for a seasonal water assignment of water will be the same as the flow condition of the water allocation or seasonal water assignment notice that is being seasonally assigned. The maximum rate of take under a seasonal water assignment notice will be determined during the processing of the application so that the WASOs and EFOs of the WRP are met.

Seasonal water assignment of a water allocation or seasonal water assignment notice must not lead to the water allocation being managed under a ROL.

The holder of the seasonal water assignment notice must also be a holder of a development permit for works that may take the seasonally assigned water.

12 Procedures

Details of procedures associated with the implementation of these operating rules will be developed and made available by the chief executive.

Attachment 5.3D Barker Barambah Creeks Water Management Area: Water allocation change rules

1 Permitted changes

Application for the following changes to a water allocation will be approved. On approval, a change certificate will be issued by the chief executive, which may be lodged with the registrar of water allocations.

1.1 Location

A change to the location of a water allocation:

- From HJ to HK;
- From HK to HJ or HL; or
- From HL to HK.

The proposed change is not a permitted change if the proposed change would result in a distribution of water allocations not provided for in Table 1.

Table 1: Change limits: maximum and minimum nominal volumes by zone

Zones	HJ	HK	HL	JC	JD
Minimum nominal volume (ML)	2 849	2 876	752	34	780
Maximum nominal (ML)	4 749	4 794	1 254	56	1 300

1.2 Purpose

A change to the purpose of the water allocation from ‘agriculture’ to ‘any’ or from ‘any’ to ‘agriculture’.

1.3 Amalgamation or subdivision

A change to subdivide a water allocation into two or more water allocations, or to amalgamate two or more water allocations into one water allocation.

If a water allocation is subdivided, the maximum rate for taking water of each new water allocation will be proportional to the volume of the new water allocation.

2 Prohibited changes

The following changes are prohibited changes.

2.1 Location

A change of location from:

- zone JC to any other zone; or
- zone JD to any other zone.

A change that would result in a water allocation with a Water Allocation Group 'Class 1H' being located in zone HL.

A change that would result in a water allocation with a Water Allocation Group 'Class 3H' being located in zone HJ.

2.2 Purpose

A change to a purpose that is not 'agriculture' or 'any'.

2.3 Water allocation group

A change that would alter the water allocation group that applies to a water allocation.

2.4 Rate

A change to the maximum rate of a water allocation that is not a consequence of a change to another attribute of a water allocation.

2.5 Supply of water

A change to a water allocation must not be a change that would lead to the water allocation being managed under a ROL.

2.6 Other

A change to a water allocation that requires an amendment to this ROP, other than an amendment provided for in Chapter 8.

3 Application for change under s.130 of the Water Act

If a water allocation holder wishes to apply for a change to a water allocation that is not permitted under Section 1 above, and not prohibited under Section 2 above, then application may be made under s.130 of the Water Act for the change.

The chief executive will deal with any and all applications made under s.130 of the Water Act, in accordance with the Act. That process is as follows. Notice of the application is published in local newspapers. The notice includes information about where the application can be inspected and invites submissions from the public on the application. The chief executive determines if the application should be approved having regard to the potential impact on a range of interests including other allocation holders and natural ecosystems. If the chief executive approves the application, then the chief executive issues a change certificate that may be lodged with the registrar of water allocations. If the chief executive refuses the application, then the applicant can appeal to the Land Court.

3.1 Registration of change

If an application to change a water allocation is approved, the chief executive will issue a change certificate. The water allocation holder may lodge the change certificate with the registrar of water allocations who will change the water allocation on the water allocation register.

Attachment 5.4A Boyne and Stuart Rivers Water Management Area: Reserved for future amendments

Attachment 5.4B Boyne and Stuart Rivers Water Management Area: Reserved for future amendments

Attachment 5.4C Boyne and Stuart Rivers Water Management Area: Operating rules

1 Overview

These operating rules apply to water allocations taken within the Boyne and Stuart Rivers Water Management Area:

- The Boyne River from AMTD 181.8 downstream to the confluence with the Burnett River, including locations directly benefited by flow or pondage from these stream reaches;
- The Stuart River from AMTD 155.7 downstream to the confluence with the Boyne River, including locations directly benefited by flow or pondage from these stream reaches;
- Reedy Creek from AMTD 0.2 downstream to the confluence with the Stuart River; and
- Flagstone Creek from AMTD 0.9 downstream to the confluence with the Stuart River.

These locations are defined in Table 1 of Attachment 2.2 and displayed on the accompanying map sheets.

2 Water year

The water year is from 1 July to 30 June the following year.

3 Location from which water may be taken

The location from which water may be taken is described as a zone on each water allocation. Zone locations are described in Attachment 2.2.

4 Purpose for which water may be taken

The purpose for which water may be taken is stated on each water allocation.

5 Maximum annual volume of water that may be taken

The maximum volume of water that may be taken in a water year for allocations in water allocation groups 1K, 5K and 6K will be the volumetric limit as stated on the allocation. For water allocations groups 2K, 3K, 4K, 7K, 1L, 2L, 3L, and 4L the maximum volume of water that may be taken in a water year will be calculated using the formula:

AAL_i * Volumetric Limit

The AAL_i is defined in Section 5.1.

5.1 Annual announced limit

The annual announced limit (AAL_i) is the percentage that is announced by the chief executive for each subcatchment on a water year basis. The AAL_i must not be greater than 100 per cent. This percentage sets the annual limit to the amount of unsupplemented water, which an individual water allocation holder can divert during water year 'i' as a proportion of the volumetric limit.

5.2 Calculation of the annual announced limit

The annual announced limit for unsupplemented water allocations in each subcatchment, except water allocations in water allocation groups 1K, 5K and 6K, must be determined by the following formulae:

$$TAAL_i = 50 + AAL_{i-1} – (TU_{i-1}/SVL * 100) + RAAL_{i-1}$$

$$RAAL_{i-1} = \text{greater} \{ TAAL_{i-1} – 100, 0 \}$$

$$AAL_i = \text{lesser} \{ 100, TAAL_i \}$$

Where:

i = current water year

I – 1 = previous water year

The parameters used in the above relationships are defined in Section 5.3.

5.3 Parameters used in calculating announced allocation

AAL = annual announced limit

That is, the percentage of the water allocation volumetric limit that may be taken for the water year.

TAAL = trial annual announced limit

That is, the trial annual announced limit is a percentage of the water allocation volumetric limit and determines the annual announced limit for a water year and the residual announced allocation limit for the next year.

TU = total use

That is, for the water year, the total diverted unsupplemented water allocations (ML) in water allocation groups 2K, 3K, 4K and 7K for subcatchment K and in water allocation groups 1L, 2L, 3L and 4L for subcatchment L.

SVL = sum volumetric limit

That is, the sum of the volumetric limits (ML) in water allocation groups 2K, 3K, 4K and 7K for subcatchment K and in water allocation groups 1L, 2L, 3L and 4L for subcatchment L.

RAAL = residual annual announced limit

That is, the residual is the amount by which the trial annual announced limit was greater than 100 per cent in the previous year. This may be available in the following water year.

5.4 Rules for determining the annual announced limit

The rules for determining the annual announced limit are:

- the annual announced limit cannot be greater than 100 per cent ;
- RAAL is limited between 0 per cent and 50 per cent;
- AAL percentages must be determined and announced within ten business days after the start of the water year; and
- the AAL is calculated using the formula listed in Section 5.2.

6 Maximum rate for taking water

The maximum rate of take stated on a water allocation is the maximum instantaneous rate (in L/s) at which water may be taken.

7 Flow conditions under which water may be taken

The passing flow conditions associated with the water allocation group stated on a water allocation are the stream flow conditions nominally required while water is being taken under the water allocation.

The chief executive will determine when the passing flow conditions exist in water allocation groups 1L, 2L, 3L, 3K and 4L and when water may be taken under arrangements given in Section 8 and Section 9. A period of time during which water may be taken is referred to as an announced period for water harvesting.

Announced periods will not be required in water allocation groups 1K, 2K, 4K, 5K, 6K and 7K. The taking of water in water allocation groups 2K, 4K and 6K must be limited by a device approved by the chief executive.

8 Announced periods for taking water

The chief executive will notify water allocation holders in water allocation groups 1L, 2L, 3L, 3K and 4L of the start and end of an announced period during which water may be taken.

9 Determining announced periods for taking water

The chief executive will determine the start and the end of a period during which the stream flow is estimated to exceed the flow threshold conditions for water allocation groups 1L, 2L, 3L, 3K and 4L and when unsupplemented water can be taken in these water allocation groups.

10 Assessment of quantity of unsupplemented water taken

The following rules apply for the assessment of the quantity of unsupplemented water taken under a water allocation:

- a water allocation holder must provide meter readings to the chief executive and at the end of the water year if required by the chief executive;
- a water allocation holder in water allocation groups 1L, 2L, 2K, 3L, 3K, 4L, 4K and 6K must provide meter readings to the chief executive at the start and finish of any period of take;
- unsupplemented water may be taken only during announced periods in water allocation groups 1L, 2L, 3L, 3K and 4L;
- the chief executive will advise the ROL holder for the Boyne and Tarong Water Supply Scheme of the meter readings and the approved quantities of unsupplemented water taken within ten business days of the conclusion of all announced periods for the Boyne and Stuart Rivers Water Management Area where water is taken from supplemented reaches of the Boyne River; and
- any water taken that is not in accordance with these rules for unsupplemented water and taken from within the limits of the Boyne and Tarong Water Supply Scheme will be treated as supplemented water.

11 Seasonal water assignment rules

A water allocation holder or the holder of a seasonal water assignment notice may apply under s.142 of the Water Act for a seasonal water assignment for the water year in which the application is made. Seasonal water assignment of a water allocation in the Boyne and Stuart Rivers Water Management Area is permitted.

The chief executive will approve all applications to seasonally assign water provided that the application conforms to the following rules:

- Seasonal water assignments may be made to all or part of the unused portion of water that may be taken under a water allocation or seasonal water assignment notice; and
- A water allocation holder may apply for a seasonal assignment of water within any single zone only. Seasonal assignment between zones is prohibited.

The flow condition for a seasonal water assignment of water will be the same as the flow condition of the water allocation or seasonal water assignment notice that is being seasonally assigned. The maximum rate of take under a seasonal water assignment notice will be determined during the processing of the application so that the WASOs and EFOs of the WRP are met. Seasonal water assignment of a water allocation or seasonal water assignment notice must not lead to the water allocation being managed under a ROL.

The holder of the seasonal water assignment notice must also be a holder of a development permit for works that may take the seasonally assigned water.

12 Procedures

Details of procedures associated with the implementation of these operating rules will be developed and made available by the chief executive.

13 Minimum levels in waterholes

This section applies to waterholes within the extent of the Boyne and Stuart Rivers Water Management Area where drawdown of a waterhole may be desired for supply of water allocations.

A water allocation may be taken from a waterhole only if the water level in the waterhole is above the level that is 0.5m below the level at which the waterhole normally flows. These conditions do not apply if the taking of water is in accordance with s.27(2) of the Burnett Basin WRP.

14 Access to water in bed sands

The *Water Regulation 2002* made under s.1006(2) of the Water Act declares water in the aquifer underlying the Boyne River from AMTD 0 to 180 to be water in the watercourse. Holders of water allocations in zone KB may take water from bed sands. The volume of water taken in the relevant water year must not exceed the water allocation holder's volumetric limit.

Excavation work carried out to enhance the efficiency of access to water in the bed sands will require appropriate authorisation under the provision of the Water Act or the *Integrated Planning Act 1997*.

Attachment 5.4D Boyne and Stuart Rivers Water Management Area: Water allocation change rules

1 Permitted changes

Application for the following changes to a water allocation will be approved. On approval, a change certificate will be issued by the chief executive, which may be lodged with the registrar of water allocations. Movement of a water allocation within a zone is permitted and does not require a registered change.

1.1 Purpose

A change to the purpose of the water allocation from 'agriculture' to 'any' or from 'any' to 'agriculture'.

1.2 Amalgamation or subdivision

A change to subdivide a water allocation into two or more water allocations, or to amalgamate two or more water allocations into one water allocation.

If a water allocation is subdivided, the maximum rate for taking water of each new water allocation will be proportional to the volume of the new water allocation.

Water allocations with the same location and flow condition specifications can be amalgamated into a new water allocation. The volume of the new water allocation will be set at the combined volume of the original water allocations and the new rate will be determined during the application process so that the WASOs and EFOs of the WRP are met.

2 Prohibited changes

The following changes are prohibited changes.

2.1 Location

A change of location from:

- zone LA, KA, KB, KC, KD and KE to any other zone.

2.2 Purpose

A change to a purpose that is not 'agriculture' or 'any'.

2.3 Water allocation group

A change that would alter the water allocation group that applies to a water allocation.

2.4 Rate

A change to the maximum rate of a water allocation that is not a consequence of a change to another attribute of a water allocation.

2.5 Supply of water

A change to a water allocation must not be a change that would lead to the water allocation being managed under a ROL.

2.6 Other

A change to a water allocation that requires an amendment to this ROP, other than an amendment provided for in Chapter 8.

3 Application for change under s.130 of the Water Act

If a water allocation holder wishes to apply for a change to a water allocation that is not permitted under Section 1 above, and not prohibited under Section 2 above, then application may be made under s.130 of the Water Act for the change.

The chief executive will deal with any and all applications made under s.130 of the Water Act, in accordance with the Act. That process is as follows. Notice of the application is published in local newspapers. The notice includes information about where the application can be inspected and invites submissions from the public on the application. The chief executive determines if the application should be approved having regard to the potential impact on a range of interests including other allocation holders and natural ecosystems. If the chief executive approves the application, then the chief executive issues a change certificate that may be lodged with the registrar of water allocations. If the chief executive refuses the application, then the applicant can appeal to the Land Court.

3.1 Registration of change

If an application to change a water allocation is approved, the chief executive will issue a change certificate. The water allocation holder may lodge the change certificate with the registrar of water allocations who will change the water allocation on the water allocation register.

Attachment 9.1 Implementation schedule

The following requirements will be implemented within the time frames specified.

1 Water supply schemes

The Burnett Basin ROP was approved by the Governor in Council on 29 May 2003 and came into effect on 2 June 2003. The operational arrangements for the Bundaberg and Upper Burnett Water Supply Schemes commenced on 1 July 2003.

1.1 Upper Burnett Water Supply Scheme

For the Upper Burnett Water Supply Scheme, the operating arrangements in Chapter 4, Sections 4.2.5, 4.2.6, 4.2.7, 4.2.8 and 4.3 took effect at the start of the first water year following the commencement of the amendment to the ROP (November 2005).

1.2 Bundaberg Water Supply Scheme

For the Bundaberg Water Supply Scheme, the operating arrangements in Chapter 4, Sections 4.1.5, 4.1.6, 4.1.7, 4.1.8 and 4.3 commenced at the start of the 2006/07 water year.

1.3 Barker Barambah Water Supply Scheme

For the Barker Barambah Water Supply Scheme, Attachments 4.3E, 4.3F, 4.3G and 4.3H took effect at the start of the first water year following the commencement of the amendment to the ROP (November 2005).

1.4 Boyne River and Tarong Water Supply Scheme

For the Boyne River and Tarong Water Supply Scheme, Attachments 4.4E, 4.4F, 4.4G and 4.4H took effect at the start of the first water year following the commencement of the amendment to the ROP (December 2006).

2 Water management areas

The operational arrangements for the Upper Burnett and Nogo River Water Management area and the Lower Burnett and Kolan River Water Management Area commenced on 1 July 2003.

2.1 Upper Burnett and Nogo River Water Management Area

For the Upper Burnett and Nogo River Water Management Area, Attachments 5.2C and 5.2D took effect at the start of the first water year following the release of the ROP (May 2003).

2.2 Lower Burnett and Kolan River Water Management Area

For the Upper Burnett and Kolan River Water Management Area, Attachments 5.1C and 5.1D took effect at the start of the first water year following the release of the ROP (May 2003).

2.3 Barker Barambah Creeks Water Management Area

For the Barker Barambah Creeks Water Management Area, Attachments 5.3C and 5.3D took effect at the start of the first water year following the commencement of the amendment to the ROP (November 2005).

2.4 Boyne and Stuart Rivers Water Management Area

For the Boyne and Stuart Rivers Water Management Area, Attachments 5.4C and 5.4D take effect at the start of the first water year following the commencement of the amendment to the ROP (December 2006). In the interim, the chief executive will manage the Boyne and Stuart Rivers Water Management Area in accordance with the management arrangements in effect immediately prior to the commencement of the amendment to the ROP.

In subsequent years, the operating rules specified in Chapter 5 apply.

3 Information required in Chapters 3 and 4

Additional information to be supplied by the ROL holder regarding rules and monitoring details required in Chapters 3 and 4 will take effect from the water year following the chief executive's approval of the additional information unless specified otherwise in the ROP or in the approval of the chief executive.

Attachment 9.2 Amendment history of the Resource Operations Plan

Overview

The Burnett Basin Resource Operations Plan was originally released on 29 May 2003 and has been amended as detailed below.

Revision 1 (23 October 2003) under section 106 of the *Water Act 2000*

(a) Amendment of Attachment 4.1F, section 2.2, dot point 2, page 134

1. Insert

"***from 1 July 2005*** the resultant distribution of water supplied in a water year lies within the ranges shown in Tables 1 and 2 in Attachment 4.1H."

(b) Amendment of Attachment 4.2F, section 2.2, dot point 2, page 176

Insert

"***from 1 July 2005*** the resultant distribution of water supplied in a water year lies within the scenario provided for in Tables 1 and 2 in Attachment 4.2H."

(c) Amendment of Attachment 4.2H, section 1.1, page 192

Replace

Table 2

w*ith the following*

Table 2: Permitted distributions of medium priority water allocations and IWAs in the Upper Burnett Water Supply Scheme by zone

Zone	GA	GB	MA	NA	NB	NC	OA	OB	OC	OD	PA	SA	SB
Minimum nominal volume of medium priority water allocation (ML)	3 817	913	883	1 951	3 488	2 411	5 863	6 405	0	0	0	0	0
Maximum nominal volume of medium priority water allocation (ML)	3 967	963	993	2 201	3 738	3 261	6 653	7 005	283	1560	1560	0	50

(d) Amendment of Attachment 5.1D, section 1.1, page 203

Replace

Table 1

with the following

Table 1: Change limits: maximum and minimum nominal volumes by zone

Zones	AA	AB	AC	CA	CB
Minimum nominal volume of high priority water allocation (ML)	223	170	788	1 828	646
Maximum nominal volume of high priority water allocation (ML)	335	0	466	1 082	382

(e) Omission of disclaimer on inner title page

Revision 2 (4 December 2003) under section 106 of the *Water Act 2000*

(a) Amendment of Attachment 5.1D, section 1.1, page 203

2. Replace

Table 1

with the following

Table 1: Change limits: maximum and minimum nominal volumes by zone

Zones	AA	AB	AC	CA	CB
Maximum nominal volume (ML)	335	170	788	1 828	646
Minimum nominal volume (ML)	223	0	466	1 082	382

Revision 3 (April 2005) under section 106 of the *Water Act 2000.*

Revision 4 (November 2005) under sections 105 and 106 of the *Water Act 2000.*

Revision 5 (April 2006) under section 106 of the *Water Act 2000.*

(a) Amendment of Attachment 9.2, section 1.3, page 300

Insert

"In the interim, the ROL holder for the Barker Barambah Water Supply Scheme must operate in accordance with the rule:

- Specified in the expired interim resource operations licence for the Barker Barambah Water Supply Scheme issued to Sun Water dated December 2004 as it applied prior to the commencement of this Plan, with the exception of part 9 of section 2.3 of the Interim Resource Operations Licence, where section 2.7 of Attachment 4.3E of the ROP applies from commencement."

(b) Amendment of Attachment 9.2, section 1.3, pages 300 and 301

Insert

"The total volume of water of an unused portion of a water allocation under rules as applied on 30 June 2006, may be carried over in accordance with section 2.1 of Attachment 4.3F in the water year 2006/07."

Revision 6 (December 2006) under sections 105 and 106 of the *Water Act 2000.*

Revision 7 (June 2007) under section 106 of the *Water Act 2000.*

Revision 8 (November 2007) under section 106 of the *Water Act 2000.*

Revision 9 (June 2008) under section 106 of the *Water Act 2000.*

Revision 10 (August 2009) under section 106 of the *Water Act 2000*.

Revision 11 (April 2010) under section 106 of the *Water Act 2000*.

Glossary

TERM	DEFINITION
"1.5 year average recurrence interval (ARI) daily flow volume"	1.5 year ARI: the daily flow volume that has a 67 per cent probability of being reached at least once a year.
"5 year average recurrence interval (ARI) daily flow volume"	5 year ARI: the daily flow volume that has a 20 per cent probability of being reached at least once a year.
"AHD"	the Australian height datum which references a level or height to a standard base level.
"aquatic habitat"	the type of environment that relies on water, in which a given animal or plant lives and grows, including physical and biological conditions. Some of the attributes that contribute to aquatic habitat include – substrate type, stream flow, stream depth, presence of large and small woody debris, shade provided by trees, presence and type of aquatic vegetation.
"aquatic vegetation"	plants that live entirely or primarily in or on water.
"ARMCANZ"	Agriculture and Resource Management Council of Australia and New Zealand.
"barrage"	is a barrier constructed across a watercourse to prevent the inflow of tidal water.
"basin"	a river basin, which is the total area from which water drains to a river system or a grouping of adjacent river systems.
"catchment"	the area above a specific point on a watercourse from which water drains to the watercourse.
"cease to flow"	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 within a water project area.
"confluence"	the point where two or more watercourses meet.
"critical water supply arrangements"	for a water supply scheme, a plan for the management of water during periods of critical water shortage when the storage levels in dams, weirs or waterholes are at or below minimum operating levels specified in the ROP.
"cumecs"	cubic metres per second (m^3/s), a measurement of the rate at which a volume of water passes through a cross-section per unit of time.

"cyanobacteria"	also know as blue green algae. Naturally occurring microscopic, primitive photosynthetic bacteria.
"daily flow"	for a node, the volume of water that flows past the node in a day.
"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.
"degradation"	any decline from the natural state in the quality of natural resources.
"DERM"	Department of Environment and Resource Management (comprising former Department of Natural Resources and Water and former Environment Protection Agency)
"development permit"	as defined under the *Integrated Planning Act 1997.*
"discharge"	discharge is the rate at which a volume of water passes through a cross-section per unit of time. This could be measured in cubic metres per second (cumecs or m^3/s) or in megalitres per day (ML/day).
"EIS"	Environmental Impact Statement.
"EPA"	Environmental Protection Agency, now DERM.
"estuarine"	referring to the mouth of the river and the lower part of the river where river flows interact with the ocean's tide.
"flow preference groups"	in the indices of flow velocity and substrate preference groups, families of macroinvertebrates are assigned to a flow preference and a substrate preference group.
"flow regime"	the entire range of flows associated with a particular location or river reach and includes variations in river height or discharge, seasonality, annual variability or event duration.
"flow regime class"	the measure of flow regime seasonality worked out using the method stated in Haines, A.T., Finlayson, B.L. and McMahon, T.A., "A global classification of river regimes. Applied Geography, 1988".
"functional feeding groups"	changes in functional feeding group composition reflect changes in food availability and ecological processes in and around streams and rivers. These changes are used to construct indices of trophic structure.
"gauging station"	the complete installation at a measuring site where water level and/or discharge records are regularly obtained.
"geomorphology"	study of the nature and history of the landforms on the surface of the Earth including rivers, and of the processes that create them.
"high priority water allocation"	a water allocation within a priority group for which the WASO (performance indicator) is in the range specified in the WRP.
"hydrology"	the study of water as it moves through the water cycle and includes the simulation of stream flows in river systems.
"interim resource operations licence	a licence granted under s.175 of the *Water Act 2000*. The purpose of an IROL is to make provision for how infrastructure and water are managed

(IROL)"	before the details have been established through an approved ROP.
"low flow"	the total number of days in the simulation period in which the daily flow is not more than half the pre-development median daily flow.
"macroinvertebrate"	any animal, without a backbone, that is easily seen by the naked eye. In aquatic ecosystems this generally refers to insect larvae, prawns and worms.
"macrophytes"	aquatic plants that can be seen by the unaided eye.
"mean annual diversion"	the long-term average annual volume of water diverted.
"maximum instantaneous rate"	for taking water, the maximum rate in litres a second (L/s).
"mean annual flow"	the total volume of flow in the simulation period divided by the number of years in the simulation period.
"mean wet season flow"	the total volume of flow during the months of January to March in the simulation period divided by the number of years in the simulation period.
"medium priority water allocation"	a water allocation within a priority group for which the WASO (performance indicator) is in the range specified in the WRP.
"multilevel inlet"	an inlet arrangement on a dam or weir that allows stored water to be released downstream from selected levels below the stored water surface.
"nominal allocation"	the quantity of water apportioned under an existing authorisation for a regulated water supply.
"nominal entitlement"	the volume of water, in megalitres, that represents the share of the water, that the holder of a water allocation may take under the allocation. However, the volume of water that may be taken in a particular water year or other stated period is decided under the water sharing rules.
"normally depastured"	the number of stock that can be put to graze on a given area of land.
"NRW"	Department of Natural Resources and Water, now DERM
"performance indicator"	a measure that can be calculated to assess the impact of water allocation and management decisions on water entitlements and aquatic ecosystems.
"PET richness"	Plecoptera, Ephemeroptera and Trichoptera are the macroinvertebrate taxa most sensitive to changed conditions. PET richness is the total number of taxa of these three orders in a sample and is used to assess instream habitat and water quality.
"pH"	is a measure of the acidity or alkalinity of a substance, and the term "pH" is short for hydrogen potential.
"plan area"	the area shown as the plan area on Map A.

"pool"	a small, quiet, rather deep reach of a stream, as between rapids or where there is little current.
"priority area"	the areas defined in Attachment 2.1 for the conversion of water allocations, operating rules and trading arrangements.
"priority group"	a grouping of water allocations for taking supplemented water from a water supply scheme with the same WASO.
"QPI&F"	Queensland Primary Industries and Fisheries.
"rating table"	a table (or a graph) relating the measured height of the river (gauge height) to the stream flow at that location. This is usually done at a stream flow gauging station.
"refuge habitat"	for a water storage a refuge for biota during dry periods. Refuge habitat for water storages is provided for in the ROP by specifying a minimum storage volume (dead storage) under normal operating conditions.
"release"	for water from a dam the water passes downstream from the dam either through the dam outlet works or over the dam spillway.
"release rate"	rate of release of water from a storage facility.
"riffle"	a shallow area of the river in which water flows rapidly and often turbulently over stones or gravel.
"riparian"	the area adjacent to a watercourse.
"riparian vegetation"	vegetation bordering a river or stream which provides a direct link between the terrestrial and aquatic environment.
"river-forming processes"	a flow that structures and maintains the river channel features.
"riverine"	relating to rivers and their floodplains.
"resource operations licence (ROL)"	a licence granted under s.108 of the *Water Act 2000*. It authorises the holder to interfere with the flow of water to the extent necessary to operate the water infrastructure to which the licence applies.
"SIGNAL index"	a methodology for the bioassessment of water quality and pollution based on the differing tolerances of macroinvertebrate families to water pollution.
"stratification"	the layering effect which can occur in large water bodies. Often, the upper part of the water body becomes warmer than the lower part as a result of heating by the sun and if there is insufficient mixing of the water column two distinct layers can form. This can lead to a deterioration in water quality in the lower layer.
"supplemented water"	**"supplemented water"** means water supplied under an interim resource operations licence, resource operations licence or other authority to operate water infrastructure.
"surface water"	a) water in a watercourse, lake or spring; and b) water collected in a weir or dam constructed across a watercourse, lake or spring.

"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.
"technical advisory panel (TAP)"	a scientific panel formed to provide technical advice in relation to environmental flow requirements.
"thermocline"	the depth in the water column of a dam or weir where a distinct change in temperature occurs due to stratification.
"threshold"	a nominated flow level above which water may be taken from a watercourse, lake or spring.
"transfer"	of a ROL, an IROL or a water allocation, means the passing of the legal or beneficial interest in the licence or allocation.
"unsupplemented water"	**"unsupplemented water"** means water that is not supplemented water.
"volume of water allocation"	the maximum quantity of water that may be taken in a water year in accordance with the terms and conditions of a water allocation.
"water harvesting"	the taking of unsupplemented water during specified high flow events, and generally involves the pumping of water into on-farm storage for later use.
"waterhole"	a part of a watercourse that contains water after the watercourse ceases to flow, other than a part of a watercourse that is within the storage area of a dam on the watercourse.
"zone"	a geographic location defined by a reach of a watercourse. Zones are for defining the location of a water allocation and operational arrangements under the ROP.