



**Murray Irrigation**

## **Environment Policy**

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## Part A: Policy statement

### 1 Purpose

- 1.1 The purpose of this Policy is to document the Company's commitment to achieving a balance between environmental responsibility and agricultural production. This Policy provides evidence to support the Company's and the industry's efforts to promote sustainable irrigated agriculture.

### 2 Scope

- 2.1 This Policy applies to all Customers serviced by the Company. It affects the management and use of water by Customers on their Landholdings.
- 2.2 This Policy describes the conditions which apply to:
- (1) Customers growing rice;
  - (2) total farm water use on Customers' Landholdings; and
  - (3) Customers discharging Drainage from their Landholdings.

### 3 Policy statement

- 3.1 One of the Company's values in its 2014 Strategic Plan is "*We will play a role of responsibility in our local economy and to the environment*". This Policy is important to complying with this value.
- 3.2 The Company will comply with all Legal Requirements in managing the environmental impacts of providing water, focusing on prevention to minimise environmental impacts. The Company complies with the following:
- (1) the Act;
  - (2) its Operating Licence issued under section 122 of the Act;
  - (3) its Access Licences;
  - (4) its Combined Water Supply Works Approval and Water Use Approval (50CA501687) issued by the NSW Office of Water;
  - (5) its Combined Water Supply Work Approval and Water Use Approval for Salinity and Watertable Management Bores (50CA512282) issued by the NSW Office of Water;
  - (6) its irrigation corporations licence under the *Irrigation Corporations Act 1994* (NSW), to the extent that this licence remains in force; and
  - (7) Environment Protection Licence (5014) issued by the Environment Protection Authority.
- 3.3 Customers are responsible for being aware of their obligations under this Policy and for taking actions to ensure their ongoing adherence to the rules outlined in this Policy.
- 3.4 A breach of this Policy is a breach of the Entitlements Contract. A breach of the Entitlements Contract may have serious consequences, including suspension of supply or termination of the Entitlements Contract.

- 3.5 A breach of this Policy may lead to a reduction of water supply in the following Water Year.
- 3.6 The Company may undertake annual audits of compliance by Customers with this Policy.
- 3.7 The Company will review this Policy on regular basis and vary this Policy in accordance with the procedure under the Entitlements Contract.

#### 4 Summary of rice growing rules

- 4.1 If requested by the Company, a Customer must promptly procure that a soil assessment is conducted in respect of land in a Landholding on which the Customer grows, or wishes to grow, rice.
- 4.2 The Company may determine the Classification of land in a Landholding, and a Customer may request that the Company make or change a determination.
- 4.3 The Classifications are:
- (1) **Suitable:** a Customer may rice grow rice on the land in any Water Year;
  - (2) **Suitable – Subject to Water Use:** a Customer may rice grow rice on the land in one Water Year commencing after the Classification is determined and:
    - (a) if the volume of water used for growing rice on the land in that Water Year is equal to or less than the Maximum Rice Water Use Volume, the land will be reclassified as Suitable; and
    - (b) if the volume of water used for growing rice on the land in that Water Year is greater than the Maximum Rice Water Use Volume, the land will be reclassified as Unsuitable;
  - (3) **Marginal:** a Customer may rice grow rice on the land in one Water Year in every four Water Years; and
  - (4) **Unsuitable:** rice must not be grown on the land.
- 4.4 The Customer must not grow rice on land for which no Classification has been determined by the Company.
- 4.5 A Customer may request that the Company provide Information regarding the most recent Water Year in which rice was grown on land in a Landholding.
- 4.6 The Company may determine the Maximum Rice Water Use Volume, being the volume of water in respect of Classified land in a Landholding which may be used for growing rice during a Water Year.
- 4.7 The Customer must not, in any Water Year, in respect of Classified land in a Landholding, use a volume of water for growing rice which is greater than the Maximum Rice Water Use Volume.

#### 5 Summary of total farm water use rules

- 5.1 The Total Farm Water Use Limit is the total volume of water from all sources (other than groundwater pumped from within 10 metres of the surface) which may be used on a Landholding during a Water Year.
- 5.2 The Total Farm Water Use Limit is 4 ML/ha, unless the Company approves an increased volume in accordance with this Policy.
- 5.3 A Customer may apply to increase the Total Farm Water Use Limit. The Company may approve or refuse an application at the Company's discretion.

- 5.4 If the Company approves an application to increase the Total Farm Water Use Limit, the increase will apply in respect of three consecutive Water Years. After that, the Total Farm Water Use Limit reverts to 4 ML/ha, unless the Company extends the approval or approves a new application for an increase.
- 5.5 A Customer with two or more Landholdings may apply to the Company to combine the Total Farm Water Use Limits of the Landholdings and treat the Landholdings as a single Landholding for the purpose of the combined Total Farm Water Use Limit. The Company may approve or refuse an application. Any approval applies in respect of one Water Year only but a new application may be made in respect of each subsequent Water Year.
- 5.6 The Company may, at its discretion, increase the Total Farm Water Use Limit in respect of a Landholding in a Water Year of above average evapotranspiration.
- 5.7 The Company may, at its discretion, determine that compliance with the Total Farm Water Use Limit in respect of a Landholding will be assessed by reference to the rolling average water use on the Landholding during the last three consecutive Water Years.

## **6 Summary of drainage rules**

- 6.1 A Customer must not, without the consent of the Company, discharge Drainage into:
- (1) the Company's Supply Works; or
  - (2) the Company's Drainage Works if either:
    - (a) the Drainage was used for growing rice; or
    - (b) chemicals or fertiliser have been applied in the last 28 days to any area of the Landholding from which Drainage is to be discharged.
- 6.2 The Company may require a Customer to suspend the discharge of Drainage into the Company's Drainage Works in certain circumstances.
- 6.3 A Customer must permit the Company to carry out regular sampling and testing of Drainage discharged, or to be Discharged, by the Customer, as required by the Company from time to time.
- 6.4 If requested by the Company, a Customer must promptly deliver to the Company representative samples of Drainage discharged, or to be Discharged, by the Customer.

## Part B: General

### 7 Introduction

- 7.1 A Customer's Entitlements Contract binds them to this Policy.
- 7.2 This Policy should be read in conjunction with, and is subject to, the Contract, any relevant Policies, the *Water Act 2007* (Cth), the *Water Market Rules 2009* (Cth), the *Water Charge (Termination Fees) Rules 2009* (Cth), the Act and all other relevant laws, regulations and orders.

### 8 Guide to this policy

- 8.1 Part A is not, and is not intended to be, legally binding. In particular, rules 4, 5 and 6 are summaries of your rights and obligations contained in Parts C, D and E respectively. You should read all of the rules set out in Parts C, D and E.
- 8.2 Parts B, C, D and E are legally binding.

### 9 Definitions and interpretation

- 9.1 In this Policy, the following words have these meanings unless the contrary intention appears:
- (1) **Classification** means classification, under rule 11.1, of land in a Landholding as either:
    - (a) Suitable;
    - (b) Suitable – Subject to Water Use;
    - (c) Marginal; or
    - (d) Unsuitable;and **Classified** has a corresponding meaning;
  - (2) **Maximum Rice Water Use Volume** means the volume of water determined under rule 13.1 in respect of Classified land in a Landholding which may be used for growing rice during a Water Year;
  - (3) **ML/ha** means Megalitres per hectare;
  - (4) **Part A** means rules 1 to 6;
  - (5) **Part B** means rules 7 to 9;
  - (6) **Part C** means rules 10 to 14;
  - (7) **Part D** means rules 15 to 19;
  - (8) **Part E** means rules 20 to 23; and
  - (9) **Total Farm Water Use Limit** means the total volume of water from all sources (other than groundwater pumped from within 10 metres of the surface) which may be used on a Landholding during a Water Year as determined under rule 15.

- 9.2 In this Policy, unless the contrary intention appears, a word or phrase defined in the Contract has the same meaning in this Policy.
- 9.3 Clause 1.2 (Interpretation) of the Contract applies to this Policy with the necessary changes.

## Part C: Rice growing rules

### 10 Soil assessment for rice growing

10.1 If requested by the Company, a Customer must promptly:

- (1) procure that a soil assessment for rice growing (in accordance with this rule 10) is conducted in respect of land in a Landholding on which the Customer grows, or wishes to grow, rice; and
- (2) deliver a digital copy of the results of the soil assessment for rice growing to the Company:
  - (a) in a file format enabling the EM31 survey and bore drilling locations to be loaded onto Geographic Information System (GIS); and
  - (b) if requested by the Company, the results of the soil assessment must be delivered before 15 September in any Water Year in which the Customer grows, or wishes to grow, rice.

10.2 Soil assessments for rice growing must be conducted by an accredited soil surveying contractor in accordance with the following requirements:

- (1) electromagnetic survey (EM31):
  - (a) an electromagnetic survey (**EM31**) must measure the apparent Electrical Conductivity (**ECa**), detecting changes in soil salinity and changes in soil textual classes;
  - (b) the EM31 must be analysed and divided into nine percentile frequency ranges (0%, 5%, 7.5%, 10%, 20%, 40%, 60%, 75%, 100%) to produce a soil conductivity map; a mid-range percentile map is produced with nine frequency ranges (contours) at 0%, 2.5%, 6.25%, 8.75%, 15%, 30%, 50%, 67.5% and 87.5%;
  - (c) where the EM31 mid-range percentile contours with ECa values are greater than 150 ECa, the relevant land in the Landholding may be Classified as Suitable;
  - (d) where an EM31 mid-range percentile contour is less than 150 ECa, core sampling and soil sodicity analysis must be undertaken;
  - (e) core samples must be extracted to a depth of 1.5 metres from the EM31 mid-range percentile contour on the same ECa value; where core samples cannot be obtained on the same ECa value within a different location of an EM31 mid-range percentile contour, an ECa value of plus or minus five is acceptable;
  - (f) where the EM31 mid-range percentile contour is less than 150 ECa and the area is equal to or greater than 10 hectares, three core samples with the same ECa value must be extracted from the EM31 mid-range percentile contour;
  - (g) where the EM31 mid-range percentile contour is less than 150 ECa and the area is equal to or greater than five and less than 10 hectares, two core samples with the same ECa value must be extracted from the EM31 midrange percentile contour; and

- (h) where the EM31 mid-range percentile contour is less than 150 ECa and the area is less than five hectares, one core sample with the same ECa value needs to be extracted from the EM31 mid-range percentile contour;
- (2) soil sample preparation:
- (a) each core sample must be textured at changes in texture and logged in accordance with the Northcote hand texturing guidelines to a depth of 1.5 metres;
  - (b) each EM31 mid-range percentile contour must have two soil samples taken from them; the first soil sample is at depth of 0-60cm (shallow) and the second soil sample is a depth of 60-150cm (deep); core samples must be combined for each depth for each EM31 mid-range percentile contour;
  - (c) the core samples per EM31 mid-range percentile contour must be evenly combined (in terms of weight) with the other core samples from the same EM31 mid-range percentile contour; all core samples must have an equivalent amount of sample contributed to the whole; and
  - (d) when one core sample for each EM31 mid-range contour has been extracted, the core sample must be used as the soil sample; and
- (3) sodicity analysis:
- (a) soil sample analysis must be conducted by a laboratory with quality assurance measures in place;
  - (b) the 15D3 Method must be used for the soil sodicity analysis;
  - (c) the purpose of the soil analysis is to determine Cation Exchange Capacity (**CEC**) reported as the exchangeable sodium percentage (**ESP**);
  - (d) if the soil has an ESP equal to or greater than 6% in the 0-60cm profile, it may be Classified Suitable;
  - (e) if the soil has an ESP equal to greater than 16% in the 60-150cm profile, it may be Classified Suitable;
  - (f) if the soil has an ESP between 12% and 16% in the 60-150cm profile, the Customer may collect an additional four samples from the mid-range percentile contour for sodicity analysis. If the soil in the additional samples has an ESP equal to or greater than 12%, it may be Classified Suitable.

10.3 The results of a soil assessment for rice growing must include at least the following:

- (1) soil surveyor's name, ABN and contact details;
- (2) Customer's name and contact details;
- (3) Landholding Reference Number and area, in hectares, of the land surveyed;
- (4) general information regarding the EM31 survey and GPS technology used;
- (5) map of the Landholding, with a satellite image, identifying the survey area;
- (6) map of the survey area with transact data points collected for the EM31 survey;
- (7) EM31 mid-range percentile contour map;
- (8) location of core samples with GPS coordinates;

- (9) results of the hand texturing of core samples;
  - (10) laboratory name for the soil sodicity analysis and date of analysis; and
  - (11) laboratory analysis results expressed as exchangeable sodium percentage with Landholding Reference Number.
- 10.4 Without limiting the Company's discretion, the Company may consider other criteria when considering a soil assessment, including:
- (1) the topography of the Landholding;
  - (2) watertable depth and salinity; and
  - (3) proximity to natural watercourses.

## **11 Classification of land**

- 11.1 The Company may, from time to time:
- (1) determine the Classification; or
  - (2) change the Classification;
- of land in a Landholding.
- 11.2 If a Customer carries out a soil assessment for rice growing in accordance with rule 10, the Company will determine a Classification for the assessed Landholding of Suitable or Unsuitable.
- 11.3 If land is Classified Suitable, a Customer may grow rice on the land in any Water Year.
- 11.4 If land is Classified Suitable – Subject to Water Use:
- (1) a Customer may rice grow rice on the land in one Water Year commencing after the Classification is determined;
  - (2) if the volume of water used for growing rice on the land during a Water Year in which the Classification applies is equal to or less than the Maximum Rice Water Use Volume, then the land will be Classified Suitable from the beginning of the next Water Year, until a new Classification is determined; and
  - (3) if the volume of water used for growing rice on the land during a Water Year in which the Classification applies is greater than the Maximum Rice Water Use Volume, then the land will be taken to be Classified Unsuitable with effect immediately, until a new Classification is determined.
- 11.5 If land is Classified Marginal, a Customer may grow rice on the land during one Water Year in every four Water Years.
- 11.6 If land is Classified Unsuitable, rice must not be grown on the land.
- 11.7 If land has not been Classified, rice must not be grown on the land.
- 11.8 The Company may impose, at the time of determining the Classification of land in a Landholding, additional conditions on the growing of rice on the land.

## **12 Audit**

- 12.1 The Customer acknowledges that, in each Water Year, the Company may audit the area of the land in each Landholding on which rice is grown and check compliance with this Policy.
- 12.2 The Customer consents to the Company entering the Landholding (upon at least two days' notice) for the purpose of carrying out audits.

## **13 Maximum rice water use volume**

- 13.1 The Company must determine the Maximum Rice Water Use Volume each Water Year.
- 13.2 Without limiting the Company's discretion, when determining the Maximum Rice Water Use Volume, the Company may take into consideration:
- (1) the rice crop irrigation requirement which the Company determines, including by taking into consideration climatic data (evapotranspiration and rainfall) for the months of October to February, inclusive;
  - (2) an allowance of up to 4 ML/ha of Classified land in a Landholding for surface drainage and profile wetting; and
  - (3) water lost from Classified land in a Landholding, if the Customer informs the Company of the loss of water within seven days after the loss and provides supporting evidence to the Company's satisfaction.
- 13.3 The Company may determine the volume of water which has been or was used during any Water Year for growing rice on Classified land in a Landholding, including by taking into consideration the following factors:
- (1) the area of the Classified land in the Landholding;
  - (2) the volume of recorded water use, including water received by the Landholding other than from the Company (including deep bore groundwater and river pumps); and
  - (3) if, during the Water Year, the Customer ordered any water for storage on a Landholding on which rice was grown, that water will be deemed to have been used for growing rice unless otherwise specified by the Customer.
- 13.4 The Company may request that the Customer, and the Customer must within 20 days after the request is made, provide records of water use under rule 13.3(2) for a specified Water Year.
- 13.5 The Customer must not, in any Water Year, in respect of Classified land in a Landholding, use a volume of water for growing rice which is greater than the Maximum Rice Water Use Volume.

## **14 Default**

- 14.1 If a Customer breaches this Policy, including by:
- (1) growing rice on land in a Landholding which has not been Classified or which is Classified Unsuitable;
  - (2) growing rice more frequently than in one Water Year every four Water Years on land in a Landholding Classified Marginal; or

- (3) in respect of Classified land in a Landholding, using a volume of water for growing rice in any Water Year which is greater than the Maximum Rice Water Use Volume;

the Company may do any one or more of the following:

- (4) request a soil assessment, in which case, rule 10.1 will apply;
- (5) determine a different Classification for land in the Landholding;
- (6) reduce the area of the Classified land in the Landholding on which rice may be grown in the next Water Year; or
- (7) exercise rights arising under the Contract as a result of an Event of Default occurring.

## Part D: Total farm water use rules

### 15 Total farm water use limit

- 15.1 The Total Farm Water Use Limit is 4 ML/ha, unless the Company approves an increased volume in accordance with this Policy.
- 15.2 A Customer must not exceed the Total Farm Water Use Limit.

### 16 Increasing the total farm water use limit

- 16.1 A Customer may apply to the Company to increase the Total Farm Water Use Limit to 5 ML/ha, 6 ML/ha or 8 ML/ha. The Company may approve or refuse an application at the Company's discretion.
- 16.2 When assessing an application to increase the Total Farm Water Use Limit to 5ML/ha, the Company may consider such criteria as the Company thinks fit, including whether at least 75% of the area of the Landholding is serviced by Works enabling reuse of water, or on-farm water storage, or both.
- 16.3 When assessing an application to increase the Total Farm Water Use Limit to 6ML/ha, the Company may consider such criteria as the Company thinks fit, including whether at least 90% of the area of the Landholding is serviced by Works enabling reuse of water, or on-farm water storage, or both.
- 16.4 When assessing an application to increase the Total Farm Water Use Limit to 8ML/ha, the Company may consider such criteria as the Company thinks fit, including whether either:
- (1) deep-rooted perennial crops are grown on the Landholding, the irrigation technology employed on the Landholding includes pressurised spray irrigators or subsurface drip irrigation, and the Landholding is serviced by Works enabling both reuse of water and on-farm water storage; or
  - (2) lucerne is grown intensively on the Landholding using flood irrigation and the Landholding is serviced by Works enabling both reuse of water and on-farm water storage.
- 16.5 If the Company approves an application to increase the Total Farm Water Use Limit, the increase will apply in respect of three consecutive Water Years. After that, rule 15.1 applies.

### 17 Combining total farm water use limits

- 17.1 A Customer with two or more Landholdings may apply to the Company to combine the Total Farm Water Use Limits of the Landholdings and treat the Landholdings as a single Landholding for the purpose of the combined Total Farm Water Use Limit. The Company may approve or refuse an application at the Company's discretion. When assessing an application to combine the Total Farm Water Use Limits of the Landholdings, the Company may consider such criteria as the Company thinks fit, including:
- (1) whether the Landholdings adjoin or would adjoin but for Works; and
  - (2) whether the Company is satisfied that the Landholdings are owned by the same Customer.
- 17.2 If the Company approves an application under clause 17.1, approval will apply in respect of one Water Year. After that, Total Farm Water Use Limits of the Landholdings cannot be combined and the Landholdings cannot be treated as a single Landholding for the purpose

of the combined Total Farm Water Use Limit, unless the Company approves a new application under clause 17.1.

## **18 Climatic variation of total farm water use limit**

- 18.1 The Company may, at its discretion, increase the Total Farm Water Use Limit in respect of a Landholding in a Water Year if there is above average evapotranspiration in the Water Year.
- 18.2 The Company will announce any increase under this rule 18 as soon as practicable in a Water Year, but, in any event, no later than the second week of March.

## **19 Total farm water use rolling averages**

- 19.1 The Company may take the total volume of water from all sources (other than groundwater pumped from within 10 metres of the surface) used on a Landholding during a Water Year to be the average of the total volume used in that Water Year and the previous two Water Years.

## Part E: Drainage rules

### 20 Discharge of drainage

- 20.1 A Customer must not, without the consent of the Company, discharge Drainage into:
- (1) the Company's Supply Works; or
  - (2) the Company's Drainage Works if either:
    - (a) the Drainage was used for growing rice; or
    - (b) chemicals or fertilizer have been applied in the last 28 days to any area of the Landholding from which Drainage is to be discharged.

### 21 Suspension

- 21.1 The Company may require a Customer to suspend the discharge of Drainage into the Company's Drainage Works if, in the Company's opinion:
- (1) there is a risk of polluting any waters or contamination from nutrient point source (such as dairy effluent or feedlot effluent);
  - (2) the Drainage to be discharged is groundwater with a salinity risk;
  - (3) there is a risk that the Drainage or discharge of Drainage will cause environmental harm;
  - (4) the discharge of Drainage may impact on the operation of the Company's Works;
  - (5) the discharge of Drainage may lead to damage to the Company's Works; or
  - (6) there is insufficient capacity in the Company's Works.

### 22 Sampling and testing

- 22.1 A Customer must permit the Company to carry out regular sampling and testing of Drainage discharged, or to be Discharged, by the Customer, as required by the Company from time to time. The Customer consents to the Company entering the Landholding (upon reasonable notice) for the purpose of carrying out the regular sampling and testing.
- 22.2 If requested by the Company, a Customer must promptly deliver to the Company representative samples of Drainage discharged, or to be Discharged, by the Customer.

### 23 Notification

- 23.1 A Customer must promptly notify the Company of any breach of rule 20 or rule 21 of which the Customer becomes aware.