Plan

Sydney Water Network Pollution Incident Response Management Plan (PIRMP)

1.   Purpose

Sydney Water holds Environmental Protection Licences for 24 wastewater systems issued by the NSW Environment Protection Authority (EPA) under the Protection of the Environment Operations Act 1997 No 156 (POEO Act).

It is a requirement of the POEO Act that the holder of an environment protection licence must prepare a pollution incident response management plan (PIRMP) that complies with Part 5.7A of the POEO Act in relation to the activity to which the licence relates.

Appendix 1 lists wastewater treatment system Licences held by Sydney Water.

2.   Operating Context

2.1   Water

Sydney Water supplies over 1.5 billion litres of drinking water to homes and businesses throughout Sydney, the Blue Mountains and the Illawarra every day. Water is treated at one of nine water filtration plants. It is then supplied through a network of pipes, reservoirs and pumping stations:

- 21,951 km of water pipes
- 243 reservoirs
- 151 water pumping stations
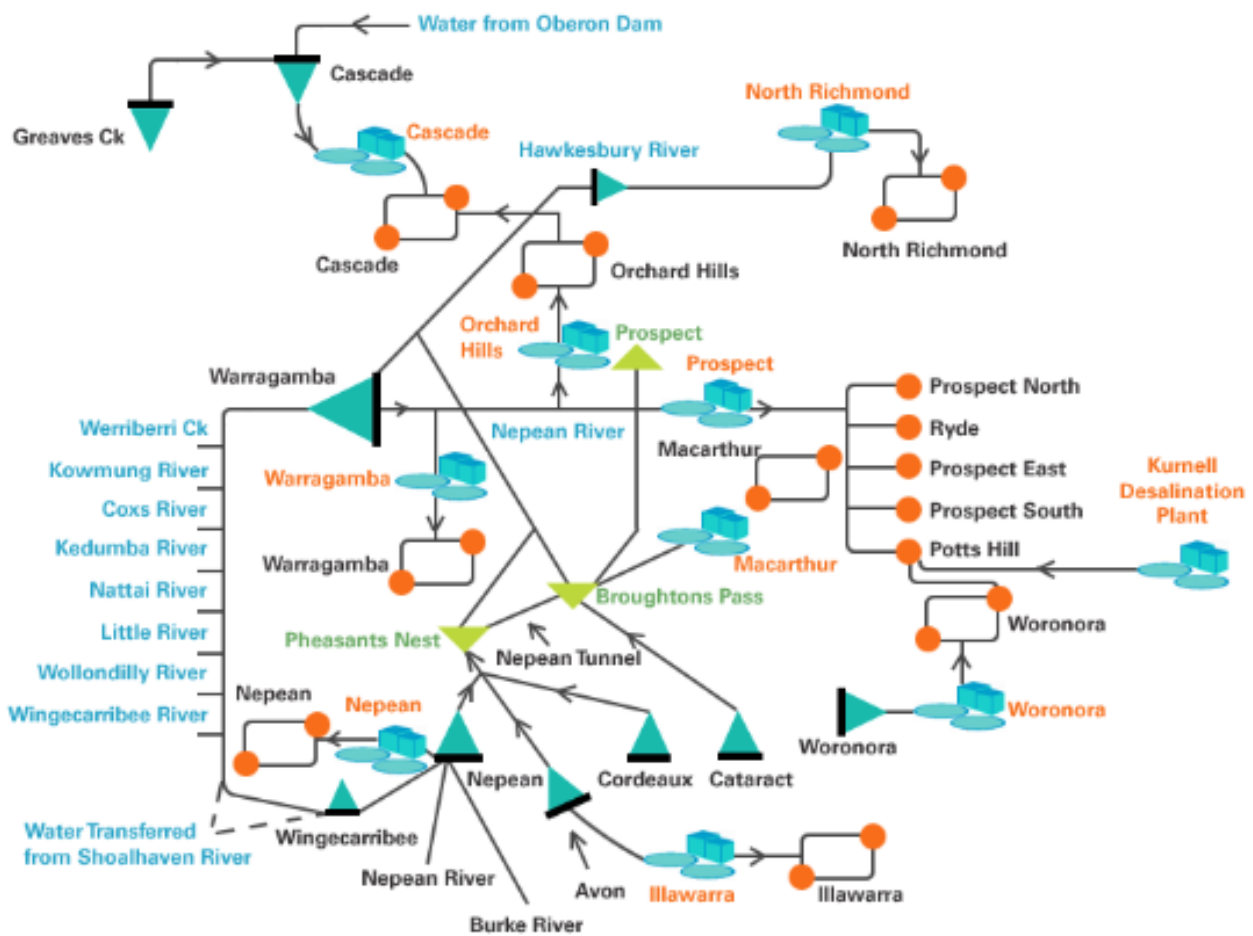
2.2 Wastewater

Wastewater is treated at any of 16 wastewater treatment plants or 14 water recycling plants.

The wastewater network draining to those plants consists of:

- Over 25,500 km of pipes
- 684 wastewater pumping stations
- Chemical dosing units
- Odour control units
- the Northside storage tunnel
- Brookvale storage tank

Sydney Water has 24 separate systems that are licenced by the NSW Environment Protection Authority (EPA)

2.3 Stormwater

Sydney Water's stormwater network provides services to around 570,000 properties through 73 catchments and consists of:

- 447 km of channels and pipes
- over 60 stormwater quality improvement devices
- flood-prone land and trunk drainage in the Rouse Hill area.

3. Wastewater Networks

3.1 Location of Premise

This PIRMP covers Wastewater Networks only. For this PIRMP, the combined wastewater networks, including all assets listed above, are the premise. There are separate PIRMP documents for each wastewater treatment/water resource recovery plant.

The location of wastewater and drainage assets can be determined using these sources:
- Large PDF maps
- Hydra GIS
- Spatial Hub
- NSW Emergency Information Coordination Unit spatial data
- Work-as-constructed drawings

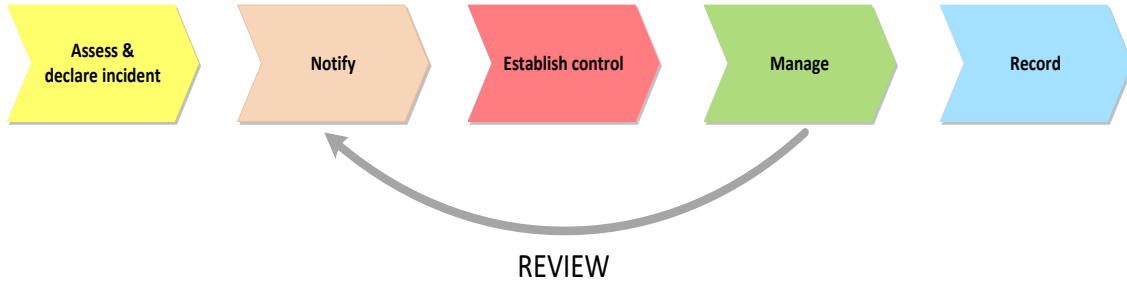## 3.2 Hazards and Potential Pollutants

The potential hazards to human health and the environment related to the operation of Sydney Water's wastewater networks are outlined in Table 1. A list of potential incidents from activities on the wastewater network, their likelihood, causes, pre-emptive actions, potential impacts and existing controls are detailed in **Appendix 4**.

Table 1: Potential pollutants

Potential Pollutant	Quantities and Locations
Raw sewage	Is present in differing qualities and quantities through-out each network, including trade waste and chemicals added to control odour and corrosion
Chemicals used for control of corrosion and odours • Calcium nitrate • Magnesium hydroxide • Ferrous chloride	Stored in bulk for dosing into sewers for control of odour and corrosion
Hazardous gases • Ammonia (NH_3) • Benzene (C_6H_6) • Carbon Monoxide (CO) • Chlorine (Cl-) • Chlorobenzene (C_6H_5Cl) • Chloroform ($CHCl_3$) • Cyanide (CN) • Flammable Gases (LEL) • Formaldehyde (CH_2O) • Hydrogen Sulphide (H_2S) • Volatile Organic Compounds	Potentially hazardous gases can be present in wastewater networks due to authorised trade waste, biogenic processes, broken gas mains, leaking underground tanks or unauthorised spills and dumps.

4.   Pollution Incident Response Procedure

Sydney Water takes an 'All Hazards' approach to managing incidents. The generic response procedure is documented in the Incident Management Procedure (D0000506), Emergency Management Procedure (D0000507) and Responding to incidents with an environmental impact (SWEMS0009) and. This PIRMP uses the same 5 steps as these procedures.

Assess & declare incident → Notify → Establish control → Manage → Record

REVIEW

4.1   Process overview

Task details	Incident Management Procedure	References
1 **Assess and declare incident** Actions to determine initial incident level	Assess and declare the incident based on the <u>potential</u> for it to escalate Initial assessment looks at impact on: • Customers • Community • Environment • Public Health • Safety • Reputation and media interest • Other Sydney Water businesses	Criteria/triggers for activation
2 **Notify** Actions to notify affected stakeholders following predefined business rules and other direction	Notify the five regulatory authorities: 1. NSW EPA - Pollution Line, **13 15 55** 2. Local Councils 3. NSW Health – Water Unit 4. SafeWork NSW, **13 10 50** 5. Fire & Rescue NSW Other authorities may also be notified depending on the impacts of material harm.	Regulator / External and Internal Notifications Owners or Occupiers Assistance & Coordination
3 **Establish control** Actions to determine incident leadership and to exercise control over the event	• Appoint Incident &/or Emergency Controller and nominate Incident Control Point as defined in plans/ procedures or by the direction of a Duty Manager • Establish the Incident &/or Emergency Management Team, including Liaison Officers where required • Review initial situation analysis • Commence Incident Log • Issue initial Situation Report (SITREP)	Incident Management Procedure Emergency Management Procedure

Task details		Incident Management Procedure	References
④	**Manage the incident** Actions to contain the event and restore services	• Identify objectives, strategies, and key tasks • Gather information and perform ongoing situational awareness, using feedback from Liaison Officers • Conduct regular briefings for the Emergency Management Team and key stakeholders • Implement relevant plans and procedures • Implement communications protocols • Issue regular Situation Reports to Duty Managers and external stakeholders • Review and monitor effectiveness of response • Determine whether a Recovery Coordinator is required based on impacts. Early appointment • Maintain event records • Conduct Incident/Emergency Management Team handover briefings at shift changeover	Contingency plans Triggers for escalation Related procedures to be implemented
⑤	**Record the incident** Actions to record event details, investigations and debrief reports	• Collate all event records • Record the event in SWIRL • Debrief incident in accordance with business rules • Commence incident investigation • Update risk registers	Debrief procedure Reporting criteria & timeframes

4.1.1 Assess & Declare Incident

This Pollution Incident Response Procedure is implemented whenever a pollution incident occurs so that material harm to the environment is caused or threatened.

147 Meaning of material harm to the environment

(a) harm to the environment is material if:

(i) it involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or
(ii) it results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding $10,000 (or such other amount as is prescribed by the regulations), and

(b) loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment.

(2) For the purposes of this Part, it does not matter that harm to the environment is caused only in the premises where the pollution incident occurs.

IICATS alarms and the Sydney Water Contact Centre are the primary mechanisms for identification of pipe failures, including leaks, breaks, odours, or sewage overflows that could cause material harm.

4.1.2 Notify

Notify persons required by Sec 148 of the POEO act as per Sydney Water's 'Notification and reporting of material harm to regulators' procedure.

Customers can call the 24-hour emergency line on **13 20 90** to report incidents or receive updates.

The diagram below illustrates the external notifications required by our licences and agreed Memoranda of Understanding.
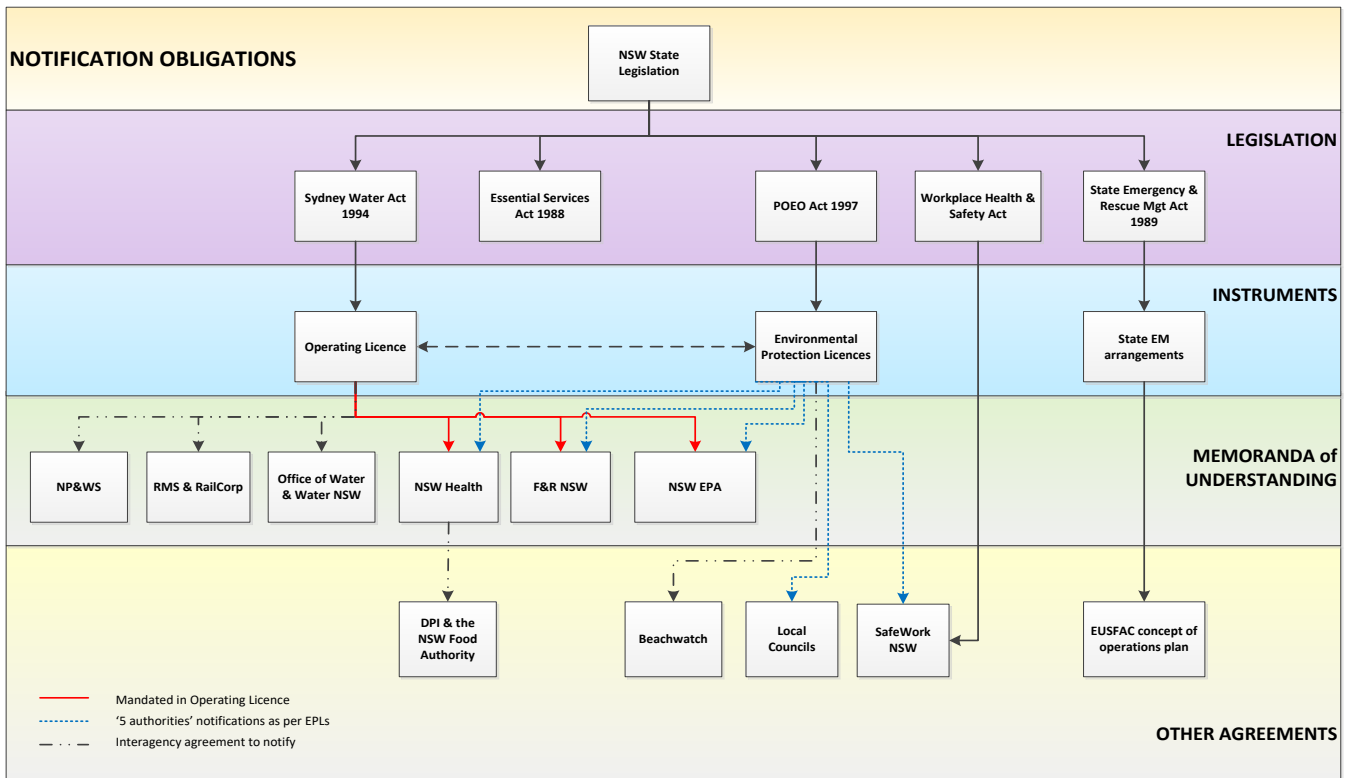
Internal notifications are made to assist business units and teams to make decisions and plan and prioritise during an incident.

Internal notifications and communications are sent via:

- Email to Duty Manager or All User groups
- SMS alert groups

Pollution incidents that require community notification (including owners or occupiers of premises within the vicinity of the wastewater network) will trigger activating relevant Business or Corporate procedures (Incident Management Procedure, Emergency Management Procedure).

Sydney Water will contact impacted communities through:

- Door knocking individual households
- Letter box drops
- Media releases
- Sydney Water public website
- Social media such as Twitter
- Signage to notify persons at polluted sites or Customer Advocates positioned in high pedestrian areas

Any major pollution incident or emergency that requires emergency services assistance will trigger activation of Sydney Water's Emergency Coordination Centre (ECC) for coordinated monitoring and management of the incident by the emergency management team. For incidents that threaten health & safety of the community, Sydney Water is subjected to the legislative combat agency communication strategy for dissemination of key information related to urgent actions to be taken by the public.

- In the unlikely event of an incident impacting on the surrounding community, Sydney Water, with other emergency authorities, will ensure that relevant warnings including what action to take is issued to the potentially affected community.

HAZMAT response may be required for some **hazardous gases**.

4.1.3   Establish Control

Incident control refers to the overall direction and management of an incident. For every incident a Controller is nominated, who is responsible and accountable for all activities necessary for the resolution of the incident.

Role	Responsibilities
Network Operator (NO) (Site Co-ordinator)	• Manage the site • Co-ordinate and implement on-ground response • Validate initial containment and prepare clean-up plan • Supervise and co-ordinate clean-up
Environmental Planner (Incident Controller)	• Schedule work and dispatch clean-up crew • Monitor updates and upload to Incident Log

4.1.4   Manage Incident

This activity refers to the real time management tasks associated with response, control, and handling of an incident at the operational level.

Role	Responsibilities
Dispatcher	• Dispatch first responder, crews and Field Sampling Team
First Responder	• Install containment • Test for Ammonia • Install signs
Network crew	• Rectify problem and provide updates • Complete minor clean-up
Clean-up crew	• Complete clean-up activities
Field Sampling & Testing Group (FST)	• Carry out sampling & testing, provide field results and toxicity assessment • Carry out additional / follow-up sampling & testing to confirm site clean
Network Operator (NO) (Site Coordinator)	• Validate site clean-up • Direct clean-up crew if rework is required
Specialised Environmental Response Team (SERT)	• Assess site & identify impacts / risks • Advise on clean-up plan, and remediation

4.1.5   Record incident

Each activation of this PIRMP will result in an incident record being created and recording of incident related data.

A hot debrief is held immediately after each incident and focuses on the management of the response and recovery activities. The objective of debriefing is to identify lessons, associated actions and opportunities for improvement.

4.2   Testing

Testing of this plan is to be carried out to ensure that the information included in the plan is accurate and up to date and the plan is capable of being implemented in a workable and effective manner.

There are three types of testing:

- Planned testing - the plan is to be tested routinely at least once every calendar year and will be completed in conjunction with a review of the PIRMP document.
- Post-incident testing – assessed as part of the Hot Debrief process.
- Assurance – using 1st line of assurance. Auditing of the application of the PIRMP in the field will be enabled by assurance processes.

4.3   Training

Staff who are likely to respond to an incident must be trained. These roles are:

- Customer Hub Duty Managers
- Dispatchers / Schedulers
- Planners
- Network Coordinators
- Environmental Advocate Team
- Regulatory Team
- Network Operators
- Network Technicians
- Civil Crews
- Contractor Crews
- Field Sampling Team
- Specialised Environmental Response Team

Response staff must be trained in activating this PIRMP, any on site specific and other relevant procedures. Training on specific incident procedures will be carried out using desktop scenarios and incident management exercises that involve more complex scenarios.

5.   Context

5.1   Availability

This plan shall be made available to all personnel responsible for implementing the plan, and to an authorised officer (as defines in the POEO Act) on request. The most current and controlled version of the plan is in Sydney Water's document control system BMIS (Business Management Information System) as D0000825.

5.2   References

Document type	Title
Compliance obligations	Protection of the Environment Operations Act 1997 No 156, Part 5.7A
	Protection of the Environment Operations (General) Regulation 2009, Part 3A
	Guideline: Pollution Incident Response Management Plans (2020)
Policies and procedures	Detailed PIRMP, procedures and work instructions

Appendix 1   List of Sydney Water's Environment Protection Licences

Term	Definition
Bombo	Licence 2269
Bondi	Licence 1688
Brooklyn	Licence 12438
Castle Hill	Licence 1725
Cronulla	Licence 1728
Hornsby Heights	Licence 750
Malabar	Licence 372
Liverpool	Refer to Malabar
Fairfield	Refer to Malabar
Gerringong / Gerroa	Issued to Veolia
Glenfield	Refer to Malabar
North Head	Licence 378
North Richmond	Licence 190
Penrith	Licence 1409
Picton	Licence 10555
Quakers Hill	Licence 1724
Richmond	Licence 1726
Riverstone	Licence 1796
Rouse Hill	Licence 4965
Shellharbour	Licence 211
St Marys	Licence 1729
Wallacia	Licence 12235
Warriewood	Licence 1784
West Camden	Licence 1675
West Hornsby	Licence 1695
Winmalee	Licence 1963
Wollongong	Licence 218
Bellambi	Refer to Wollongong
Port Kembla	Refer to Wollongong