

Murray Irrigation Limited

A.C.N. 067 197 933

Chemical Control Plan

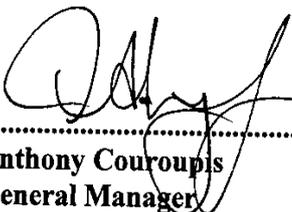
**February
2009**

MURRAY IRRIGATION LIMITED

CHEMICAL CONTROL PLAN 2009

DECLARATION:

This Chemical Control Plan covers the area of operation of Murray Irrigation Limited. This Plan has been prepared in accordance with the requirements of Murray Irrigation Limited Environment Protection Licence (Licence Number 005014).



.....13/2/9.....
Anthony Couroupis
General Manager

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[APPENDIX 1 – WEEDS PERSONNEL MANUAL](#)

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1. INTRODUCTION

This Chemical Control Plan has been prepared in accordance with Murray Irrigation Limited's Environment Protection License (License No 005014).

Murray Irrigation Limited has a responsibility to undertake weed control programs within the supply and drainage infrastructure within its area of operations. The weed control programs are necessary to maintain the operational efficiency of the infrastructure and to minimise the spread of weed species from the area via the supply and drainage system into neighbouring natural waterways.

Weed control programs are developed and undertaken in accordance with the Pesticides Act (1999). The Executive Manager Water Management is responsible for Licence compliance and liaison with the EPA. The specific control programs, both mechanical and chemical, are implemented at a district level.

Chemical weed control is undertaken by trained staff. A Weeds Personnel Manual (Appendix 1) has been prepared to provide each spray operator with background information on the operations and management of spray equipment and control of emergent, submergent and noxious weeds.

2. CHEMICAL APPLICATIONS BY MURRAY IRRIGATION LIMITED

The only chemicals currently used by Murray Irrigation Limited are herbicides (including acrolein) for the purpose of weed control in supply channels and drains. Weed species include both submerged weeds and weeds growing along the batters and on banks of the channels. The chemicals used and the target species are summarized in the table below:

TABLE 1: Chemicals Applied For Weed Control Purposes By Murray Irrigation Limited.

Target Species	Situation	Chemical	Time of Year	Rate	Method of Application
- Cumbungi - Rushes - Water Couch - Celery Buttercup - Water Couch - Johnson Grass - Nutgrass/Umbrella Sedge - Phragmites - Rushes - Plantains - Paspalum	Supply/Drain	Glyphosate (various formulations)	All year	1.3L/100L 9L/Ha	Hand Gun Boom Spray
- Cattail - Common Watermilfoil	Drain	Glyphosate (various formulations)	All year	1.3L/100L 9 L/Ha	Hand Gun Boom Spray
- Perennial Grasses - Annual Grasses - Paspalum - Kikuyu	Banks of Supply	Glyphosate (various formulations)	All year	1.3L/100L 9L/Ha	Hand Gun Boom Spray
- Sagittaria graminea	Supply/Drain	Glyphosate (various formulations)	All year	2L/100L 400g/L 9L/Ha	Hand Gun Boom Spray
- Sagittaria graminea	Empty Supply/Drain	Arsenal "Express"	May to June	0.4L/100L 5L/Ha	Hand Gun Boom Spray
- Horehound - Prarie Ground Cherry	Banks of Supply/Drain (owned by MIL)	Glyphosate (various formulations)	All year	1.3L/100L	Hand Gun
- Bathurst Burr	Banks of Supply/Drain (owned by MIL)	Glyphosate (various formulations)	Aug-Oct	2L/100L	Hand Gun
- Elodea - Ribbonweed - Floating Pondweed	Supply	Acrolein	Nov-Mar	15ppm	Injection
- Slender Knotweed - Umbrella Sedge - Water Primrose - Dirty Dora	Drain	Glyphosate (various formulations)	All year	1.3L/100L	Hand Gun Boom Spray
- Annual Grasses - Caltrop - Horehound - Galvanised Burr - Pattersons Curse - Scotch Thistle - Variegated Thistle - Bindweed	Access Tracks	Glyphosate (various formulations)	All Year	1.5L/100L	Boom Spray
- Annual Grasses	Structures	Glyphosate (various formulations)	All year	1.3L/100L	Hand Gun
- Saplings	Supply/Drain	Glyphosate (various formulations)	All year	1.3L./100L	Hand Gun

3. TRAINING

Murray Irrigation Limited is committed to maintaining employees who are physically fit, responsible and trained.

Murray Irrigation Limited Works spray operators are required to complete the following training:

- Farm Chemical Users course
- Acrolein Accreditation annually conducted jointly by the Environment Protection Authority and Baker Petrolite.
- Three months on the job training provided by experienced spray operators.

Chemical residue testing is completed on Works weeds operators annually.

4. LANDHOLDER NOTIFICATION PROCEDURES

Pesticide users must follow any notification requirement set out by the Australian Pesticide and Veterinary Medicines Authority (APVMA) and included on specific pesticide product labels or permits. The APVMA has imposed notification requirements on only a limited range of pesticides. The EPA can also impose mandatory notification requirements on pesticide users through provisions of the *Pesticides Act 1999*. Murray Irrigation will comply with all the information provided in the label or permit for the pesticides listed in this plan.

Murray Irrigation will provide a copy of the Chemical Control Plan in the customer section of the website and will inform customer-members via Talking Water when amendments to the Plan are implemented. Customer-members will be informed of areas scheduled for large scale weed spraying via Talking Water.

Chemical free status:

If a customer-member wishes to be identified as chemical free, the customer-member is required to send a letter to Murray Irrigation requesting the landholding be identified as chemical free in the Murray Irrigation Database. The letter needs to outline legitimate reasons for the request and provide evidence of the chemical free nature of the agricultural operations on the landholding.

Acrolein Treatment (mandatory notification)

Murray Irrigation Limited follows a strict procedure for the notification of customer-members and the public when applying Acrolein to district supply channels.

This procedure involves making personal contact by phone or in person with the authorised contact for the landholding prior to the chemical application and displaying notices on priority channel structures during the Acrolein program. The notification procedure is detailed in Appendix 2 (Acrolein Instruction Manual).

5. POLLUTION COMPLIANTS

Any complaints received by Murray Irrigation staff from our customer-members or the general public in relation to pollution arising from any activities which relate to the Environment Protection Licence are to be recorded in the Quality Management System for appropriate action by the relevant staff.

Murray Irrigation will inform the public of the telephone number to be used to receive any complaints from the members of the public in relation to activities which relate to the Environment Protection Licence. This number will have an answering service operational for out of office hours. The number will either be advertised once a year in the local papers or be the subject of a media release.

6. DISPOSAL OF CONTAINERS

Murray Irrigation Limited policy is that herbicide containers are not to be re-used for any other purpose.

They are rendered unusable and prepared for disposal, each chemical container is triple rinsed and rinseate is placed in the spray tank.

The containers are then punctured from the inside and disposed of through the Drum Muster program.

7. WASHING OF VEHICLES AND EQUIPMENT

The spray operators rinse the spray tanks and empty the rinseate onto designated areas. Vehicles are washed at least once a week at the various Murray Irrigation Limited depot wash bays.

All vehicles are washed down at the depot wash bays prior to any repairs being undertaken.

8. STORAGE OF CHEMICALS

Storage Facilities

Murray Irrigation Limited store herbicides at three locations within the region. The storage facilities are located at the Finley, Deniliquin and Wakool Murray Irrigation Limited depots. They are not accessible to the public or unauthorized staff.

Murray Irrigation Limited requirements for its storage facilities are:

- 1 A secure, well ventilated, well lit, fireproof building.
- 2 Sufficient storage space for the centre's yearly requirements of herbicides equipment and spare parts.
- 3 The storage areas have highly visible warning signs on walls, doors and/or windows to indicate to anyone attempting to enter the facility, that herbicides are stored there. Each facility displays the appropriate HAZCHEM warning signs.
- 4 Supplies of soap and clean water are available in, or close to, the storage area for washing purposes.
- 5 A fire extinguisher approved for chemical fires, first aid equipment, and safety data sheet on all herbicides stored. Emergency telephone numbers are readily available within the storage facility.
- 6 A shovel, container, sand and hydrated lime are located within or adjacent to the store to contain any spillage.
- 7 An up-to-date storage manifest is maintained and readily accessible in the event of an emergency.
- 8 Sufficient access to allow easy loading and unloading of vehicles.

9. CHEMICAL SPILLAGE PROCEDURES

From time to time accidents occur, both minor and major which could pollute the water distribution system, natural waterways or the local environment. The following procedure has been developed to cope with such emergencies.

Major Chemical Spillage

On the immediate discovery of a major chemical spill or report of an incident, the Police and Fire Brigade should be immediately contacted, either directly or through the local Murray Irrigation Limited office. The Water Distribution Supervisor and Works Supervisor are also to be contacted based on priority of contact. Once the Fire Brigade arrive at the incident, Murray Irrigation Limited will assist in any way directed.

Action to be taken by Murray Irrigation Limited staff

The following information should be recorded about the incident and provided to both Police/Fire Brigade, EPA, Workcover, Fisheries and the Water Distribution Supervisor and Works Supervisor if available.

- a. Exact location of incident.
- b. Time of incident commencement (reported)
- c. Material or substance involved.
 - a. gas, liquid or solid
 - b. vehicle markings
 - c. available documentation
 - d. positive identification
 - e. containment procedure available
 - f. water solubility
- d. Vehicle capacity and volume of material involved.
- e. Quantity leached or released.
- f. Flow in channel
- g. Location of nearest water body or water course.
- h. Location of nearest water offtake points (both surface and groundwater).

All officers present at the incident scene should remain in close proximity to the site, **WITHOUT DIRECTLY AFFECTING THEIR HEALTH**, to ensure details can be provided to the Fire Brigade and any contamination they may have sustained can be quickly assessed. However, in the case of major injuries, discussions with the Fire Brigade and the Ambulance should be made promptly, if movement or evacuation is required. In dealing with any spill, **NO ACTION SHOULD BE TAKEN TO PLACE INDIVIDUALS AT RISK WITHOUT PROPER ADVICE AND EQUIPMENT.**

a) Supervisor Role

The role of the Water Distribution Supervisor and Works Supervisor is to co-ordinate all the Company's activities and information gathering. These roles are the focus for communications with the emergency services.

These roles include coordinating information from the relevant officers or sources on water movement, water distribution, water offtake points and potential environmental sensitive areas, as well as ensuring actions sought by the controlling authority at the incident are carried out. This may include the notification by radio, telephone or personal contact of downstream users. Any consideration of public announcements shall be as directed by the emergency services.

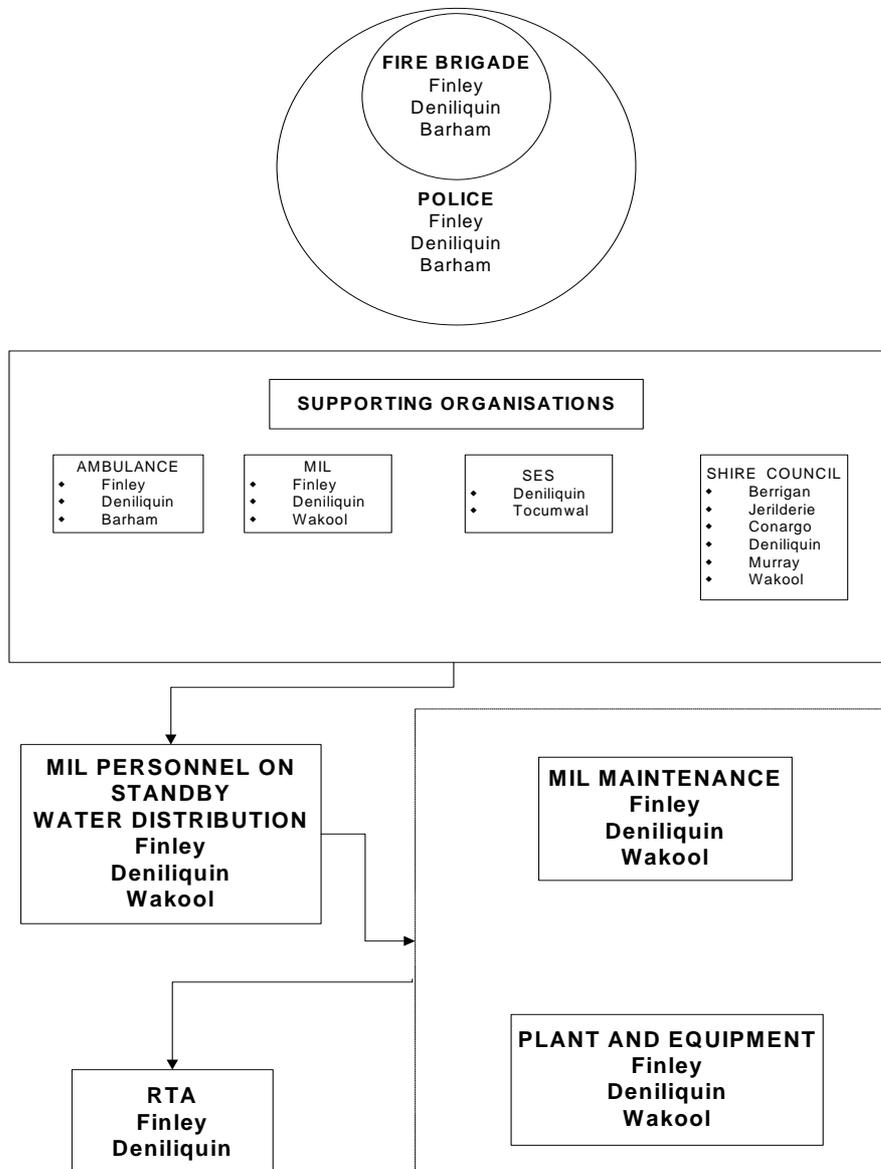
b) Murray Irrigation Limited’s Continuing Role

Once the emergency services take control of the situation the local DIS plans will come into action and assistance from Murray Irrigation Limited will be given as directed. Emergency procedures are to remain in place until directed by emergency services that the situation is safe.

c) Public Announcements

All public announcements by Murray Irrigation Limited are to be made by the General Manager or his nominated representative.

d) Emergency Procedures - Chemical Spillage Combating Authority



First Aid In Cases Of Pesticide/Herbicide Poisoning

If anyone who has been working with or has been exposed to pesticides shows signs of illness (generally drowsiness, dizziness, nausea with or without vomiting, flushing, chills, or convulsions), immediately remove them from any further contamination into the fresh air and give first aid as below.

A doctor should be called, or the patient should be taken to a doctor or hospital for treatment and observation as soon as possible.

It is essential that a label from the pesticide/herbicide is also taken or at least a note of the active ingredient and any antidotes mentioned on the label.

General First Aid

Specific first aid instructions are located on all labels and supplementary notices are contained within the MSDS. All employees are required to act in compliance with the label (and MSDS sheets).

General comments on first aid for first aid trained personal are as thus:

Having removed the patient to clean fresh air, remove any protective or contaminated clothing (taking care not to contaminate yourself in the process) and wash all contaminated skin thoroughly with soap and as much water as possible.

If the eyes are affected, they should be washed with plenty of clean running water for several minutes, holding them open with the fingers if necessary, and then lightly padded and bandaged.

If **NON-CAUSTIC** pesticide have been swallowed, the patient should be made to vomit if conscious (do not induce vomiting if unconscious) with Syrup of Ipecac if available or by tickling the back of the throat with a clean spoon or finger. If **CAUSTIC** pesticides are swallowed **DO NOT** induce vomiting.

Ensure that breathing continues and that the air passages are not blocked by vomit or other material.

If breathing weakens or stops, clear the air passages and start artificial respiration at once, maintaining it until the hospital or doctor is reached.

The more toxic pesticides give further first aid instructions on the label.

Radio Procedure

1. **Call - Emergency - Emergency, All radios clear!
Emergency - Emergency, All radios clear!**
2. **Mobile D.... to Water Distribution
Mobile D.... to Water Distribution**
3. **Water Distribution to Mobile D.... proceed**
4. **Mobile D.... to Water Distribution -**

My exact location is

Reporting an accident involving

Example

1. Number and description of vehicles
Number and extent of injuries
2. If toxic or hazardous material involved, using extreme CAUTION try to identify material and ascertain situation eg. containers intact, ruptured and leaking, gas escaping etc
5. **Water Distribution to Mobile D....**

Your location is
And I verify report of

Police and Ambulance and/or Fire Brigade **will be alerted**.
Hospital, Doctors and other Emergency services on request only.

6. **Water Distribution to Mobile D....**

Police and Ambulance and/or Fire Brigade **have been alerted**.
7. **Water Distribution to all other Mobiles**

Any mobile in the vicinity able to assist please call and estimate approximate time or travel to emergency.
8. **Water Distribution to Works Supervisor** to verify receipt of information and enable movement to be arranged of necessary equipment, if required.
9. **Water Distribution to mobiles.** Emergency procedures finished. Repeat finished!

NOTE: IN ALL PROCEDURES DEALING WITH THE SPILLAGE OF NOXIOUS CHEMICALS INTO CHANNELS, WATERCOURSES OR WATER BODIES, THE OVERRIDING CONSIDERATION SHOULD BE TO ASSUME THE WORST SET OF POSSIBLE CONDITIONS APPLY, UNTIL NOTIFIED OTHERWISE.

Minor Chemical Spillage

In the event of a minor chemical spillage the following procedures are followed by Murray Irrigation Limited staff. This procedure is consistent with the National Farm Chemical Users Training Program Manual.

a) Liquid Spills

Specific instructions regarding liquid spills are located on all labels and supplementary notices are contained within the MSDS. All employees are required to act in compliance with the label (and MSDS sheets).

General comments on dealing with liquid spills are as thus:

In the event of spillage of a liquid chemical:

- a. Keep bystanders away from the accident.
- b. Wear rubber boots, gloves, goggles and respirator.
- c. Do not smoke, drink or eat during clean up operations.
- d. Wherever possible, work from the windward side of the spill.
- e. Move leaking containers to a position where further leakage is minimized, ie; a drum with a leaking side seam should be rolled into a position where the seam faces upwards.
- f. Using sand or soil, form a small bund around the spill area to prevent further spread of pesticides.
- g. Decant leaking containers into a drum to be held pending instructions from the manufacturer for further disposal.
- h. Using a stirrup pump, dose the entire spill area with a 50/50 mixture of laundry bleach and water.
- i. Spread hydrated lime over the entire spill area and allow to remain in contact for at least an hour.
- j. Absorb all excess liquid in soil or sand, shoveling the soil/mixture into open-head drums. Sweep the entire area, adding the sweepings to the drum.
- k. Dose the spill area again with bleach solution, allow to stand for about thirty (30) minutes, then hose down the area with water as a final cleanup, ensuring water does not enter a waterway.
- l. Take the sand/lime sweepings and damaged containers to an approved waste disposal depot.

- m. Upon completion of the mopping-up operation:
 - i. Remove and wash all protective clothing and equipment.
 - ii. Change contaminated clothing immediately.
 - iii. Wash clothing as soon as possible (clothing not to be taken home prior to washing).
 - iv. Wash with plenty of soap and water.

b) Powder Spills

Specific instructions regarding powder spills are located on all labels and supplementary notices are contained within the MSDS. All employees are required to act in compliance with the label (and MSDS sheets).

General comments on dealing with powder spills are as thus:

- a. Keep bystanders away from the accident.
- b. Do not smoke, drink or eat during clean up operations.
- c. Wearing protective equipment including rubber boots, gloves, goggles and respirator, sweep up all dust and shovel into open-head drums.
- d. Add broken packages to the drum and seal for removal to the disposal site where the sweepings can be buried with a liberal quantity of lime.
- e. Using a stirrup pump, dose the entire spill area with a 50/50 mixture of laundry bleach and water.
- f. Spread hydrated lime over the entire spill area and allow to remain in contact for at least an hour.
- g. Absorb all excess liquid in soil or sand, shoveling the soil/lime mixture into open-head drums. Sweep the entire area, adding the sweepings to the drum.
- h. Dose the spill area again with bleach solution, allow to stand for about thirty (30) minutes, and then hose down the area with water as a final cleanup.
- i. Remove and wash all protective clothing and equipment. Change contaminated clothing immediately. Launder as soon as possible. Shower, using liberal quantities of soap and water on completion of the mopping-up operation.

10. ALTERNATIVE METHODS OF WEED CONTROL

Murray Irrigation Limited operates over 3,000km of supply channels and over 1,000km of district drains. An integrated weed control program is undertaken involving strategic desilting, water management and chemical application.

i) Desilting

Desilting is practiced throughout the year where silt buildup and/or weed infestations restrict water flow. It is not possible or desirable, to desilt all channels every year. Desilting risks reducing the natural sealing of the channel bed and hence increasing the potential for groundwater accessions.

Desilting also has the effect of stimulating the germination of some weed species including *Sagittaria* sp., causing an increase in population and increased risk of infestations on farm or in adjoining natural waterways.

ii) Water Management

Draining supply channels in May and not refilling them until August is done to assist with weed control as well as allow for maintenance work. A number of the submerged weeds are sensitive to frosts.

To minimise weed growth drainage channels are designed to minimise the wetted area of the drain, particularly at low flows.

iii) Chemical Application

While desilting and water management assist in controlling weed growth, they are not totally effective. Chemical weed control is strategically applied to the district infrastructure to supplement these methods of weed control.

iv) Research Investigations

MIL continue to actively contribute collaboratively to best practice Research and Development.

v) Biological Control

At present there are no effective biological methods to control the target species.

vi) Farm level works and measures

The minimisation of drainage water entering the district drainage is being strongly encouraged through the implementation of the Murray Land and Water Management Plans. The construction of on-farm reuse and storage systems together with improvements in irrigation efficiency will lead to reduced quantities of both the volume of drainage water leaving the farm during the irrigation season and the level of nutrients within the drainage water.

The combination of lower drainage flows throughout the summer and low nutrient levels will restrict weed growth and therefore reduce the dependence on chemical weed control.