Wastewater

Code of Practice

Code of practice for wastewater overflow management

Updated April 2017[1]

[1] Updated according to *Environment Protection (Water Quality) Policy 2015.*

Environment Protection Authority

EPA South Australia

Code of practice for wastewater overflow management

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Disclaimer

This publication is a guide only and does not necessarily provide adequate information in relation to every situation. This publication seeks to explain your possible obligations in a helpful and accessible way. In doing so, however, some detail may not be captured. It is important, therefore, that you seek information from the EPA itself regarding your possible obligations and, where appropriate, that you seek your own legal advice.

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Summary

This code of practice applies in South Australia for all wastewater systems that collect, treat and dispose of wastewater from multiple domestic, commercial and industrial sources, and for all schemes where reuse of such wastewater occurs.

The code provides guidance and in some cases instruction to assist wastewater system operators prevent the occurrence of overflows whenever possible, and to minimise the frequency and volume of such overflows. Wastewater system operators are obliged to comply with this code.

If there is the potential for environmental harm from a wastewater overflow, the wastewater system operator is also obliged under section 83 of the *Environment Protection Act 1993* to notify the Environment Protection Authority.

1 Introduction

Operators of wastewater infrastructure have obligations and responsibilities under the *Environment Protection Act 1993* (EP Act), the Policies made under it and the *Environment Protection (Water Quality) Policy 2015* (WQ Policy) in particular.

These include general obligations to not operate in a way that causes pollution, specific obligations to not cause environmental harm and obligations to comply with the mandatory requirements of the relevant Environment Protection Policies (EPPs).

The purpose of the *Code of practice for wastewater overflow management* is to provide advice on how operators of wastewater infrastructure can comply with their environmental obligations. The code applies in South Australia for all wastewater systems that collect, treat and dispose of wastewater from multiple domestic, commercial and industrial sources and to all schemes where reuse of such wastewater occurs.

It provides guidance, and in some cases instruction, to assist wastewater system operators to prevent the occurrence of overflows whenever possible, and to minimise the frequency and volume of such overflows.

A note on terminology: the code contains a range of contexts in which it seeks compliance.

- **For some issues it does not seek to direct compliance in a particular way and recognises that persons will exercise options within the overall framework of the code. In these cases the term 'may' is used.**
- **In some cases, the code indicates that a particular course of action is desirable if compliance is to be maintained. In these cases 'should' is used.**
- **Finally, there are cases, where a failure to comply with the code will, in the EPA's view, expose the environment to a risk of harm or may lead to a breach of the EP Act or an EPP. Under these circumstances, the word 'must' is used. In these cases, the EPA may consider that the circumstances of the failure to comply are sufficient to warrant the issuing of an environmental protection order (EPO) in order to give effect to the WQ Policy and the code.**

2 Background

The waters of South Australia are an extremely important part of our environment. They contribute to both society and the environment by:

- providing raw[2] drinking water
- supporting the aquatic ecosystem and riparian flora and fauna
- supplying water for aquaculture, agriculture and industry
- contributing to public amenity
- supporting a wide range of recreational pursuits.

The activities supported by our waters include swimming, waterskiing, fishing, sailing and boating. Wastewater overflows are a potential source of pollutants that can jeopardise these uses.

The WQ Policy has been developed with the aim of improving and protecting the quality of water in our streams, rivers and lakes, wetlands, estuaries and seas, and groundwaters. The policy defines the levels of protection considered necessary for the waters of the state.

While wastewater collection and distribution systems provide health and environmental benefits to South Australian communities, overflows can occasionally occur despite the best efforts of the operator, for example by unforeseen blockages in the system. This code, which has been incorporated into the WQ Policy and is therefore part of it, aims to reduce the likelihood of overflows that might present a threat to SA water quality.

The code was developed by the EPA in partnership with SA Water, United Water, the Department for Health (DH) and local government to assist operators of wastewater systems to comply with the WQ Policy.

The code of practice deals with:

- planning to prevent or reduce the occurrence of wastewater overflows
- actions to mitigate the impacts of overflows of wastewater in its various forms, including but not necessarily limited to untreated wastewater, CWMS wastewater, treated effluent and reclaimed water.

[2] Suitable for potable consumption following treatment.

3 Application

This code of practice applies to all operators of wastewater collection, treatment and disposal systems. It has two significant sections:

1 The principles of wastewater system management.

2 The requirements for wastewater overflow abatement planning.

Failure to comply with the code may lead to an EPO being issued against an operator in order to give effect to the WQ Policy. Should an operator fail to comply with an order they risk being prosecuted. Furthermore, failure to comply with the code may lead to circumstances where the operator is in breach of the general environmental duty of care as described in section 25 of the EP Act. In addition, the operator would be prosecuted should the failure to comply leads on to environmental harm or nuisance.

4 Principles of wastewater system management

Overflow events and their impacts can be minimised by following established principles of wastewater system management. These principles encompass organisational management, system planning, new connections, system operations, maintenance, monitoring, and emergency response and notification protocols.

Organisational management

Operators should have clearly defined systems in place relating to:

- wastewater system planning
- acceptance of new connections to the system
- delivery of appropriate training for operations and maintenance personnel
- preparation and implementation of a wastewater overflow abatement plan
- system maintenance, which may include separate responsibilities for inspection and maintenance
- maintenance of records relating to overflows
- notification protocols to follow in the event of serious overflows including notification of relevant authorities, sensitive downstream users and the public as appropriate
- accessibility of wastewater system plans (ie physical plans of the system).

Wastewater system planning

Appropriate wastewater system planning is an important component of effective overflow minimisation. Planning should involve designing the system to convey projected wastewater flows, and assessing the impact on system capacity of redevelopments in existing areas and extensions to serve new areas.

New wastewater connections

In order to minimise future overflows, the operator should have in place clear requirements for the design, construction, inspection and testing of new systems to complement suitable system planning for new developments.

The operator should not accept new connections that are substandard or overload the wastewater system. Minimising overflows from new systems should be based on best practice for the situation under consideration and should have regard to *Guidelines for Wastewater Systems—Wastewater System Overflows*, Chapter 8*,* National Water Quality Management Strategy (November 2004).

Wastewater system operations

It may be possible to operate in a manner that utilises the storage available within the system to minimise the extent of overflows. This approach relies on using all available capacity of the pumping station wet wells and connecting wastewater systems. It can be done through manual intervention in the operation of the system or by using a supervisory control and data acquisition (SCADA) system where available. The ability of the operator to manage the system to maximise wet weather storage is generally limited and may often only be a short-term option.

A range of system input (or demand-side) management techniques can be used to minimise overflows and their impacts. These pollution prevention techniques include:

- controlling wastewater inputs, in particular, major trade waste discharges to the wastewater system
- customer education
- wet weather flow reduction.

- addition of wastewater storage capacity, eg storage tanks.
- dry weather flow reduction, eg through improved work practices.

Wastewater system maintenance

Asset management, which includes development of an asset register addressing the whole life operation of the infrastructure, is a key principle of system management. Maintenance of wastewater systems to minimise overflows is an important component of asset management and may be relatively expensive.

Maintenance activities can be placed in three categories:

1 Preventive maintenance. These are scheduled activities, including routine inspections, which are performed before failure of the asset. This extends the equipment life, reduces overall maintenance costs and increases system reliability.
Where appropriate preventive maintenance can be scheduled using a risk-based approach, considering factors such as the consequences of an overflow, the age of the asset, wastewater system diameter, the likelihood of the overflow, sensitivity of the receiving environment, and the adequacy of the maintenance program.
Problems identified during routine inspections must be recorded and assessed for necessary maintenance or repair actions.

2 Corrective (or reactive) maintenance. This relates to the use of an asset until it fails and requires repair or replacement.

3 Emergency maintenance. This is a form of corrective maintenance that is applied to a critical asset that has failed, and may result in a risk to human health or the environment.

Maintenance planning must be undertaken for all systems; an operational review of the system can be undertaken before a plan is prepared. Where undertaken, this review should involve assessing existing facilities, operating conditions and maintenance practices.

A schedule for routine inspections of the wastewater system must be prepared, with priorities clearly stated.

A system for recording and documenting the maintenance history must be included in any plan developed for operation and maintenance. These records, based on inspection reports, should include information on when elements of the system were inspected and what, if any, maintenance was performed.

Operators must be aware of, and monitor, the significant issues in their systems. In larger systems, this information should be included in the GIS for the system. A ‘significant issue’ is one where a failure to maintain may lead to an overflow.

Policies, procedures or protocols for system operation and maintenance are essential for good management. These should be reviewed periodically and used for personnel training and monitoring activities as necessary.

Monitoring of overflows

Consideration should be given to the use of telemetry or SCADA systems to provide alarms back to the operator.

Emergency response plan

While the goal of effective wastewater system management is to convey, treat, reuse or dispose of wastewater, overflows occasionally occur.

Operators must have procedures in place to minimise the impacts of a wastewater overflow. They must provide 24-hour emergency response to minimise or eliminate overflows, and the emergency response teams must when responding to a wastewater overflow, have regard to the established emergency response plan.

An emergency response plan must be developed and implemented for all wastewater systems. The plan should have regard to the availability of infrastructure details, operation and maintenance plans, appropriately trained and equipped personnel, and reporting and notification procedures for management, regulators and stakeholders.

Emergency response teams should to have access to all wastewater facilities, and to appropriate equipment and information to manage wastewater overflows. These include:

- emergency notification phone numbers/contact details
- access to physical plans of the system so that, for example, the volume of wastewater stored in a rising main and the estimated time taken for that main to empty by gravity via a breach in the main can be determined.
- appropriate screening equipment to remove floatable and coarse solids
- backup wastewater pumps
- excavation equipment to construct temporary dams
- tanker trucks that can pump or vacuum wastewater and sludge
- public warning signs and emergency tape to mark affected areas
- sampling equipment
- occupational health and safety equipment to protect employees.

The cause of the overflow must be addressed as soon as practicable. Addressing the cause may be a two-stage process, involving temporarily stopping the overflow and then undertaking permanent repairs.

Reasonable and practicable containment of the overflow must be undertaken to prevent the continued risk of pollution to the environment. Containment aims to capture the overflow while it is occurring, so that as much of the wastewater as practicable is returned to the wastewater system when operations are restored. The method has the potential to cause problems at the site or upstream and should be used with caution.

Actions to contain the overflows include:

- temporary weirs or bunding
- the use of wastewater pumping or vacuum trucks (to remove pools of wastewater or to pump out overflowing pump wells)
- temporary generators for pumping stations if the power supply has failed, and temporary pumps if the pumps have failed
- bypass pumping
- staggered pump station operation
- in-wastewater system storage (if feasible)
- in-stormwater system storage and recovery.

It may be possible to disinfect ground affected by wastewater or pooled areas. However this should be limited to localised areas and isolated pools produced by the overflows, and must not include disinfecting waterways unless directed to do so by Department of Health (DH) and/or the EPA.

Care should be taken to ensure that disinfection does not cause further environmental harm. Disinfection may be inappropriate in some areas such as parks and riparian zones.

In emergencies, such as a major overflow event greater than one or two days, consideration should be given to restricting inflows to the system.

During containment, and clean-up or remediation, the risk to human health must be managed. This can be done by restricting access with temporary emergency fencing and by erecting warning signs. Any residents or members of the public likely to be directly affected by the overflow should be informed. Warning measures must remain in place until there is no potential human health risk arising from the overflow.

Water sampling may be required and guidance on this should come from the EPA/DH based on their assessment of the environmental and/or health risk.

Harm remediation and clean-up

Any environmental harm caused by an overflow must be cleaned up and may require remediation. Clean-up involves three basic steps, usually taken in the following order:

1 Removing wastewater and solids to the maximum amount practicable.

2 Washing the spill area to dilute any remaining wastewater, especially where there is the potential for high public exposure.

3 Disinfecting hard surfaces in high public exposure areas to reduce the risk to human health, as directed by DH and approved by the EPA.

Cleaning up may require the removal to an acceptable level of all pollutants, including sediments and gross solids that may be left by an overflow. Any structures damaged by erosion or other effects of the overflow should also be repaired.

Unless done so with prior EPA approval, clean up must not involve the potentially harmful activities of hosing down of gross solids and other pollutants into stormwater drains or aquatic environments, the over-use of disinfectants, or the use of environmentally damaging disinfectants.

In undertaking clean-up activities, the following should be major considerations;

- The necessary volumes of mains or other water, the concentration of disinfectant in that water and contact time required to meet the minimum human health protection requirements in consultation with DH.
- The nature of the immediate environment and any applicable environmental values of the receiving waters.
- The time of year and the proportion of stream flow that is likely to be made up of disinfected wash-down water from the clean-up process.
- The potential for the clean-up water to be contained and removed so that discharge to receiving waters is avoided.

Records must be kept of all actions undertaken to manage the response and minimise environmental harm.

At the end of the clean-up all parties involved, including the EPA, should be notified to verify that the incident has been addressed and circumstances can return to normal.

Investigate cause and implement improvements

The cause of an overflow must be investigated. When the cause has been determined, actions must be implemented by operators consistent with the level of risk to prevent a recurrence of the event.

If requested to do so by relevant regulatory authorities the operator must provide a report on significant individual overflows, or an annual report that summarises all overflows.

Emergency response and notification protocol

After an overflow has been detected and the level of risk presented by the overflow estimated, the operator must alert the following appropriate agencies:

- SA Water, United Water and United Utilities must notify the appropriate agencies as described in the *Water/Wastewater Incident Notification and Communication Protocol* (DH 2014).
- Councils and other operators must notify the appropriate agencies as described in the *Wastewater incident notification and communication protocol*, which is a condensed version of the above and can be found on the EPA website[3].

The protocols provide direction on notification to appropriate government agencies and required reporting times for incidents, to ensure that a timely and appropriate response is implemented.

In addition, all operators are obliged under section 83 of the EP Act to report any incident that has the potential to cause environmental harm to the EPA.

The EPA Emergency Response telephone number is 1800 100 833.

[3] www.epa.sa.gov.au/environmental_info/waste/liquid_waste/wastewater_management

5 Wastewater overflow abatement program

To minimise or eliminate wastewater overflows, the operator must implement an overflow abatement (or management) program, which encompasses short- and long-term measures to prevent or reduce the recurrence of overflows.

A wastewater overflow abatement program should consider;

- planning, which includes both short- and long-term improvement measures, eg environment improvement programs
- effective operation and maintenance of the system that includes having procedures covering operational controls, maintenance and monitoring.

If a wastewater system has an Environment Management System (EMS) to *AS/NZS ISO 14001* standard, the Environmental Management Program for the system would be deemed to encapsulate the requirements for short- and long-term plans. A short-term plan is considered to extend for up to two years.

Developing a wastewater overflow abatement plan

Wastewater overflow abatement plans must be developed by operators in relation to all of their wastewater systems. These plans must include the objectives that the plan is intended to meet, related performance criteria, management strategies, required monitoring and reporting procedures and an implementation schedule (or program) providing a timetable for the implementation of the adopted actions.

In developing a wastewater overflow abatement plan, the following components (1 to 5 below) must be considered.

1 Objectives

The first step of the abatement planning process involves defining the objectives that the plan is intended to meet. Where practicable, these should be quantifiable objectives, against which the performance of the plan can be measured.

Objectives should have regard to:

- statutory or regulatory requirements
- relevant government policies
- ensuring that overflows do not compromise environmental water quality and human health values.

2 Analysis of existing performance

This part of the planning process comprises a description of the existing nature and conditions of the wastewater system infrastructure, and an assessment of the current management processes and organisational context against the principles of wastewater system management.

Data collected on wastewater systems will relate to the configuration and condition of the wastewater system, a history of overflow events, operation and maintenance practices and environmental factors relevant to the particular locations. The extent of the information collected will depend on the extent of the system, the characteristics of the wastewater being dealt with and the likelihood and environmental consequences of any potential overflows.

For some systems, this data may not be readily available. In these circumstances, the plan could be prepared based on the available data, supported by scientific and engineering expertise. An action identified in the plan should be to collect important additional data to enable future versions of the plan to be refined. If the data is not adequate to allow the risk to be assessed, additional investigations should be undertaken before proceeding further with the plan.

3 Risk analysis

This step involves identifying the issues or problems that may prevent the management objectives from being met, and assessing their likelihood of occurrence and the consequences. The consequences of an overflow will be affected by a number of aspects including the quality and quantity of wastewater, the time and duration of the overflow and the characteristics of the receiving environment. These aspects should be considered when undertaking the risk assessment.

The level of complexity of investigations to assess the risk of overflows will vary depending on the system size, the consequence and likelihood of the potential hazard and the resources available. The likelihood of overflow would need to be examined with the understanding of the characteristics of the area of study – for example, hydrology of the wastewater system, emergency response, access and resources.

Key information collected to quantify the risk presented by a particular overflow may include:

- exceedence of water quality criteria, possibly caused by wastewater system overflows
- potential impact on urban bushland areas
- potential for discharges into private properties.

Following identification of these issues, the causes can be identified and their relative contribution to the problem assessed. This will enable the development of cost-effective management strategies and assist with allocating priorities for action.

4 Identify and evaluate measures

Both shorter- and longer-term measures should be identified and assessed for environmental, economic and social impacts. Generally the shorter-term actions are non-structural and can be implemented at moderate cost. Short-term measures are likely to relate to:

- operation and maintenance practices
- recording procedures, ie those responsible for management of the wastewater system should record events and causes of overflows, particularly dry weather overflows, for statistical predictive and management purposes
- encouraging continual improvement through the reporting procedures on overflows
- implementation of minor structural works
- reducing overflows to a specified level (eg a limit on the average annual frequency of choke-related overflows)
- reducing overflows (surcharges) into properties
- informing the public of overflows with potential human health impacts
- coordinating and optimising major industrial trade waste discharges.

Longer-term approaches generally focus on the upgrade of systems (including rehabilitating degraded wastewater systems, installing additional wastewater systems, installing surge detention tanks, installing telemetry and alarm systems and upgrading pumping stations). Further investigation, design and environmental impact assessment may be needed before implementation, or refinement of management and maintenance practices over a number of years to further reduce overflows.

The least risk of wastewater system failure is achieved through a combination of infrastructure modification (assessment and capacity increase) and selective source control. The actual flows in the systems may be vastly different from the original design flows. Tools such as flow monitoring, hydraulic modelling and statistical predictive techniques may be used to assess the existing system’s actual or likely performance and to find the best improvement options.

5 Improvement strategies

The wastewater overflow abatement plan must include monitoring and reporting procedures to address the progress of the plan's implementation and to check whether its objectives are being achieved.

Management procedures, including reporting of milestones, can be used to monitor the plan's implementation. Monitoring of the plan's outcomes may include monitoring within the wastewater system (eg flows, overflow frequency) and environmental monitoring (eg water quality or river health).

6 Implementing wastewater overflow abatement plans

It is important for wastewater overflow abatement plans, as illustrated below in Figure 1, to be viewed as 'live' documents which are actively consulted, reviewed and revised. System managers should adopt a model of continual improvement in the progressive refinement of the plan.

Operators should actively monitor the effectiveness of the plan, and report on the findings to the EPA (and also to the community if appropriate). Monitoring and reporting are considered essential to ensure the plan delivers continual improvement.

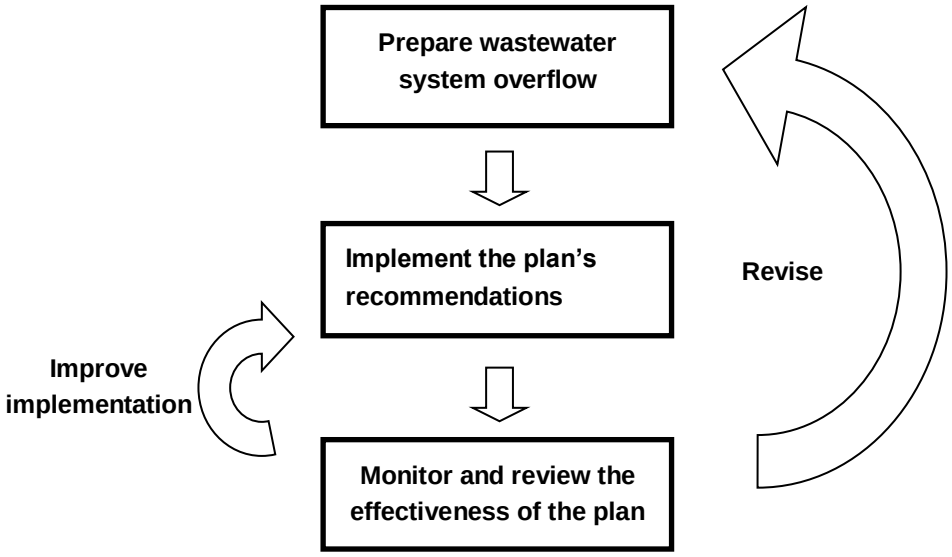

Figure 1 The wastewater overflow abatement planning process

The preparation of the plan is only one part of wastewater overflow management. There should also be a review of the implemented practices leading to ongoing improvements by the operator.

7 Summary of ‘must’ statements in this code of practice

Note that the meaning of these ‘must’ statements may not be fully apparent unless they are read in conjunction with other accompanying text in the relevant section of the code.

Wastewater system maintenance

- Problems identified during routine inspections must be recorded and assessed for necessary maintenance or repair actions (pg 7).
- Maintenance planning must be undertaken for all systems. Significant maintenance issues must be reported to management (pg 7).
- A schedule for routine inspections of the wastewater system must be prepared, with priorities clearly stated (pg 7).
- A system for recording and documenting the maintenance history must be included in any plan developed for operation and maintenance (pg 7).
- Operators must be aware of, and monitor, the significant issues in their systems. In larger systems, this information should be included in the GIS for the system. A ‘significant issue’ is one where a failure to maintain may lead to an overflow (pg 7).

Emergency response

- Operators must have procedures in place to minimise the impacts of a wastewater overflow. Operators must provide 24-hour emergency response to minimise or eliminate overflows. The emergency response teams must, when responding to a wastewater overflow, have regard to the established emergency response plan (pg 8).
- An emergency response plan must be developed and implemented for all wastewater systems (pg 8).
- The cause of the overflow must be addressed as soon as practicable. Addressing the cause may be a two-stage process, involving temporarily stopping the overflow and then undertaking permanent repairs (pg 8).
- It may be possible to disinfect ground affected by wastewater or pooled areas. However, this should be limited to localised areas and isolated pools produced by the overflows, and must not include disinfecting waterways unless directed to do so by DH and/or the EPA (pg 8).
- During containment, and clean-up or remediation, the risk to human health must be managed (pg 9).
- Warning measures must remain in place until there is no potential human health risk arising from the overflow (pg 9).

Harm remediation and clean-up

- Any environmental harm caused by an overflow must be cleaned up and may need remediation (pg9).
- Unless done so with prior EPA approval, clean up must not involve the potentially harmful activities of hosing down of gross solids and other pollutants into stormwater drains or aquatic environments, the over-use of disinfectants, or the use of environmentally damaging disinfectants (pg 9).
- Records must be kept of all actions undertaken to manage the response and minimise environmental harm (pg 9).

Investigate cause and implementing improvements

- The cause of an overflow must be investigated. When the cause has been determined, actions must be implemented by operators consistent with the level of risk to prevent a recurrence of the event (pg 9).
- If requested to do so by relevant regulatory authorities, the operator must provide a report on significant individual overflows, or an annual report that summarises all overflows (pg 9).

Emergency response and notification protocol

- After an overflow has been detected and the level of risk presented by the overflow estimated, the operator must alert the appropriate agencies as per the following:
    - SA Water, United Water and United Utilities must notify the appropriate agencies as described in the Water/Wastewater Incident Notification and Communication Protocol.
    - Councils and other operators must notify the appropriate agencies as described in the *Wastewater incident notification and communication protocol* which is a condensed version of the above and can be found on the EPA website (pg 10)

Wastewater overflow abatement program

- To minimise or eliminate wastewater overflows, the operator must implement an overflow abatement (or management) program, which encompasses an emergency response plan and short- and long-term measures to prevent or reduce the re-occurrence of overflows (pg 11).

Developing a wastewater overflow abatement plan

- Wastewater overflow abatement plans must be developed by operators in relation to all of their wastewater systems. These plans must include the objectives that the plan is intended to meet, related performance criteria, management strategies, required monitoring and reporting procedures and an implementation schedule (or program) providing a timetable for the implementation of the adopted actions (pg 11).
- In developing a wastewater overflow abatement plan, the following components (pg 11) must be considered:
    - objectives
    - analysis of existing performance
    - risk analysis
    - identify and evaluate measures
    - improvement strategies.

Improvement strategies

- The wastewater overflow abatement plan must include monitoring and reporting procedures to address the progress of the plan's implementation and to check whether its objectives are being achieved (pg 13).

8 References

ANZECC/ARMCANZ 2000, *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* Paper No. 4.

AS/NZS ISO 14001, *Environmental management systems—Specification with guidance for use*.

AS/NZS 4360:2004 *Risk management standard*

Department of Health (SA), *Water/Wastewater Incident Notification and Communication Protocol*.

Environment Protection Act 1993 (SA)

Environment Protection (Water Quality) Policy 2015(SA)

National Water Quality Management Strategy, November 2004, *Guidelines for Wastewater Systems—Wastewater System Overflows*, Chapter 8.

9 Definitions

aquatic ecosystems	any watery environment from small to large, from ephemeral to permanent or from pond to ocean, in which plants and animals interact with the chemical and physical features of the environment.
concentration	the quantifiable amount of chemical in water, food or sediment per unit volume or mass, eg milligrams per litre.
community wastewater management system (CWMS)	a system for the collection and management of wastewater generated in a town, regional area or other community, but does not include – (a) SA Water sewerage infrastructure; or (b) after 1 July 2015–a system with a capacity that exceeds 2000 EP
dry weather flow (DWF)	the flow carried by a wastewater system during dry weather. It consists of flows generated by properties connected to a wastewater system, excluding the effects of inflow and infiltration.
effluent	treated wastewater flowing out of a treatment plant or treatment process.
groundwater	see definition of water in the *Environment Protection Act 1993*.
infiltration	the ingress of groundwater to a wastewater system.
inflow	the entry of water into the wastewater system resulting from rainfall.
operator	an organisation responsible for the operation and maintenance, monitoring, or internal regulation or assessment of the performance or management of a wastewater system.
pollution	see the *Environment Protection Act 1993*.
pumping main (or rising main or pressure main)	a pressurised pipeline through which wastewater is pumped, generally rising from the pump station to the point of discharge into the receiving wastewater system or structure.
reclaimed/recycled water	water which has been derived from wastewater systems (including CWMS) and treated to a standard which is satisfactory for its intended use.
remediate	see the *Environment Protection Act 1993*
risk	the chance of something happening that will have an impact upon objectives. It is measured in terms of consequences and likelihood.
suspended solids	after filtering a well-mixed sample through a weighed standard glass-fibre filter and drying the residue on the filter at 103 to 105^{0}C, the increase in the weight of the filter represents the total suspended solids.
trade waste	the liquid waste generated from any industry, business, trade, or manufacturing process. It does not include domestic wastewater.
wastewater	see the *Environment Protection (Water Quality) Policy 2015*.
wastewater overflow	an overflow from a wastewater system.
wastewater pumping station	a facility that may be above ground or underground, with pumps and wells, that provides the hydraulic lift for pressurised wastewater flows in rising mains.

wet weather flow (WWF) the flow carried by a wastewater system during wet weather. It consists of dry weather flow and the flows resulting from inflow/infiltration.