



**Murrumbidgee
Irrigation**

Chemical Contingency Plan

June 2017 – Version 2

Document Control

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V.2	01/02/2016	New document 01/08/2016	Lindsay Golsby-Smith	Alan Shea
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MI's Environment Improvement Program commenced April 2018. Part of this program is to identify controls to reduce chemical detections in drainage water. This Chemical Contingency Plan will be amended to reflect the outcomes of this program.

Murrumbidgee Irrigation Limited, Research Station Road, Hanwood, NSW 2680
Locked Bag 6010, Griffith NSW 2680
T (02) 6962 0200 | F (02) 6962 0209 | www.mirrigation.com.au

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1 Introduction

This Chemical Contingency Plan has been prepared in accordance with Murrumbidgee Irrigation's (MI) Environmental Protection Licence 4651 (EPL). This EPL requires MI to monitor and report on the volume and quality of water discharged outside MI's area of operation. The discharge points listed in EPL 4651 are in Table 1.

Table 1 Discharge monitoring points

EPA Identification no.	Site Name (ID)	Type of Monitoring Point	Description
4	LAG (41010940)	Discharge to waters Environmental monitoring Volume monitoring	Gooragool Lagoon Escape; Murrumbidgee floodplain
5	GMSRR (41010921)	Discharge to waters Environmental monitoring Volume monitoring	Gogeldrie Main Southern Escape; Murrumbidgee floodplain
6	YMS (410083)	Discharge to waters Environmental monitoring Volume monitoring	Yanco Main Southern Escape; Murrumbidgee floodplain
7	ROUDG (41010005)	Discharge to waters Environmental monitoring Volume monitoring	Cudgel Creek Escape; Murrumbidgee floodplain
15	MIRFLD (41010163)	Discharge to waters Environmental monitoring Volume monitoring	Mirrool Creek Floodway @ Wyvern Station monitoring site; lower Mirrool Creek

2 Scheduled Chemicals

Section E3 of EPL 4651 specifies chemicals to be monitored at each discharge point as soon as reasonably practicable during discharge. The concentration of each chemical listed in Table 2 must be monitored by collecting a representative sample during discharge, where reasonably practicable, and obtaining results by analysis from a NATA accredited laboratory provider.

Table 2 Schedule 1 – Chemicals to be monitored and the environmental guideline, notification level and action level for each chemical

Chemical	Environmental Guidelines (µg/L)	Notification Level (µg/L)	Action Level (µg/L)
Atrazine	2	13	45
Chlorpyrifos	0.001	0.01	0.11
Diazinon	0.0006	0.01	0.2
Diuron	8	1	5
Malathion	0.07	0.05	0.2
Metolachlor	8	0.02	0.1
Molinate	2.5	3.4	14
Simanzine	10	3.2	11
Thiobencarb	1	2.8	4.6
Trifluralin	0.1	2.6	4.4

3 Notification

If the concentration of a scheduled chemical exceeds the Notification or Action levels in samples collected from sites listed in Table 1, the EPA is notified via email to riverina.farwest@epa.nsw.gov.au within 24 hours of receiving results.

This monitoring data is also required to be published on our website (<http://www.mirrigation.com.au/Environment/Water-Quality>) within 14 days of receiving results in accordance with Section 66(6) of the Protection of Environment Operations Act.

4 Remedial Action

In Section E2 of MI's Environmental Protection Licence 4651, in the event that a customer fails to comply with any condition of the supply of water that has caused, is causing or is likely to cause harm to the environment, whether on or off the premises, MI must take appropriate action within seven days to prevent the continuation of the non-compliance. This may include one or more of the following:

1. Contact the customer and request such works to be conducted to prevent the continuance of the non-compliance by the customer
2. Notifying the customer in writing that MI no longer consents to the discharge of any substances into works owned by MI
3. Refusal to or discontinuation of the supply water to relevant customer

Chemical use awareness information is included in MI's customer newsletter throughout the irrigation season to remind all customers of their requirements under the drainage rules, including 28 day holding time for rice water and best management practices for chemical use.

5 Control measures

Works have been installed that allow drainage flows to be captured and reduce the volume of water discharged from MI's Area of Operation. Work completed at each site include:

- GMSRR – pumps upstream of this site pumps water for reuse which has reduced the volume of water discharged from this site
- YMS – water is diverted away from this site to allow for reuse downstream which has reduced the volume of water discharge from this site. Discharge only after huge amount of rainfall and system can't handle
- LAG – modernisation works in the area have reduced escape flows and reduced the volumes discharged from this site
- ROCUDG – modernisation works in the area have reduced escape flows and reduced the volumes discharged from this site;
- MIRFLD - this site is generally operated for flood mitigation

In the event that the EPA directs MI to further restrict the discharge at EPL discharge points in the short term, MI may have the ability to:

- Install an earth bund upstream of the discharge point to hold or divert water
- Contact all customers and request that they hold all farm drainage onsite where possible

Notification Level Exceedance

Response Procedure

Action taken by MI

Step 1

- Notify EPA via email Southwest.region@epa.nsw.gov.au within 24 hours of receiving results.
- Upload results to MI website within 14 days of receiving results <http://www.mirrigation.com.au/Environment/Water-Quality/Water-Quality-Test-Results>

Step 2

Review previous chemical notifications at the monitoring point to determine if further investigation is required. This may include:

- Desktop analysis considering land uses, chemical use and drainage flows
- Drainage inlet inspection and/or;
- Sample collection at drainage inlet locations

Investigation may be limited by duration of drainage flow events and/or environmental conditions.

If chemical detection trends are evident, the following may be done:

- include information on chemical use awareness in customer newsletter
- notify (letter/SMS) customers in catchment area of chemical detections and request action be taken to limit the release of chemicals into MI works

Action Level Exceedance	
Response Procedure	Action taken by MI
Step 1	
<ul style="list-style-type: none"> - Notify EPA via email Riverina.farwest@epa.nsw.gov.au within 24h hours of receiving results. - Upload results to MI website within 14 days of receiving results http://www.mirrigration.com.au/Environment/Water-Quality/Water-Quality-Test-Results 	
Step 2	
<p>Inspect drainage catchment to determine source, which can include:</p> <ul style="list-style-type: none"> - Desktop analysis considering land uses and drainage flows - Drainage catchment inspection and/or; - Sample collection at drainage inlet locations <p><i>Investigation may be limited by duration of drainage flow events and/or environmental conditions.</i></p>	<p>If point source identified:</p> <ol style="list-style-type: none"> 1. the landholder is contacted directly and requested that appropriate measures be put in place to prevent further chemical detections (eg. ensure holding time requirements are met). <p>If point source cannot be identified:</p> <ol style="list-style-type: none"> 1. SMS message sent to all customers on drainage channel
Step 3	
<p>If consecutive Action Level detections of the same chemical are identified at any one site, further investigation is required to identify causative factors, which may include:</p> <ul style="list-style-type: none"> - Monitoring program for individual drainage inlet (can be charged back to customer) - Audit of on-farm recycling systems 	<p>If further investigation identifies a customer is responsible for continued Action Level detections:</p> <ol style="list-style-type: none"> 1. A NON-COMPLIANCE letter is sent to the customer requesting remedial action be completed to prevent further Action level detections at this site. <p><i>This letter will outline the appropriate action that will be taken in response to continued Action Level detections, which may include:</i></p> <ul style="list-style-type: none"> - Requirement for customer to conduct works or implement other control measures - Denied access to drainage works; - Discontinuation of the supply of water

