



## No 4 Regulated Rivers (High Security) Access Licences

### What is “high security”?

All the state's regulated systems are managed so that those licence holders currently designated “high security” can count on receiving their full allocation in all but severe drought periods.

The reliability of full allocation to general security is less assured, and much more variable between river systems. In most systems general security licence holders have already experienced low allocations during drought periods. In several valleys general security allocations dropped to zero during the early 90's drought. Even in those systems where general security allocations have not yet been below 100%, they would be expected to during future severe droughts.

### What does the WM Act say?

Section 57 of the *Water Management Act 2000* (WM Act 2000) establishes regulated river (high security) access licences as a licence category. Section 58 and section 60 state that regulated river (high security) access licences have priority over regulated river (general security) and regulated river (supplementary water) access licences, but a lower priority than local water utility, major utility and domestic and stock licences.

Under the Act higher priority means that, if water allocations have to be reduced, the water allocations of the higher priority licence are to be reduced at a lesser rate than the water allocations of the lower priority licence.

Note that local water utility, major utility and domestic and stock licences are not subject to the principles in this advice note.

This is because:

- ◆ the WM Act requires that they be given a higher priority status than regulated river (high security) licences;
- ◆ drought management strategies will be developed in consultation with individual local utility licence holders; and
- ◆ major utility licences may have individual water supply reliability and management conditions specified as part of their licence arrangements.

### What is the role of water sharing plans?

The WM Act 2000 requires that each water sharing plan detail the major rules and parameters that will govern the granting and management of access licences in the Plan area, and the allocation of water to these licences. Because of the range of circumstances that exist across the state, it is appropriate that this be done in each plan rather than by the Act or at the whole of state level.

In Section 20 of WM Act 2000 a number of core provisions for water sharing plans are set out. Several of these are relevant to management of high security access. The Plan:

- ◆ must identify the “*requirements for water for extraction under access licences*”; and
- ◆ must “*establish rules according to which access licences are to be granted and managed and available water determinations made*”.

Section 21 of the Act sets out a number of additional provisions which the Plan may cover.

These include:

*“the operation of water accounts for the area, such as the carrying over of credits from one account period to the next and the maximum credit that may be accumulated in any account”.*

## How are regulated systems currently managed to provide “high security”?

Table 1 lists the volumes of general security, high security and “highest priority”(domestic and stock, local water utility and major utility) licences in each regulated system.

In all regulated river systems the rules that apply to allocation of water to the various licence types are structured to provide a very high level of supply reliability to those with high security (and also “high priority”) licences. However, the rules themselves vary from system to system.

In the Murrumbidgee and Murray, inflows from the Snowy Scheme are adequate to ensure there will always be sufficient water available to provide full allocations to high security in future years, unless a drought worse than any on record is experienced. In these systems it is only necessary to set aside sufficient water to supply high security licence holders during the current year. Any additional water that is available can then be allocated to general security licences.

In all other regulated systems, there is no large volume of assured inflow each year. In these systems water is set aside in the dam to provide full allocations to high security licence holders in future years (generally two) before any allocation is made to general security licences. The volume set aside also includes an allowance for the water losses involved in delivering the allocations.

Allocation calculations have been carried out on this basis since the initial years of volumetric allocation schemes some 20 years ago. However, they have not been subject to close public scrutiny, or tested in practice during extended droughts in many valleys.

The actual level of reliability provided by these operational arrangements varies from system to system. However, in all cases the rules mean that the risk of less than full allocation to high security licence holders is small. It ranges from less than 1 percent in most systems to perhaps a few percent in those systems where inflows to dams during extended droughts are insufficient to fully supply high security licences.

**Table 1 Comparison of High Security to other categories of licence**

Regulated system	Megalitres of High Security irrigation licences**	Megalitres of General Security licences	Ratio of High Security licences to General Security licences	Megalitres of licences in the highest priority categories* <sup>1</sup>
Border	1200	267,000	0.4%	1,700
Gwydir	15,000	505,000	3.0%	3,600
Namoi	3,500	256,000	1.4%	4,400
Peel	800	31,000	2.6%	16,500
Macquarie	17,500	633,000	2.8%	23,000
Lachlan	27,000	594,000	4.5%	31,000
Belubula	7,400	19,000	38.9%	200
Murrumbidgee	279,000	2,416,000	11.5%	79,000
Murray	151,000	1,954,000	7.7%	51,000
Lower Darling	7,400	30,000	24.7%	10,700
Hunter	26,000	128,000	16.8%	48,500* <sup>2</sup>
Paterson	190	9400	2.0%	100
Bega	170	13,900	1.2%	760

\*<sup>1</sup> Includes local water utility, major utility, domestic and stock licences

\*<sup>2</sup> Includes Macquarie Generation

Table 2 compares the annual volume required to fully supply high security and high priority licences with minimum historic extended drought inflows to each system's dams.

Ratios of less than one indicate that currently held reserves plus drought period inflows may not be sufficient to fully supply the current volume of high security and high priority licences through a repeat of the worst extended drought. Careful assessment of likely drought period delivery losses and a modelling analysis would be needed to fully ascertain the supply risk in each system.

**Table 2**

Regulated system	Ratio of drought inflow to volume required to provide full HS supply.
Border	3.8
Gwydir	2.3
Namoi	2.8
Peel	0.8
Macquarie	2.2
Lachlan	2.3
Belubula	0.3
Murrumbidgee	1.9
Murray	1.0
Hunter	0.5
Paterson	3.4
Bega	3.8

*Note: "drought inflow" = (minimum historic inflow for a period one year longer than allocation assessment period) – (minimum historic inflow over allocation assessment period)*

## Who will receive high security licences?

The *Water Act 1912* did not establish categories of licence in the way that has been done by section 57 of the *WM Act 2000*. Instead, it gave a broad power to devise volumetric allocation systems, classify licences according to the purpose for which the licence was issued and differentiate between classes with respect to the assignment of

licence volumes and management of water allocations.

In the operation of volumetric allocation schemes, licences that were issued for purposes such as horticulture, mining, industrial or aquaculture, were grouped as "high security" for water allocation management.

These assignments of security class are now several decades old and business operations and development and financial arrangements have been based on continuation of high security water supply. As well, many high security entitlements have been traded with properties or purchased through the water market and have attracted a premium because of their high security status. In some cases licence holders have converted from normal security to high security, and sacrificed allocation volume in return for the change of security. High security licence holders have also paid higher water charges.

It is therefore not appropriate that the Water Sharing Plan process review these decisions.

### Principle 1

**All licences currently classified "high security" for the purposes of Volumetric Allocation Scheme management under the *Water Act 1912*, other than those that will receive local water utility, major utility or domestic and stock licences, should receive regulated river (high security) licences of a volume commensurate with their existing licensed entitlement.**

## What should be the minimum level of guaranteed supply?

The high and general security classes established in regulated systems recognised that enterprises fell into two broad groupings with respect to their dependence on an assured supply. Some irrigation enterprises, notably annual cropping, can adjust to the variations in water supply that come with general security licences, through year by year contractions and expansions in planted area. Indeed overall economic returns are increased through the sacrifice of some water supply reliability in order to maximise water allocation and resulting production during the years of plentiful supply.

Other enterprises are much less able to adjust to supply variations and suffer large economic loss if

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there is a serious interruption to supply. They have generally received or opted for high security licences. However the loss of supply that can be tolerated by these high security users also varies. Some perennial crops may be able to tolerate a significant loss of supply once plants are fully established, providing the period of loss is not too long. Other perennial crops and many mining or industrial ventures may be unable to tolerate any significant loss of supply at all.

The significance of any loss of supply to high security licence holders will therefore vary between regulated systems and needs to be considered when setting high security water allocation management rules.

Historic records of rainfall and streamflow provide the best available indication of the future droughts that might be experienced.

### Principle 2

**The water supply to high security licence holders, which can be maintained through a repeat of the most severe drought on record, should be sufficient to ensure that the survival of dependent businesses is not put at significant risk.**

### Could supply to high security licences be reduced to assist general security reliability?

Principle 2 does not mean that water sharing plans should not consider some “sharing of the pain” between high security and general security licences during drought times, where this would result in significant overall supply reliability benefits to general security licence holders. Table 1 lists the volumes of high security and general security licences in each regulated system. In systems where the ratio of high security to general security is low, it is likely that reductions in allocations to high security during drought times would not significantly improve the overall reliability of general security allocations.

Table 1 also lists the volume of higher priority licences (domestic and stock, local water utility and major utility) in each system. Allocations of water to these licences would be depend on the conditions specified on in individual licences and any measures contained in drought management strategy arrangements.

### Principle 3

**Water sharing plans should only provide for reductions in allocation to high security licences during drought periods where this will provide a significant benefit to general security allocation reliability.**

### How often and to what extent could high security allocations be restricted?

It is important that the frequency and the degree of any reductions do not undermine the purpose of high security licences or conflict significantly with supply reliability expectations that have arisen as a result of existing management arrangements. It should also not occur until the supply to general security licence holders has reached unusually low levels.

As a guide it is suggested that reductions to high security allocations should not occur more frequently than one year in ten and that the maximum level of reduction should not exceed 25%. The maximum level of reductions should not occur until no general security allocation is available.

### Principle 4

**Reductions should only occur when the volume of water available to normal security licence holders is at unusually low levels.**

**The rules applying to reductions should ensure that the frequency and maximum degree of reduction does not:**

- significantly depart from those provided by existing water allocation arrangements, or
- exceed levels that significantly affect the long-term viability and financial security of existing enterprises that will receive high security licences.

### Should high security accounts be allowed to carryover unused allocation?

One of the primary purposes of carryover of unused allocation is to provide licence holders with an opportunity to choose to adjust their own supply reliability by forgoing some water use this year to boost supply reliability in future years.

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Future year allocations to high security licence holders are, however, already assured in most circumstances. In some systems allowing high security carryover would also significantly reduce general security allocation reliability.

Because of the type of enterprises that normally choose to hold high security entitlements there is also little likelihood of a significant inefficient use of any allocation remaining at the end of the water year to avoid its end of year forfeiture.

### Principle 5

**High security licence holders should not be permitted to carryover unused allocations between seasons unless there is a strong likelihood water will be inefficiently managed if there is no carryover allowed.**

### Should high security licences get supply priority in zones with extraction limits?

Section 56 of WM Act 2000 provides for access licences to have two separate components.

The first is the share component. This component will provide the licence holder with a share of the water available for allocation to their category of licence during each water year.

The second is an extraction component. This will provide the licence holder with specified rights to the flows that can be delivered to their section of the regulated system. Extraction components will only be needed in those parts of regulated systems where channel size or other supply problems mean it is not possible to deliver sufficient water to meet all demands for water during peak water use periods. Extraction components, once specified, would be separately tradeable.

The purpose of high security rights is to provide high reliability water supply. It is therefore important that wherever extraction components are being specified in the conversion from existing entitlements to access licences under WM Act 2000, high security access rights receive adequate extraction rights to assure supply.

Once initial distribution of these extraction rights has occurred, and they become separately tradeable, the decision on whether to retain or sell rights will be up to individual licence holders.

### Principle 6

**Wherever extraction components are to be specified on access licences, the rules concerning initial distribution of rights must ensure that high security licences receive adequate extraction rights to satisfy their peak demands for water.**

### What should be the basis for conversion from general security to high security?

Conversion from general security to high security has been allowed in a number of regulated river systems. It provides licence holders with an ability to adjust the supply reliability of all or part of their licence to match changing business needs. It also provides opportunities for new types of enterprises that require high security to move into river systems in which there may be little or no high security licence volume available for purchase.

The conversion involves the loss of a portion of entitlement volume in return for the increase in supply reliability. This loss of volume is necessary to ensure the conversion does not reduce the reliability of remaining general security licence holders. It recognises that the increased reliability means that a megalitre of high security licence receives a larger amount of water allocation on average than a megalitre of general security. It also recognises that multi-year reserves on water also have to be held for high security in most systems.

The conversion rate necessary to avoid impacts on general security licence holders varies from system to system depending on the reliability of general security supply and the systems hydrology and dam behaviour.

Conversion rates should not be used to unfairly discourage conversions. It is important, however, that they be based on realistic assumptions of the long-term future pattern of water use that will result from conversion.

The hydrologic and water storage circumstances of particular river systems may mean that limits need to be placed on the amount of conversion from general to high security that can be permitted during the life of a Plan.

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## Principle 7

Conversions to high security should be permitted in all regulated river systems providing conversion rates can be determined that will protect the long-term reliability of supply to other licence holders.

Conversion rates should be realistic and should not be used to discourage conversion. Limits to the volume of licence that can be converted can be set where this is necessary for prudent system management

## Government Role

The government is to provide the committee with advice on:

- the volume and number of high security and general security licences in the Plan system;
- the current rules that apply to high security allocations and management in their river system;
- the supply reliability that this provides to high security licence holders;
- the effect that any other contemplated rules would have on high security and general security supply reliabilities;
- the susceptibility of high security users to reductions in allocation; and
- technical analysis to allow the committee to evaluate options.

## Committee Role

The committee should recommend:

- reliability objectives for high security in the system;
- appropriate water allocation rules;
- the level of volume reduction that should occur when general security licences are converted to high security; and
- any overall limits that should apply to the total volume that may be converted during the life of the Plan.