

INFORMATION AND DISCUSSION PAPER FOR THE
APPLICATION OF THE
SEPARATING WATER RIGHTS INSTRUMENTS

Strategic Policy Division

If you wish to comment on this document please write to:

Rohan Hamden
Senior Policy Officer
Strategic Policy Division
Dept of Water, Land and Biodiversity Conservation
GPO Box 2834
Adelaide SA 5001

Or send an e-mail to: hamden.rohan@saugov.sa.gov.au

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Strategic Policy Division

Department of Water, Land and Biodiversity Conservation

25 Grenfell Street, Adelaide

GPO Box 2834, Adelaide SA 5001

Telephone National (08) 8463 6926

International +61 8 8463 6926

Fax National (08) 8463 6900

International +61 8 8463 6900

Website www.dwlbc.sa.gov.au

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1. Summary

The purpose of this document is to provide an overview of the separated water rights framework, as set out in the legislation. The bulk of the paper explains how the legislation operates. The paper also outlines proposals to assist in implementing and administering the legislation (section 5). Your views are sought on these draft proposals.

This paper does not seek to address the many real world management issues that are dealt with through a Water Allocation Plan. Its purpose is to provide an introduction to the instruments so that planners can consider how they can be applied in prescribed areas, and whether the draft proposals in section 5 will create unnecessary limitations that will make water management more difficult. The examples in sections 6, 7 and 8 serve to illustrate how the instruments may be applied in these water systems, but are not intended to be rigorously prescriptive as to how the instruments will apply. The decision about how the instruments apply in specific circumstances will be determined through the Water Allocation Planning process.

The process so far

The legislation to give effect to the separated instruments was passed by Parliament in July 2007. During the last half of 2007 several workshops were held with planning and licensing staff from regional NRM boards and DWLBC.

This paper has been developed following extensive consultation with regional NRM boards, water planning groups and licensing staff. The discussions focussed on how best to use the separated water instruments, in the simplest manner, to:

- Improve the ability to transfer water
- Improve the mortgageability of water entitlements
- Increase the value of water rights
- Create more flexibility for water users, and
- Increase options for water management.

The outcomes were presented to regional NRM boards in January and February 2008. This paper has been prepared as part of public consultation, and will be the final round of consultation for this stage of the process.

Outline of this paper

Section 2 provides a brief introduction to the legislative process and introduces the principle legislation that gives effect to the new instruments.

Section 3 explains the separated instruments in considerable detail.

Section 4 outlines several broad principles that apply to the instruments.

Section 5 outlines draft proposals to assist in the implementation and administration of the separated instruments. **Comment is sought on these proposals.**

Sections 6,7 and 8 outline examples of how the instruments can be applied in watercourse water, surface water and underground water prescribed systems.

Section 9 provides a summary of the key provisions of the legislation that give effect to the separated instruments

Section 10 provides a list of some of the key issues that will have to be addressed through a Water Allocation Plan for a prescribed area to give effect to the separated instruments.

Attachment 1 provides a summary of how the water affecting permits will be used under the new system, and Attachment 2 is a glossary of terms not otherwise defined in the legislation.

The next steps

This is just the start of the process for the implementation of separated water rights. It is planned that the current water licences will be separated into the new instruments by July 2010. A significant amount of work, however, must be completed before this can occur. A new water register must be developed, business rules defined, staff trained and water allocation plans amended. Regional NRM boards, and other key interest groups, will continue to be consulted during these processes.

2. Background

The principal legislation that gives effect to the separated instruments is the *Natural Resources Management Act 2004* (NRM Act). Currently, this Act does not reflect the separated instruments, but instead retains the current licensing arrangements. This ensures the continuing necessity to enforce the existing water licences while preparation is underway for implementation of the scheme for separating water rights.

The separated scheme is detailed in the *Natural Resources Management (Water Resources and Other Matters) Amendment Act 2007* (the Amendment Act). While this Amendment Act has been passed by Parliament, the provisions relating to the separated instruments have not yet been activated. When it is time to implement the separated instruments the provisions in the Amendment Act will be proclaimed, and the NRM Act changed.

For the purposes of this paper, it is assumed that the Amendment Act has been proclaimed and the NRM Act has been changed. ***References in this paper to the sections in the NRM Act refer to the fully implemented separated rights provisions of the amended NRM Act.***

While every attempt has been made to ensure that the contents of this document reflect the principles in the legislation, this document is merely an interpretation of the law. Where there is any conflict, the provisions in the NRM Act take precedence over any statements in this document.

3. The new entitlements system explained

The separated scheme is designed to assist in the sustainable management of water in South Australia. Its aim is to provide a flexible, easily administered system that meets the management requirements of different water resources in the State, protects property rights and the environment.

The objective of the system is to provide a separate instrument to manage each of the key aspects of water access, taking and use. It is a requirement under the National Water Initiative¹ to separate the ownership of water access rights from regulatory approvals enabling use at a particular site for a particular purpose, and to separate the ongoing water access right from the periodic or seasonal allocation of water.

One of the key benefits of this approach is to separate the management of the water resource from the ownership of the resource. This new system creates the ability to separate the secure ongoing property right from the amount of water periodically assigned for taking and use. Separation strengthens and protects the property right, while allowing for variability in the resource to be managed. Short term variations in the water resource, such as monthly or

¹ COAG (2004) An **Intergovernmental Agreement on a National Water Initiative**.
www.nwc.gov.au/nwi/index.cfm

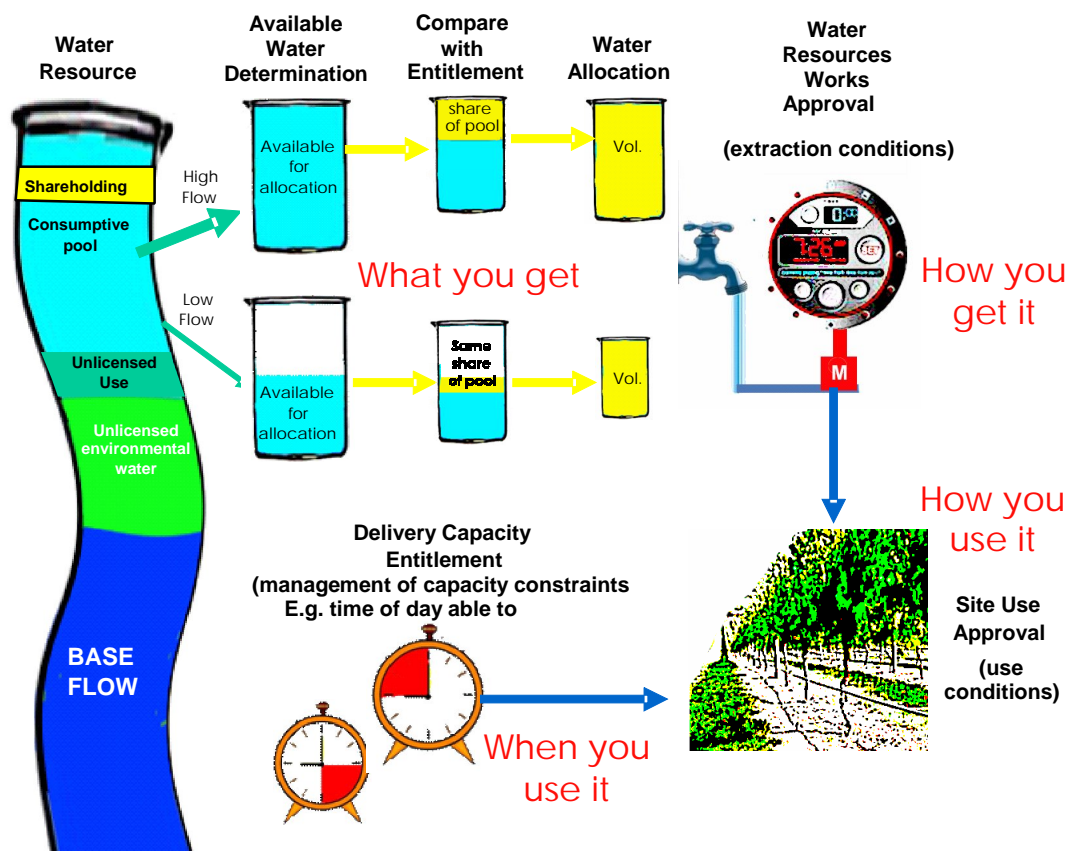
annual water forecasts, are managed through a monthly or annual decision on the assignment of water. Longer term variations, such as those due to climate change, are managed through the Water Allocation Planning process.

The current water licence issued in South Australia can be regarded as a bundle of rights and obligations and the legislative amendments separately specify the components of the bundle. Under the new scheme the components, i.e. the instruments of the scheme will be known as:

- A Water Access Entitlement endorsed on a water licence
- A Water Allocation
- A Site Use Approval
- A Water Resource Works Approval, and
- A Delivery Capacity Entitlement.

The following figure provides an illustration of the instruments. The elements of the diagram are explained in detail below.

Figure 1: Illustration of the interaction between the separated instruments



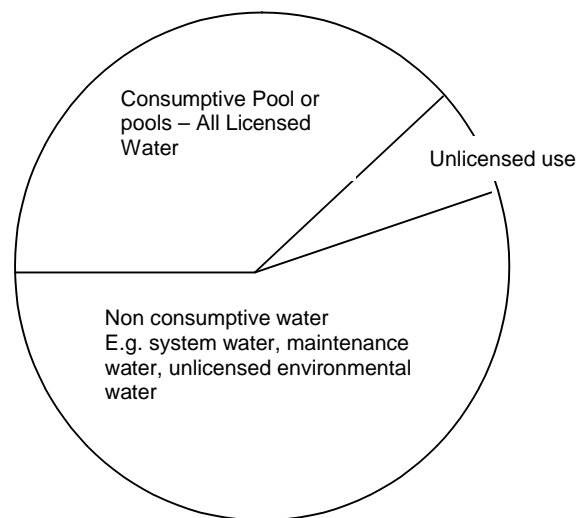
Explanation of the instruments of Separating Water Rights

Before discussing each of the instruments it is necessary to explain an important component of the new arrangements called the Consumptive Pool.

3.1 The Consumptive Pool

The Consumptive Pool represents a part of the total prescribed water resource set aside for licensed use. The following diagram can illustrate the prescribed water resource for an area.

Figure 2: Prescribed Water Resource



The NRM Act provides that a Water Allocation Plan must determine at least one Consumptive Pool for each prescribed water resource. A Consumptive Pool can be defined by a water management area, portion of the resource or even purpose. The Water Allocation Plan will set the total number of Water Access Entitlement shares to be issued over each consumptive pool (see section 3.2 below). The water allocation plan must also establish the rules for determining the amount of water that will be made available from a Consumptive Pool on a periodic basis.

For example, the amount of water available from a Consumptive Pool for an underground water resource could be set as a fixed volume for the duration of the Water Allocation Plan or could be varied annually, based on groundwater levels at the start of the year, recharge in the previous year and water levels in permanent groundwater fed pools in watercourses.

When applying the mechanism outlined in the Water Allocation Plan, the amount of water available for allocation from a Consumptive Pool is announced at least annually. The Minister makes this announcement.

It is possible to have multiple Consumptive Pools for a single water resource. This approach could be used where there is a requirement to licence water differently, according to use. For example, there may be a need to provide greater reliability for town water supply. In this case, it may be appropriate to licence town water supply from a separate Consumptive Pool that has an available water determination of greater reliability than other Consumptive Pools. Other licensed users of the resource, such as irrigators, could be licensed to use water from a Consumptive Pool with a more variable available water determination that more closely reflects changes in resource condition.

The definition of a Consumptive Pool will vary only in very limited circumstances. Some of these circumstances are outlined in section 5.3.

Consumptive Pool - Key points

- The Consumptive Pool is a portion of the total prescribed water resource set aside for all licensed use
- The Water Allocation Plan must outline rules for the determination of available water from the Consumptive Pool
- The amount of water available from a Consumptive Pool is announced annually
- There can be multiple Consumptive Pools for a single water resource

3.2 The Water Licence and Water Access Entitlement

The concept of the **water licence** is retained in the NRM Act. The water licence gives the holder an entitlement to a share or proportion of a Consumptive Pool. This proportion is called a **Water Access Entitlement** (WAE). Therefore, a person holds a water licence, but the proportion of the resource recorded on the licence is called a Water Access Entitlement. The water licence may contain any relevant conditions that relate to the Water Access Entitlement, or to the operation of the licence generally.

A WAE is an ongoing legal right that gives access to the water in a Consumptive Pool. While there are many ways of expressing the WAE, the proposal is that it will be expressed as a right to a number of shares. Section 5.3 provides the detail of why unit shares will be the only recommended mechanism for expressing WAE.

A Consumptive Pool is comprised of the total number of WAE shares. The number of WAE shares in a Consumptive Pool is determined at the initialisation of the new system and remains fixed. The number of WAE shares an individual holds only changes over time if the holder buys or sells shares, or under other limited circumstances as detailed in the NRM Act (see s.149).

The water licence is defined as personal property in the NRM Act, and therefore WAE shares written on the licence can be transferred permanently or for a fixed term. It can also be used as security for a mortgage.

Water Access Entitlement (WAE) - Key Points

- A water licence is personal property and provides an ongoing legal right to a proportion of the available water from a Consumptive Pool, and that right is called a WAE
- WAE does not vary over time even if the available water determination is varied
- WAE can be transferred either permanently or for a fixed term

3.3 The Water Allocation

The Water Allocation is the actual volume of water that is assigned to the holders of a WAE in a given period, usually a water use year. The size of an individual's Water Allocation in a given year is determined by considering the individual's relative shareholding of the Consumptive Pool and the available water determination from the Consumptive Pool (see figure 1). Although the WAE does not change in response to resource conditions, the amount of water that the holder of WAE receives in the form of a Water Allocation will vary according to the amount of water available from the Consumptive Pool in a given period.

The NRM Act limits the duration of a Water Allocation to no greater than twelve months. During this period the holder of the Water Allocation can take and use that water, provided they have the appropriate taking and use approvals (discussed below). Any Water Allocation that is not used in the timeframe specified on the allocation will expire. Consequently, any unused water is lost at the end of the water year, unless the Water Allocation Plan allows for carry-over of unused water to future years. The mechanism to achieve carry-over is discussed in section 5.2.

A Water Allocation can be transferred to another person. Water allocations can be transferred independently of a WAE. Rules for the transfer of Water Allocation will be detailed in Water Allocation Plans.

Water Allocation - Key Points

- The Water Allocation is the volume of water available to the holder of WAE in a water use year
- A Water Allocation can only be taken and used if there is a related Water Resources Works Approval and Site Use Approval
- The size of a Water Allocation is directly proportional to the number WAE shares held
- Water Allocation can vary while the WAE remains constant
- Water Allocation has a maximum existence of 12 months
- Any unused water is lost at the end of a water use year
- Water Allocation can be transferred independently of a WAE

3.4 Water Resources Works Approval (WRWA)

The WRWA permits/authorises the method of taking of water from a prescribed water resource. The purpose of the approval is to manage the impacts of the construction and ongoing operation of works for the extraction of water at a particular location, specified on the approval. A person is not authorised to take water from a prescribed resource unless this approval is held.

The WRWA is not a property right and therefore cannot be transferred between water users. However, when land changes hands the purchaser should have some certainty that the approval will be ongoing. The mechanisms for managing approval processes, including when land changes hands or when an approval must be varied, are discussed in section 5.5 below.

The WRWA will indicate the holder, the type of works, and specify the location where the works are authorised to occur. It will also contain a range of conditions. These conditions can be derived from the principles set out in a Water Allocation Plan, regional Natural Resource Management (NRM) plan, other Government policy or to facilitate administration of the approval.

Conditions on a WRWA can be time bound. For example, if the works have not been completed to a substantial degree within a set period of time, a condition could state that the approval can lapse. This provision is designed to prevent a possible situation where a person is precluded from obtaining an approval to undertake an activity because others in the vicinity are holding

approvals that are not being activated. This may be an important tool in groundwater systems, for example, where the approval of the construction of one well would preclude other wells being constructed in the vicinity, or in surface water systems where the construction of a dam would preclude other dams from being constructed in a particular sub-catchment.

The WRWA can only be used to manage the taking of water from a prescribed resource. It cannot be used to manage the taking of non-prescribed water in a prescribed area (although this can still be managed through a Water Affecting Activity Permit).

The NRM Act allows for circumstances to be defined by Regulation where WRWA would not be required. These circumstances could include, for example, the taking of water for stock or domestic purposes.

Water Resources Works Approval (WRWA) - Key Points

- Provides the conditions for the taking of water from a prescribed water resource, at a specified location
- A WRWA must be held in order to take a Water Allocation
- A WRWA is not a property right and cannot be transferred
- The conditions that form the basis of a WRWA must be specified in the Water Allocation Plan
- The conditions can be time bound
- A WRWA cannot be used to manage non-prescribed water in a prescribed water resources area
- Regulation can define the circumstances where a WRWA is not required for the taking of water

3.5 Site Use Approval

The Site Use Approval permits/authorises the use of water. A water user is not authorised to use water from a prescribed resource unless this approval is held. The approval will define the location of the use of the water and could include conditions such as how much water can be used, or the rate at which water can be used. The approval can be used to address possible negative impacts of the use of the water on other natural resources, other water users and the prescribed water resource itself. It will contain a range of conditions. These conditions can be derived from the principles set out in a Water Allocation Plan, regional NRM plan, other Government policy or to facilitate administration of the approval.

Conditions on the approval can be time bound. Time limits aim to ensure that a Site Use Approval will lapse if it is not activated within a specified time

period. This is designed to ensure that Site Use Approvals are not hoarded, locking up capacity for development elsewhere. This may be useful in salinity impact zones where there is a cap on total irrigation allowed in the area.

The Site Use Approval is not a property right and therefore cannot be transferred between water users. However, when land changes hands the purchaser should have some certainty that the approval will be ongoing. The mechanisms for managing approval processes, including when land changes hands or when an approval must be varied, are discussed in section 5.6 below.

The NRM Act allows for circumstances to be defined by Regulation where Site Use Approvals would not be required. These circumstances could include, for example, the use of water for stock or domestic purposes.

The Site Use Approval can only be used to manage the use of water from a prescribed resource. It cannot be used to manage the use of non-prescribed water in a prescribed area (although this can still be managed through a Water Affecting Activity Permit).

Site Use Approval (SUA) - Key Points

- Authorises the use of water at a specified site
- Provides the conditions about how a Water Allocation can be used
- Need to hold a SUA before water can be used from a prescribed resource
- Conditions attached to a SUA can be time bound
- Regulation can define the circumstances where a SUA is not required for the use of water
- A SUA is not a property right and cannot be transferred

3.6 Delivery Capacity Entitlement

The purpose of the Delivery Capacity Entitlement is to manage capacity issues where these cannot be managed using the other instruments. This is a separately tradeable property right that can be used to manage the taking of water. Its purpose is to provide a market-based instrument for the management of resource capacity constraints. It is not envisaged that the Delivery Capacity Entitlement will be required in the short-term, and it will not be implemented during the transition from the old licensing arrangements to the separated scheme. The other instruments can be used to manage capacity constraints without activating the entitlement. Section 5.7 provides a more detailed explanation of why the Delivery Capacity Entitlement will not be

activated at this time, and also provides examples of how the other instruments can be used to manage capacity constraints.

Section 164I(b) of the NRM Act excludes the use of this instrument within an irrigation system after the point of extraction from the relevant water resource. Consequently, this entitlement cannot be used to manage capacity constraints in private infrastructure, such as those operated by irrigation trusts.

Delivery Capacity Entitlement – Key Points

- It is a market-based instrument to manage resource capacity constraints
- Does not apply within privately held distribution systems e.g. irrigation trust infrastructure
- Will not be used in the initial implementation of the new separated water rights system

3.7 The role of Water Allocation Planning

Water Allocation Plans (WAPs) continue to play a pivotal role in the new system. Under the Act, WAPs will define the Consumptive Pool(s), set the number of shares of Water Access Entitlements, set out the method by which available water will be determined from time to time, and set out many of the principles that will underpin conditions on approvals.

WAPs can continue to set certain limitations around the taking and use of water connected with the transfer in Water Access Entitlement or Water Allocation, to ensure effective protection of water resources. As exists under the current water licence system, rules are set in the WAPs regarding the transfer of Water Allocations. For example, WAPs could limit the scope of trading in surface water prescribed areas, or restrict the taking of underground water between different aquifer systems. (See Section 10 for further details on the issues that need to be addressed in WAPs).

Water Allocation Plans – Key Points

- Water Allocation Plans play a crucial role in underpinning the new Separating Water Rights system
- Section 10 contains more detailed planning requirements

3.8 The role of the Minister

Under the NRM Act the Minister is responsible for the administration and operation of water licensing. In general terms the Minister is responsible for:

- authorising Water Allocation Plans
- issuing all of the separated instruments
- making determinations of available water
- authorising any transfers or amendments to the separated instruments, and
- ensuring compliance.

When conducting any of these functions the Minister must comply with the provisions in the NRM Act, and take into account the requirements in the relevant Water Allocation Plan.

4. General Matters

There are a number of matters that apply to the operation of the separated instruments.

4.1 Trade In WAE and Water Allocation

Under the new system, Water Access Entitlements (WAE) and Water Allocations are separated and can be transferred independently of each other. When a WAE is transferred, the buyer will have the WAE endorsed on their licence. However, unless a separate transfer application is also made in respect of the Water Allocation assigned to that WAE, any allocations already assigned for that water use year stays with the person who held the WAE at the time. The new holder of the WAE will obtain all future allocations assigned to the entitlement. Any increases in allocation for the current water use year, following the transfer of the entitlement, will be assigned to the new owner. In summary, allocations are assigned to the holder of the WAE at the time of allocation assignment/announcement.

Water Allocations only exist up to the end of the water use year in which they were assigned. Therefore, short-term transfers, i.e. less than one year, will be the transfer of Water Allocation. Longer-term transfers, i.e. greater than one year, will require the lease or purchase of WAE, so that future assignments of water allocation go to the entitlement holder.

4.2 Accounting for water use

Conditions can be placed on Water Allocations that would specify that, when accounting for water use, a particular allocation must be used first. For example, a Water Allocation obtained through temporary trade may be accounted for before carry-over water from a previous year, which in turn would be accounted for prior to the current year's Water Allocation. The Water Allocation Plan may set principles about how this order should be established.

4.3 Managing variability in resources

Water resources vary over time, both seasonally and from year to year, and across the landscape. Different water resources vary over different timeframes. For example, flows in the River Murray vary considerably and on a frequent basis, while many groundwater systems may be relatively stable and vary slowly, for example over five or ten year periods.

A fundamental objective of the National Water Initiative (NWI) is to establish a water management regime that deals with changes in the resource responsively and fairly. The separated water rights framework allows for periodic variability to be managed through the seasonal adjustment of Water Allocations in accordance with the rules for available water from the Consumptive Pool. The frequency or extent to which this varies depends on

the nature of the resource and will need to be considered in Water Allocation Planning. For example on the River Murray and other permanently flowing prescribed watercourses, the available water determination from the Consumptive Pool could vary annually based on inflows and other criteria. In dry periods, however, the available water determination could potentially vary on a monthly basis, as resource conditions are assessed in the course of the water use year.

The rules for determining available water from the Consumptive Pool should be based on the best available science and be part of an informed, open and participatory decision-making process in developing the Water Allocation Plan. The rules would be defined for the life of the Water Allocation Plan. This arrangement provides water users with a transparent understanding of water availability for the duration of the Water Allocation Plan.

Longer-term variations in the resource, such as those due to climate change impacts, will be considered in the review of Water Allocation Plans. These reviews will need to consider whether the rules for available water determination from a Consumptive Pool require adjustment to account for these long-term changes.

5. Proposals To Assist Implementation and Simplify Administration

Your comments are sought on these matters

5.1 Implementation principles

The implementation of the separated instruments will be undertaken consistent with a number of principles.

During the Second Reading Speech for the legislation the Minister committed to the following:

“It is not intended that the transition to the new scheme will significantly alter current licence holders entitlements. For example, there will not be a reduction in the amount of water to which a licence holder is entitled under the terms of their existing licence. As far as is reasonably practicable, the existing conditions applying to a water licence will continue under an appropriate water management authorisation without amendment.”²

Consistent with this statement the implementation process itself will not be used as an opportunity to address water management issues that have not already been dealt with under the existing licences. As far as is reasonably practicable the converted instruments will reflect the existing licence holders terms and conditions. Water management issues will continue to be dealt with through the normal Water Allocation Planning arrangements, rather than as a result of conversion.

In addition, the transition to the separated instruments will aim to achieve the following benefits:

- reduce transaction costs of Water Allocations transfers
- reduce the times to transfers Water Allocations to 10 days, and
- improve the security for mortgages over Water Access Entitlements.

5.2 Carry-over

Carry-over is a mechanism that can be used to enable the holder of unused Water Allocation to access that allocation in a following year, either in full or as a proportion, depending on the provisions in the Water Allocation Plan. Carry-over would be available both to holders of Water Allocations assigned to their Water Access Entitlement (WAE), and to holders of Water Allocations obtained in the temporary water market. In the subsequent year, the Carry-over Water Allocation amount would be assigned to the person who held the

² Minister for Environment and Conservation (2007) Hansard for Legislative Council, Parliament of South Australia, 27 May 2007, page 127.

Water Allocation at the time Carry-over approval was granted. Carry-over would usually only be allowed if it is specifically provided for in the Water Allocation Plan, but it could also be used in emergency circumstances if authorised by the Minister.

5.3 Water Access Entitlement (WAE) to be expressed as shares

While the Act provides for varying means of determining the WAE, the preferred method is for the WAE is to be expressed, where possible, in unit shares pertaining to a specific Consumptive Pool, not volumes or percentages.

The use of unit shares to express WAE provides the flexibility to reduce or add to the Consumptive Pool, without the need to modify the individual's share in the Consumptive Pool. In effect, this will provide a more efficient means to reflect water movements within the Consumptive Pool that may arise over time.

Expressing the WAE as a percentage would not provide the flexibility for efficient adjustments to the overall number of shares in the Consumptive Pool that may arise from time to time, since all individual percentages would need to be adjusted whenever certain changes were made to the Consumptive Pool. For example, over time, the Consumptive Pool may be altered by:

- the reallocation of water from other sources (e.g. groundwater to surface water)
- the surrender, cancellation or expiry of licences
- the bequeathing of a Water Access Entitlement to the environment, where environmental water is not licensed
- long-term changes to the resource, due to such issues as changes in rainfall, over-allocation and changes in the amount of water released, or
- additional entitlement arising from matters before the Court.

Expressing the WAE as a volume of water may give the WAE holder the impression of a guarantee to that amount of water in perpetuity. Since water resources are inherently variable, it is not appropriate to create a perception or expectation of a guaranteed amount of water.

5.4 Initial conversion will be one share equals one kilolitre

All existing licences on issue will have to be converted to the separated entitlements framework. When this occurs, volumes endorsed on a water licence will be converted to the equivalent number of shares at rate of one share for each kilolitre. This will just be for the initial conversion of existing licences. From that point on the volume of water assigned to each share will be subject to determination of available water from the Consumptive Pool.

5.5 Use of Water Affecting Activity (WAA) permits (see attachment 1)

Water affecting activity permits are currently used to manage a number of activities, for example:

General Permits: for general water affecting activity work, such as work on watercourses and dam construction permitted under the Act. Permits currently provide a one-year time period for completion of the water affecting activity and lapse when the work is completed, while providing for some conditions to be ongoing, depending on the nature of the permit.

Imported Water Permit: can provide a permit for a specific period—e.g. currently there are 'seven-year' permits for imported water into the Clare Valley to allow adequate time to assess any negative or positive impacts of importing and using the water in the area. The volume allowed to be imported is based on conditions of storage and use.

Well Permits: allow for the drilling of a well. They are provided for one or two years and lapse when the work is completed.

Discharge & Drainage Permits: Water is often drained or discharged underground, and is subject to a permit. Depending on the area, this may mean the drainage or discharge of prescribed water into a non-prescribed water resource or of non-prescribed water into a prescribed resource. Conditions on the approval control how water is discharged and the quality of water discharged.

Generally, Water Resources Works Approvals will replace water affecting activity permits in prescribed areas where it relates to the taking of water from the prescribed water resource. The relationship between Water Resource Works Approvals and WAA is described in further detail in attachment 1. In non-prescribed areas or where the proposed work does not relate to the taking of water from the prescribed resource, the permit will be retained.

5.6 Transfers and variations of Water Resource Works Approvals and Site Use Approvals

Water Resources Works Approvals and Site Use Approvals are authorisations issued to an individual, and are associated with a specific location. The approvals include any conditions applying to the taking and/or use of water at a specified location. The approvals are not property rights and are not tradeable.

Where there are minor changes to conditions that do not substantially alter the nature of the approval, the relevant approval will be varied. Minor changes include addition of a name, change of address etc.

Where significant changes that would materially alter the nature of the approval are required, then the existing approval would be cancelled and a new one issued. Significant changes include those relating to:

- the land area or location associated with the approval

- the activity associated with the approval
- the person to whom the approval was issued, and
- the conditions on the approval, such as the period or rate of taking.

When land changes hands or is sold, the purchaser of the land would be given a limited period in which to apply to have the approval reissued in their name. This is designed to give the new landholder certainty that they will be able to continue to take and use water subject to the same conditions as the previous landholder. In doing this, the new landholder will have priority over other potential users in a system that may have reached development capacity. The time limitation would appear as a standard condition on all approvals. The application of these principles will be fully explored during the development of the administration system to support the separated instruments.

5.7 Delivery Capacity Entitlement not to be activated

As discussed in section 4.6 above the delivery capacity entitlement will not be activated at this time. The reason is that there will be significant additional cost associated with development and administration of this instrument for no additional benefit. The types of capacity constraints that are currently experienced in South Australia can be adequately managed through the other instruments.

For example, in an ephemeral river system water flows through the river after each heavy rain. When the river is flowing the various licence holders along the river will extract from it, either to use immediately, or to store the water in dams for later use.

Over the course of the water year sufficient volume flows down the stream so that all Water Access Entitlement holders would theoretically be able to extract their full Water Allocation. However, if all of the Water Access Entitlement holders at the top of the river were to extract their full allocation the first time the river started flowing, those downstream would potentially receive nothing from that rainfall event.

To ensure equitable access to the river flow, a rationing system could be put in place that limits extraction in the early months of the rainfall season. This could be achieved by:

- determining a shorter or limited period for the allocation season
- putting conditions on a Water Resource Works Approval that limits extraction activity, for example, limiting extraction to a percentage of allocation in a given period
- putting conditions on a Site Use Approval that limit use of the water, indirectly limiting extraction, or
- issuing Delivery Capacity Entitlements for the first three months of the rainfall season that limit extraction to a percentage of the total Water Allocation per month.

The last option, using Delivery Capacity Entitlements, allocates delivery capacity between competing water users through the market by the creation of tradeable property rights in delivery capacity. For example, irrigators with more water-sensitive crops and who need water at precise times could purchase additional delivery capacity from other capacity entitlement holders, so that they could extract a greater proportion of their Water Allocation at a given time. At this point in time there has not been sufficient evidence that this approach is the most cost effective way of managing capacity constraints, and that the other instruments are more than adequate. However, as the pressures on South Australia's water resources become more complex it is probable that the Delivery Capacity Entitlement will be activated in the future.

6. Application to Watercourse Water

6.1 Nature of watercourse water systems

Watercourses represent river systems where water arrives in the catchment and flows into a river or creek. In such systems, the water is taken at points along the watercourse.

6.2 General management issues to be considered

Water essentially flows down a river channel and is extracted for immediate use, or is stored for subsequent use. Management of issues relating to the taking and use of the water include the impacts of the infrastructure used to extract and transport the water, and the impacts from its use at a particular location.

6.3 Use of separated instruments

Water Access Entitlement (WEA): This will be defined as a number of unit shares of a Consumptive Pool, as defined in the Water Allocation Plan.

Consumptive Pool: The Water Allocation Plan will define each Consumptive Pool, and set out the total number of WAE shares available from each pool. The plan would also set out the rules for available water determinations from each pool.

Water Allocation: Following the announcement of available water, Water Allocation will be issued to each holder of WAE. The Water Allocation will be the volume of water available for extraction and use in the period specified on the allocation, but will not exceed the water use year.

Water Resources Works Approval (WRWA): This will approve the establishment and ongoing operation of extraction, transportation and storage infrastructure, metering requirements and the like.

Site Use Approval (SUA): This will authorise the use of water, and may address on-site and off-site impacts.

Delivery Capacity Entitlement: Not to be used at this time.

6.4 Transfers

Transfers in Water Access Entitlement and Water Allocation will be relatively straightforward in watercourse systems. In theory, anyone could own either of these rights without negative impact on the resource. It is unlikely, therefore, that transfers of ownership would be limited by rules in the Water Allocation Plan.

Impacts on the water resource will be managed when application is made to take and use that Water Allocation. This would require an assessment against the relevant Site Use and Water Resources Works Approvals as to whether the water can be safely taken and used at a particular location.

7. Application to Surface Water

7.1 Nature of Surface Water Systems

Surface water systems involve the collection of rainfall/runoff flowing across land. Excluding water flowing into creeks, surface water is typically channelled into dams or collected in tanks. In South Australia's climate, streamflow usually commences in autumn and ceases in summer. The capture and storage capacity must be sufficient so that enough water is available for use following seepage and evaporation losses. The determination of allowable dam size (for new dam development) and extraction volumes (for existing and new dams) will be based on the catchment characteristics of an area, whether the dam is on-stream or off-stream, whether a low-flow bypass is required, etc.

7.2 General management issues to be considered

Reliability of supply

The reliability of supply from a dam is not only created by the size of the dam, but also the method by which water is diverted into it. Dams that have efficient diversion mechanisms from permanent or semi-permanent water sources will have a higher reliability than those that have diversion mechanisms from more variable water sources.

Capture of water

Unlike pumping from a watercourse or well, dams can intercept and fill with water without a meter being able to record exactly what the dam is taking out of the water system. The amount of water that a dam removes from the system is estimated, based on the siting and size of the dam, the state of the dam and possibly the collection mechanism, and the nature of the rainfall in the area. It is difficult to determine the exact volume that the dam captures over a given year.

Efficiency of storage

Water losses differ between tanks, lined and covered dams, uncovered dams and unlined dams. Tanks are the most efficient, having the least losses, while uncovered dams can lose a significant proportion of the water captured through evaporation and unlined dams through seepage. Water losses also depend on size, surface area and depth of the dam.

Calculating storage entitlements

When licences were originally issued for surface water systems, they listed area of crop irrigated, rather than a volume of water. These licences are now being converted to a volume, with a conversion factor based on crop type and theoretical usage. When converted to a volumetric allocation, depending on the methodology adopted, the volume endorsed on the licence may be more than the person ever extracted from the dam and used on the crop. In such circumstances the volumetric conversion

process should not be used as a justification to increase the size of the dam so that this theoretical maximum can be realised.

In summary, the specific issues that must be managed are:

- That the dam potentially starts taking from the water resource immediately after construction
- That the dam may capture and store more water than is licensed for taking and use
- That a water licence may be issued that allows for an allocation of water from the dam that is in excess of what the dam has ever actually yielded
- Ensuring environmental flows are maintained
- Accounting for the mechanism by which water is diverted into the dam, and
- Managing transfers (i.e. determination of the appropriate rules for transfers of entitlements and allocations).

7.3 Application of separated instruments

The application of the separated instruments must account for the fact that once a dam has been constructed it starts taking water from the water resource. Under the NRM Act this taking must be subject to a Water Allocation and a Water Resources Works Approval. Consequently, before a dam can be constructed a person must not only hold a Water Resource Works Approval for the dam, but also a Water Access Entitlement (as the basis for obtaining a Water Allocation), based on the requirements of the Water Allocation Plan for the area.

There is no legal requirement for the total capacity of the dam to be reflected on either the Water Access Entitlement, or the Water Allocation. Noting the dam capacity on either of these instruments could create the perception that a person has a legal entitlement to water, equivalent of the total volume of the dam. Instead, the management of the size of the dam and the diversion mechanism will be dealt with through the Water Resources Works Approval.

Water Access Entitlement (WAE): Will be expressed as unit shares of the Consumptive Pool. The water licence, upon which the WAE is recorded, will be endorsed with the condition that the WAE relates to a particular Water Resource Works Approval, and that the WAE cannot be transferred or modified without a consequential change to the relevant Water Resource Works Approval.

The Consumptive Pool: The Water Allocation Plan will define each Consumptive Pool, and set out the total number of WAE shares available from each pool. The plan would also set out the rules for available water determinations from each pool. The rules for determining available water will set the theoretical maximum yield from the water resource that represents the extraction from the dams.

Water Allocation: Will be the maximum volume of water that is authorised for extraction from the dam in a given water year. No guarantee will be given, however, that the amount authorised for taking will be available from the dam where it is being extracted.

Water Resources Works Approval (WRWA): This will authorise the construction and operation of the dam and specify its maximum capacity. The WRWA may include additional conditions for extraction from the dam if there is a management need. The WRWA will only be issued once the Water Access Entitlement and Water Allocation have been granted.

It must be noted that the Minister only approves the construction of dams up to 5 ML capacity or up to 3 m in height. Above these amounts, a Development Application must be made to the relevant Council, which seeks the comment of the Minister as to whether or not the application should be approved, as part of its assessment process. Regardless of how permission was obtained to construct the dam, the ongoing operation of the dam is subject to a WRWA.

Site Use Approval: Will contain the conditions for use of water at a specified location.

Delivery Capacity Entitlement: will not be used at this time.

7.4 Transfers:

In surface water systems it is difficult to contemplate the transfer of Water Allocation. Once water is held in the dam, the water is no longer available for the environment, or for other users. This water cannot be readily transferred on a seasonal basis.

Consequently, the only trading likely to be possible in relation to dams in surface water systems would be the permanent transfer of Water Access Entitlement (WAE). However, WAE in these systems are closely associated with the Water Resources Works Approval that authorises the dam.

The Water Allocation Plan must contemplate how transfers will occur. For example, where a transfer is permitted, two dams are affected—the originating dam (i.e. the seller's dam) and the destination dam (i.e. the buyer's dam). Clearly, the seller's dam should be reduced in capacity by some amount that correlates in some form (not necessarily one-for-one) by the amount of WAE that is sold. Less clear is the extent to which the destination dam should be augmented. For example, in a situation where the destination dam has capacity to receive/store the additional water allocation arising from the WAE, does the buyer have any right to an augmentation to maintain the pre-trade reliability profile? Where the destination dam does not have capacity to receive/store the additional water allocation arising from a WAE, does the buyer have a right to augmentation, or should the trade not be permitted?

These questions must receive serious consideration during the Water Allocation Planning process.

8. Application to Underground water Systems

8.1 Nature of underground water systems

Underground water systems are diverse and can have individual management issues. The approach to defining a Consumptive Pool, and the rules for available water determination, will vary depending on the nature of the underground water systems. Often the resource cannot be fully understood and it is impossible to calculate exactly how much is available for use on a sustainable basis. If this is the case, the management conditions imposed on the resource focus on the operation of individual wells.

The rules for the determination of water available from a Consumptive Pool will vary depending on the nature of the water system. For example, in unconfined alluvial or sedimentary aquifers there may be a well-understood relationship between surface water and the aquifer. Water levels within the aquifer tend to be directly related to rainfall and extraction. In such systems the size of the resource, the sustainable yield, and therefore the rules for available water determination could be based on these parameters.

In confined aquifers and fractured rock aquifers there may not be a strong and defined relationship between rainfall and recharge, or the volume allocated and sustainable yield. At best it may only be possible to measure what is available for taking once a well has been sunk and its output tested. In this case, the available water determination could be the sum total of authorised take from the resource.

8.2 General Management Issues to be considered

Due to the diversity of the State's underground water systems the application of the separated entitlements may vary depending on the individual systems being managed.

8.3 Application of separated entitlements

Water Access Entitlement (WAE): This will be defined as a number of unit shares of a Consumptive Pool. The Water Allocation Plan will define the Consumptive Pool(s), and the number of shares of Water Access Entitlement that make up the Consumptive Pool.

Consumptive Pool: The Water Allocation Plan will define each Consumptive Pool, and set out the total number of WAE shares available from each pool. The plan would also set out the rules for available water determinations from each pool. The rules for available water determination may reflect resource conditions, where sufficient information is available, or define a maximum volume in areas that are less well understood.

Water Allocation: The Water Allocation will be the volume of water available for extraction and use in a water use year.

Water Resources Works Approval (WRWA): This will approve the establishment and ongoing operation of extraction, transportation and storage infrastructure.

Site Use Approval (SUA): This will provide for the use of water, may address on-site and off-site impacts and may contain conditions, such as monitoring requirements, provision of annual reports, etc.

Delivery Capacity Entitlement: Not to be used at this time.

8.4 Transfers:

Trading in the entitlements will be dependent on the nature of the system and may be limited through the water allocation plan. In theory, anyone could own either Water Access Entitlement or Water Allocation without affecting the resource. Issues may arise when application is made to take water at a particular site. The application to take and use water at a specific location would need to be within strictly controlled parameters, such as testing of withdrawals and impacts on neighbouring wells, through the use of approved aquifer tests.

9. Legislative references for Separating Water Rights

While a number of the provisions in the amended NRM Act have been transferred from the previous NRM Act, there are also many new provisions.

The following table sets out some of the main new provisions under the Act in connection with Separating Water Rights.

Section of Act	Provision
S.3	Definitions – includes several new definitions arising from separated water rights.
S.76(4)(ab)	Water Allocation Plan determines the Consumptive Pool(s) available for licensed use from the prescribed water resource and method by which the amount of water available from the pool is determined from time to time.
S.76(4a)	Water Allocation Plans can provide for the constitution of two or more Consumptive Pools in relation to a particular water resource.
S.76(4b)	Water Allocation Plan establishes the basis of determination of Water Access Entitlements as unit shares of the Consumptive Pool.
S.76(4)(b)	Provides for Water Allocation Plans to set out principles for the determination of Water Access Entitlements and for taking and use of water.
S.76(4d)	Provides for a Water Allocation Plan to set appropriate policies and principles regarding transfers of water management authorisations or Water Access Entitlement
S.76(4e)	Allows the Water Allocation Plans to provide for variation of Site Use Approvals and Water Resources Works Approval of classes and circumstances specified by the Plan.
S.160(1)(b)(ii)	Provides for conditions on a Water Resources Works Approval to be specified in a Water Allocation Plans.
S.164B(1)(b)(ii)	Provides for conditions on a Site Use Approval to be specified in a Water Allocation Plan.
S.146(4)	Minister will announce the amount of water available for

Section of Act	Provision
	allocation from the Consumptive Pool for a specified period. Although the timing of an announcement is not specified in the Act, presumably this will be at least annually at the start of each water year, or more frequently as determined by the Water Allocation Plan.
S.152(1)	Provides for Water Allocation to be obtained on account of Water Access Entitlement under a water licence or an Interstate Water Entitlements Transfer Scheme.
S.152(2) and (3)	Provides the basis for issue of a Water Allocation, as a result of periodic announcement on available water.
S.152(7)	Provides that a Water Allocation will relate to a specified period (not exceeding 12 months) and any unused allocation will expire at the end of the period.
S.124(3)(a)	Assigns the right to take water from a prescribed resource to a Water Allocation.
S.127(5a)(a)	A person must hold a Water Resources Works Approval to construct, maintain or operate any works for the purposes of taking prescribed water.
S.127(5a)(b)	Water used under a Water Allocation is subject to conditions on a Site Use Approval.
S.127(5a)(c)	Relates to the Delivery Capacity Entitlement, which is not mandatory and is only activated if required by a Water Allocation Plan.
S.127(5b)	Provides for the NRM Act to define the circumstances where a Water Resources Works Approval, Site Use Approval and Delivery Capacity Entitlement need not apply.
S.163(1)	Provides for the Minister to cancel a Water Resources Works Approval if not constructed, substantially completed or used to a significant degree, within the timeframe set by the approval.
S.164	A Water Resources Works Approval applies to the site to which the approval relates and is attached to the land constituting that site.
S.164E	Provides for the Minister to cancel a Site Use Approval in prescribed circumstances.

Section of Act	Provision
S.164F	A Site Use Approval applies to the site to which the approval relates and to the land constituting that site.

10. Water Allocation Planning Guidelines

Water Allocation Plans (WAPs) establish many important aspects applying to the separated instruments for a particular prescribed water resource.

Pursuant to section 76 of the NRM Act, it is considered that as a minimum in developing the WAPs the following must be considered:

- Determine what proportion of the water resource will be licensed.
- Determine whether the licensed take should be managed as a single resource (single Consumptive Pool), or determine if multiple Consumptive Pools are required of the same resource.
- Define the Consumptive Pools and determine the number of unit shares to be issued for each Consumptive Pool (with the initial conversion of existing licences using the conversion factor of 1 unit share for each 1 Kilolitre).
- Set out the rules for available water determinations from each Consumptive Pool. Specifically outline how often these determinations are made if they are to occur more frequently than once each water use year.
- Determine the general principles that will apply to the taking of water, and will form the basis of conditions on Water Resource Works Approvals.
- Determine the general principles that will apply to the use of water, and will form the basis of conditions on Site Use Approvals.
- Determine if there are any circumstances where the taking or use of water does not require an approval.
- Determine whether carry-over will be allowed and on what basis it will occur.
- Determine the criteria for trade in Water Access Entitlements and Water Allocation.
- Determine for the purposes of accounting whether certain Water Allocations must be taken and used before others.
- Determine the range of activities that should be managed through Water Affecting Activity Permits.

Attachment 1: Use of Water Affecting Activity (WAA) Permits in Prescribed areas

THE USE OF WATER RESOURCE WORKS APPROVALS OR WATER AFFECTING ACTIVITY PERMITS IN **PRESCRIBED** WATER RESOURCE AREAS (Ref: s127(3), (5) & (5a))

Activity	If Licensed Water Use	If Non-licensed Water Use (e.g. stock/ domestic, or not 'related' to a Water Allocation)
Use of prescribed imported water (e.g. SA Water in Clare Valley and Barossa Valley)	Water Resource Works Approval (WRWA) supported by a Site Use Approval	WAA permit or not at all
Use of non-prescribed water (e.g. waste water treatment plants in the Northern Adelaide Plains and McLaren Vale)	WAA Permit	Not allowed
Depositing of material in a watercourse (e.g. erosion control)	WAA Permit	WAA Permit
Construction of structure in a watercourse related to taking Water Allocation (e.g. weir, low-flow bypass)	WRWA	WAA Permit
Erection of a structure in a watercourse (e.g. culvert, crossing, etc)	WAA Permit	WAA Permit
Removal of rock, sand, soil from a watercourse/floodplain	WAA Permit or possibly a WRWA if linked to a licensed activity	WAA Permit
Drain or discharge non-prescribed water	WAA Permit	WAA Permit

Construction of dam	WRWA or Development Approval*	WAA Permit
Work on an existing dam	WRWA	WAA Permit
Well construction	WRWA	WAA Permit
Work on a well	WRWA	WAA Permit

Note:

*Minister only issues approval for dams up to 5 ML in size and/or 3 m wall height. Beyond these amounts a Development Application must be made – need to issue a WRWA for ongoing operation.

1. In non-prescribed areas a WAA Permit will be used.

Attachment 2: GLOSSARY

It is essential to refer to section 3 of the Act to obtain the correct interpretation of terminology used in the Act and referred to in this discussion paper.

The following explanation of terms are those raised in the paper, but not defined in section 3 of the Act:

- **“authorisation”** means a water licence, Water Allocation, Water Resources Works Approval, Site Use Approval, Delivery Capacity Entitlement or water affecting activity permit.
- **“catchment”** means any area of land determined by topographic features within which rainfall will contribute to runoff at a particular point.
- **“dam”** means dam, wall or other structure that collects or diverts water.
- **Dams – specific reference:**
 - **“flood-pumping dam”** means an off-stream dam used to store water that is diverted from a watercourse by means of flood pumping.
 - **“flood pumping”** means pumping from a watercourse during periods of flow above the threshold flood flow rate.
 - **“off-stream dam”** means a dam, wall or other structure that is not constructed across a watercourse or drainage path and is designed to hold water diverted, or pumped, from a watercourse, a drainage path, an aquifer, or from another source. Off-stream dams may capture a limited volume of surface water from the catchment above the dam but may not take an amount of surface water from the catchment above the dam in excess of 5% of its total volume.
 - **“on-stream dam”** means a dam, wall or other structure placed or constructed on, in, or across, a watercourse or drainage path for the purpose of holding and storing the flow of that watercourse or the surface water.
 - **“turkey nest dam”** means an off-stream dam that does not capture any surface water from the catchment above the dam.
- **“extraction of water”** means to extract, capture or otherwise divert water from a water resource pursuant to a Water Allocation with which an approved meter to measure the extraction is associated.

- “**person**” means an individual, group of individuals, company or any other legal entity associated with an authorisation under the Act.
- “**water meter**” means a device correctly installed under the Approved Metering Specifications and used for the measuring of licensed water extraction from a prescribed water resource.
- “**water meter readings**” means the volumes shown on a water meter and includes estimates of those volumes, should the meter be faulty or inoperative.
- “**water use year**” unless defined otherwise in a Water allocation Plan will be taken to be the period from 1 July in one year to 30 June in the subsequent year.