STANDARD WATER-USE CONDITIONS

This is a consolidated version, prepared by the Department of Sustainability and Environment, of the following instruments:

- Standard Water-Use Conditions – made on 20 June 2007
- Amendment (Southern Victoria) to Standard Water-Use Conditions 2008 – made on 26 June 2008

PART 1 – GENERAL

Authorising provision

1. This determination is made in accordance with sections 64P, 64Y(1) and 64AI of the Act.

Commencement

2. This determination comes into force on the day on which it is made.

Application

3. This determination applies to all water-use licences granted for use of water from water systems that are declared under section 6A of the Act, including water-use licences that are deemed to have been created as a result of declaration of a water system, and water-use licences granted after a water system has been declared (“new water-use licences”), as set out in the determination.

Definitions

4. In this determination –

   “Act” means the Water Act 1989;

   “endorsed irrigation and drainage plan” means a plan prepared in accordance with Schedule 1 of this determination and endorsed by the Minister.

Note:* where the Minister has delegated responsibility for water-use licences to a water authority, the water authority on behalf of the Minister will endorse irrigation and drainage plans – and take the various other actions which in these conditions are described as being the responsibility of the Minister.

   “northern Victoria” means a water system declared to be a declared water system under section 6A of the Act by the Order Declaring Water Systems in Northern Victoria 2007.

   “ponded irrigation” means the application of water to the surface of a field where runoff is prevented.

   “southern Victoria” means a water system declared to be a declared water system under section 6A of the Act by the Order Declaring Water Systems in Southern Victoria 2008.

*Notes in italics throughout this document are explanatory only, and are not part of the formal standard water-use conditions.
PART 2 – WATER-USE LICENCES DEEMED TO BE CREATED UNDER SCHEDULE 15 OF THE ACT

Notes: the major regulated surface water systems in northern Victoria are to become declared systems on 1 July 2007, and those in southern Victoria on 1 July 2008. Prior water rights or prior joint rights (i.e. including a domestic and stock allowance) and section 51 licences are to be unbundled on that day into component entitlements, including a water-use licence.

Under clauses 4(3), 5(3) and 13(3) of Schedule 15 of the Act, water-use licences created at conversion will authorise water to be used for irrigation on the relevant land, subject to:

(a) the same conditions as those that applied to the use of water immediately before the appointed day, and

(b) an annual use limit determined in accordance with the conversion rules.

In general, the conditions applying to the use of water immediately before the appointed day are to the effect that:

(a) water used for the purposes of irrigation on the land specified in the licence must be measured through a meter approved by a water authority unless the water authority has granted an exemption in writing, and

(b) where irrigation results in drainage from the land specified in the licence, that drainage water must be disposed of in ways that meet with the standards, terms and conditions adopted from time to time by the water authority.

In some cases, where there has been a recent irrigation development or expansion, the conditions applying to the use of water are quite detailed and specific, set after a thorough survey and planning process had been undertaken. These specific conditions will be preserved in the water-use licences, for example by reference back in such a case to the former take and use licence.

But in most cases, the conditions are to the effect of paragraphs (a) and (b) above. While these are summations of the pre-existing conditions, they are not the actual conditions, which are variously expressed and scattered amongst several parts.

To ensure that there is no uncertainty about the conditions that apply, (a) and (b) above are being put in place through this determination as standard conditions. Under section 64AE(2) of the Act these will prevail, if ever it is claimed there is inconsistency with the conditions that existed previously (either in the former section 51 licences or set when water rights were purchased).

(These standard conditions will not, however, quash any of the more specific conditions that have been set in some cases and that need to be preserved, since it is considered that these very basic standard conditions will not be inconsistent with the more specific conditions.)

Standard conditions for water-use licences deemed to be created under Schedule 15 of the Act

5. Water-use licences that exist at the time this determination comes into effect or that are created subsequently through declaration of a water system are subject to the following standard conditions:

Managing groundwater infiltration

(a) Water used for the purposes of irrigation on the land specified in the licence must be measured through a meter approved by a water authority
unless the water authority has granted an exemption from this requirement in writing.

(b) Ponded irrigation must not be carried out on the land specified in the licence without the addition of particular conditions governing the use of such an irrigation system.

*Note: ponded irrigation (for example to grow rice) requires a planning permit – entailing referral to a water authority.*

(c) Unless the Minister, with the written agreement of the relevant Catchment Management Authority, has declared a seasonal adjustment to an annual use limit or limits to accommodate exceptionally high evapotranspiration, the maximum volume of water that may be applied to the land specified in the licence in any 12-month period from 1 July to 30 June will be the annual use limit.

*Managing disposal of drainage*

(d) Where irrigation results in drainage from the land specified in the licence, that drainage water must be disposed in ways that meet with the standards, terms and conditions adopted from time to time by the water authority.

**PART 3 – NEW OR VARIED WATER-USE LICENCES**

*Notes: long-established irrigation will be subject to very basic conditions, as set out above. Over time these conditions could potentially be gradually lifted by setting further standard conditions, but this would likely be targeted at the very worst practices.*

*Where there is a new irrigation development or a major expansion of irrigation, on the other hand, relatively high performance levels are required, closer to best practice. The clauses below set out the requirements.*

**Irrigation and drainage plan**

6. (1) Subject to clause 8, an application for a water-use licence under section 64O of the Act or for a variation to a water-use licence under section 64AH of the Act must be accompanied by an irrigation and drainage plan that has been prepared in accordance with the requirements set out in Schedule 1.

(2) The Minister must endorse the irrigation and drainage plan as approved when the application is approved.

**Standard conditions for new or varied water-use licences**

7. Subject to clause 8, a water-use licence that is granted under section 64L of the Act (other than a water-use licence created under Schedule 15 of the Act) or varied under section 64AG or 64AH of the Act after this determination comes into effect is subject to the following standard conditions:

*Managing groundwater infiltration*

(a) Water used for the purposes of irrigation on the land specified in the licence must be measured through a meter approved by a water authority
unless the water authority has granted an exemption from this requirement in writing.

(b) Unless the Minister, with the written agreement of the relevant Catchment Management Authority, has declared a seasonal adjustment to an annual use limit or limits to accommodate exceptionally high evapotranspiration, the maximum volume of water that may be applied to the land specified in the licence in any 12-month period from 1 July to 30 June will be the annual use limit, calculated from the sum of the maximum application rates as set out in Schedule 2 multiplied by the area to which each of those rates apply.

Note: the annual use limit will be a particular condition recorded as part of the licence but derived from the standard condition set out above.

(c) Ponded irrigation must not be carried out on the land specified in the licence without the addition of particular conditions governing the use of such an irrigation system.

**Managing disposal of drainage**

(d) Where irrigation results in drainage from the land specified in the licence, water may only be used for irrigation while that drainage water is disposed of in accordance with:

(i) the arrangements specified in the endorsed irrigation and drainage plan, and

(ii) any terms and conditions that apply to a drainage service that is employed.

**Minimising salinity**

(e) Where the endorsed irrigation and drainage plan identifies that the quality of the water being used for irrigation poses significant risk of salt accumulating in the irrigated soil, water may only be used for irrigation if its electrical conductivity lies within the range specified in the endorsed irrigation and drainage plan.

(f) Where –

(i) the endorsed irrigation and drainage plan shows that all or part of the land being irrigated is within a ‘salinity impact zone’, and

(ii) the Minister under section 287A of the Act has given notice in writing requiring the owner to make a payment or payments towards the cost of works or measures to off-set any impact on river salinity – water may only be used for irrigation while the payments are being made as required in the notice.

**Protecting biodiversity**

(g) Where the endorsed irrigation and drainage plan identifies that the use of water for irrigation poses direct and ongoing risks to wetlands, native vegetation, or the habitat of native animals, water may only be used for irrigation while the licence holder meets the relevant monitoring and correctional requirements specified in the plan with regard to:

(i) installing and maintaining the specified monitoring equipment; and
(ii) following the specified data reading, recording, reporting and auditing requirements; and

(iii) carrying out the specified corrective action procedures, within the specified time, where a specified threshold for these is breached.

**New or varied licences where plans and certain conditions are not required**

8. The requirement under clause 6 to prepare an irrigation and drainage plan, and the standard conditions for new or varied water-use licences under clause 7, will not apply in the following circumstances:

   (a) Where a water-use licence is cancelled under section 64S(2) of the Act because part of the land to which it refers is transferred to a different party – new licences may be issued for each part of the land without the imposition of any extra conditions, provided that each licence has an appropriate share of the previous annual use limit and the sum of the new annual use limits is no greater than the previous annual use limit.

   (b) Where irrigation is to be extended to some new land but will be within the annual use limit of the existing licence – extensions in land area that are judged by the Minister to be minor may be covered by a licence variation without the imposition of any extra conditions.

   Note: licences created by conversion in an irrigation district will apply to the whole of each property.

   (c) Where irrigation is to be intensified on some land already covered by a licence and an increase in the annual use limit in the licence is sought – clauses 6 and 7 will apply but with such modifications as are judged by the Minister to be reasonable in the circumstances, bearing in mind water-use objectives determined by the Minister.
Schedule 1

Irrigation and Drainage Plans

Background

Irrigation developments must meet the standards necessary to minimise the impacts of water use on other persons and the environment (in particular waterlogging, salinity and nutrient impacts). This must involve an assessment of local conditions and appropriate design of irrigation systems.

The key purpose of an irrigation and drainage plan is to match the way land is irrigated and drainage disposed of, with the characteristics of the land and soil, in order to meet efficiently the objective of minimising harmful side-effects.

In those regions covered by a Land and Water Management Plan or a Salinity Management Plan approved by the Minister, an appropriate overlay from within a certified whole-farm plan may be accepted as an irrigation and drainage plan.

In those regions where recycled water is used, a Customer Site Management Plan (CSMP) as required by the EPA may be accepted as an irrigation and drainage plan.

In accordance with clause 6, an irrigation and drainage plan that meets the requirements of this Schedule must accompany an application for a new or varied water-use licence that will allow a new development or major expansion.

For the new or varied water-use licence to be granted, the irrigation and drainage plan must be endorsed by the Minister (or by the water authority if it has delegated responsibility). A reference to the plan will be recorded as part of the water-use licence.

Requirements

1. Requirements within this schedule may be waived by the Minister after consultation with and written agreement from the relevant Catchment Management Authority.

2. If the relevant Catchment Management Authority seeks further information on any of the matters listed below because it considers this necessary to determine whether the site is suitable for sustainable development and what the potential off-site impacts are, then the Minister may require that further information.

3. An irrigation and drainage plan must include:

A. MAP OF PROPOSED DEVELOPMENT

A map of the proposed development is to be prepared which clearly identifies:

(a) property boundaries;
(b) areas to be irrigated;
(c) type and location of crops to be planted;
(d) location of existing features e.g. buildings, roads, channels, drains, fences, water storages, reuse systems;
(e) location of water resources (including depth to groundwater);
(f) location of proposed features; and
(g) existing native vegetation, wetlands, and other environmental features.

B. TOPOGRAPHICAL SURVEY

A topographical survey, including elevation data and suitable contours is to be prepared.

Check-bank, flood and furrow irrigation systems: Please note, the maximum slope allowable is 1:50.

C. SOIL ASSESSMENT

Either:

C1. For pressurised irrigation systems anywhere and any form of irrigation on mallee soils (that is soils of aeolian origin)

(Pressurised irrigation systems include drippers, microjets, centre pivots, lateral move irrigators and fixed sprays. More detailed soil survey information is required on mallee soils because they are extremely variable.)

Soil profile survey

Note: the survey provides information which will assist the designer prepare an irrigation system capable of applying accurate irrigation depth to maximise productivity whilst reducing the risk of off-site impacts.

Information required for the area proposed to be irrigated, to be provided on an overlay of the map of the property and soil data sheets, is as follows:
(a) soil information to be obtained by a suitably qualified soil surveyor;

<table>
<thead>
<tr>
<th>Information to be obtained at each site</th>
</tr>
</thead>
<tbody>
<tr>
<td>⇒ Soil texture of each layer</td>
</tr>
<tr>
<td>⇒ Depth of each layer</td>
</tr>
<tr>
<td>⇒ Depth of potential crop root zone</td>
</tr>
<tr>
<td>⇒ Readily available water</td>
</tr>
<tr>
<td>⇒ Soil colour</td>
</tr>
<tr>
<td>⇒ Mottling</td>
</tr>
<tr>
<td>⇒ Pedality</td>
</tr>
<tr>
<td>⇒ Dispersion index</td>
</tr>
<tr>
<td>⇒ Coarse fragments</td>
</tr>
</tbody>
</table>

(b) minimum pit depth of 1.5 metres or soil core to 1.8 metres;
(c) grid spacing of 75 metres by 75 metres (broader spacings may apply for less intensive agriculture); and
(d) measurements of pH and soil salinity (ECE) to be obtained at representative soil types. Soil salinities should be measured for each distinctive soil horizon to 1.5 metres.

Or:
C2. For flood irrigation systems on non-mallee soils in northern Victoria

Soil survey

Note: the soil survey provides information that will help the developer determine the soil’s suitability for sustainable broadacre irrigation.

Information required for the area proposed to be irrigated is to be provided on an overlay of the base map of the property and on soil data sheets.

Soil samples are to be taken from cores dug every 150 metres by 150 metres or data from previously published soil maps that show:

(a) soil salinity for the subsoil (60-90 cm depth) in dS/m ECe (maximum threshold of 4dS/m ECe); and

(b) soil permeability (infiltration rates) based on texture determinations (with a minimum requirement of a >30 cm thick layer of >40 % clay within the top 90 cm of the soil surface).

Or:

C3. For irrigation systems in southern Victoria

Soil survey

Note: the soil survey provides information that will help the developer to design irrigation systems capable of applying irrigation water accurately and to uniform depths so as to maximise productivity whilst reducing the risk of off-site impacts.

An understanding of soil variability in the region (previous soil maps) will determine the required intensity of soil sampling. The required information includes:

- soil layers and depth
- any impervious layers
- soil texture
- hydraulic conductivity (permeability)
- soil pH
- salinity/sodicity
- nutrient availability – nitrogen, phosphorus and potassium

For all cases (C1, C2 and C3):

Written report

A written report must be provided which includes:

(a) description of topography and previous land use;
(b) key aspects of climate;
(c) soil profile descriptions;
(d) factors affecting potential root-zone depth;
(e) soil/water interactions e.g. drainage, permeability, infiltration;
(f) readily available water;
(g) land capability;
(h) soil amelioration proposals; and
(i) hydrogeology – if in the view of the author this is relevant and the authority requires it.

An overlay of soils grouped into similar irrigation management units is also required.
D. IRRIGATION DESIGN AND MANAGEMENT

For all developments:

The irrigation and drainage plan must show:

(a) anticipated crop water requirements and proposed maximum application rates;
(b) irrigation system specifications;
(c) map identifying delivery supply point and area to be irrigated; and
(d) proposed irrigation scheduling arrangements.

Additional requirements for horticultural properties and for all developments on mallee soils:

The irrigation design must be completed by a certified irrigation designer in accordance with the following principles:

(a) The irrigation system should be capable of applying an irrigation depth equivalent to or less than the readily available water of the soil, appropriate to the crop. Areas of similar readily available water are to be grouped as irrigation management units and supplied separately based on the results of the soil survey.
(b) Flood and furrow irrigation should not occur where the calculated minimum depth that can be applied (taking into account infiltration rates, slopes, length of irrigation runs and discharge rate) exceeds the readily available water within the estimated crop root-zone.

Additional requirements for southern Victoria.

(a) a plan for monitoring nutrient balance and nutrient movement; and
(b) a plan for monitoring groundwater depth and groundwater quality.

E. ARRANGEMENTS FOR DRAINAGE DISPOSAL

The irrigation and drainage plan must include an appropriate contingency drainage design.

The need for a subsurface and/or surface drainage scheme and re-use system must be considered. A design is to be developed for the appropriate system(s) including the:

(a) volume of water to be collected;
(b) details of any approved on-site disposal site and/or details of any off-site disposal site;
(c) details of approvals for any proposed re-use schemes and/or irrigation storages;
(d) location of pumps, discharge or re-use points.

Upstream of the Nyah pumps, if the weighted soil salinity is greater than 600EC, the irrigation and drainage plan must include a preliminary sub-surface drainage plan identifying an appropriate contingency area for evaporative disposal in the event that...
subsurface drainage is required. Any land identified as being required for evaporative disposal must not be developed for irrigation.

F. BIODIVERSITY PROTECTION ARRANGEMENTS

The irrigation and drainage plan must identify those parts of the property and adjacent land where the use of water for irrigation on the property poses direct and ongoing risks to wetlands, native vegetation, or the habitat of native animals.

For those areas, the irrigation and drainage plan must specify appropriate preventative measures, appropriate monitoring parameters, appropriate monitoring equipment, and appropriate locations for the equipment to be installed. The plan must also specify equipment maintenance standards, data reading, recording, reporting and auditing requirements, corrective action thresholds, corrective action procedures, and corrective action time limits.

*Note: The granting of a water-use licence does not remove the need to apply for any authorisation or permission necessary under any other Act with respect to anything authorised by the licence.*
1. This Schedule sets out the maximum application rates (in megalitres per hectare per year), which are to be used in conjunction with irrigated areas (in hectares) to determine annual use limits.

2. These maximum application rates have been determined taking account of:
   (a) all sources of water used on the property (including groundwater and surface water);
   (b) annual crop irrigation requirements (including evapotranspiration and leaching);
   (c) soil hydraulic conductivity; and
   (d) uniformity of water application / irrigation system efficiency.

3. The principles and methodology that have been followed take into account crop water requirements consistent with “Crop evapotranspiration – Guidelines for computing crop water requirements”, FAO Irrigation and Drainage Paper 56,

4. The maximum application rates set out in this schedule take into account some regional considerations, notably variations in evapotranspiration and rainfall.

5. Where the proponent can show, using the principles and methodology set out in the above publication, that – because of local conditions, special crops, or an individual irrigation and drainage system – the application rate can safely be higher than the relevant one set out here, then the Minister may employ such higher application rate in determining the annual use limit.

Mallee region (downstream of Nyah pumps)

The maximum application rates in the following table are subject to clause 5 above.

<table>
<thead>
<tr>
<th>Crop type</th>
<th>Maximum application rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wine grapes</td>
<td>9 ML/ha</td>
</tr>
<tr>
<td>Dried vine fruits</td>
<td>9 ML/ha</td>
</tr>
<tr>
<td>Table grapes</td>
<td>12 ML/ha</td>
</tr>
<tr>
<td>Citrus</td>
<td>12 ML/ha</td>
</tr>
<tr>
<td>Almonds</td>
<td>14 ML/ha</td>
</tr>
<tr>
<td>Olives</td>
<td>12 ML/ha</td>
</tr>
<tr>
<td>Walnuts</td>
<td>15.5 ML/ha</td>
</tr>
<tr>
<td>Carrots (summer plus winter crop)</td>
<td>12 ML/ha</td>
</tr>
<tr>
<td>Potatoes (summer plus winter crop)</td>
<td>15 ML/ha</td>
</tr>
<tr>
<td>Other</td>
<td>As agreed in writing by Department of Sustainability and Environment after consultation with relevant water authorities, and Mallee CMA.</td>
</tr>
</tbody>
</table>
**Goulburn-Murray Water region (upstream of Nyah pumps)**

The maximum application rates in the following table are subject to clause 5 above.

<table>
<thead>
<tr>
<th>Drainage class</th>
<th>Maximum water use, on suitable land</th>
</tr>
</thead>
<tbody>
<tr>
<td>Either: off-farm drainage and drainage reuse; or: pressurised irrigation systems</td>
<td>10 ML/ha (11 ML/ha in the Loddon Murray Area north of Kangaroo Lake)</td>
</tr>
<tr>
<td>Either: off-farm drainage; or: drainage re-use</td>
<td>7.2 ML/ha</td>
</tr>
<tr>
<td>No off-farm drainage or drainage re-use</td>
<td>5 ML/ha</td>
</tr>
</tbody>
</table>

**Southern Rural Water regions**

The maximum application rates in the following table are subject to clause 5 above.

<table>
<thead>
<tr>
<th>Area</th>
<th>Maximum water use, on suitable land</th>
</tr>
</thead>
<tbody>
<tr>
<td>Macalister irrigation district, and the regulated sections of the Thomson and Macalister Rivers</td>
<td>9.0 ML/ha</td>
</tr>
<tr>
<td>Werribee irrigation district</td>
<td>8.5 ML/ha</td>
</tr>
<tr>
<td>Regulated sections of the Werribee River</td>
<td>8.5 ML/ha</td>
</tr>
<tr>
<td>Bacchus Marsh irrigation district</td>
<td>8.5 ML/ha</td>
</tr>
</tbody>
</table>

**Northeastern Victoria**

In northeastern Victoria irrigation is used primarily to supplement rainfall. Both evaporation and rainfall vary significantly across these regions. Therefore maximum application rates, in ML/ha, will vary. They will be calculated using the following formula:

(a) subtract average rainfall in the period October to April inclusive (measured in millimetres) from average evapotranspiration in the same period (as calculated excluding the highest 10% of years); then

(b) multiply the difference by a crop coefficient for the specified crop (either the crop coefficient set out in FAO Irrigation and Drainage Paper 56 or another reasonable coefficient approved by the Minister); then

(c) divide the product by 100 (to express the result in ML/ha).